

Introduction to the workshop slides

- This slide deck sets out our analysis and emerging Commission staff views about key components of the capex framework. The slide deck consists of slides that we will talk to at the workshop and additional “Reading” slides. Additional reading material (including definitions) are in the Appendices



The “Reading” slides are identified with a book icon in the bottom corner of the slide.

- We have grouped our topics into three sessions. We are interested in hearing stakeholder views on our current thinking and have included questions at the conclusion of each topic area. For ease of reference, the questions are listed together in slides **81 to 85**.
- Stakeholders are able to submit written responses on other questions following the workshop.
- We have set time for group discussions at the end of **Sessions 2: Assessing capex forecasts** and **Session 3: Other factors which apply to a DPP capex framework, including managing uncertainty and considering deliverability risk**. The questions for these discussions are located on slides **58 and 77**.
- *Note, we may modify or add additional questions after the workshop.*

Emerging capex framework for DPP4

Online workshop

26 February 2024



Opening Karakia

Whakataka te hau ki te uru
Whakataka te hau ki te tonga
Kia mākinakina ki uta
Kia mātaratara ki tai
E hī ake ana te atakura
He tio, he huka, he hau hū
Tihei Mauri Ora!

*Cease the winds from the west
Cease the winds from the south
Let the breeze blow over the land
Let the breeze blow over the ocean
Let the red-tipped dawn come with a
sharpened air
A touch of frost, a promise of a
glorious day*



Purpose of the workshop

- Share our early thinking on key components of the capex framework (process by which we will set capex allowances for DPP4), including how we are thinking about using the 2023 AMP review.
- Provide an opportunity for stakeholders to provide feedback on the capex framework within the workshop and by providing **written submissions by 11 March 2024**.
- Workshop materials represent outcomes of analysis to inform discussion, they do not represent potential allowances or where thresholds for further analysis which may apply could be set. The intention is to discuss how the capex framework could be applied, and identifying areas where further refinements and improvements could be made which would inform the setting of any thresholds.
- *We present staff views only*
- These slides and all matters we cover at the workshop are intended to facilitate discussion and reflect the preliminary thinking of Commission staff only.
- They do not reflect Commission positions or in any way prevent the Commission from taking different positions on the relevant matters.

Approach to the workshop

- Workshop materials have been sent to participants ahead of the workshop
- We will not be discussing all material sent in advance of the workshop, we have targeted topics where we think discussion would be beneficial.
 - “Discussion questions” indicate topics for discussion on the day and written feedback,
 - “Submission questions” for written feedback only.
- The workshop is an opportunity for the Commission staff to present emerging views and to provide workshop participants with an opportunity to discuss and provide feedback.
- Workshop is being recorded and will be published following the conclusion of the workshop.
- Expectations on participants:
 - On mute and camera off unless speaking
 - Sound and camera (if possible) on if invited to speak
 - ‘Raise hand’ function or teams chat available for questions
- We will also monitor the chat function during the workshop.
- You will be assigned to a break-out room for group discussions, noting that these break out rooms are not recorded but the notes from the discussion will be shared with the slide deck following the conclusion of the workshop.

Workshop agenda

Time	Session topic
9:30am – 10:00am	Session 1: Welcome, workshop overview and Setting capex allowances within a DPP, including use of 2023 AMP Review
10:00am – 11:30am	Session 2: Assessing capex forecasts
11:30am – 11:35am	Break (5 mins)
11:35am – 12:25pm	Session 3: Other factors which apply to a DPP capex framework, including managing uncertainty and considering deliverability risk
12:25pm – 12:30pm	Next steps & Close

Session 1 : Welcome, workshop overview & Setting capex allowances within a DPP, including use of 2023 AMP Review



Setting capex allowances in a relatively low-cost way

Aim: Set capex allowances which are consistent with the long-term benefit of consumers

Setting: DPPs are to be set in a relatively low-cost way and are not intended to meet all the circumstances that a distributor may face

Work programme considerations (stylised)

Confirming need

How do you ascertain need (including timing of need) for 16 businesses with varying sizes, asset conditions and consumer needs?

Forecasts/allowances are consistent with need

How do you form a view that the expenditure (cost) is appropriate if you can't link projects to need?

Forecasting a programme that is deliverable

How do you determine delivery risk in a high growth environment that is too new to have historic data to rely on?

Enabling flexibility where needed

How do you set the allowance at a level that efficiently uses available mechanisms for managing uncertainty given the information constraints?

