

Further reform of distribution connection pricing

Issues paper

13 July 2026

Executive summary

Network connection growth – both new connections and upgrades – is an essential input for economic growth. It is necessary for electrification and, more broadly, for new housing, business activities and infrastructure.

However, the way distributors determine connection charges has had limited regulatory attention until recently. Distributors have had wide discretion and little incentive to ensure connection pricing is efficient. Efficient connection pricing plays a key role in supporting efficient connection growth and network investment that benefits new and existing customers alike.

The Electricity Authority Te Mana Hiko (Authority) is addressing these issues and others through a multi-stage [distribution connection pricing reform project](#). We have already developed new ‘fast-track’ requirements – three of which are in effect now, with the fourth taking effect from 1 April 2027. This first set of measures was designed to make a start on improving transparency and consistency, address some aspects of pricing efficiency and lay a foundation for further reform.

More recently, in July 2026 we released our decision on an interim framework to stabilise up-front connection charges.¹ This addresses cases where distributors’ methodologies produce connection charges that are either too low (creating subsidies) or increasing too quickly (shifting shared cost recovery to new connections).

This issues paper considers whether an enduring framework could be warranted beyond the 2030 expiry of the interim framework, alongside other measures that could build on the fast-track measures. This paper represents the start of the next stage of our project to reform distribution connection pricing.

Aligning with the next revenue path cycle

The Commerce Commission governs the revenue non-exempt distributors may recover through lines charges through a five-yearly cycle known as the default price-quality path (DPP) regime. The next set of revenue paths (for DPP5) will apply from April 2030, with decisions made late in 2029 and informed by distributor planning and forecasting carried out in 2028.

To align with DPP5 decisions, we aim to confirm any major changes to connection pricing methodology requirements by the end of 2027. This allows distributors to forecast how much they can recover through connection charges, with the balance of connection-related expenditure recovered through ongoing lines charges.

Efficient connection pricing promotes efficient investment

At its core, our work on connection pricing aims to improve network efficiency, which is one of the pillars to providing reliable electricity at lowest cost for New Zealanders. We will improve network efficiency by promoting more consistent pricing methodologies, ensuring

¹ See [Reducing barriers for new connections: up-front charges, distributor obligations and WACC – Decision paper](#)

connection charges reflect underlying costs and promoting more efficient decisions by distributors and connecting parties. In practice, this means pricing that:

- is stable and transparent, while reflecting the cost of each connection, which helps access seekers plan with confidence, and encourages them to select the connection design that best meets their needs
- protects existing users and deters inefficient connection investment by ensuring new connections at least cover their costs
- incentivises distributors to manage connection costs effectively, including through planning, design and construction management
- promotes connection growth that expands the value delivered by networks, while efficiently spreading fixed costs across more connections.

Ultimately, this produces efficient connection growth and network investment that benefits all network customers by containing costs and spreading them across a growing base.

Determining the scope of further reform

We have identified a range of areas where further reform may be needed. This reflects the complexity of connection pricing and historical lack of oversight, which has resulted in wide variations in terms of quality, consistency and efficiency of pricing practices.

This paper sets out initial thinking on each potential reform area and seeks input to help define the scope of our next stage of work. There are two core areas for potential reform:

- Costing methodologies – how the incremental cost of a connection is estimated.² These impact the cost recovered from each new connection, and distributor incentives to manage costs efficiently.
- Allocation methodologies – how part of the incremental cost is recovered through connection charges. This impacts the cost reflectivity and stability of charges, how connection assets are financed, and how costs fall between new and existing users.³

We also consider a range of related matters:

- Network development – where the boundary lies between costs that are incremental to a connection (or connections) versus part of broader network development.
- Other one-off charges – such as for network modifications (eg, relocating assets), connection downgrades, or continuing supply.
- Secondary networks – these networks, which include some airports, town developments and subdivisions, are currently exempt from connection pricing rules.

² The incremental cost is the additional costs incurred to serve an additional connection or group of connections. It includes direct capital costs (such as the cost of building a new line), upstream costs (such as the cost of using up network headroom) and ongoing operating costs (such as maintenance).

³ Costs that are not recovered through connection charges are recovered over time through lines charges spread across all users on the network. Lines charges include the cost of financing deferred recovery. Because all network users (of a given type) pay the same lines charges, higher connection charges mean higher total costs for newer connections.

- Financial security – requirements for access seekers to provide financial security, which may support efficient risk management or create barriers to connecting.

Alongside these matters, we explore whether there are issues to address regarding contestability of connection works, use of in-kind contributions (vested assets), real estate developments and large connections.

Finally, we are seeking views on overall regulatory design and stewardship.

We want to hear from you

We invite you to share your views on the issues discussed in this paper and any other issues you believe should be considered.

Your feedback will help deepen our understanding, identify other potential areas for reform, and clarify which are most important. This will help us prioritise our work and inform development of possible solutions.

Following consideration of submissions, we anticipate the next step will be to develop and consult on proposed amendments to the Electricity Industry Participation Code 2010. Any new amendment proposals are expected to be introduced before the end of 2027.

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1. What you need to know to make a submission

What this consultation is about

- 1.1. The Electricity Authority Te Mana Hiko (the Authority) is seeking feedback to help scope and prioritise issues for its multi-stage distribution connection pricing work programme.⁴ This paper sets out background and context, and introduces potential areas for further reform.

How to make a submission

- 1.2. The Authority's preference is to receive submissions in electronic format (Microsoft Word) in the format shown in Appendix A. Submissions in electronic form should be emailed to distribution.pricing@ea.govt.nz with "Consultation Paper—connection pricing further reform" in the subject line.
- 1.3. If you cannot send your submission electronically, please contact the Authority at info@ea.govt.nz or 04 460 8860 to discuss alternative arrangements.
- 1.4. Please note the Authority intends to publish all submissions it receives. If you consider the Authority should not publish any part of your submission, please:
 - (a) indicate which part should not be published,
 - (b) explain why you consider we should not publish that part, and
 - (c) provide a version of your submission that the Authority can publish (if we agree not to publish your full submission).
- 1.5. If you indicate part of your submission should not be published, the Authority will discuss this with you before deciding whether to not publish that part of your submission. However, please note all submissions received by the Authority, including any parts the Authority does not publish, can be requested under the Official Information Act 1982. This means the Authority would be required to release material not published unless good reason existed under the Official Information Act to withhold it. The Authority would normally consult with you before releasing any material that you said should not be published.

When to make a submission

- 1.6. Please deliver your submission by 5pm on 24 August 2026.
- 1.7. The Authority will seek cross-submissions for a three-week period following publication of the submissions received. Please deliver your cross-submission to distribution.pricing@ea.govt.nz by 5pm on 17 September 2026.
- 1.8. Authority staff will acknowledge receipt of all submissions electronically. Please contact the Authority at info@ea.govt.nz or 04 460 8860 if you do not receive electronic acknowledgement of your submission within two business days.

⁴ See [Distribution connection pricing reform | Our projects | Electricity Authority](#)

2. Background, context and overview

- 2.1. This section provides background information on network pricing and revenue control, summarises relevant context and provides an overview of the issues covered in this paper.

Economic framework and objectives

- 2.2. Electricity distribution networks are natural monopolies providing essential services. Their suppliers do not face competitive pressures and have strong market power. In the absence of regulatory oversight, this can produce undesirable outcomes including excessive prices and profits, under-supply, under-investment – including in service quality, growth and innovation – and poor cost management.
- 2.3. The Commerce Commission sets information disclosure requirements for distributors and, for non-exempt distributors, sets revenue paths that incorporate limits on supplier profits and incentive arrangements to promote investment, efficiency improvements and quality outcomes that match consumer preferences.
- 2.4. The Authority has a complementary role providing regulatory oversight of distributor pricing methodologies. Pricing methodologies further influence supplier and consumer incentives – distributors have wide discretion as to how they allocate costs and risk, and how they structure prices. Their market power means they can adopt allocation and pricing approaches that could not be sustained in competitive markets.
- 2.5. The Authority's aim is to promote efficient pricing that supports the long-term benefit of consumers through:
- (a) Cost-reflectivity – pricing that signals underlying costs promotes efficient consumer choices, including on whether and how to consume distribution services.
 - (b) Allocative efficiency – due to the cost structure of distribution services, suppliers must recover shared network costs in excess of the incremental cost of supply. Shared network cost recovery – both how and from whom costs are recovered – should aim to minimise inefficient demand suppression.
 - (c) Predictability – limiting the ability of distributors to alter how they recover shared network costs promotes an environment where consumers can confidently make investments that will rely on distribution network access.
 - (d) Incentive alignment – ensuring pricing reinforces incentives for distributors to manage costs promotes productive efficiency. Likewise, pricing influences access seeker incentives for efficient queuing and decision-making.
 - (e) Consistency and transparency – enhancing consistency between distributors and improving transparency can simplify pricing nationwide, reducing transaction costs for consumers and management costs for suppliers. Transparency also provides information to support effective regulatory oversight.

- (f) Contestability – connection pricing should work with other measures to maintain or enhance competitive supply of connection works, since this can drive productive efficiency for those inputs.
- 2.6. In other words, efficient pricing methodologies support productive efficiency (least cost production), allocative efficiency (resources are allocated to their highest valued uses) and dynamic efficiency (timely investment and innovation) so that consumers collectively and over time receive the best service at the lowest cost.

Network pricing and revenue control

- 2.7. Distributors recover the cost of providing services through two main funding sources:
- (a) **Connection charges** are one-off contributions, which may include cash payments (capital contributions) or building and transferring ownership of network assets (in-kind contributions or vested assets).
 - (b) Costs not recovered through connection charges are mostly recovered through **lines charges**. These include operating costs, and the cost of financing assets (eg, charges for depreciation, return on capital and tax). Distributors set lines charges to recover their target revenue each year.
- 2.8. For non-exempt distributors, the amount a distributor may recover through lines charges each year is governed by the Commerce Commission through revenue paths. Revenue paths are built from inputs that include forecasts of expenditure and capital contributions. Exempt distributors must disclose their revenues but are not subject to revenue paths.
- 2.9. Revenue paths are set in five-year regulatory periods. Revenue path regulation is currently in its fourth five-year cycle for most non-exempt distributors (default price-quality path four, or DPP4). DPP5 will start from 1 April 2030 with revenue limits determined by the Commerce Commission in the second half of 2029. A key input will be asset management plans and expenditure forecasts developed by distributors during 2028.
- 2.10. Part 6 of the Electricity Industry Participation Code 2010 (Code) includes pricing principles governing methodologies for distribution charges for generators (ie, those who inject electricity to networks) – limiting charges to no more than the incremental cost of each connection. The Authority recently consulted on proposals to reform these principles by modifying the incremental cost rule.⁵
- 2.11. Until April 2026, there were no Code provisions governing connection pricing methodologies for non-generation (ie, offtake) connection charges. In 2023, the

⁵ Incremental cost is the additional costs incurred to serve an additional connection or group of connections. It includes direct capital costs (such as the cost of building a new line), upstream costs (such as the cost of using up network headroom) and ongoing operating costs (such as maintenance). See [Reforming distributed generation pricing to promote efficient investment](#) | [Our consultations](#) | [Our projects](#) | [Electricity Authority](#)

Authority began developing a work programme to reform distribution connection pricing for offtake.⁶

- 2.12. Issues the Authority has identified with connection pricing include:
- (a) inconsistency across distributors spanning nearly every aspect of connection pricing, from documentation and terminology through to methodology design and allocation outcomes
 - (b) poor quality, including incomplete or poorly documented methodologies and varying adoption of pricing features that promote efficient investment – eg, by mitigating position-in-queue dynamics or providing cost-reflective signals⁷
 - (c) evidence of distributors shifting cost recovery to connection charges, so new connections make a disproportionately larger contribution to shared costs than existing connections.
- 2.13. These issues stem from distribution services having natural monopoly characteristics meaning consumers have little or no choice of provider. In such markets, competitive pressures are unable to discipline pricing and performance so regulatory oversight can play a strong role in promoting the long-term interest of consumers.
- 2.14. Accordingly, the Authority has amended the Code to introduce four ‘fast-track’ requirements for distributors to deliver immediate improvements and create a foundation for further reform:
- (a) enhancement cost allocation – distributors must determine and allocate costs relative to the minimum scheme (or minimum flexi scheme) for each connection⁸
 - (b) capacity costing – distributors may not, with some exceptions, allocate network upgrade costs to a single ‘last-straw’ applicant. Instead, costs may be allocated as capacity is consumed using published rates⁹
 - (c) pioneer scheme – distributors must develop a policy and operate schemes for reducing first-mover disadvantage by reallocating first-mover costs as subsequent connections are made
 - (d) charge reconciliation – distributors must provide standardised breakdowns of charges and costs associated with new or upgraded connections.
- 2.15. The ‘fast-track’ measures do not constrain the overall share of costs a distributor can allocate to connection charges. To address this issue, the Authority recently decided to amend the Code to introduce a time-limited framework for targeted

⁶ See [Targeted reform of distribution pricing – issues paper](#)

⁷ Position-in-queue dynamics are where charges for otherwise similar connections vary from one applicant to the next – eg, where a first-mover or last-straw applicant faces higher charges.

⁸ The minimum scheme is the least-cost technically acceptable design for a given connection. A minimum flexi scheme has a reduced cost in return for less firm capacity or security.

⁹ Distributors retain the option to not allocate capacity costs at all.

intervention – the ‘balance point principle’.¹⁰ Until this framework ceases on 1 April 2030, it provides for the Authority to closely examine and, if desirable, direct a distributor to amend its connection pricing methodology to:

- (a) increase charges to remove subsidies (ie, ensure connections at least cover their incremental cost) where charges may be inefficiently low or
- (b) decrease charges where this will ensure new connections make a commensurate contribution to shared costs as similar existing connections (ie, allocation is stable over time) where charges have increased inefficiently.

2.16. The ‘balance point principle’ is designed to provide a targeted and proportionate method for addressing inefficiently low or increasing up-front connection charges ahead of the Commission’s next revenue paths.

Current context

2.17. New Zealand has dozens of distributors and distribution networks, with varying operating contexts. Common context includes:

- (a) Transport electrification – electric vehicle uptake is expected to increase significantly over coming decades. This increases household energy demand (but not necessarily peak power demand) and creates demand for new and upgraded connections for public charge points, transport hubs and depots, and business fleet charging facilities.
- (b) Heating electrification – use of heat pumps (and other electrical heating) is also expected to significantly increase over coming decades. This increases household energy demand in some networks (but not necessarily peak power demand) and significantly increases power demand at some commercial and industrial facilities.
- (c) Resilience – climate change is worsening exposure to adverse weather events, which may require increased investment in network resilience.
- (d) Renewal – the volume of assets reaching end of life is increasing in many networks, and many replacement assets are more expensive (in real terms) than existing assets. This places upward pressure on target revenues.
- (e) Distributed generation – the penetration of small- and utility-scale distributed generation is increasing. This means injection is increasingly influencing cost drivers in some locations (for system management, network extension and capacity expansion).
- (f) Batteries – the cost of batteries has declined in recent years, increasing consumer uptake and bringing them in scope as a tactical solution for network capacity upgrades. This adds operational complexity, but can alleviate network capacity pressures and costs, and enable distributed resilience to substitute for network resilience for some customers.

¹⁰ See [Reducing barriers for new connections: up-front charges, distributor obligations and WACC – Decision paper](#)

- 2.18. Taken together, these drivers mean in future:
- (a) Most distribution networks will be delivering more energy to more consumers and providing more value (including by displacing use of other fuels).
 - (b) More energy will originate within distribution networks, creating greater scope to optimise how much offtake and injection capacity is needed and to minimise the investment required to support future demand.
 - (c) Choices consumers make when they connect (or upgrade) will have a role in this optimisation, and consumers will have an expanding range of choices they can make (such as partial or full self-supply).
- 2.19. Individual contexts can include:
- (a) Some networks have little to no growth in demand for new connections, while others have strong demand linked to new housing and business developments.
 - (b) In some network areas there are pockets of competition – ie, from distributors who develop and operate pocket networks embedded within another distributor’s primary network.
 - (c) Some distributors have related parties that supply connection works or equipment used for connections. Some distributors also have related parties with generation connected to their network.
 - (d) Distributors have varying operating models for connections, including how they control who can build connection assets and how the relationship between applicants, contractors and the distributor is structured.
- 2.20. Alongside this operating context, most distributors have been evolving their lines charges and related commercial arrangements. Network pricing context includes:
- (a) The government is phasing out a long-standing regulatory requirement to assign residential customers with low electricity use, to tariffs with low fixed (and high variable) lines charge components. This aims to improve cost-reflectivity (and reduce variability) of pricing for residential consumers.
 - (b) With encouragement from the Authority, most distributors have now developed time-of-use pricing, with low (or zero) rates for off-peak usage. This leverages a very high penetration of advanced metering and is reinforced by a new obligation for retailers to provide and promote time-varying pricing plans for residential and small business consumers.
 - (c) The Authority recently amended the Code so that distributors are now required to offer rebates to residential and small business consumers for injection during peak pricing periods.
 - (d) With encouragement from the Authority, some distributors have been experimenting with pricing reform and commercial models for incentivising or accessing flexibility – including demand response and injection. This builds on long-standing practices for accessing demand flexibility from hot water cylinders.

- (e) The Authority has proposed amendments to long-standing network pricing requirements for distributed generation. This includes better integrating arrangements for offtake and injection connection pricing.

Q1. Do you agree with the background and context summary above? Why, why not?

Q2. Is there additional background, evidence or context relevant to the issues covered in this paper?