The regime works to incentivise efficient investment

Context for setting capex allowances for DPP4



- We are setting DPP4 in the context of an energy transition to increased electrification, climate change impacts, high inflation, and significant cost pressures facing both EDBs and consumers.
- There is a higher level of uncertainty in need, timing and cost for some investments (particularly in system growth) with uncertainties regarding drivers.
- In addition to needing to make choices that deal with network condition and growth related challenges, EDBs are also faced with additional choices that are subject to greater uncertainty and may involve a wider range of solutions.
 - including Decarbonisation and the investment required to enable increased electrification, EV Penetration, DER and Non-network solutions and Resilience including climate change and cyber security.
- EDBs have raised concerns that expenditure allowances set lower than their forecasts may mean that they are unable to effectively invest to support decarbonisation goals and respond to the risks posed by more frequent severe weather events on their networks.
- Many submitters talked about the need to shift away from an aggregate cap on forecast capex of 120% used in DPP3 and that emerging drivers in DPP4 are likely to mean that allowances in DPP4 will need to be higher than in past resets.

What we heard in submissions

A greater level of sophistication will provide a more accurate allowance for necessary investment. However, this needs to be balanced against the low-cost nature of a DPP. Significant increases in investment still justify a greater level of scrutiny via a CPP.

Contact Energy

The economic principles provided in the Issues Paper recognise the general asymmetric consequences of over and under-investment. We think the asymmetry will increase with decarbonisation to the point that the cost of investing too early will become trivial.

WELL

Generally, the submissions made accept that the change in economic parameters such as interest rates and inflation will cause significant price increases in the DPP4 period. These economic factors will be the largest drivers of DPP4 price increases. Attempting to moderate DPP4 price impacts by cutting expenditure allowances will not address the major underlying drivers of the DPP4 increases and will threaten New Zealand's energy transition – to the long-term detriment of consumers..

Aurora Energy – Cross Sub

Essentially, the industry is racing towards creating a very expensive power system and the Commerce Commission, together with the Electricity Authority, EECA and MBIE need to work with the industry to get it onto a different track.

Solar Zero

It seems to us that the “foundational” DPP settings that are referred to in this chapter, and that are currently available, will remain unlikely to provide EDBs with the confidence to deal with investment and forecasting risks.

Drive Electric

Demand for electricity is forecast to keep rising, which will put further pressure on distribution networks. Furthermore, network upgrades take time, and need to be staged carefully to maintain an electricity supply to existing connections. It is critical therefore, for EDBs to upgrade their networks ahead of the increase in demand, to support that future growth. ...Therefore, we recommend creating a more permissive investment environment for EDBs...