Outline of this paper

- 2.21. Section 3 sets out options for further reform of two core elements of connection pricing that together have a major impact on the efficiency of connection pricing:
 - (a) Costing methodologies – quantifying the incremental cost of a connection, as an input to setting connection charges.
 - (b) Allocation methodologies – allocating a portion of the incremental cost to up-front connection charges.
- 2.22. Section 4 covers other pricing not yet addressed in our connection pricing work:
 - (a) network development – how distributors distinguish between connection-led investment and proactive network development
 - (b) network modifications – payments for third-party or customer-initiated works, such as relocating existing network assets
 - (c) connection downgrades – including whether distributors can charge when a connection is reassigned to a lower-cost tariff
 - (d) continuance of supply – pricing relating to distributor-initiated withdrawal of supply to a connection (or group of connections).
- 2.23. Section 5 covers two further gaps in our oversight of connection pricing:
 - (a) Secondary networks – secondary network operators are exempt from many Code requirements, including connection pricing rules.
 - (b) Financial security – financial security required from an applicant (eg, bonds, bank guarantees, covenants) can form part of the cost of a connection.
- 2.24. Section 6 seeks input on the design and stewardship of connection pricing regulation, including on the role of assurance measures such as self-certification and independent reviews.
- 2.25. Appendix D covers four other areas that intersect with connection pricing reform:
 - (a) Contestability – compatibility of connection pricing arrangements with competitive supply of connection works (and equipment).
 - (b) In-kind contributions – compatibility of connection pricing arrangements with operating models that involve vesting completed connection works.
 - (c) Large connections – considerations for connections with tailored connection and lines charges.

- (d) Real estate developments – considerations for connections built by developers for on-sale.

Prioritisation

- 2.26. Appendix E provides a summary of all the matters introduced in this paper as potentially within scope of the next stage of connection pricing methodology reform. The Authority is unlikely to progress all options and will need to prioritise carefully, considering matters including:
- (a) DPP5 linkage – some options would be more disruptive to progress after 2027, because they would alter assumptions that flow into distributor revenue paths that will apply for the five years from April 2030
 - (b) dependencies – some options provide a base for other options
 - (c) costs and benefits – some options may not yield benefits that would outweigh the costs at this time. Otherwise, once DPP5 linkages and other dependencies are considered we should generally prioritise according to impact.

Q3. How should the Authority prioritise across possible options identified in this paper?

Q4. Which options should have the highest or lowest priority, and why?

3. Core connection pricing issues

- 3.1. This section covers costing and allocation methodologies, which are the core steps for connection pricing. For these topics we have developed preliminary options and analysis.

Costing methodologies

- 3.2. This section considers how connection pricing methodologies quantify the incremental cost of a connection and surveys potential options for improvement.

Context

- 3.3. The first step when determining connection charges is to estimate the incremental cost of a connection. This includes direct costs (such as new connection equipment and works) and less obvious costs (such as the cost of consuming upstream capacity) as well as ongoing operating costs (such as maintenance).
- 3.4. How costs are estimated, including how uncertainty is managed, influences distributor and access seeker incentives to ensure costs are efficient – eg, by right-sizing connections, managing procurement risks and optimising planning and delivery.

Current arrangements and implementation experience

- 3.5. There is wide variation across distributors, reflecting diverse historical practices, diverging preferences, weak incentives to harmonise and limited regulatory oversight.
- 3.6. Some aspects of cost quantification are governed by Commerce Commission input methodologies, which require suppliers to comply with generally accepted accounting principles. However, distributors retain considerable discretion when identifying, quantifying and allocating incremental costs.
- 3.7. Recently introduced ‘fast-track’ connection pricing requirements also touch on input cost methodologies:
- (a) Network capacity costing – distributors must derive and publish unit rates for network capacity (eg, \$ per kVA of zone substation capacity) and, from 1 April 2027, use those rates if they allocate network capacity costs. The Code sets requirements and associated materials provide guidance on how to determine network capacity costs.¹¹
 - (b) Charge reconciliation – since 1 April 2026, distributors have been required to prepare standardised breakdowns of quotes into revenue and cost components.

¹¹ See: [Distribution connection pricing: posted capacity rate worked examples](#)

- (c) Pioneer schemes – since 1 April 2026, distributors have been required to adopt policies that allow for reallocation of pioneering connection works costs. These include a requirement to estimate vested asset costs.
- 3.8. The Authority has encountered anecdotal evidence of inefficient pricing that would not be fully addressed by fast-track measures, including:
- (a) Inefficient risk allocation – the Authority understands distributors commonly pass on increases relative to quoted costs.¹² This is an inefficient risk allocation setting if distributors are better placed to manage how connection works are delivered. It also exposes customers to hold-up risk where, once a customer commits to a new connection, their distributor can increase prices to extract value the customer had expected to gain from network access.
 - (b) Unjustified margins – some access seekers report distributors adding ‘margins’ and financing charges to input costs at levels that appear difficult to justify.¹³ Connection charges should only recover actual costs.¹⁴
 - (c) Excessive costs – some access seekers report they can procure or deliver inputs at much lower costs than quoted by their distributor – for example, for civil works or traffic management.¹⁵
 - (d) Spillover market power – the Authority has heard some distributors may secure lower rates from service providers for regulatory works than what those providers charge for connection works.^{16,17} This could be an example of spillover market power – ie, market power impacting conduct by firms providing related services.
 - (e) Poor works optimisation – access seekers report sub-optimal sequencing, staging or sizing of works.¹⁸ For example, missed opportunities to proactively lay ducting when trenches are open or otherwise not efficiently future-proofing network elements. This can increase the cost of connection growth.
 - (f) Limited transparency – some distributors’ quotes reportedly provide limited or poor costing information (including itemisation).¹⁹ This can undermine confidence in the reasonableness of cost estimates and limits the ability for access seekers to find ways to reduce cost components.

¹² For example, see section 6 of [Property Council New Zealand xCmBilZ.pdf](#)

¹³ For example, see [Drive Electric, Targeted Reform of Distribution Pricing – Submission](#)

¹⁴ This may include a financing charge (or interest during construction allowance) if the distributor incurs costs ahead of receiving payment, or is spreading cost recovery over time.

¹⁵ For example, see [Meridian Energy, Reducing barriers for new connections: up-front charges and distributor obligations – submission](#); 1News, “‘We thought it was a mistake’: \$25k power connection blindsides couple”; and [BusinessDesk, “Developer shocked by \\$72,000 Vector quote on work completed for a ‘box of beers’”](#)

¹⁶ In this context, ‘regulatory works’ refers to works for which costs are recovered via lines charges, and hence are subject to regulatory expenditure and revenue incentives.

¹⁷ For example, see [Distribution connection pricing proposed Code amendment – Consultation paper](#); and [Distribution connection pricing Code amendment – Decision paper](#)

¹⁸ For example, see [Andrew Body, Targeted Reform of Distribution Pricing – Submission](#)

¹⁹ For example, see [ChargeNet New Zealand, Reducing barriers for new connections: up-front charges and distributor obligations – submission](#)

- (g) Over specification – access seekers report the design of connection works sometimes appears to have little regard for cost-quality trade-offs, or little emphasis on value for money.²⁰
- 3.9. Current arrangements are not well suited to identifying or addressing these kinds of issues. All of these issues are as relevant for injection connections as for offtake connections, and many of the possible options for addressing these issues could apply to any type of connection.

Issues for consideration

- 3.10. Potential options span regulatory frameworks, including:
- (a) the Code can address pricing methodologies, and quality or information requirements in relation to access to distribution networks²¹
 - (b) the Commerce Commission regulates price-quality paths and information disclosures under subpart 9 of Part 4 of the Commerce Act 1986
 - (c) Part 2 of the Commerce Act prohibits various restrictive trade practices²²
 - (d) Part 1 of the Fair Trading Act 1986 restricts unfair contract terms.²³
- 3.11. This does not limit the Authority's ability to address costing methodologies via the Code, but sometimes the best approach may lie elsewhere or involve a mix of Code amendments and other interventions.
- 3.12. There are strong links between input cost efficiency and:
- (a) Contestability – in theory, robust competition to supply connection equipment and works can be more effective than regulatory oversight at promoting efficient costs. However, it is not a complete solution, may not be readily achievable and may never be achievable in some locations.²⁴
 - (b) Non-price access terms – distributor network standards influence up-front and lifetime cost (and performance) of connection works, and the need for network capacity upgrades. There is variation in standards and scope for greater harmonisation, recalibration, and modernisation to drive lower costs.²⁵

²⁰ For example, see [ChargeNet New Zealand, Reducing barriers for new connections: up-front charges and distributor obligations – submission](#); and Kirsty Merriman, "Auckland's Electricity Network: Infrastructure Asset or Dividend Machine?"

²¹ Refer s32(4) of [Electricity Industry Act 2010 | New Zealand Legislation](#). The Commerce commission regulates charges under Part 4 of the Commerce Act 1986.

²² The Commerce Commission recently highlighted the overlap between Part 4 and Part 2 of the Commerce Act in a letter to distributors regarding their interests in electric vehicle charging stations: [Letter-to-all-EDBs-Reminder-of-obligations-under-Information-Disclosure-Determination-6-March-2026.pdf](#)

²³ The Commerce Commission recently concluded an investigation into unfair contract terms in a distributor's connection contracts: [Vector-Compliance-advice-for-UCT-investigation-15-May-2025.pdf](#)

²⁴ Broader issues relating to contestability are part of the Authority's wider network connections work programme, and are a collaboration priority for the Energy Competition Task Force established by the Authority and the Commerce Commission. See [Energy Competition Task Force powers ahead with fresh agenda | Electricity Authority](#)

²⁵ See, for example, the Electricity Engineers' Association's review of connection and operation standards, which focuses on a subset of connection types with generation or flexible demand. [Technical-Connections-](#)

- 3.13. There are also links between allocation settings and incentives for distributors and connection applicants to ensure input costs are efficient. If costs are fully recovered through connection charges:
- (a) They are not subject to efficiency incentives provided through price-quality regulation – ie, because regulatory allowances are based on capital expenditure net of connection charges.
 - (b) It can be difficult for a distributor to proactively invest in enabling works, even where this would reduce costs overall – ie, because funding is piecemeal and contingent on connection agreements.
 - (c) Distributors may have incentives to shift costs from regulated expenditure to connection-funded expenditure (ie, out of the regulatory funding envelope) or vice versa (ie, to grow their regulatory asset value).
- 3.14. At the other extreme, if costs are fully recovered through lines charges:
- (a) Customers have weaker incentives to ensure connections are efficiently sized (or needed at all), and
 - (b) Expenditure uncertainty (which includes volume and input cost uncertainty) must be fully addressed within revenue path arrangements.
- 3.15. Recovering costs through a mix of connection and lines charges can ensure customers and distributors both have incentives to optimise costs.
- 3.16. Other factors also influence input cost efficiency:
- (a) Contractual risk allocation – if a distributor can pass cost variations on, they have limited incentive to manage construction cost risks (and costs are unpredictable for connection applicants).
 - (b) Related party protections – if protections are not effective then distributors with related parties supplying connection equipment or works can enhance profits via practices that raise costs for connection applicants.²⁶
 - (c) Contestability – robust contestability and strong competition to supply connection equipment and works can play a strong role in ensuring input costs are efficient.
 - (d) Transparency – clear cost itemisation and analysis such as comparative benchmarking, can help discipline input costs and reveal areas of concern.
- 3.17. Interventions that shift risk allocation to distributors may have implications for the design and scope of uncertainty mechanisms used in default price-quality paths.²⁷

[Review-Report-September-2025.pdf](#). Part 6 of the Code provides for greater consistency of connection processes, fees and connection terms for generation connections only. Part 6 provisions will partially extend to large offtake connections from the end of 2026, and the Authority is carrying out further work on non-price network access terms. See [Network connections | Our projects | Electricity Authority](#)

²⁶ Protections include various arm's-length' requirements for transactions between a distributor and a related party, and revenue path rules for allocating shared costs to regulated services.

²⁷ Refer Topic 3c in [Part-4-IM-Review-2023-Final-decision-Risks-and-Incentives-topic-paper-13-December-2023.pdf](#)

Objectives

- 3.18. To support its statutory objectives, the Authority aims to find costing methodology options that promote:²⁸
- (a) efficient connection costs, including across design, planning and delivery of equipment and works
 - (b) access seeker confidence to invest efficiently in new and upgraded connections.

Possible options and preliminary analysis

- 3.19. Table 3.1 surveys potential options relating to costing methodologies used for connection pricing.

Table 3.1: Costing methodology options

Option	Comment
A1. Mandatory capacity costing Require distributors to include network capacity in their incremental cost estimates.	'Fast-track' requirements allow distributors to exclude network capacity costs from offtake connection pricing. Requiring inclusion would improve cost-reflectivity of connection charges (ie, charge variation would be influenced by capacity costs). Could apply to all offtake connections or, say, only connections above a certain size or cost threshold.²⁹ Capacity cost can still be zero if network has excess capacity.³⁰ Requirement could be extended to injection connection pricing too, noting there may be practical differences in how capacity costing would apply to injection.³¹
A2. Construction risk allocation Restrict ability for distributors to pass through increases relative to quoted costs.	Strengthens distributor incentives to manage cost outturn (eg, through contractor supervision and incentives) so could lead to lower underlying costs for connection works. Could create incentive to over-estimate if too restrictive, unless some other mitigation in place. Could be applied to offtake and injection connections.

²⁸ The Authority's main and additional objectives are set out in s15 of the Electricity Industry Act 2010.

²⁹ For example, Australian suppliers must set thresholds that exempt (at least) urban residential consumers from capacity cost allocation ([AER - Connection charge guidelines for electricity retail customers - August 2022.pdf](#)). The United Kingdom's common connection charging methodology only allocates capacity costs where voltage level and upgrade project cost criteria are met (see, for example: [SP Electricity North West statement of methodology](#)).

³⁰ See definition of posted capacity rate in the Code. [Part 1—Preliminary provisions | Electricity Authority](#)

³¹ The Authority recently consulted on proposed amendments to distributed generation pricing principles that would allow (but not require) distributors to apply capacity costing.

Option	Comment
A3. Equivalence obligation Require distributors to take steps to ensure connection and regulatory works (including equipment) are priced consistently.	Ensures distributors do not create spillover market power (where relevant to the distributor structure) which could lead to lower underlying costs for connection works. An obligation of this nature may not be compatible with all distributors' operating models – ie, where a distributor has limited visibility or influence over contractor pricing. May not be required where connection equipment or works is sufficiently contestable. 'Consistent' may not mean identical if there are justifiable differences in the cost of supplying regulated programmes of work vs. connection works. Could be backed up by reporting and director certification obligations. Could be applied to offtake and injection connections.
A4. Cost transparency Set standards for itemising extension costs, and any other bespoke (ie, not rate-based) input costs.	Standards or guidelines could set out information that must be provided to customers in connection quotes. Improving transparency can increase access seeker confidence, and support more effective scrutiny. Could also provide basis for enhanced disclosures and cost benchmarking. Could be applied to offtake and injection connections. Would complement existing information disclosure obligations.³²

³² Under clause 2.4.7 of the Commerce Commission's information disclosure determination, distributors must '...provide reasonable explanation to any reasonable query...of the components of [a connection charge] and how those were determined'. See: https://www.comcom.govt.nz/assets/pdf_file/0026/363365/Electricity-Distribution-Information-Disclosure-amendments-related-to-IM-Review-2023-Amendment-Determination-2024-red-lined-version-27-November-2024.pdf

Option	Comment
A5. Costing requirements Set requirements for how costs are quantified – eg, when and how margins or financing charges may be applied, when avoided costs should be netted off, and when costs should be adjusted for incidental benefits.	Prohibit practices that inflate incremental cost estimates (and hence cost allocation to new connections) leading to lower connection charges. In many cases, it may be efficient to adjust incremental cost estimates down to account for avoided costs and incidental benefits: • Avoided costs include where connection works bring forward replacement of an asset that would have needed renewal investment anyway. • Incidental benefits include where works needed to enable a connection will incidentally increase shared network capacity. Could be applied to offtake and injection connections.
A6. Input assurance Strengthen assurance of: • posted network capacity rates, and (where used) posted network extension rates or posted connection charges • capacity assumptions for network capacity costing – ie, how connection capacity is converted to after-diversity demand assumptions for upper network tiers³³ • minimum scheme and minimum flexi scheme design, costing and (for flexi schemes) availability. Refer also to Section 6.	May improve consistency and access seeker confidence, as well as deterring distributors from applying requirements in a way that inflates connection charges. Could include engineer validation or director certification requirements, potentially in conjunction with enhanced guidance on how rates, capacity assumptions and minimum schemes should be determined. Could improve accuracy and consistency of incremental cost estimates, supporting more efficient pricing. Could also deter intentional skewing of rates, assumptions or designs. Capacity assumptions can vary by connection, so assurance could focus on default values or requirements for distributors to document methodologies for deriving values. The minimum scheme design and costing vary by connection, so assurance could focus on distributor's internal processes, or use of selective reviews. Could be applied to injection connections if injection pricing principles were further reformed to include more prescriptive capacity costing requirements.

³³ For example, a 15 kVA connection may have a design capacity of 5 kVA or less at each of the LV mains, distribution transformer, HV feeder, zone substation and sub-transmission line tiers. Selected design capacities flow through to incremental cost estimate.

Option	Comment
A7. In-kind contribution costing Require distributors to collect information from contractors on vested asset costs.	Would extend cost visibility to in-kind contributions. Applicable to network assets, not customer-owned assets. Distributor has interest and involvement in assets that will transfer to its ownership. Would provide information for monitoring, and for possible regulation of allocation methodology settings. Could be applied to offtake and injection connections.

Preliminary analysis

- 3.20. All of the options could strengthen the consistency and integrity of incremental cost estimation. In addition, each would add to the matters that would be in scope for consumers to access dispute resolution (see Section 6 for discussion of dispute resolution).
- 3.21. Option A1 would improve consistency between distributors, without adding complexity for distributors (since every distributor must disclose capacity costs already). It would ensure every distributor set charges that vary with shallow and deep (upstream) costs and provide a base for the allocation options covered in Table 3.2. Signalling deeper connection costs plays an important role in showing the value of establishing a flexible connection (eg, with reduced security or less firm access to capacity).
- 3.22. Options A2 (construction risk allocation), A3 (equivalence obligation) and A5 (costing requirements) would interface with distributor commercial arrangements and could be impactful for some distributors. Otherwise, they would improve confidence and predictability for access seekers.
- 3.23. Options A4 (cost transparency) and A6 (input assurance) could improve confidence for access seekers, facilitate informed negotiations, and strengthen incentives to ensure incremental cost estimates are robust. A6 could strengthen the foundation for the allocation options covered in Table 3.2.
- 3.24. Option A7 (in-kind contribution costing) would be a pre-requisite for most of the allocation options covered in Table 3.2.
- 3.25. In addition to the pricing methodology-focused options above, we note there are broader interventions that could improve connection cost efficiency outcomes but are outside the scope of this paper:
- (a) Contestability framework – refer discussion from paragraph D.2.
 - (b) Flexi connections – connection pricing rules require distributors to offer a flexi connection (with lower cost and less firm access) where ‘the distributor can reasonably supply it’. These are common for controlled hot water, but can have broader application – from controlled vehicle charging to reduced-

security commercial or industrial supplies.³⁴ The Authority has workstreams focused on flexibility more broadly that could help ensure flexi connections are widely offered and appropriately priced in practice.

- (c) Network standards – distributors set standards for the assets that connect to their networks and these drive connection costs. Distributors must balance up-front costs with other asset management objectives (including lifetime cost, safety and performance). The Authority is working with the Electricity Engineers' Association to drive improvements in network standards to ensure they strike a suitable balance.
- 3.26. All the options identified in Table 3.1 could potentially improve input cost efficiency, and all would generate operational costs for distributors and the Authority. Some options would only impact some distributors, or their impact would depend on each distributor's operating model for connection works – eg, whether they require in-kind contributions and how they structure and manage their relationship with equipment and works providers.

Q5. Do you consider costing methodologies should be a priority for further reform, and do you have any evidence or analysis to support your view?

Q6. What are your views on the merits of the identified costing methodology options?

Q7. Are there any other costing methodology options you think the Authority should consider?

Allocation methodologies

- 3.27. This section considers how connection pricing methodologies allocate a portion of the estimated incremental cost to connection charges and surveys potential options for improvement.

Context

- 3.28. Connection pricing methodologies determine allocation of:
- (a) incremental cost recovery between connection and lines charges – costs not recovered through connection charges are recovered through lines charges
 - (b) shared network costs between new and existing customers – increasing the portion of incremental cost recovered through connection charges can shift recovery of shared network costs to new customers.³⁵
- 3.29. Connection pricing methodologies also determine who bears the task of financing new distributor-owned assets. If connection charges are set at 100%, incremental

³⁴ For example, a distributor may agree to relax its usual network security standards for supply to a process heat installation if the owner is willing to trade-off lower cost for lower reliability.

³⁵ A new customer pays a higher share of incremental cost up-front and faces the same lines charges once connected. This means they make a larger contribution over and above incremental cost. The exception to this outcome is large customers with individual pricing for their lines charges.

costs are fully financed by new customers.³⁶ Any other setting means the distributor plays some part in financing their new assets.

- 3.30. If connection charges are very low then some connections may be subsidised by existing users – ie, connection and lines charges will not cover incremental cost. This is referred to as pricing below the ‘neutral point’. This outcome is more likely in situations where incremental costs are high, lines charges are low, or revenue from lines charges is uncertain.

Current arrangements and implementation experience

- 3.31. Current arrangements governing cost allocation for connection pricing are:
- (a) Distribution pricing principles (disclosure only) – provide that prices should be subsidy-free.
 - (b) Distributed generation pricing principles – provide that allocation to generation connections must not exceed incremental cost (ie, $CC + IR \leq IC$).^{37,38}
 - (c) Charge reconciliation (disclosure only) – provides standardised method of estimating incremental cost and revenue for offtake connections. Provides basis for identifying subsidised connections (negative network contribution term, NC), reliance level (connection charge as a percentage of incremental cost, CC/IC) and balance point (stable consumer group average contribution to network costs, $\overline{NC}_{CG,Y+1} \approx \overline{NC}_{CG,Y} \times \overline{IR}_{CG,Y+1}/\overline{IR}_{CG,Y}$).
 - (d) Enhancement cost allocation methodology – requires distributors to identify and quantify costs for the ‘minimum scheme’ design for each offtake connection plus any customer-selected enhancements.
 - (e) Network capacity costing – from 1 April 2027, will prohibit last-straw pricing for network capacity for offtake. Distributors must allocate costs as capacity is consumed or not at all. Provides more consistent allocation of network capacity costs between applicants, and decouples timing of expenditures and charges.³⁹
 - (f) Pioneer scheme for offtake – requires distributors to operate pioneer schemes that reallocate extension costs, resulting in more consistent allocation of extension costs between applicants.⁴⁰

³⁶ This is true regardless of how a customer funds its connection charges – ie, because the cost of the assets is incurred up front, while the benefits of being connected will occur over time. As such, the applicant must bridge the timing gap between cost and benefits.

³⁷ See Appendix B for a guide to the mathematical expressions used in this paper.

³⁸ The Authority has consulted on a proposal to reform this pricing rule so that, amongst other things incremental cost would be an anchor (ie, from $CC + IR \leq IC$ to $CC + IR \approx IC$).

³⁹ This may increase or decrease a distributor’s net asset financing cost in any given year (compared to last-straw pricing). This is mitigated by rules that allow full allocation of capacity upgrade costs in some circumstances – where a capacity upgrade is either ‘extension like’ or increment is substantially consumed by a single connection.

⁴⁰ The Authority has consulted on proposed Code amendments that would broaden pioneer schemes to span offtake and injection connections. This would replace existing, comparatively rudimentary cost-sharing

- (g) The 'balance point principle' (until 2030) – provides a framework for the Authority to direct a distributor to amend its methodology if connection pricing is inefficiently low (below neutral point) or is inefficiently shifting shared cost recovery (above balance point).⁴¹

Issues for consideration

- 3.32. Pricing methodologies for lines charges also impact allocation outcomes and are not subject to any formal regulatory requirements (aside from disclosure obligations).⁴² Key allocation decisions distributors make through their distribution pricing methodologies are:
 - (a) Pricing area and consumer group definitions – segmenting customers for tariff assignment (by network area and customer type, respectively).
 - (b) Target revenue allocation – allocating target revenue between consumer groups. This recovers all costs not recovered through connection charges (ie, including the balance of incremental costs and wider network costs).⁴³
 - (c) Tariff structures – including the mix of fixed versus usage-based and peak versus off-peak prices. Impacts allocation outcomes within consumer groups (eg, between high and low users).⁴⁴
- 3.33. Pricing area and consumer group definitions play central roles in defining what is meant by 'similar' consumers, and target revenue allocation plays a central role in determining the lifetime revenue contribution from each connection, including contributions to shared costs.
- 3.34. The exception to this is connections with individual lines charges (ie, a consumer group of one). This includes many large offtake and injection connections for which both connection and lines charges – and hence the size of any contribution over and above incremental cost – are negotiated directly.
- 3.35. The predictability of the revenue a connection will generate from lines charges may change as distributors evolve their pricing. In particular:
 - (a) higher fixed charges improve predictability

arrangements for generation connections. For more information, see from p32 of [Reforming network pricing for distributed generation to promote efficient investment](#)

⁴¹ See [Reducing barriers for new connections: up-front charges, distributor obligations and WACC – Decision paper](#)

⁴² See clause 2.4 of the Commerce Commission's information disclosure determination at https://www.comcom.govt.nz/assets/pdf_file/0026/363365/Electricity-Distribution-Information-Disclosure-amendments-related-to-IM-Review-2023-Amendment-Determination-2024-red-lined-version-27-November-2024.pdf

⁴³ Including costs of operating, maintaining and renewing incremental connection assets, network development costs and network improvements not driven by connections (such as resilience improvements).

⁴⁴ Distributors are required to provide negative prices for injection at peak times from connections serving household or small business consumers. See: [Requirement for distributors to pay negative charges when consumers supply electricity at peak times: definition of small business](#)

- (b) more dynamic pricing may reduce predictability within consumer groups⁴⁵
 - (c) rebates for injection reduce predictability, but shouldn't be factored into offtake connection revenue forecasts.⁴⁶
- 3.36. Historically, distributors have been able to alter connection cost allocation settings as part of their overall financial management. In particular:
- (a) increasing connection charges reduces a distributor's financing task, which can help a distributor avoid other capital management measures such as reinvesting cashflows or sourcing new debt or equity⁴⁷
 - (b) using connection charges (including last-straw charges) to cover connection costs insulates a distributor from a source of cost uncertainty and volatility⁴⁸
 - (c) conversely, funding a larger share of connection costs through lines charges increases the overall uncertainty and volatility of regulated expenditures.

Objectives

- 3.37. The Authority aims to find allocation methodology options that promote its statutory objectives by ensuring:
- (a) connections are not subsidised (ie, charges are not below the neutral point)
 - (b) connection charges are cost-reflective (ie, charges vary with incremental cost)
 - (c) distributors are incentivised to optimise investment
 - (d) access seeker investment is not deterred by excessive cost or risk
 - (e) the task of financing distribution assets is allocated efficiently.

Possible options and preliminary analysis

- 3.38. Table 3.2 surveys potential options relating to allocation methodologies used for connection pricing. These would continue beyond the targeted intervention (balance point principle) that applies until 2030 and could provide a more comprehensive and 'bottom-up' approach to ensuring connection pricing is efficient.

⁴⁵ And between consumer groups if a distributor does not allocate target revenue between consumer groups before determining tariffs.

⁴⁶ Pricing for injection is incremental to pricing for offtake – ie, offtake is priced first and injection may then increase or decrease aggregate charges.

⁴⁷ Until 2030, the recently introduced balance point principle framework will deter increases that shift shared cost recovery to new customers. See [Reducing barriers for new connections: up-front charges, distributor obligations and WACC – Decision paper](#)

⁴⁸ From April 2027, the capacity costing fast-track measure will prohibit last-straw pricing.

Table 3.2: Allocation methodology options

Option	Comment
B1. Standard process Require distributors to structure offtake connection pricing methodologies with consistent costing and allocation process structure. See Appendix B for generic methodology structure.	For connections assigned to consumer groups, the generic connection pricing process is to estimate the incremental cost of a connection, then allocate some portion of the incremental cost to connection charges. For other connections (with individual pricing) the process is to estimate incremental cost, add a network contribution amount (for offtake connections only), then determine a cost recovery structure (ie, connection charges and lines charges). Distributors may need to rework their methodologies to conform to this approach. Option could improve clarity and consistency of pricing methodologies, and provide a base for other options.
B2. Standard allocation formula Require distributors to adopt a standard approach to allocation settings for offtake connections. Would apply for connections assigned to consumer groups only (ie, not large connections with individual pricing). Refer Appendix B for reference allocation formula.	Allocation settings can be framed using the equation: $CC = IC - \alpha_{CG} \overline{IC}_{CG}$ In this framing, offtake connection charges are determined by quantifying incremental cost (IC) and deducting an amount set relative to consumer group average incremental cost ($\overline{IC}_{CG}$). The parameter α defines a distributor's allocation policy, and the Code provides methods for quantifying IC. This requirement would not require non-zero value for α – ie, a distributor could set charges as high as 100% of incremental cost ($\alpha = 0$). Distributors may need to rework their methodologies to conform. Option could improve clarity and consistency of pricing methodologies, and provide a base for other options.

Option	Comment
B3. Allocation floor (neutral point) Require distributors to ensure revenue from new offtake connections and connection offtake upgrades is likely to at least cover incremental cost (ie, $NC \geq 0$). Enduring replacement for the first limb of the balance point principle (neutral point).	Ensures offtake connections are not subsidised – ie, that the cost of connection growth does not fall on existing customers.⁴⁹ Could apply at methodology level – ie, distributor demonstrates most connections will be subsidy-free for each consumer group. Alternatively, could apply as a side-constraint for every connection – ie, charges ‘topped-up’ if needed to eliminate subsidy. Restriction applied <i>ex ante</i>, based on estimated costs and revenues – so does not guarantee every connection will always cover its costs.
B4. Change limit (balance point) Set limit on year-on-year increase in portion of shared costs allocated to new offtake connections. Enduring replacement for the second limb of the balance point principle (balance point).	Would limit the extent to which new offtake connections face higher lifetime costs than existing connections – ie, limit ability for distributors to shift shared costs to newcomers. Could allow some flexibility to increase offtake connection charges year-on-year. Could be framed as limit in year-on-year decrease in value of α. For example: $\alpha_{Y+1} \geq \alpha_Y - L$ If the permitted rate of change is low then higher connection charges are partially offset by declining lines charges – eg, if $L = 0.023$ then the timeframe for changing α aligns with the 43-year average accounting life of distribution network assets.⁵⁰ Would be efficiency enhancing if: • some connection applicants are deterred by higher lifetime costs • the ability for distributors to shift costs to newcomers has chilling impact on connection activity • restricting distributor ability to rebalance their funding does not generate costs (eg, from higher cost of capital) that outweigh benefits. For connections with individual pricing, limit would need to be framed in terms of NC directly. For example: $NC_{Y+1} \leq (1 + L) \times NC_Y$

⁴⁹ In contrast, the cost of ‘organic’ growth – ie, increases in peak demand per connection – should fall on existing customers.

⁵⁰ This does not necessarily mean the limit should be set this low, as there may be benefits in allowing distributors greater flexibility to alter their funding balance over time, even if it increases costs for new connections.

Option	Comment
B5. Allocation cap Set upper limit on portion of incremental cost that may be recovered through offtake connection charges. Goes further than the balance point principle – ie, sets limit on allocation level rather than change in level.	Amounts to requiring distributors to contribute to financing new network assets for offtake connections. Some distributors would need to reduce connection charges (including by contributing to vested asset costs where applicable). Could be efficiency enhancing if: • access to finance is a barrier for some connection applicants • the risk financed by a distributor (ie, use of connections on their network) is lower than the risk financed by an applicant (ie, that applicant's use of their connection) • the cost of capital for lines services is lower than the average cost of capital for connection applicants • it improves distributor incentives to ensure costs are efficient. A distributor and applicant could be permitted to agree to exceed the limit – ie, for large connections with individual pricing. Could also be applied to injection connections, but would be a more significant departure from current practices.
B6. Allocation band Set band for allocation settings and require all distributors to shift into the band (over time).	The band could be framed as $\alpha_{min} \leq \alpha \leq \alpha_{max}$ and could be accompanied by limits on the rate of change (year on year). Band could be relatively narrow (for greater consistency between distributors) or wide (providing distributors with greater capital management flexibility). Would remove the most extreme allocation settings, which are most likely to be inefficient. Low allocation (high α) means: • financing task maximally allocated to distributors • uncertainty maximally impacts regulatory expenditures • charges minimally effective at influencing connection choices. High allocation (low α) means: • financing task maximally allocated to connection applicants • funding maximally piecemeal • regulatory efficiency incentives minimally effective. Would also increase consistency between distributors.

Option	Comment
B7. Negative charges Set parameters for when connection charge (CC) may be less than zero.	Zero is a common lower bound on offtake connection charges. However, it can be efficient to incentivise new connections (or upgrades) in some circumstances. Principles or guidelines could be established for when (and how) it is efficient to set below-zero offtake connection charges (eg, where network has under-utilised capacity).
B8. Network cost contribution (large connections) Set parameters for allocating shared costs to larger offtake connections.	Large offtake connections are not assigned to consumer groups with pre-set tariffs. This means their contributions to shared costs are determined directly as part of connection pricing (along with cost recovery structure – ie, mix of connection and lines charges) and distributors can take a case-by-case approach to determining shared cost allocation (ie, value of NC). May be value in constraining choice through setting an upper limit – ie, to enhance predictability for large customers and guard against ‘hold-up’ risk. A lower limit (above zero) could be counter-productive because it could prevent some large connections that would only proceed with low (or zero) shared cost allocation.
B9. Prudent discount policy requirements (large connections) Set parameters for use of prudent discounts for large offtake connections.	Prudent discount policies set out when a network will depart from its usual pricing to avoid deterring an efficient connection. A prudent discount would involve reducing (or removing) the requirement for an offtake connection to contribute to shared costs. Prudent discounts are a common pricing tool for mitigating inefficient bypass risk⁵¹ and can be efficiency enhancing (without undermining consumer confidence as occurs with flexibility to discriminate by <i>increasing</i> charges).

Preliminary analysis

- 3.39. Each option would add to the matters that would be in scope for consumers to access dispute resolution (see Section 6 for discussion of dispute resolution).
- 3.40. The allocation floor (neutral point) (B3) option is relatively straightforward and would enforce a key element of connection pricing efficiency (ie, subsidy-free). This option would provide a permanent replacement for the first limb of the balance point principle.⁵²

⁵¹ For example, the transmission pricing methodology includes prudent discount provisions.

⁵² The balance point principle has two limbs. The first limb requires connection pricing to be subsidy-free, and the second requires that distributors do not shift shared cost recovery from existing to new customers. The balance point principle expires from 2030.

- 3.41. The standard process and standard allocation formula options (B1 and B2) would introduce new concepts for many distributors and may prompt a greater level of change for some – ie, to alter the ‘mechanics’ of their connection pricing methodology. However, it would further increase consistency (between distributors) and reinforce connection pricing efficiency (including cost-reflectivity). It would also provide a base for options B4 to B6, which may further enhance pricing efficiency. Cost-reflectivity supports efficient uptake of flexible connections, and other choices that reduce connection costs or deter inefficient connections.
- 3.42. A change limit (B4) would promote stability of shared cost recovery beyond expiration of the ‘balance point principle’. By allowing some level of increase (L), it would preserve some flexibility for distributors to adjust their funding balance over time.⁵³ This option would provide a permanent replacement for the second limb of the balance point principle, but implemented as a ‘bottom-up’ requirement and with more flexibility.
- 3.43. An allocation cap (B5) would not impact some distributors. For others, it would drive a shift in funding (from connection charges to lines charges). This would impact regulatory allowances for DPP5 (where applicable), capital management (debt and equity) and expenditure management. This is, however, likely to improve connection pricing efficiency given that full connection applicant funding is unlikely to be an optimal setting.
- 3.44. An allocation band (B6) would be the most comprehensive option. It could remove the need for options B3 and B5 and could go further in terms of setting a floor above the neutral point (ie, $\alpha_{max} < 1$). Potential downsides of this option could be mitigated through careful design of the band.
- 3.45. The Authority is not aware of distributors using incentives to stimulate efficient connections, so the negative charges option (B7) could have the effect of legitimising and expanding this practice. This could improve efficiency if criteria were well designed.
- 3.46. The network cost contribution (large connections) option (B8) would reduce the scope for tailored cost allocation – ie, where a distributor attempts to match allocation of shared costs to a customer’s willingness and capacity to pay. This may have a benefit of supporting access seeker confidence (ie, as they are protected from market power) while removing any benefits that flow from price discrimination (ie, where customers making a greater contribution to shared costs expand aggregate output by lowering costs for other customers).
- 3.47. The prudent discount option (B9) could preserve the benefits of B8 while mitigating downsides.
- 3.48. While an option such as the allocation floor is comparatively straightforward, it transforms some elements of the ‘fast-track’ requirements from information-only to

⁵³ The Authority has not considered an allocation decrease limit because decreases do not deter connections, and the impact on existing customers from decreased connection charges is gradual in any event.

directly constraining connection charges – increasing the relative importance of matters such as:

- (a) revenue life assumptions⁵⁴
- (b) completeness of incremental cost accounting.⁵⁵

3.49. Options that result in distributors recovering less than full cost of connection works through connection charges would expose those costs to regulatory efficiency incentives (or equivalent for exempt distributors).⁵⁶ This could strengthen distributor incentives to manage connection costs – in aggregate, and depending on design, for each project.⁵⁷

Q8. Do you consider allocation methodologies should be a priority for further reform, and do you have any evidence or analysis to support your view?