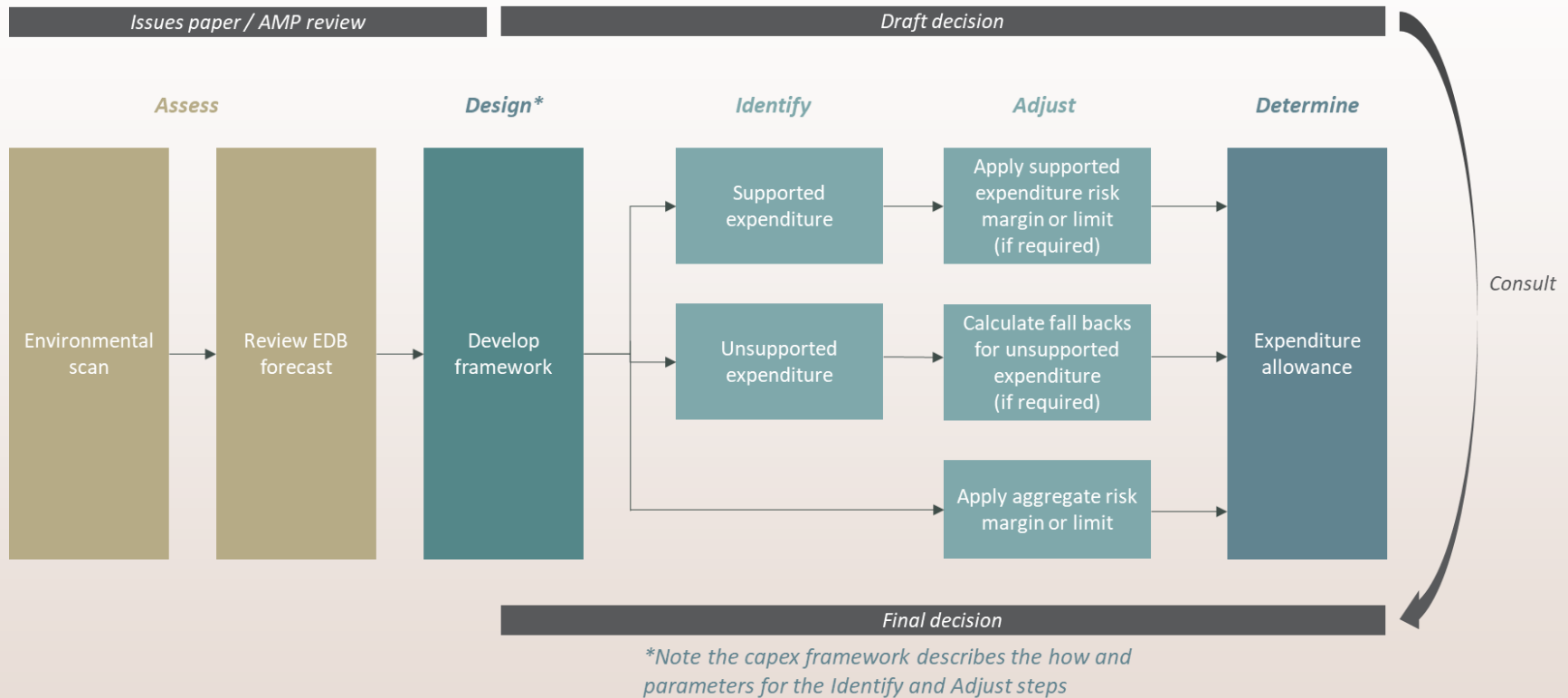
Infrastructure Commission

Introduction – Role of proportionate scrutiny

- EDBs' AMPs provide the overall basis for capex forecasts given the relatively low-cost nature of the DPP regime and distributors' better knowledge of their own networks.
- Our focus is on setting capex allowances which are consistent with the long-term benefit of consumers. Allowing EDBs to set their own capex forecasts without review or challenge may create a risk of inflated forecasts, investments that are needed but might not be delivered, and excessive prices for consumers.
- We are mindful of the trade-off between potentially increasing the cost of the DPP/CPP regime as a whole. Providing capex allowances such that the level of total expenditure is too low, means more suppliers would need to utilise the available uncertainty mechanisms (reopeners and CPPs) or may not undertake required investments.
- Our approach, whether for a DPP, CPP or IPP, is intended to be proportionate, in light of the potential price/quality impact on consumers. We focus on those areas where our scrutiny is likely to make the most difference to price and/or quality.
- Setting a revenue limit incentivises demand management if that is more cost effective (including via pricing). The same goes for not accepting high growth forecasts solely based on traditional solutions. So, setting a low forecast might:
 - a) encourage more reopeners; and/or
 - b) encourage better demand management.

Summary of steps for setting capex forecasts

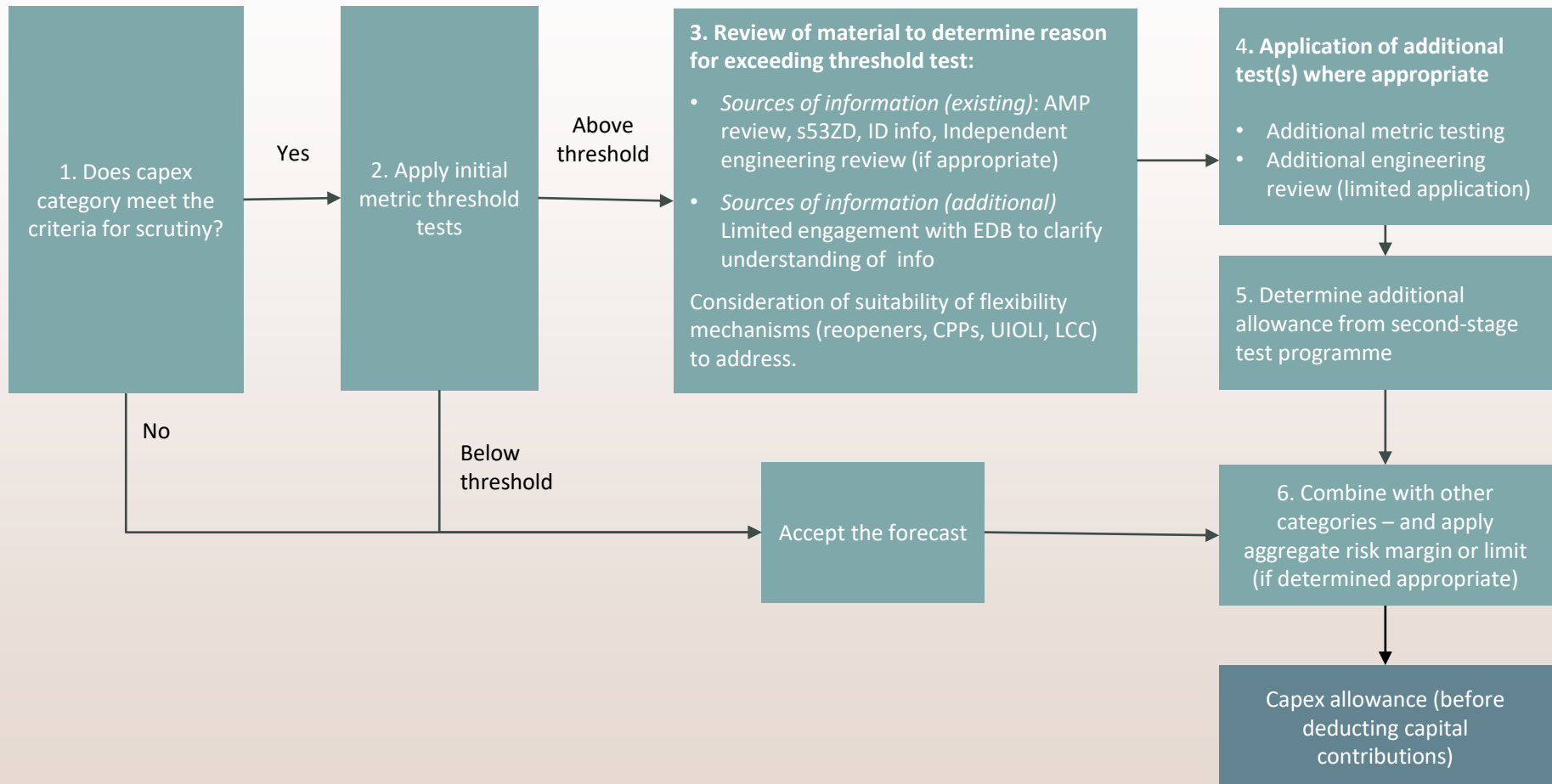
Figure: Proposed summary of steps for setting capex forecasts for DPP4



The figure above represents the summary of steps for setting capex forecasts as represented in the Issues Paper. The capex framework is the “design” through to “determine” process steps.

Note that in developing the capex framework it is not clear that expenditure can be classified as “supported” or “not supported”, instead our approach is to establish expenditure forecasts which warrant further scrutiny

High level summary of assessment process for DPP4



Note: Capex allowance is set net of forecast capital contributions (capital contributions is deducted)

Key components of our process

Establishing tests for assessing capex forecasts

- The metrics used in the capex framework is intended to be a proxy for how key investment drivers are reflected in expenditure forecasts.
- Thresholds are set for metrics to enable forecasts that require additional scrutiny to be identified in a relatively low-cost way. This enables us to scrutinise the expenditure to see if it can be accommodated in the capex allowance or not.

Scrutiny

Additional scrutiny of expenditure forecasts that cross a threshold will need to remain relatively high-level.

- In recognition of the higher level of uncertainty in need, timing and cost for some investments (particularly in system growth) and challenges understanding the underlying drivers for these investments; we are also considering the use of driver level information, similar to s53ZD request, and targeted engineering reviews.

How the capex allowance works alongside other flexibility mechanisms

- We aim to set capex allowances that account for the risk of over-forecasting, or of under-forecasting, that cannot be otherwise managed by flexibility mechanisms. The applicability of these mechanisms are considered when setting the allowance for capex.