Q9. How well do the identified allocation methodology options meet the allocation objectives discussed in this paper?

Q10. Are there any other allocation methodology options you think the Authority should consider?

⁵⁴ For example, TENCO submitted that the revenue life assumption when connecting a secondary network to its parent network should be 30 years (rather than 15 years) to reflect the longevity and risk profile of secondary network connections. Making this change would reduce the neutral point connection charge for secondary networks compared to an equivalent installation that was not configured as a secondary network. See: [Tenco Distribution Connection Pricing Consultation 17Dec2024 Redacted.pdf](#)

⁵⁵ For example, the Authority recently decided to amend the discount rate used in charge reconciliation and has identified another potential change relating to tax costs. These types of refinements are expected as new arrangements bed in and mature and are comparatively low stakes while reconciliations remain an information requirement only.

⁵⁶ Except in the case of connections funded using the 'large connection contract' mechanism.

⁵⁷ Injection connections could similarly benefit from exposing costs to regulatory incentives, though this would be a more significant departure from current practices.

4. Other pricing events

- 4.1. Connection pricing methodologies determine charges for new connections and connection upgrades. This section covers pricing methodologies for other events that may prompt one-off charges, such as network development, network modifications, connection downgrades and continuation (or withdrawal) of supply.

Network development

- 4.2. This section discusses the demarcation between connection pricing and network development.

Context

- 4.3. Network development is investment that:
- (a) expands the ability for a distributor to serve new connections in future, such as by:
 - (i) extending a network to new areas – for example, by building a new grid connection, extending sub-transmission lines, zone substations, high voltage feeders or low voltage mains
 - (ii) upgrading network capacity or security – for example, by tying zone substations together
 - (iii) investing in systems that enable better use of available capacity, such as metering, monitoring or control systems
 - (b) is not treated as incremental to a connection.
- 4.4. Dedicated assets are often clearly incremental to a connection and can be allocated accordingly. Dedicated assets can include a new service line, dedicated transformer or associated works.
- 4.5. Other costs may also be treated as incremental to a connection, even though they involve assets that are, or may become, used by multiple connections. For example:
- (a) a network extension with the potential to become a shared asset may be treated as incremental to a connection, with a pioneer scheme used to reallocate costs as new connections arrive and make use of the extension
 - (b) the cost of shared network capacity may be allocated as it is consumed by new connections (applying the capacity costing rules)
 - (c) extending the reach of higher-voltage network tiers may be treated as an extension-like upgrade in some circumstances⁵⁸
 - (d) minimum scheme or customer-selected enhancement works that modify shared assets are treated as incremental to a connection.

⁵⁸ See 2a for explanation of extension-like upgrades: [Distribution connection pricing – worked examples](#)

- 4.6. Other works are not customer-initiated and are not generally able to be recovered through connection charges. For example:
- (a) routine asset renewal⁵⁹
 - (b) adding capacity or resilience to address organic demand growth (ie, growth in peak demand per connection)⁶⁰
 - (c) network improvements such as investment to enhance safety, reduce environmental impact or reduce lifecycle costs.
- 4.7. Network development works may be prompted by a connection request or could be initiated directly by a distributor in anticipation of future connection growth.
- 4.8. Historically, networks were developed by different entities than today's distribution companies. The distributors that exist today have largely managed growth and development that is incremental to the networks they inherited. In addition, for many rural and remote areas, network development was historically supported by government funding aimed at stimulating economic development.
- 4.9. Investment in new or upgraded grid exit points can be initiated by a distributor (as a Transpower customer) or by Transpower. The costs of Transpower-initiated works are recovered through annual transmission connection charges, while customer-initiated work is recovered via a one-off payment.⁶¹ Grid projects can also involve a combination of drivers with a combination of funding mechanisms.

Current arrangements

- 4.10. Current arrangements for offtake connections include:
- (a) Capacity costing – distributors may not use a 'last-straw' approach to recover shared network capacity upgrade costs. Costs may be allocated as capacity is consumed, using posted rates.
 - (b) Extension-like upgrades – a distributor may treat certain upgrades as network extensions. The full cost of a network extension may be treated as part of the incremental cost of a connection.
 - (c) Pioneer schemes – distributors must operate schemes for reallocating network extension costs so they are shared across multiple connections.⁶² This does not apply to distributor-selected enhancement costs (if any).⁶³
 - (d) Localised historical cost recovery – a distributor may choose to use a cost-recovery scheme to allocate network development costs to new connections (or upgrades) in a specified part of their network. These could include

⁵⁹ Renewal costs for some assets may be allocated directly for connections with individual pricing (ie, large injection or offtake connections).

⁶⁰ Other than where this involves connection capacity upgrades – ie, a customer-initiated change in either the maximum capacity of a connection, or its 'firmness'.

⁶¹ Transpower does offer vendor financing to spread one-off contributions over several years.

⁶² To limit administrative costs, this obligation only applies above specified value thresholds.

⁶³ A distributor-selected enhancement is where a distributor elects for a higher-cost solution than the minimum scheme – eg, to provide for network development.

distributor-selected enhancement costs or distributor-initiated network development works.⁶⁴

- (e) Pricing areas – distributors can use pricing areas to ring-fence the network costs they allocate to lines charges.⁶⁵
 - (f) Consumer groups – consumer groups can also ring-fence cost recovery to some extent. For example, consumer groups for higher-capacity connections may exclude costs associated with low-voltage network tiers.
- 4.11. The first four items above were recently introduced as part of ‘fast-track’ requirements. The last two items are not subject to any rules other than:
- (a) The Commerce Commission defines ‘consumer group’ for information disclosure purposes as meaning ‘...the category of consumer used by the EDB for the purposes of setting prices’.
 - (b) The Commerce Commission also requires pricing methodologies to include information on the rationale for each consumer grouping, methods and rationale for assigning connections to consumer groups, methods for allocating target revenue among consumer groups, etc.
 - (c) The Authority’s distribution pricing practice note provides some guidance on consumer groups and pricing areas.⁶⁶
- 4.12. Current arrangements leave distributors with considerable discretion on:
- (a) whether costs are included in estimates of incremental connection costs, or treated as network development costs
 - (b) how network development cost recovery is structured.
- 4.13. For example, a distributor’s cost recovery options for an investment could include:
- (a) Incremental to a connection – counted toward the incremental cost of a single offtake or injection connection and allocated accordingly. Costs may then be reallocated using a pioneer scheme.
 - (b) Proactively funded, with costs recovered via:
 - (i) a cost recovery scheme – costs are added to the incremental cost estimate for subsequent offtake connections that make use of the investment⁶⁷

⁶⁴ Distributor-selected enhancements are where work is prompted by a connection request and the distributor takes the opportunity to progress associated network development (eg, over-sizing for current needs), while network development is where a distributor invests independently of a connection project.

⁶⁵ For example, Aurora Energy separately tracks and allocates the costs of its Dunedin, Central Otago and Wānaka and Queenstown networks.

⁶⁶ See [Distribution pricing practice note.pdf](#)

⁶⁷ Part 6B.11(2) allows distributors to include a ‘localised historical cost recovery’ amount as part of incremental costs. These are defined as ‘an allocation of historical **distributor-selected enhancement** costs or historical network development costs to subsequent **connections** that benefit from the works to which those costs relate’. Worked example 1g provides an illustration of how such a scheme could operate, see: [Distribution connection pricing – worked examples](#)

- (ii) untargeted lines charges – costs are recovered through lines charges on all (or most) offtake consumers
- (iii) targeted lines charges – distributor uses pricing areas and consumer groups to recover cost through lines charges for a more targeted subset of offtake consumers.

Possible issues

- 4.14. Flexibility as to whether costs are recovered as connection costs or network development costs may be beneficial where it allows distributors to tailor their cost recovery approach to suit specific circumstances. For example:
- (a) the value of the investment relative to the size of the distributor (which may make proactive funding impractical)
 - (b) the value of the investment relative to the size of expected connection applicants (which may make connection funding impractical)
 - (c) uptake risk associated with the investment
 - (d) the strength of any link between the investment and a specific connection or connections
 - (e) practicality, retail market and consumer impacts of more granular pricing areas or consumer groups.
- 4.15. However, funding flexibility may also be a source of uncertainty for applicants and may allow inefficient pricing – eg, that creates position-in-queue issues or subsidises new connections.
- 4.16. While the ‘fast-track’ requirements place some structure around this issue, it has not been a focus to date. The Authority has not developed any principles for network development cost demarcation, funding mechanism selection, or funding design (including how historical cost recovery schemes should operate).⁶⁸

Q11. Are you aware of any issues relating to network development funding? Please provide examples, evidence or analysis where possible.

Q12. What options, if any, should the Authority consider for promoting efficient pricing for network development?

Network modifications

- 4.17. This section covers one-off payments towards network modifications other than new connections or connection upgrades.

Context

- 4.18. The ‘fast-track’ requirements for offtake cover one-off payments for ‘connection works’, which are defined as ‘...an extension or a network capacity upgrade’. We

⁶⁸ Proposed reforms to injection pricing do not include any specific provisions relating to network development.

refer to non-distributor-initiated works outside of this scope as ‘network modifications’.

- 4.19. There are two types of network modifications that may be funded (at least in part) through one-off charges outside of the scope of connection pricing rules:
- (a) Customer-initiated – a distribution network customer requests a network modification related to their own connection. For example, relocating a pole or transformer, or undergrounding a service line (without increasing capacity or security).
 - (b) Third-party-initiated – some other party requests a network modification, such as asset relocations to accommodate roading or other development.
- 4.20. Table 4.1 compares sector total values of capital contributions received in recent years for consumer connections, system growth and asset relocations.

Table 4.1: Reported capital contribution amounts (\$m, nominal)

Category	2020	2021	2022	2023	2024
Capital contributions					
Consumer connections	149	160	261	275	284
System growth	3	3	3	23	39
Asset relocations	27	26	25	36	29
Asset relocations (% of capital contributions)	15%	14%	9%	12%	9%
Expenditure on assets					
Asset relocations	44	49	42	52	49
Reliance (% of asset relocations expenditure funded from contributions)	61%	53%	60%	70%	59%

- 4.21. The Commerce Commission’s reporting categories do not align with the definition of connection works used in the Code.⁶⁹
- (a) ‘Consumer connections’ includes any work where ‘...the primary driver is the establishment of a new customer connection point or alterations to an existing customer connection point’. This is slightly broader than the scope of ‘connection works’ as defined in the Code.

⁶⁹ For full definitions, refer: [Current information disclosure requirements for electricity distributors | Commerce Commission](#)

- (b) 'System growth' includes work where '...the primary driver is a change in demand or generation on a part of the network...' and '...includes expenditure on assets associated with SCADA and telecommunications assets.' Some of this will be connection works.
 - (c) 'Asset relocations' only includes work prompted by third-party requests. It includes undergrounding, and work requested by roading authorities.
 - (d) Two other categories have been excluded (quality of supply and legislative and regulatory) because they are not material. Quality of supply may include some connection works.
- 4.22. Overall, it appears contributions for asset relocations are an order of magnitude smaller than contributions for consumer connections and have not shown the same increasing trend. Contributions for system growth were low but have sharply increased in recent years.
- 4.23. The reliance level for asset relocations (ie, portion of expenditure funded through contributions) has averaged 60% over five years, with no clear trend.
- 4.24. Section 33 of the Electricity Act 1992 provides some prescription for how distributors may recover costs when requested to modify their network by a road controlling authority. This includes that distributors may not recover the cost of 'betterment' or (in effect) distributor-selected enhancements. It is likely that a substantial portion of reported asset relocation contributions are governed by these requirements.
- 4.25. Section 35 of the Electricity Act 1992 provides that owners and occupiers of private land may move electrical works (on their land) at their own expense (with a distributor's consent, which may not be unreasonably withheld).
- 4.26. Distributors may also have leasing (or similar) agreements with other utilities. For example, it is common for electrical service lines to use telecommunications poles (and vice versa) with reciprocal agreements for allocating network modification costs.⁷⁰

Possible issues

- 4.27. The Authority's statutory objective focuses on the long-term benefit of consumers (main objective) and the interests of domestic and small business consumers in their dealings with industry participants (additional objective).⁷¹ Accordingly, the Authority would be concerned if:
- (a) costs are under-allocated to third parties
 - (b) the way network modification costs are recovered has a detrimental impact on the interests of domestic or small business consumers in their dealings with distributors

⁷⁰ This is because many streets have electricity distribution poles on one side and telecommunications poles on the other side.

⁷¹ Refer s15 of [Electricity Industry Act 2010 | New Zealand Legislation](#)

- (c) the way network modification costs are recovered raises costs overall or otherwise has a detrimental impact on the long-term interests of consumers.
- 4.28. The Authority is interested in whether there have been issues of this nature, and whether issues could arise in future as oversight of connection charges increases (ie, restricting use of connection charges could prompt a shift to other funding sources).
- 4.29. If there is evidence of issues, options the Authority could consider may include:
 - (a) documentation – expanding obligations to document methodologies (beyond the requirement to publish a capital contributions policy)
 - (b) disclosure – expanding obligations to report on network modification expenditure and contributions
 - (c) methodologies – expanding connection pricing methodology requirements to cover network modification contributions (with suitable adjustments).
- 4.30. If there were a case to extend oversight, this could address matters such as:
 - (a) costing approaches, such as use of ‘margins’ and firmness of quotes
 - (b) enhancement cost allocation, including treatment of costs in excess of the ‘minimum scheme’ for a requested modification
 - (c) treatment of avoided costs, including where a modification project incidentally reduces future renewal costs
 - (d) treatment of incidental capacity expansion – ie, where a modification incidentally increases network capacity
 - (e) use of, and basis for, connection fees.
- 4.31. These measures could in turn help ensure costs are not inefficiently under- or over-allocated to third parties, or to customers (including domestic or small business consumers) requesting network modifications.

Q13. Are you aware of any issues relating to network modification charges? Please provide examples, evidence or analysis where possible.

Q14. What options, if any, should the Authority consider for promoting efficient pricing for network modifications?

Connection downgrades and disconnections

- 4.32. This section covers one-off payments relating to connection downgrades or disconnections.

Context

- 4.33. A connection downgrade may involve:
 - (a) physical works to limit the maximum demand from a connection (such as by replacing a fuse, removing a phase or replacing a transformer)
 - (b) physical works (or contractual arrangements) to convert a connection from firm to flexi so it will consume less network capacity

- (c) reassignment of a connection to a consumer group with lower lines charges (with or without associated physical works).
- 4.34. Typically, a downgrade will not reduce a distributor's direct costs because connection assets are fixed and uneconomic to physically downsize. However, a downgrade may:
- (a) free up network capacity – enabling other connection or organic growth, or deferring the need for capacity upgrade investments
 - (b) reduce lines revenue from the connection, shifting cost recovery to other customers.
- 4.35. Many distributors have consumer groups based on capacity bands, with step changes in fixed (\$ per day) charges between bands. This can create a strong pay-off from reassignment to a lower capacity band. The pay-off may reflect a reduced allocation of residual costs and may not have a close relationship to the value of freeing up network capacity.
- 4.36. A distributor may choose to use one-off connection downgrade charges to:
- (a) recover direct costs, such as costs associated with swapping out a transformer or implementing flexibility arrangements (eg, run-back, load control or operating envelopes)
 - (b) adjust for the loss of expected lines charge revenues.
- 4.37. In addition, a customer may consider they should be provided with a rebate for:
- (a) the network capacity component (if any) of their connection charge
 - (b) any pioneer scheme payments they made based on their original capacity.
- 4.38. Similar issues can arise for customer disconnections – ie, where a customer stops paying any lines charges. There are four broad disconnection scenarios:
- (a) routine disconnections – a connection is idle for some time but is taken up again in due course by another user
 - (b) tactical disconnections – a user attempts to evade costs by temporarily disconnecting and reconnecting (eg, a holiday home or seasonal business)
 - (c) reconfigurations – a user disestablishes one connection as part of works that will re-establish another connection (with more capacity, or in a different location)
 - (d) stranding – a customer abandons a connection that is unlikely to be taken up again, either at all, or at its existing capacity.

Possible issues

- 4.39. Recovering the direct costs of a downgrade should be relatively straightforward and uncontroversial. However, a downgrade also reduces network capacity consumption and this can be less straightforward to value or may be ignored.

- 4.40. Overall, a one-off charge for downgrading a connection may not be intuitive, but can be efficiency-enhancing. In particular:
- (a) Most distributors recover some part of the incremental cost of a connection via lines charges.
 - (b) The combination of connection and lines charges also determines each connection's contribution to shared costs (and target contribution to shared costs may be a function of connection size).
 - (c) Absent a charge to partly offset reduced lines charge revenue, incentives can potentially arise for a customer to inefficiently oversize a connection and then request a downgrade. Depending on how connection and lines charges are configured, this may reduce a connection's lifetime charges while increasing underlying costs.
- 4.41. In addition, the appropriate method for determining an overall connection downgrade charge can depend on:
- (a) whether a connection is assigned to a consumer group or has individual pricing
 - (b) whether, and how, a distributor quantifies and allocates network capacity costs as part of their connection pricing for new connections and upgrades
 - (c) how a distributor allocates shared cost recovery between consumer groups, or to customers with individual pricing, and
 - (d) the age of a connection.
- 4.42. There is also a link to input cost and allocation options – specifically, approaches to downgrade pricing can be more consistent and coherent if connection pricing practices are more consistent and coherent (eg, if all distributors include network capacity costs in their incremental cost estimates and use a standard allocation formula).
- 4.43. For disconnections, there may also be situations where charges (or calling on the financial security provided by a customer) may be efficient. Across the four scenarios outlined at paragraph 4.38:
- (a) Routine disconnections (and reconnections) should not attract any charges beyond recovering direct costs, if any. Instead, the likelihood that some connections will be idle some of the time should be factored into connection pricing methodology settings, such as revenue life assumptions.
 - (b) It may be efficient to charge for tactical disconnections (or reconnections) to deter inefficient charge avoidance.
 - (c) It may be efficient for reconfiguration pricing to take stranding costs into account.
 - (d) Stranding can be treated in a similar way to downgrades, though may also interact with continuance of supply policies (ie, the process for a distributor withdrawing supply).

- 4.44. Given this context, there may be value in rules or guidance on connection downgrade and disconnection charges – ie, for reducing dispute and mitigating the risk of inefficient pricing.
- 4.45. In addition, or alternatively, there could be value in collecting more information on downgrade pricing – eg, on distributor methodologies, or downgrade activity and charges.

Q15. Are you aware of any issues relating to connection downgrade or disconnection charges? Please provide examples, evidence or analysis where possible.

Q16. What options, if any, should the Authority consider for promoting efficient pricing for connection downgrades or disconnections?

Continuance of supply

- 4.46. This section covers one-off payments associated with withdrawing, or opting to continue, supply to part of a network.

Context

- 4.47. In November 2025, the Authority consulted on its preferred direction for clarifying distributor obligations, which included:⁷²
- (a) introducing a clear obligation in the Code for distributors to make offtake connection offers
 - (b) complementing this with Code provisions that identify a suite of access standards each distributor must publish and by establishing some combination of mandatory principles, considerations and requirements. The suite would cover connection standards, congestion management, connection pricing, revenue protection and continuance of supply.
- 4.48. The continuance of supply policy would set out the process through which a distributor may withdraw supply. This type of policy would complement an obligation to offer by clarifying the extent of protections against subsequent withdrawal of supply (after a connection is established).
- 4.49. In July this year, the Authority affirmed its preferred direction and set out its intention to monitor for supply issues and work towards the preferred direction in stages.⁷³ This staged approach is intended to manage resourcing and pace of change.
- 4.50. Continuance of supply policies would set out the process for withdrawing supply to a connection. They would need to:

⁷² See Part B of [Reducing barriers for new connections: up-front charges and distributor obligations - Consultation paper](#)

⁷³ See [Reducing barriers for new connections: up-front charges, distributor obligations and WACC – Decision paper](#)

- (a) comply with statutory obligations to maintain supply, as set out in Subpart 3 of Part 4 of the Electricity Industry Act 2010. These provide certain safeguards for supply to connections that were in service prior to 1 April 1993
 - (b) address processes for communication, decision-making and implementation
 - (c) address any one-off charges, or other pricing matters, associated with the withdrawal or continuation process.
- 4.51. Continuance of supply policies should have an economic basis – ie, withdrawal only becomes a consideration where the avoidable cost of maintaining supply to a location materially exceeds the revenue from that location. This means consideration of withdrawing supply is inherently linked to:
- (a) avoidable costs, which may include major asset renewal investments (as well as routine maintenance costs)
 - (b) how costs are recovered from connections, including through one-off charges and lines charges.
- 4.52. Accordingly, the withdrawal process could include pricing-related elements such as:
- (a) requiring distributors to demonstrate avoidable costs materially exceed revenues (with associated methodology requirements)
 - (b) requiring distributors to test whether under-recovery can reasonably be addressed through some combination of one-off charges and more targeted lines charges (with associated financial security arrangements if relevant)
 - (c) arrangements for recovering the cost of withdrawing supply, including where this involves the distributor supplying some alternative (off-grid) form of supply or transferring ownership of some of its network assets.

Possible issues

- 4.53. Charges associated with continuance of supply are likely contentious, but could improve outcomes. For example, they could play a part in allowing distribution networks to evolve in a way that avoids locking-in grossly uneconomic coverage, while protecting the interests of customers at uneconomic connections and other customers who may otherwise subsidise those connections.
- 4.54. This evolution may become more important as:
- (a) self-supply options become increasingly feasible and cost-effective for remote connections as solar and battery costs decline
 - (b) expenditure on renewing or hardening assets supplying remote locations increases (or reliability declines) as severe weather events worsen and become more frequent.
- 4.55. Accordingly, there may be value in regulatory guidance or principles to help validate and encourage efficient continuance-related pricing practices.
- 4.56. The Authority has not prioritised work on supply obligations at this time, so it could be best to defer work on continuance pricing until other elements of the preferred direction for supply obligation are progressed. Alternatively, clarifying continuance pricing could be a material input to DPP5 capex forecasting for some distributors.

Q17. Are you aware of any issues relating to continuance pricing? Please provide examples, evidence or analysis where possible.

Q18. Should continuance pricing methodologies be a priority for further reform? Please provide reasons for your view.

Q19. What options, if any, should the Authority consider for promoting efficient continuance pricing?

5. Other potential gaps

- 5.1. This section covers two other areas where gaps in regulatory oversight of connection charges could present issues – secondary networks and financial security. It also asks about any other potential issues, and about prioritisation across the further reform programme.

Secondary networks

- 5.2. This section provides context on secondary networks and identifies potential issues. Appendix C provides further information on secondary networks visibility.

Context

- 5.3. A secondary network is a distribution network that is indirectly connected to the national grid – ie, that connects to another (parent) distribution network rather than directly to Transpower-owned assets.⁷⁴ Secondary network providers supply services that are ‘substantially similar’ to those provided by a distributor, and they are generally required to comply with the same Code requirements as distributors.⁷⁵
- 5.4. However, secondary network providers are expressly not required to comply with offtake connection pricing requirements in Part 6B of the Code.⁷⁶ This means they are not required to provide charge reconciliations, operate pioneer schemes, or apply enhancement cost allocation and capacity costing requirements for offtake connections to their networks.
- 5.5. Secondary networks are diverse, spanning:
- (a) Pocket networks – sizeable networks that operate much like any other distribution network. For example, Lakeland Network’s Frankton network, has more than 5,000 ICPs with capacities up to 276 kVA and covers a large part of Queenstown’s developable land.
 - (b) Major infrastructure sites – networks within airports (or other facilities) that have multiple buildings, activities and tenants and have regional or national economic significance.
 - (c) Private networks – reticulation within a building or site for which open access arrangements are not a pertinent issue. For example, many secondary networks only serve the tenancies in a single multi-level office building.
- 5.6. Electricity network regulatory arrangements in New Zealand do not include:
- (a) Licensing – distributors do not have an exclusive right to supply defined areas. Networks can compete with each other to build and operate network

⁷⁴ If the parent network is directly connected to Transpower-owned assets then it may also be referred to as a ‘local network’ or ‘primary network’.

⁷⁵ Refer section 131A of the Electricity Industry Act 2010, which was introduced in 2017 to clarify secondary network provider obligations. See also: [Application of Electricity Legislation to Secondary Networks - 31 October 2016 - Regulatory Impact Statement - Ministry of Business, Innovation and Employment](#)

⁷⁶ Refer clause 6B.2.

extensions to serve new connections (at network boundaries, and within the footprint of established networks)

- (b) A formalised test for when network access regulation (including pricing regulation) is extended to a network or supplier.⁷⁷
- 5.7. The structure of lines charges influences secondary network incentives, including:
- (a) Tariff coherence – if tariffs are structured so that shared network cost contribution declines with connection size, this can create an (unproductive) incentive to consolidate multiple small connections into a single secondary network connection to reduce aggregate lines charges (ie, to shift shared cost recovery to other consumers).
 - (b) Geographic averaging – use of broad pricing areas can also contribute to opportunities for rival networks to ‘cherry pick’ low-cost pocket development opportunities – ie, where charges for secondary network customers will reflect a lower LV network cost per connection than the wider network (which may include areas that have fewer ICPs per kilometre or more costly terrain).
- 5.8. For customers on a recently built pocket network, lines charges should largely be a pass-through or mirroring of the parent network’s charges with limited additional costs to be recovered.⁷⁸ As with private networks, lack of tariff coherence may allow the operator to mirror parent tariffs and capture a benefit (that derives from shifting costs to the parent network’s other customers) that covers the operating cost of the secondary network.
- 5.9. While cost-shifting may provide an inefficient incentive in some cases, secondary networks can also offer benefits that may support their adoption without cost-shifting. For example, through superior cost or quality of operation or customer service.

Possible issues and approach

- 5.10. There are potentially three distinct issues that could arise from exempting secondary network providers from offtake connection pricing methodology requirements:
- (a) inefficient access pricing – inefficient connection pricing for consumers seeking offtake connections (or connection upgrades) on secondary networks
 - (b) inconsistency – added complexity for access seekers (and their advisers and service providers) due to secondary networks pricing offtake connections differently from other networks

⁷⁷ There is a mechanism in Part 4 of the Commerce Act for extending regulation to additional classes of goods and services (see s52E) but not for adjusting carve outs for electricity lines services. The Authority may amend the Code, including to adjust scope, where ‘necessary or desirable’ to promote matters listed in s32 of the Electricity Industry Act 2010.

⁷⁸ A secondary network ‘passes through’ charges if it only recovers the amount it pays to the parent distributor. It ‘mirrors’ charges if it charges its customers the same amount they would pay if they were connected to the parent network directly (even though this may be more than the secondary network operator pays).

- (c) inefficient supply incentives – exemption from regulatory requirements may add to the case for unproductive investment in secondary networks (ie, where the business case for investment relies on shifting costs or exploiting differences in compliance requirements rather than genuinely superior services).
- 5.11. Of these three potential issues:
- (a) inefficient access pricing likely presents the strongest case for intervention – but only for secondary networks of a scale and nature such that harm from inefficient pricing may outweigh the cost of intervention
 - (b) inconsistency is potentially a less significant issue, given the relatively small proportion of ICPs connected to secondary networks
 - (c) inefficient supply incentives may be a material issue, but exemption from connection pricing obligations would probably make a negligible difference to underlying drivers for unproductive secondary network investment.
- 5.12. If there is a case for extending connection pricing obligations, it would be strongest for pocket networks and major infrastructure sites. This is because an open access regime with efficient connection pricing has greatest potential to benefit access seekers on these types of networks.⁷⁹
- 5.13. Private networks are probably less likely to have access seekers negotiating connection pricing independently of their overall access to a site or premises.
- 5.14. It is possible some connection pricing requirements could not carry across to secondary network operators without modification. For example, secondary network providers do not have the same retailer access and tariff-setting obligations as other distributors.
- 5.15. If the Authority were to extend connection pricing requirements to a subset of secondary networks:
- (a) the existing commonly cited demarcation between secondary network types would not provide a suitable basis for determining which secondary networks should comply with connection pricing obligations⁸⁰
 - (b) it may be possible to develop a demarcation that captures pocket networks and major infrastructure sites, or it could be preferable to introduce a process for case-by-case regulatory determinations (either to exempt some secondary networks or to bring them into scope)

⁷⁹ See for example, Retyna's comments on transport hub locations in its submission on 'fast-track' requirements as originally proposed: [Retyna - DCP and NCP submission 2024 1.pdf](#) and TENCO's response to question 25: [Tenco Distribution Connection Pricing Consultation 17Dec2024 Redacted.pdf](#)

⁸⁰ The existing demarcation is between customer networks, network extensions, and embedded networks as described in Appendix C. This demarcation relates to registry and other retail access arrangements. This does not capture the most relevant characteristics, plus using this demarcation to determine connection pricing obligations could alter secondary network supplier incentives to enable retail competition on their networks.

- (c) either way, the aim would be to include networks where regulatory oversight of access pricing would add value in light of potential access activity and supplier incentives.
- 5.16. In extending obligations to secondary networks:
- (a) some obligations would possibly require modification to suit the operating context of those networks
 - (b) aligning timing with the start of DPP5 would not be relevant, as secondary networks are exempt from revenue control
 - (c) obligations could be introduced in phases, potentially starting with information requirements.
- 5.17. From the above, a possible phased approach to addressing secondary network access issues could be:
- (a) introduce basic information requirements for all secondary networks – eg, an initial survey, followed by annual information gathering on metrics such as end point counts, energy volumes and access activity
 - (b) use disclosed information to inform (and test the case for) developing a suitable demarcation (and associated administrative process) for extending access requirements to a subset of secondary networks
 - (c) progressively extend connection pricing requirements (with modifications, if appropriate) to those networks.

Q20. Are you aware of any issues relating to secondary network access? Please provide examples, evidence or analysis where possible.

Q21. Should secondary network access be a priority for further reform? Please provide reasons for your view.

Q22. What options or approach, if any, should the Authority consider for addressing secondary network access issues?

Financial security

- 5.18. This section provides context and discusses issues relating to financial security for offtake connection works.

Context

- 5.19. Whenever there is a delay between a distributor incurring and recovering costs, financial security can mitigate recovery risk. At present, distributors can determine their own financial security requirements.
- 5.20. Distributors may choose both the form and structure (including level and timing) of financial security. Forms of financial security include bonds, bank guarantees, letters of credit, parent company guarantees and escrow arrangements.
- 5.21. Financial security may be used to address:
- (a) recovery risk during construction – eg, as an alternative to requiring pre-payment for equipment and work

- (b) recovery risk after construction – ie, if some portion of incremental cost is recovered over time through lines charges.
- 5.22. If financial security requirements are excessive, they may:
- (a) inefficiently increase the effective cost of connections – ie, because providing security is not costless
 - (b) undermine the effectiveness of other connection pricing requirements. This risk may increase as requirements are tightened.
- 5.23. On the other hand, if financial security is inadequate, this may:
- (a) encourage inefficient connection activity
 - (b) shift costs to existing users (when defaults occur)
 - (c) deter distributors from accommodating new connections.
- 5.24. The form of financial security can depend on the connecting entity. For example, the value of a letter of credit or parent company guarantee depends on the credit strength of the relevant party.
- 5.25. The Code already includes several provisions relating to financial security requirements:
- (a) Part 6 provides for distributors to require payment in advance for ‘distinct capital expenditure’ for injection connections⁸¹
 - (b) Part 12 governs transmission agreements (between Transpower and transmission customers) and includes a default transmission agreement template. This includes a schedule covering credit support that allows Transpower to require financial security from any party that falls below specified credit rating thresholds⁸²
 - (c) Part 12A governs contractual arrangements between distributors and traders (retailers). This includes a default agreement that has prudential requirements involving credit rating thresholds with financial security as a fallback⁸³
 - (d) Part 14A governs prudential requirements operated by the clearing manager relating to wholesale spot market and hedge settlements. As with Part 12, these allow requirements to be met via credit ratings or various forms of financial security.⁸⁴
- 5.26. The Authority recently provided an update on its preferred direction for clarifying distributor supply obligations. This involves monitoring and staged implementation of a clear obligation and supporting requirements for a suite of access standards.⁸⁵

⁸¹ See clause 2(d) of Schedule 6.4 at [Part 6—Connection of distributed generation | Electricity Authority](#)

⁸² See Schedule 7 at [CODE - Part 12 - Transport - 17 June 2024 - EIPCA \(Transmission Pricing Methodology Related Amendments\) 2024](#)

⁸³ See clauses 10.1 to 10.27 at [Schedule 12A.4 Appendix A.pdf](#)

⁸⁴ See clauses 14A.2 and Schedule 14A.1 at [Part 14A—Prudential requirements | Electricity Authority](#)

⁸⁵ See [Reducing barriers for new connections: up-front charges, distributor obligations and WACC – Decision paper](#)

5.27. One of the proposed access standards is a revenue protection policy that:⁸⁶

Sets out when and how a distributor will seek financial security to protect existing users from economic stranding risk associated with new connections.

and

Should promote efficient allocation of stranding risk, without unduly deterring connections.

5.28. This refers to protecting existing users (rather than the distributor) because distributors are generally able to recover the cost of commissioned assets from their wider customer base regardless of whether an asset is in use.⁸⁷

5.29. The reference to stranding risk is relevant because abandoned connections will usually be taken up by another similar customer. This means revenue recovery does not usually depend on financial viability of the initial customer – ie, economic stranding risk is smaller than the outstanding value of the assets.

Possible issues and approach

5.30. Regulatory oversight of financial security requirements relating to offtake connection costs is a clear gap in the distribution network access framework, and risk clearly increases as other aspects of connection pricing regulation are introduced.

5.31. This issue is addressed already for several other electricity network access matters (retailer access to distribution networks and the wholesale market, and customer access to transmission connections) and the underlying rationale is the same – ie:

- (a) Networks supply monopoly services and have strong market power, so access terms are not disciplined by competitive pressures and may skew in favour of the network.
- (b) Regulatory oversight validates when financial security may be required, and ensures requirements are neither unduly onerous (in form or structure) nor discriminatory (eg, in favour of related parties).
- (c) This provides confidence in network access arrangements and supports efficient investment and usage for the long-term benefit of consumers.

5.32. The context for distribution network access for offtake is not identical to the other access arrangements governed by the Code. In particular, most:

- (a) customers seeking a connection (or upgrade) are not electricity market participants (and many are residential or small business consumers)

⁸⁶ See Table 11.1 of [Reducing barriers for new connections: up-front charges and distributor obligations – Consultation paper](#)

⁸⁷ For non-exempt distributors, unused assets remain in the regulatory asset base and contribute to allowable revenue. Alternatively, a distributor may write-off an asset and recover residual costs as accelerated depreciation.

- (b) connections have negligible stranding risk, such that financial security should not be required (or at least not required post-commissioning)
 - (c) customers pay lines charges that include a substantial component relating to residual (non-incremental) costs. This means the timeframe within which incremental costs are fully recovered is typically relatively short.
- 5.33. However, there are connections for which stranding risk is material and should be mitigated through prudential or financial security – such as:
- (a) atypical connections (eg, unusually high capacity for the location)
 - (b) large connections (with high direct capital costs and little prospect of reuse or salvage)⁸⁸
 - (c) high-cost connections (eg, in a remote location).
- 5.34. Accordingly, regulatory arrangements could potentially:
- (a) be structured as Code obligations on distributors (rather than default contract terms)
 - (b) limit pre-payment and financial security requirements prior to commissioning
 - (c) limit circumstances in which distributors may require post-commissioning financial security (ie, exclude for most offtake connections)
 - (d) where stranding risk is material, set limits on the form and level of financial security that may be requested.

Q23. Are you aware of any issues relating to financial security requirements? Please provide examples, evidence or analysis where possible.

Q24. Should financial security requirements be a priority for further reform? Please provide reasons for your view.

Q25. What options or approach, if any, should the Authority consider for financial security requirements?

Q26. Do you have views on any other measures the Authority should put in place to address connection pricing methodology issues (including Appendix D issues relating to contestability, in-kind contributions, large connections, and real estate developments)?

⁸⁸ Component such as transformers can have salvage value – ie, can be sold or relocated and redeployed.

6. Regulatory design and stewardship

- 6.1. This section discusses arrangements for ensuring regulatory arrangements for connection pricing are effective and remain fit for purpose over time, to support efficient connection pricing.

Context

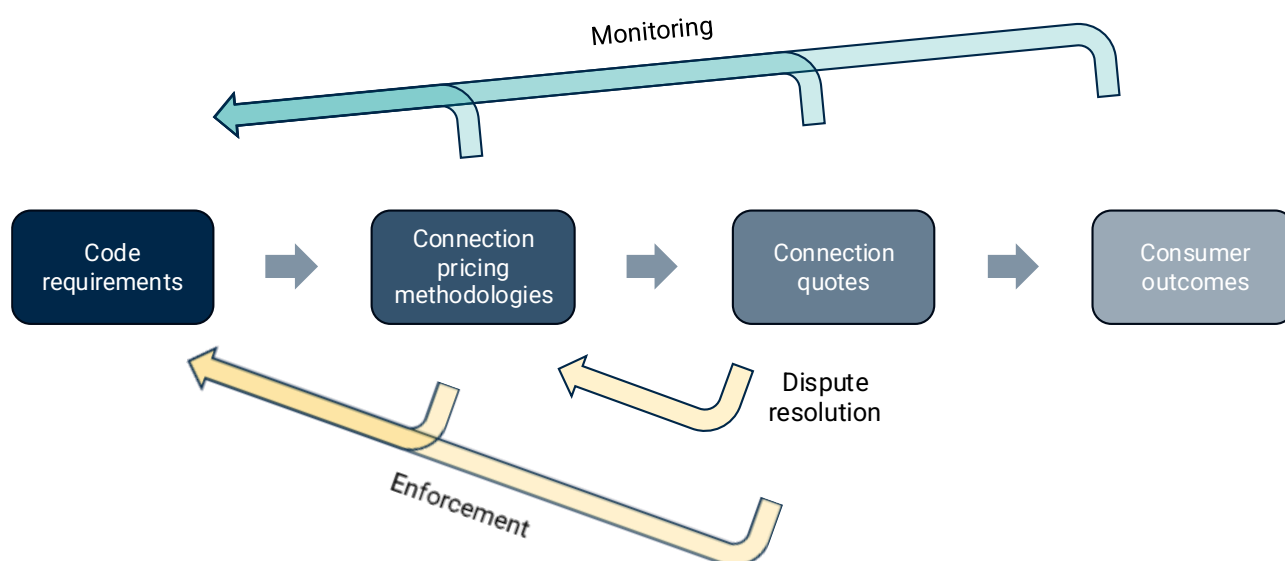
- 6.2. Regulatory arrangements for distribution network offtake connection pricing in New Zealand have historically been light touch. The Authority has begun to intervene with the aim of making pricing more efficient to improve outcomes for consumers. This paper outlines a range of possible further interventions to build on progress to date. As part of this, it is important to consider how the Authority best ensures any measures are effective and remain fit for purpose over time.
- 6.3. Context includes:
- (a) The Authority can set requirements via the Code and distributors (as electricity industry participants) are required to comply. Access seekers are not required to comply with the Code unless they are also industry participants.⁸⁹
 - (b) Distributors must also comply with revenue path and information disclosure determinations made by the Commerce Commission.⁹⁰ These intersect with connection pricing methodology requirements – influencing distributor incentives and the information they disclose.
 - (c) There are long-standing pricing methodology requirements for distributed generation in the form of the distributed generation pricing principles (DGPPs). These form part of access arrangements that include process obligations and a default connection agreement. The DGPPs are not detailed, but strictly cap charges at no more than the incremental cost of a connection. The Authority is proposing reforms, which include more closely integrating injection and offtake connection pricing regulation.⁹¹
 - (d) Distributors have to comply with four newly introduced mandatory offtake connection pricing methodologies – enhancement cost allocation, pioneer schemes, charge reconciliation, and from 1 April 2027, capacity costing.
- 6.4. Figure 1 illustrates the regulatory system for connection pricing methodologies.

⁸⁹ The Act also provides for the Authority to carry out market facilitation (s16(1)(f)), and industry and market monitoring (s16(1)(g)) functions. It can also 'undertake measures' to protect the interests of domestic consumers and small business consumers (s16(1)(ia)) and can be asked by the Minister to review and report on any matter relating to the electricity industry (s18).

⁹⁰ Under Part 4 of the Commerce Act 1986. Revenue path determinations apply to non-exempt distributors. Information disclosure determinations apply to all distributors excluding secondary network providers.

⁹¹ See [Reforming distributed generation pricing to promote efficient investment | Our consultations | Our projects | Electricity Authority](#). Also, some of the options identified in this paper could apply to offtake and injection connections.

Figure 1: Regulatory system diagram – connection pricing methodologies



6.5. The implementation flow is:

- (a) The Code contains pricing principles (for generation) and mandatory methodologies (for load).
- (b) Distributors should reflect Code (and other) requirements in their documented connection pricing methodologies (and associated business processes, systems and artefacts).
- (c) Distributors should then apply their published methodology (and associated process and systems) when producing quotes for connection applicants.
- (d) This influences supplier and applicant incentives and choices, and the long-term outcomes experienced by access seekers and existing consumers.

6.6. The Authority can also support implementation by providing guidance, such as publishing worked examples or responses to frequently asked questions, or responding directly to queries and requests for clarification.

6.7. The Code contains three distinct dispute resolution arrangements for injection and offtake connection pricing:

- (a) For applicants who are not participants (ie, most consumers) – if they notify their distributor of a dispute, the distributor must attempt to resolve the dispute in good faith.⁹² The applicant may also make a complaint to the distributor or report a breach of the Code to the Authority.⁹³

⁹² See clause 6B.13 [Part 6B—Distributor pricing methodologies, information requirements and other requirements | Electricity Authority](#)

⁹³ Regulation 6 of the Electricity Industry (Enforcement) Regulations requires participants to investigate complaints and take appropriate action. Regulation 9 provides for non-participants to report suspected breaches to the Authority. See [Electricity Industry \(Enforcement\) Regulations 2010 | New Zealand Legislation](#)

- (b) For applicants who are participants – they may use the default dispute resolution process in Schedule 6.3 and, if this does not resolve the dispute, they may make a complaint to the Authority and:⁹⁴
 - (i) for connection charges in relation to generation – the Authority (or Rulings Panel) may apply the distributed generation pricing principles to determine connection charges payable⁹⁵
 - (ii) for other connection charges – the Authority (or Rulings Panel) may require the distributor to determine charges in a manner that is consistent with mandatory connection pricing methodologies.⁹⁶
- 6.8. In addition, access seekers may contact Utilities Disputes for assistance to resolve complaints with a monetary value up to \$50,000, or higher with the provider's agreement.⁹⁷ The Utilities Disputes Commissioner cannot consider complaints about the price a provider chooses to set for their services, but can consider whether appropriate information about charges has been made available and whether charges for services have been correctly applied.⁹⁸
- 6.9. The Code can also be enforced directly, which may include:
- (a) addressing non-compliance in documented connection pricing methodologies, or in individual connection quotes or charges
 - (b) responding to self-reported breaches, or breaches reported by other participants or non-participants
 - (c) the Authority appointing an investigator who will endeavour to achieve a settlement, and complete an investigation report with a recommendation to the Authority as outlined in our [Enforcement and Prosecution Policy](#)⁹⁹
 - (d) the Authority (or a complainant) referring a matter to the Rulings Panel, which may agree to hear and determine complaints and order remedial actions (including pecuniary penalties).
- 6.10. The Authority can also monitor the regulatory system to understand its efficacy and inform its enforcement, market facilitation and Code amendment efforts. Sources of information for monitoring include:
- (a) information disclosures published by distributors (excluding secondary network operators) under Part 4 of the Commerce Act
 - (b) charge reconciliation disclosures for offtake connections¹⁰⁰

⁹⁴ The Rulings Panel is an independent adjudicator to whom the Authority can refer compliance matters.

⁹⁵ See clause 6.8 and Schedule 6.3.

⁹⁶ See clauses 6B.12 and Schedule 6.3

⁹⁷ Complaints worth more than \$50,000 and up to \$100,000 can be considered if the provider agrees.

⁹⁸ See [Commissioner's jurisdiction » Utilities Disputes](#) and [Utilities Disputes_GXfq4rH.pdf](#)

⁹⁹ See [Enforcement and prosecution policy.pdf](#)

¹⁰⁰ The Authority has proposed extending charge reconciliation requirements to apply to injection connections.

- (c) published connection pricing methodologies, including network capacity rate documents
 - (d) responses to specific information requests.
- 6.11. Some of the other regulatory arrangements governed by the Authority include additional assurance measures, such as:
- (a) retailers will be required to submit annual compliance reports for recently introduced Consumer Care Obligations. The Code specifies what must be covered in the reports, and reports must be accompanied by certification signed by a director or chief executive of the retailer¹⁰¹
 - (b) distributors (including secondary network owners) and metering equipment providers are required to arrange for regular audits to ensure they are meeting their obligations in Part 11 of the Code (registry information management). The Authority may also appoint an auditor at any time¹⁰²
 - (c) the Authority can require generators to carry out audits of their obligations relating to materially large contracts in Part 13 of the Code¹⁰³
 - (d) reconciliation participants (including retailers and distributors) must obtain and maintain certification from the Authority in relation to reconciliation functions in Part 15 of the Code¹⁰⁴
 - (e) the Authority maintains a list of approved auditors for audits required under Parts 11, 13 and 15¹⁰⁵
 - (f) the Authority can appoint an auditor to confirm whether Transpower has calculated transmission charges in accordance with the transmission pricing methodology¹⁰⁶
 - (g) the System Operator must submit performance self-reviews to the Authority (and the Authority must publish those reports)
 - (h) the System Operator may make amendment proposals to the Authority for system operation documents. For some documents, the System Operator must gain approval from the Authority to develop a proposal and must consult affected parties.¹⁰⁷

¹⁰¹ See clause 11A.4.

¹⁰² See clauses 11.8B, 11.10 and 11.11.

¹⁰³ See clause 13.279

¹⁰⁴ See clause 15.38

¹⁰⁵ See Part 16A

¹⁰⁶ See clause 12.97

¹⁰⁷ See clauses 7.13 to 7.22.

- 6.12. The Commerce Commission has similar assurance measures in place for its regulation of electricity lines services, including:¹⁰⁸
- (a) requiring independent audits of disclosed information
 - (b) additionally, requiring independent appraisals of related party transactions
 - (c) requiring Aurora, as part of its customised price-quality path requirements, to procure independent expert reports on aspects of its performance
 - (d) requiring prescribed certificates for certain information, signed by two directors¹⁰⁹
 - (e) for Transpower, certain information or values must be validated by an independent valuer or independent engineer.¹¹⁰
- 6.13. In addition to ensuring requirements are applied in practice, it is important to monitor effectiveness and to adapt requirements when needed to ensure they remain fit for purpose over time. This includes refining requirements as they are bedded-in (to benefit from implementation experiences) and further refining them over time (as experience deepens, practices mature, and operating environments evolve).
- 6.14. While ongoing or periodic refinement can be beneficial, it can also drive cost or uncertainty – especially if changes mean distributors need to modify enterprise systems or rework wider business or customer processes.
- 6.15. Ultimately, the aim of regulatory oversight of connection pricing methodologies is to promote the long-term benefit of consumers by addressing issues arising from market power in the provision of distribution services. This includes supporting efficient investment in and operation of distribution networks. Successful intervention supports:
- (a) Cost-reflectivity – pricing that signals underlying costs promotes efficient consumer choices, including on whether and how to consume distribution services.
 - (b) Allocative efficiency – due to the cost structure of distribution services, suppliers must recover shared network costs in excess of the incremental cost of supply. Shared network cost recovery – both how and from whom costs are recovered – should aim to minimise inefficient demand suppression.
 - (c) Predictability – limiting the ability of distributors to alter how they recover shared network costs promotes an environment where consumers can confidently make investments that will rely on distribution network access.

¹⁰⁸ See https://www.comcom.govt.nz/assets/pdf_file/0026/363365/Electricity-Distribution-Information-Disclosure-amendments-related-to-IM-Review-2023-Amendment-Determination-2024-red-lined-version-27-November-2024.pdf

¹⁰⁹ See clause 2.9 of https://www.comcom.govt.nz/assets/pdf_file/0026/363365/Electricity-Distribution-Information-Disclosure-amendments-related-to-IM-Review-2023-Amendment-Determination-2024-red-lined-version-27-November-2024.pdf

¹¹⁰ See https://www.comcom.govt.nz/assets/pdf_file/0020/91181/Transpower-Input-Methodologies-Determination-consolidated-as-of-23-April-2024.pdf

- (d) Incentive alignment – ensuring pricing reinforces incentives for distributors to manage costs promotes productive efficiency. Likewise, pricing influences access seeker incentives for efficient queuing and decision-making.
- (e) Consistency and transparency – enhancing consistency between distributors and improving transparency can simplify pricing nationwide, reducing transaction costs for consumers and management costs for suppliers. Transparency also provides information to support effective regulatory oversight.

Considerations

- 6.16. There are various potential causes or drivers for non-compliance with connection pricing requirements, including:
 - (a) mistakes – reforming connection pricing methodologies, and associated business systems, processes and artefacts can be a relatively significant and complex undertaking for a distributor. Accordingly, there is scope for misunderstanding or unintentional misapplication of requirements. Likewise, generating individual quotes can be complex and prone to mistakes
 - (b) capability or capacity – the potential for mistakes is larger if a business does not adequately or appropriately resource pricing and related commercial and regulatory functions
 - (c) preference – a supplier may prefer an approach that does not align with Code requirements and may consider non-compliance is a minor or acceptable trade-off
 - (d) incentive – a supplier may benefit financially from non-compliance and judge that compliance risks are worthwhile. Additionally, a supplier may find ways to circumvent requirements to benefit financially while mitigating compliance risks.
- 6.17. Any of these drivers could potentially apply across dozens of distributors implementing complex business change for a core commercial function. As such a mix of guidance, assurance and enforcement is likely to be appropriate.
- 6.18. For distributor pricing methodologies, the Authority has not had recourse to enforcement because there have not been any Code requirements. This in part reflects that distributors do not have strong financial incentives relating to lines charges – ie, lines charges impact how target revenue is allocated among customers and do not directly impact a distributor's finances.
- 6.19. Recently, the Authority amended the Code to require distributors to apply negative charges for injection during offtake peaks for certain residential and small business customers. As with other aspects of distributor pricing methodologies, this is largely

a low-incentive issue for distributors (ie, negative charges are offset by increasing other charges to restore target revenue).¹¹¹

- 6.20. The Authority has used a mix of market facilitation measures for distributor pricing methodologies:
- (a) distributors provide self-assessments of their alignment with distribution pricing principles developed by the Authority¹¹²
 - (b) practice notes provide guidance on how distributors may align with aspects of the pricing principles
 - (c) periodic scorecards provide a public record of the Authority's evaluation of each distributor's pricing methodology
 - (d) open letters from the Authority identify focus areas, which are then evaluated in scorecards.
- 6.21. While scorecards could have a role in connection pricing, they are resource-intensive to produce and may not be as effective as some mix of guidance, self-certification and enforcement.
- 6.22. Self-certification could play a useful role for connection pricing methodologies, noting that self-certification requirements:
- (a) are most effective where there is clear guidance on how to comply – for example, in the form of templates, practice notes and worked examples
 - (b) can assist to deter deliberate non-compliance, and encourage appropriate resourcing, care and accountability
 - (c) can drive costs, including by driving a more rigorous or formalised business process control environment, with additional control activities and assurance.
- 6.23. Self-certification of connection pricing methodologies could potentially be required alongside more extensive guidance or prescription on the form and content of methodologies. Additionally, self-certification could also be suitable for options such as:
- (a) A3 – equivalence obligation
 - (b) A6 – input assurance
 - (c) B9 – prudent discounts.
- 6.24. Additionally, independent certification could play a role for some aspects of connection pricing methodologies – for example, independent engineering certification of capacity rates and design assumptions.

Q27. What measures, if any, should the Authority consider to ensure connection pricing methodology requirements are effective in practice?

¹¹¹ Distributors may be influenced by objectives such as containing price increases for offtake consumers or avoiding operational risks of overly-strong or misaligned signals to inject.

¹¹² This is required under Commerce Commission information disclosure obligations.

Q28. How should the Authority monitor, review or update connection pricing methodology requirements to ensure they remain fit for purpose over time?

Appendix A Format for submissions

Further reform of distribution connection pricing – issues paper

Please email your submission to distribution.pricing@ea.govt.nz by 5pm, Monday 24 August 2026.

Name	
Organisation	

Questions	Comments
Q1. Do you agree with the background and context summary above? Why, why not?	
Q2. Is there additional background, evidence or context relevant to the issues covered in this paper?	
Q3. How should the Authority prioritise across possible options identified in this paper?	
Q4. Which options should have the highest or lowest priority, and why?	
Q5. Do you consider costing methodologies should be a priority for further reform, and do you have any evidence or analysis to support your view?	
Q6. What are your views on the merits of the identified costing methodology options?	
Q7. Are there any other costing methodology options you think the Authority should consider?	
Q8. Do you consider allocation methodologies should be a priority for further reform, and do you have any evidence or analysis to support your view?	
Q9. How well do the identified allocation methodology options meet the allocation objectives discussed in this paper?	

Questions	Comments
Q10. Are there any other allocation methodology options you think the Authority should consider?	
Q11. Are you aware of any issues relating to network development funding? Please provide examples, evidence or analysis where possible.	
Q12. What options, if any, should the Authority consider for promoting efficient pricing for network development?	
Q13. Are you aware of any issues relating to network modification charges? Please provide examples, evidence or analysis where possible.	
Q14. What options, if any, should the Authority consider for promoting efficient pricing for network modifications?	
Q15. Are you aware of any issues relating to connection downgrade or disconnection charges? Please provide examples, evidence or analysis where possible.	
Q16. What options, if any, should the Authority consider for promoting efficient pricing for connection downgrades or disconnections?	
Q17. Are you aware of any issues relating to continuance pricing? Please provide examples, evidence or analysis where possible.	
Q18. Should continuance pricing methodologies be a priority for further reform? Please provide reasons for your view.	
Q19. What options, if any, should the Authority consider for promoting efficient continuance pricing?	
Q20. Are you aware of any issues relating to secondary network access? Please provide examples, evidence or analysis where possible.	

Questions	Comments
Q21. Should secondary network access be a priority for further reform? Please provide reasons for your view.	
Q22. What options or approach, if any, should the Authority consider for addressing secondary network access issues?	
Q23. Are you aware of any issues relating to financial security requirements? Please provide examples, evidence or analysis where possible.	
Q24. Should financial security requirements be a priority for further reform? Please provide reasons for your view.	
Q25. What options or approach, if any, should the Authority consider for financial security requirements?	
Q26. Do you have views on any other measures the Authority should put in place to address connection pricing methodology issues (including Appendix D issues relating to contestability, in-kind contributions, large connections, and real estate developments)?	
Q27. What measures, if any, should the Authority consider to ensure connection pricing methodology requirements are effective in practice?	
Q28. How should the Authority monitor, review or update connection pricing methodology requirements to ensure they remain fit for purpose over time?	

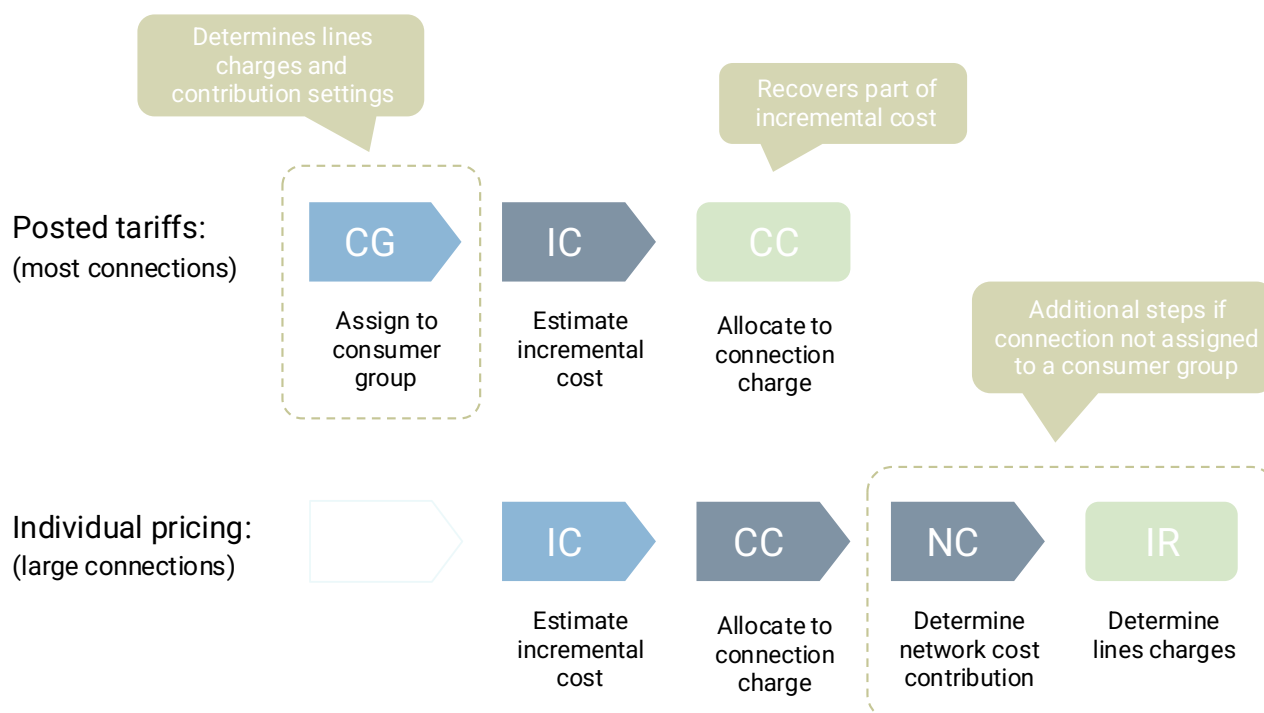
Appendix B Standard process and formula

B.1. This appendix provides further explanation of how the standard process and allocation formula options (B1 and B2) could be applied.

Connection pricing methodologies

- B.2. A generic pricing methodology for most offtake connections has three steps:
- assign consumer group – determines lines charges and contribution to network costs, and may determine other allocation settings (such as amount of incremental cost recovered through lines charges)
 - estimate incremental cost – includes determining any exclusions (eg, network development costs) and applying standard costing methods (eg, enhancement cost allocation and network capacity costing)
 - allocate part of the estimated incremental cost to a connection charge.
- B.3. Customers with individual pricing are not assigned to consumer groups, so the pricing methodology has two extra steps:
- determine network cost contribution – this is the amount beyond incremental cost that the connection will pay over its lifetime
 - allocate balance of costs to lines charge components – this may include fixed and variable charges to recover some portion of incremental cost plus a network cost contribution.
- B.4. Figure 2 illustrates both generic methodologies.

Figure 2: Generic connection pricing methodologies



B.5. Some points to note:

- a. There are several related terms used to describe wider costs:
 - i. Network cost contribution is used in charge reconciliations to describe the amount a connection contributes beyond its estimated incremental cost.
 - ii. Shared cost is the total pool of costs recovered through lines charges. This typically includes part-funding of incremental connection costs (ie, that portion not allocated to connection charges) and the full cost of connection renewals.
 - iii. Residual costs may be used in any context (including connection and lines pricing) to refer to costs remaining after primary allocation mechanisms have been applied.
- b. Shared cost allocation is determined as part of a distributor's pricing methodology for setting lines charges. Lines pricing methodologies may allocate consumer groups differing amounts of shared costs. There are no associated regulatory requirements, other than disclosure obligations.
- c. Network development costs may be allocated to a single connection, to multiple connections (using a cost recovery scheme), or recovered as part of shared costs (ie, through lines charges).
- d. There may be differences between how costs fall in any given year, and how they are allocated over their lifetime. For example, network capacity costing separates the timing of cost recovery (connection-by-connection as capacity is consumed) from the timing of expenditures (when a network upgrade project is delivered).

Incremental cost settings

B.6. 'Fast-track' requirements impose some controls on how incremental costs are estimated for offtake connections:

- a. Enhancement cost allocation – distributor-selected enhancements must be excluded from incremental cost estimates.¹¹³
- b. Network capacity costing – network capacity costs may be included in incremental costs estimates based on capacity consumed (or may be excluded).¹¹⁴
- c. Network development – incremental cost estimates may include contributions to historical network development costs via a cost recovery scheme.¹¹⁵

¹¹³ Refer clause 6B.4 of the Code.

¹¹⁴ Refer clause 6B.5 of the Code, which will apply from April 2027.

¹¹⁵ Described as a 'localised historical cost recovery' amount.

- d. Pioneer schemes – connections may be allocated a share of historical network extension costs; however, this is accounted for separately.¹¹⁶
 - e. Operating costs (most connections) – operating costs are excluded from the incremental cost term. This reflects that incremental costs are recovered via assigned lines charges.
 - f. Operating costs (large connections) – for connections with individual pricing, an operating cost loading may be applied to estimated capital costs. This reflects that incremental operating costs are typically estimated for inclusion in individual lines charges.¹¹⁷
- B.7. Distributors still have discretion as to whether they:
- a. allocate network capacity costs to offtake connections at all (ie, costs related to adding or consuming capacity in the shared network)
 - b. treat some costs as network development expenditure
 - c. recover network development costs (if any) through lines charges or a cost recovery scheme (or both).
- B.8. A distributor's approach to these matters can significantly impact the cost reflectivity and variability of connection charges. They do not directly determine:
- a. a connection's contribution to shared costs – this depends on lines charging methodologies (for connections assigned to consumer groups)¹¹⁸
 - b. reliance levels (ie, the share of incremental costs recovered through connection charges) – this depends on allocation settings (see below).

Reference allocation formula

- B.9. Once the incremental cost of a connection has been estimated, the next step is to allocate some part of the incremental cost to a connection charge.
- B.10. Preferably, the allocation formula should produce the following outcomes:
- a. Subsidy-free – connections at least cover their incremental cost. This ensures inefficient connections are not encouraged, and new connections do not increase costs for existing customers.
 - b. Cost reflectivity – connection charges vary with incremental cost. This encourages applicants to select an efficient connection size and design for their needs.
 - c. Stability – each annual cohort of connections makes a consistent network cost contribution. In other words, connection charges comply with the balance point principle. This supports investment confidence.

¹¹⁶ Pioneer scheme contributions are excluded from the definition of connection charges and incremental cost.

¹¹⁷ A distributor and its customer may agree to bundle estimated incremental operating costs into an up-front connection charge if they wish.

¹¹⁸ For new connections, this is also impacted by year-to-year changes in connection pricing methodologies because higher connection charges take decades to flow through to lower lines charges.

- B.11. The allocation rule that best meets all these objectives is if connection charges are based on their actual incremental cost, less some fixed amount linked to incremental costs.
- B.12. The Authority considers the following allocation formula could form a suitable basis for a standardised approach:

$$CC = IC - \alpha_{CG} \overline{IC}_{CG}$$

where:

CC	is the connection charge for a connection
IC	is the estimated incremental cost for the connection
$\overline{IC}_{CG}$	is the incremental cost of a representative new connection for that consumer group (updated annually, or every few years)
α_{CG}	is the connection pricing allocator for that consumer group – representing the portion of (representative) incremental cost to be recovered through lines charges.

- B.13. This approach can be designed to produce the outcomes listed in paragraph B.10:
- α_{CG} can be set at a level that ensures all (or most) connections in that consumer group will not be subsidised – ie, less than $\overline{IR}_{CG}/\overline{IC}_{CG}$
 - Within a consumer group, connection charges vary 1:1 with incremental cost (down to the point where the connection charge is zero). For example, even if a distributor set α_{CG} as high as 100%, connection charges for the most expensive half of new connections would vary directly with incremental cost.¹¹⁹
 - Keeping α_{CG} stable from year-to-year produces an outcome consistent with the balance point – ie, changes in lines charges impact new and existing customers equally, so new customers make a similar contribution to shared network costs as existing customers.
- B.14. In addition, a distributor could:
- Select values of α_{CG} for each consumer group so that cost reflectivity extends between consumer groups (or at least avoids distorting connection design choices).¹²⁰
 - Use changes in α_{CG} to offset changes in incremental cost policies. For example, a distributor could increase connection charge ‘depth’ (by adding capacity costs to incremental cost estimates) without breaching the ‘balance

¹¹⁹ Assuming $\overline{IC}_{CG}$ corresponds with the median cost of a connection for that consumer group.

¹²⁰ For example, choosing a larger connection capacity that is assigned to a different consumer group should not result in a lower contribution (sum of CC and IR).

point principle' by making an offsetting increase in the value of α_{CG} (so the connection charge for an average connection is unchanged).

- c. Determine $\overline{IC}_{CG}$ based on the modelled cost of a typical connection so variations in the profile of connection activity do not flow through to connection charges.
- d. Use the value $\alpha_{CG}\overline{IC}_{CG}$ to set the amount it will pay to acquire connection assets built by others (ie, where the distributor supports contestable connection works).¹²¹

Rate-based variation

- B.15. For some consumer groups, it may be appropriate to adopt a rate-based variation on the standard formula – ie, with $\overline{IC}_{CG}$ calculated using a \$ per kVA rate instead of a fixed value.
- B.16. This approach enables application of the formula for larger connections that:
 - a. use capacity bands to assign tariffs, or
 - b. have a rate-based approach to the fixed tariff component (eg, \$ per kVA per day).

Alternative formulae

- B.17. Table B.1 sets out alternative allocation formulae and comments on their alignment with the objectives from paragraph B.10.

Table B.1: Alternative allocation formulae

Formulation	Comment
Connection charge is a fixed percentage of incremental cost: $CC = \gamma_{CG}IC$	Less cost-reflective because connection charges do not have a 1:1 relationship with incremental cost.
Portion of incremental cost funded through lines charges is a function of incremental revenue: $CC = IC - \beta_{CG}\overline{IR}_{CG}$	Less consistent with 'balance point principle', because changes in revenue settings have differing impacts on new and existing customers. For example, if revenues are reset down then lines charges decrease for existing customers and connection charges increase for new customers.

¹²¹ If α_{CG} is high, or incremental costs vary widely within a consumer group, then a distributor may need to pay the lesser of $\alpha_{CG}\overline{IC}_{CG}$ and actual costs to avoid paying too much for some new connections. $\overline{IC}_{CG}$ would also need to be adjusted for the value of any non-contestable portion of the representative connection works.

Formulation	Comment
Portion of incremental cost funded through lines charges is independent of costs and revenues: $CC = IC - X_{CG}$	Less consistent with 'balance point principle' because the share of incremental cost funded through connection charges (and hence lifetime cost of a new connection) will increase over time. This could be overcome by indexing X to incremental costs – ie, by adopting the preferred allocation formulation.

Appendix C Secondary networks visibility

- C.1. This Appendix provides further information on visibility of secondary networks to complement the context provided in Section 5.
- C.2. There is limited information on secondary networks and providers, including because:
- a. Conveying less than 20 GWh per annum or conveying electricity on a network with fewer than 500 consumers or a circuit length of less than 25 km is excluded from the definition of ‘electricity lines services’ in Part 4 of the Commerce Act 1986, so secondary network providers are generally not required to comply with information disclosure or revenue control requirements.¹²²
 - b. Secondary network providers (of any size) are not required to comply with information disclosure obligations under subpart 9 of Part 4 of the Commerce Act.¹²³
 - c. Customer networks (a type of secondary network) do not provide end consumers with a choice of retailer, so do not have installation connection points (ICPs) recorded in the registry.¹²⁴ This means the Authority cannot identify the number of customer networks or how many end consumers they serve.
 - d. Network extensions (another type of secondary network) have ICPs managed by the parent network. While end users on network extensions are included in total ICP counts, they are not separately identified. As such, there is no central record of the number of network extensions or the number of end consumers served by network extensions.
- C.3. The Authority has more visibility of embedded networks (another type of secondary network) because:
- a. embedded network providers manage ICP records (rather than the parent network provider) and have a distinct participant code
 - b. ICP records have a distinct network service point (NSP) and reconciliation type (EN).
- C.4. Table C.1 summarises current data on embedded networks recorded in the registry.

¹²² Refer s54C of the Commerce Act 2010.

¹²³ Distributors are required to supply limited information if they own an embedded network for which they do not also own the parent network. See tab s9d of [Electricity-Distribution-ID-Requirements-Templates-Schedules-1-10-19-February-2026.xlsx](#)

¹²⁴ The registry is a central system for recording points at which retailers can supply network and energy services to end consumers.

Table C.1: Embedded network statistics (retrieved April 2026)

Statistic	Value
Embedded network ICPs (count)	29,980
Embedded network ICPs (% of all ICPs)	1.3%
Non-residential embedded network ICPs	12,370
Embedded network owners (unique participant codes)	35
Embedded networks (unique embedded points of connection)	440
Average embedded network size (ICPs per embedded POC)	68
Embedded ICPs on networks with fewer than 50 ICPs (%)	60%
Embedded ICPs on 10 largest networks (%)	20%

C.5. Notable embedded networks and operators include:

- a. The Embedded Network Company (TENCO) is recorded as owner of 244 embedded networks and more than 50% of all embedded ICPs
- b. Auckland and Christchurch international airports both operate large embedded networks (with 700 and 99 ICPs, respectively)
- c. Lakeland Network, managed by Southland distributor PowerNet, is recorded as owner of four networks with 1,288 ICPs connected to Aurora Energy's networks
- d. other distributors recorded as embedded network owners are WEL Networks (1,886 ICPs), Electricity Ashburton (14 ICPs) and Orion (2 ICPs).

C.6. The embedded network 'owner' field in the registry does not provide a reliable or complete picture of the embedded network market because:

- a. it records responsibility for maintaining ICP records (not asset ownership or management)
- b. embedded network operators may use multiple embedded network owner names. For example, TENCO's advertising identifies two clients who are also recorded directly as owners. Similarly, Lakeland Network advertising identifies more than 20 subdivisions in Queenstown, Wānaka and Cromwell and its pricing disclosures identify more than 6,000 ICPs.¹²⁵

¹²⁵ See [LNL_LocalNetworkBrochure_DIGITAL_2024_Oct.pdf](#) and [LNL-2026-Residential-and-General-Delivery-Prices.pdf](#). PowerNet also provides information about Lakeland as part of its OtagoNet Joint Venture information disclosures. See, for example: [Microsoft Word - Line Pricing Methodology OJV 2026.docx](#)

- C.7. Since 2017, secondary network operators (of any type) have been required to join the Utilities Disputes' Energy Complaints Scheme.¹²⁶ According to its annual report, Utilities Disputes recorded 179 secondary networks in 2023/24 and 139 in 2024/25, a year-on-year decrease of more than 20%.¹²⁷

¹²⁶ Distributors are required to join the approved dispute resolution scheme, which is the scheme operated the Utilities Disputes. The Electricity Industry Act 2010 was amended in 2017 to clarify that secondary networks are distributors. See [Secondary networks info sheet](#)

¹²⁷ See p31 of [2024–2025 Annual Report](#)

Appendix D Other potential issues

- D.1. This appendix covers four other topics that intersect with connection pricing methodologies – contestability, in-kind contributions, large connections and real estate development projects. These are topics that have been canvassed through the fast-track reform process and may have minor residual issues to address.

Contestability

- D.2. It is important that connection pricing arrangements do not undermine or limit contestability – ie, the ability for access seekers to have a choice of suppliers for connection design, equipment supply or construction (or collectively, ‘connection works’).
- D.3. Contestability can also be influenced by distributor requirements relating to technical standards, accreditation and approval processes, access to network information, inspection and acceptance processes, and energisation arrangements.
- D.4. As it stands, contestability is controlled by distributors and there is limited regulatory oversight or protections in place. Distributors control contestability because they:
- a. assume ownership of completed connection assets and responsibility for their ongoing operation, maintenance and renewal¹²⁸
 - b. control whether a connection may be livened
 - c. are not required to comply with any independently administered scheme for licensing providers of connection works.¹²⁹
- D.5. Distributors have legitimate interests in the quality of connection works – including with respect to operational safety, system integration, reliability, maintainability, durability and lifecycle cost. This means distributors set design and equipment standards and often place restrictions on who may supply equipment or carry out design and construction works. Any restrictions imposed by distributors should be proportionate to the risks being managed and should not unnecessarily limit customer choice, innovation or competition in the delivery of connection works. However, without regulatory oversight, there is a risk of distributors being overly conservative or restrictive, and of issues with spillover market power. This can increase connection costs and reduce service or quality compared to more competitive supply arrangements.
- D.6. Addressing contestability is a wider issue than pricing alone and is beyond the scope of this paper. The Authority and Commerce Commission are currently considering competition and contestability issues through the Energy Competition Task Force and

¹²⁸ This contrasts with customer-owned assets and secondary network assets, which may also form part of a wider connection project.

¹²⁹ For example, Ofgem administers a regime for accrediting third-party companies as independent connection providers (ICPs) in the United Kingdom. Distributors must accept works designed and built by ICPs provided the work complies with required standards.

wider Network Connections work programme.¹³⁰ Nevertheless, connection pricing arrangements should be designed so they do not create unnecessary barriers to contestable delivery models or future contestability reforms. It is therefore appropriate for this paper to consider how connection pricing and contestability intersect.

- D.7. Distributor operating models vary and can affect how contestability develops in practice, including the extent to which applicants can procure or deliver connection works directly rather than relying on distributor procurement and delivery arrangements.
- D.8. Some distributors operate commercial models for connection works that involve full up-front payment, such as:
 - a. the connection applicant pays the full cost to the distributor up front, and the distributor pays for connection works to be built (by internal or external suppliers), or
 - b. the customer pays a supplier directly for connection works, with completed assets transferred to the distributor at zero (or nominal) cost – this is referred to as an ‘in-kind contribution’ or ‘vested assets’ model.
- D.9. In practice, either of these models can be readily adapted for a situation where connection charges cover less than 100% of the direct cost of connection works – ie, either the applicant pays the distributor less than the full cost, or the distributor pays more to acquire vested assets.
- D.10. For example, if a distributor uses the reference allocation formula introduced in Appendix B the appropriate payment would be $\alpha_{CG}\overline{IC}_{CG}$, adjusted for that component of incremental cost outside the scope of contestable works (such as network capacity costs).
- D.11. Future work could consider whether additional guidance or methodology requirements are needed to support contestable delivery models, while preserving flexibility about the most appropriate regulatory approach.

In-kind contributions

- D.12. Some distributors operate commercial models that involve applicants supplying completed connection works rather than cash payments. These are referred to as ‘in-kind’ contributions and the completed works are described as ‘vested assets’. Cash contributions are referred to as ‘capital contributions’.
- D.13. If a distributor uses in-kind contributions, they may:
 - a. need to contribute to the cost of in-kind assets, depending on their connection pricing allocation settings
 - b. not have direct visibility of the cost of connection works.

¹³⁰ The Energy Competition Task Force, jointly established by the Electricity Authority and Commerce Commission, recently added lines company competition issues to its work programme. See: [Energy Competition Task Force powers ahead with fresh agenda | Electricity Authority](#)

- D.14. Some distributors already have commercial models that combine in-kind contributions with distributor contributions to costs.¹³¹ More distributors would potentially need to implement similar approaches if the Authority progressed some of the allocation methodology options introduced in Table 3.2. This could involve changes to business processes and commercial arrangements, but does not appear to be a significant issue.
- D.15. Current arrangements address lack of direct visibility as follows:
- a. Pioneer schemes – distributors may estimate the value of pioneering connection works if they cannot obtain direct visibility. The estimated value is used for determining pioneer scheme contributions (ie, payments from later connections to pioneering funders).
 - b. Charge reconciliation – when providing standardised breakdowns, distributors may either estimate the value of connection works or use a zero value if they do not have visibility. Provided the same approach is used on both sides of the reconciliation equation, this produces the correct result.¹³²
- D.16. Some of the allocation methodology options introduced in Table 3.2 would also require more complete connection works cost information as inputs. For example, cost information would be needed to determine values for $\overline{IC}_{CG}$.
- D.17. Option A7 (in-kind contribution costing) would require distributors to collect this information. While this seems reasonable in principle (ie, as part of distributors' transactions to take ownership of vested assets) there may be practical challenges acquiring consistent costing information from suppliers – including where some costs (such as trenching or traffic management) may not be directly attributable.

Large connections

- D.18. Most offtake connections are assigned to consumer groups. This determines the tariffs that will be used for lines charges, and hence the incremental revenue the connection will produce. For these connections, the portion of incremental cost recovered through a connection charge determines how much in total the connection will contribute (including its network cost contribution).
- D.19. In contrast, some large offtake connections are assigned individual tariffs specific to that connection. For these large connections, there is more flexibility:
- a. Contribution to network costs is determined directly and added to the incremental cost estimate to determine target cost recovery.
 - b. Target cost recovery can be structured into up-front and ongoing charge components – ie, a connection charge and individual tariffs.

¹³¹ For example, Aurora Energy.

¹³² The cost of connection works feeds into the connection charge (CC) and the incremental cost (IC) terms. Refer clause 6B.11(7).

D.20. This means:

- a. Network cost contribution for each large customer is determined as part of the connection pricing process, rather than at a consumer group level (as part of the annual pricing process).¹³³
- b. A distributor and large customer have flexibility to negotiate how target costs are recovered – including through a higher connection charge and lower lines charges, or vice versa.

D.21. This flexibility provides scope for:

- a. setting connection charges at a high enough level to cover stranding risk and mitigate capex uncertainty. This can be valuable because:
 - (i) large connections are more likely to be tied to a specific use or user, so stranding risk may be more material
 - (ii) direct incremental costs may be large relative to a distributor's regulated capex allowance (or even large relative to their overall asset base)¹³⁴
 - (iii) at least some large customers have good access to low-cost capital and prefer an up-front cost recovery structure.
- b. setting lower connection charges with higher lines charges (and financial security) as an alternative, if preferred
- c. selectively discounting the required network cost contribution – eg, to avoid inefficient bypass or otherwise promote connection growth that benefits consumers (ie, with $NC > 0$).

D.22. Existing arrangements accommodate large connections by:

- a. exempting connections covered by a 'large connection contract' (LCC) from connection pricing methodology requirements (other than charge reconciliation).¹³⁵ LCCs are by mutual agreement only, so all methodologies are relevant as a counterfactual, and reconciliations help ensure LCCs are not subsidised
- b. specific capacity costing requirements for large demand increments and extension-like upgrades¹³⁶

¹³³ Each year distributors determine a target revenue for each consumer group as a key step in determining lines charges. Many distributors use a 'cost of supply model' for this step, while others use more transparent allocators (such as consumer group energy consumption).

¹³⁴ The Commerce Commission's revenue path regulation also provides mechanisms to help mitigate this issue, including large customer connections and in-period adjustments.

¹³⁵ See clause 6B.3(3)(b) at [Part 6B—Distributor pricing methodologies, information requirements and other requirements | Electricity Authority](#)

¹³⁶ See clause 6B.5(2) at [Part 6B—Distributor pricing methodologies, information requirements and other requirements | Electricity Authority](#)

- c. specific charge reconciliation requirements that allow incremental operating costs to be estimated directly (rather than by adjusting incremental revenue) for connections with individual tariffs.¹³⁷
- D.23. If connection pricing requirements are extended, then new requirements may similarly require adaptations to operate correctly for large connections. In addition, there could be value in measures directly targeting large connections such as:
- a. requiring distributors to publish their methodology for determining the target network cost contribution for connections with individual pricing
 - b. guidelines or requirements for use of selective discounts (of target network cost contributions) – ie, to support efficient discounting practices
 - c. guidelines or requirements for structuring cost recovery – eg, limiting connection charges to no more than direct incremental capital costs
 - d. guidelines or requirements for when distributors may use individual charges (rather than consumer groups).

Real estate development projects

D.24. This section provides context and discusses issues relating to connection pricing for real estate developments.

Context

- D.25. Real estate developments involve a disconnect between connection funding and use, for example:
- a. A subdivision project may involve a developer providing reticulation within the development and connection back to the existing distribution network, with service lines for individual lots completed and lived in by subsequent owners.
 - b. A mixed-use development project may involve a developer establishing connections to each unit, with livening and consumer group assignment occurring as each unit is occupied.
- D.26. This provides a different context for connection pricing compared to projects with a more direct relationship between connection funding and use, including:
- a. Works optimisation – developers typically coordinate multiple services concurrently (roading, power, water, fibre) with opportunities to reduce incremental costs – eg, by coordinating civil and traffic works and co-locating services in shared trenches.
 - b. Network development – real estate projects often have elements of work that could be treated as network development rather than incremental to a connection.
 - c. Uptake – projects often involve extended and uncertain delays between infrastructure construction and use. Lines charge revenue (and sometimes

¹³⁷ See clause 6B.11 and definition of 'operating cost loading'.

consumer group assignment) for each connection does not start until it is in use.

- d. Principal-agent – developers often on-sell completed lots or units and do not have an enduring involvement with completed connections or their usage.
- e. Commitment – development projects often have long lead times, multiple regulatory and commercial hurdles ahead of project commitment, and investment feasibility that is sensitive to connection costs.
- f. Secondary networks – some developers choose to operate reticulation as a secondary network (ie, not owned and operated by the local distributor).

D.27. Current connection pricing requirements apply to any connection, including those associated with real estate developments, however:

- a. Distributors are not required to operate pioneer schemes for network extensions funded as part of a real estate development for which the developer intends to on-sell finished lots or units.¹³⁸
- b. Distributors have discretion as to whether they treat real estate development works (in part or in full) as network development or connection works.
- c. Secondary network operators are not required to comply with connection pricing methodology requirements.¹³⁹

Issue – pioneer schemes

D.28. A key reason for not requiring pioneer schemes for on-sold real estate developments is that there can be additional complexity associated with determining how to distribute pioneer scheme payments – eg:

- a. Paying the developer may involve tracking down an entity that is no longer an active customer (or may no longer exist).
- b. Paying connected parties within the development requires some kind of within-development allocation rule.

D.29. Distributors can still choose to include real estate developments in their pioneer scheme policies if they wish. There could be merit in removing the carve out (ie, so schemes are required) because the policy driver for pioneer schemes is relevant to real estate developments – ie, a pioneer scheme mitigates first-mover disadvantage and may help to overcome first-mover hesitancy.

D.30. Potentially, there could be a requirement for pioneer schemes to transfer payments to the developer unless agreed otherwise. This ensures the intent of pioneer schemes is not undermined by excluding developers.

¹³⁸ See clause 6B.3(3)(a) and definition of real estate developments. [Part 6B—Distributor pricing methodologies, information requirements and other requirements | Electricity Authority](#)

¹³⁹ See from paragraph 5.2 above, and clause 6B.2(1)(b). [Part 6B—Distributor pricing methodologies, information requirements and other requirements | Electricity Authority](#)

Issue – uptake risk and uncertainty

- D.31. Expected revenue from lines charges is an input when determining minimum subsidy-free connection charges (ie, the neutral point).
- D.32. This means the neutral point may be less certain for real estate developments than for most other connections.¹⁴⁰ This can be relevant if a distributor:
- a. sets very low connection charges such that the neutral point may bind. This is an issue in the absence of regulation, but could be more acute if regulation restricts allocation settings¹⁴¹
 - b. a distributor uses an allocation formula based on (or including) incremental revenue.
- D.33. Usually, connection charges are well above the neutral point – ie, because lines charges include a significant shared network cost component (so that most connections contribute much more than incremental cost).
- D.34. Where charges are low enough that recovering less than incremental cost is a realistic prospect, this issue can potentially be mitigated by measures such as using network development funding mechanisms (so cost recovery is not so closely linked to uptake) or financial security.
- D.35. It is also worth noting that the revenue risk for real estate developments can arguably be lower than for other connections. This is because real estate developments create multiple connections such that recovery risk is diversified across multiple end users.

Other issues

- D.36. Other issues could potentially be addressed by options canvassed in Table 3.1 (costing methodologies) or through stronger contestability requirements. For example:
- a. Ensuring efficient allocation of construction cost risks (eg, through firmer quotes) may assist with project commitment by better protecting developers from hold-up risk, and enhance distributor incentives to deliver works efficiently.
 - b. Other costing interventions could help ensure costings properly reflect the minimum scheme, are clearly itemised, and not inefficiently inflated.
 - c. Stronger contestability requirements may enhance the ability for developers to access lower-cost solutions, including by contracting suppliers who can best integrate electrical reticulation with other development works.

¹⁴⁰ The issue can also arise for other types of connections if lines charges are highly variabilised, such that revenue depends on usage rather than liveness.

¹⁴¹ As is the case due to the balance point principle and may be the case beyond 2030 if the Authority introduces enduring allocation methodology requirements.

Appendix E Option overview

- E.1. This appendix provides a consolidated list of all the options covered in this paper. The following tables summarise options and provide a qualitative assessment of how strongly they:
- may impact capex assumptions (and hence revenue paths) for the next regulatory period (DPP5, starting April 2030). This is a key consideration because regulatory periods last for five years. If options with a DPP linkage are not prioritised for 2027, the next opportunity to implement them without revenue path disruption would be 2032 (for effect from 2035)
 - provide a base for other options. Some options create a foundation for other options. For example, standardising the connection pricing process and allocation formula enables a 'bottom-up' approach to setting a floor, cap, band or change limit. These linkages are important because they influence how a viable package of options may be constructed.
- E.2. The qualitative assessment is indicated by circles. An unfilled circle indicates no linkage. Up to three solid circles are otherwise used to indicate linkage strengths.
- E.3. We have not provided a qualitative assessment of costs and benefits at this early policy stage. Considering costs and benefits would form part of the further development work for any in-scope options, and we welcome any views, analysis or evidence that may assist with this.

Table E.1 – Overview of options with qualitative assessment of linkages

Options – Costing	DPP5	Base	Comment
A1. Mandatory capacity costing	● ●	● ● ●	Pre-requisite for regulating allocation methodologies
A2. Construction risk allocation	○	○	Altered incentives may impact costs indirectly
A3. Equivalence obligation	●	○	May impact regulatory capex forecast for some distributors
A4. Cost transparency	○	○	Information only
A5. Costing requirements	●	● ●	May alter connection charge forecast for some distributors
A6. Input Assurance	○	●	Improves robustness of key inputs
A7. In-kind contribution costing	● ●	● ●	Pre-requisite (for some) for regulating allocation methodologies

Options – Costing	DPP5	Base	Comment
B1. Standard process	● ●	● ● ●	Establishes base for regulating allocation methodologies
B2. Standard allocation formula	● ●	● ● ●	Establishes base for options B4 to B6
B3. Allocation floor (neutral point)	○	●	Continuation of first limb of balance point principle
B4. Change limit (balance point)	● ●	●	Successor to second limb of balance point principle
B5. Allocation cap	● ● ●	●	Goes further than balance point principle in addressing funding mix
B6. Allocation band	● ● ●	●	Variation on options B3 and B5
B7. Negative charges	● ●	○	May impact DPP5 capex forecasts
B8. Network cost contribution (large)	○	●	Doesn't impact revenue path if recovered through lines charges
B9. Prudent discount (large)	○	●	Complements option B8

Options – Network development	DPP5	Base	Comment
Principles or rules for:			
• network development cost demarcation	● ●	●	Potentially material impact on capex allowances
• funding mechanism selection	● ●	○	Potentially material impact on capex allowances
• funding mechanism design	●	○	May influence expected timing and form of cost recovery

Options – Network modifications	DPP5	Base	Comment
Extend guidance or rules to charges for non-connection modifications	●	○	Minor to moderate impact on capex allowances

Options – Downgrades	DPP5	Base	Comment
Rules or guidance on downgrade and disconnection charges	○	○	Minor impact on capex allowances

Options – Continuance of supply	DPP5	Base	Comment
Guidance or principles for continuance pricing	●	○	Minor to moderate impact on capex allowances

Options – Secondary networks	DPP5	Base	Comment
Information gathering		 	Base for evaluating benefit of further intervention
Develop test for refining coverage of open access requirements		  	Base for extending requirements to some secondary networks
Extend (potentially modified) requirements to some networks			

Options – financial security	DPP5	Base	Comment
Establish principles for pre-commissioning security			Impacts distributor risk exposure but not capex
Establish principles for post-commissioning security			Impacts risk allocation between customers