Findings from review of 2023 Asset Management Plans

Overview



Staff letter on using the 2023 AMP review within the DPP4 reset

- Staff letter of 14 February 2024 provides the background and context for the independent review of the 2023 Asset Management Plans (AMPs) undertaken by IAEngg.
- The report was not intended to verify expenditure forecasts contained within the AMPs and therefore does not provide an opinion on whether expenditure forecasts are reasonable.
- The report provides an opinion on the demand and expenditure forecasting practices outlined in EDBs AMPs.
- IAEngg process involved the following steps:
 - Identifying and describing good electricity industry practice in forecasting demand and expenditure
 - Determining thresholds for targeted analysis
 - Assessing the certainty and reasonableness of the drivers identified by the EDBs which has resulted in increased expenditure
 - Assessing the demand forecasting approach of each EDB
 - Assessing the EDBs approach to convert demand into expenditure



AMP review findings are useful but have a number of limitations

- The final IAEngg report provides overall comfort that non-exempt EDBs' capex forecasting approaches as explained in their AMPs broadly aligns with good industry practice.
- IAEngg have identified a number of constraints which limited its ability to assess demand and associated expenditure arising from the expenditure drivers for 2026-2030.
- We note that IAEngg reviewed 2023 AMPs and some of the info has since been superseded for 2024.

Our emerging view

- Overall view of practice and key drivers for forecast step change in capex may be a consideration for how thresholds are set within the capex framework.
- Other findings within the report may inform the setting of capex allowances, or choices of metrics but are not proposed to be a specific component of the framework itself.

“While IAEngg can provide an opinion on the reasonableness of the forecasting approach based on assessing the quality of the forecasting model, we cannot provide an assurance of the forecasting output (volume of assets to be replaced) without examining the model inputs. In the same way, IAEngg cannot provide an opinion on the reasonableness of the expenditure forecast without access to the unit rates used to convert volumes of work into expenditure.” – IAEngg Report, pg 53

Please share your views on



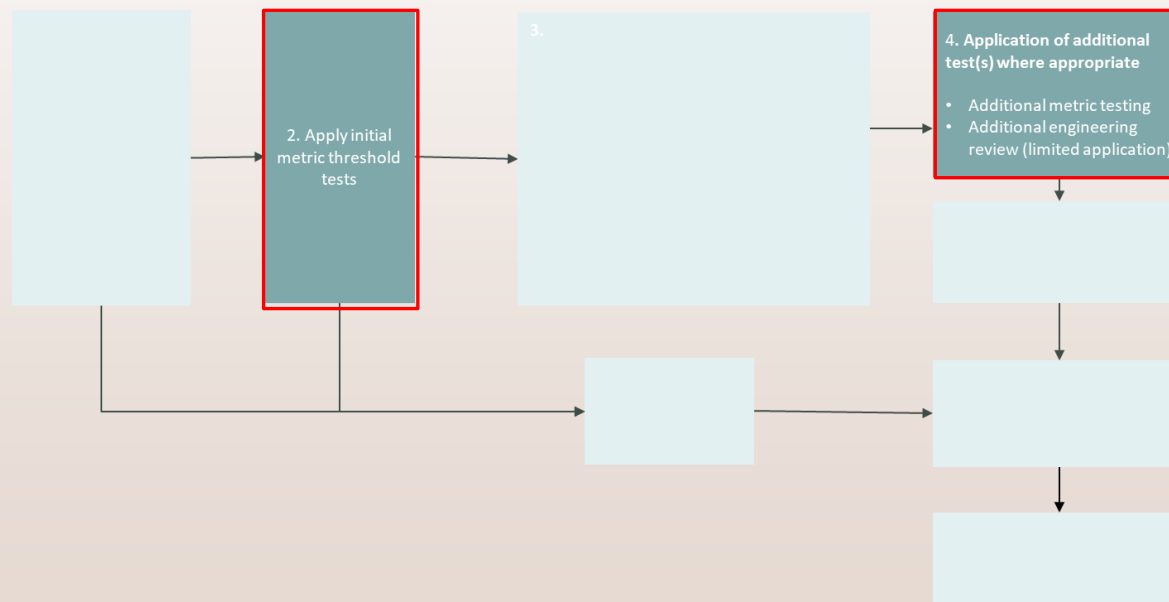
Submission questions

- In your view how could the “NZ EDB 2023 AMP Review” report be taken into account within our capex framework?

Session 2: Assessing capex forecasts



Establishing tests for assessing capex forecasts



Summary of insights informing our capex framework for DPP4



Important note on quantitative data in this presentation

- The purpose of the quantitative information provided in this slide deck is to illustrate and inform discussion.
- We encourage you to share your views on the type of analysis and the conclusions drawn. At this time we do not seek feedback on underlying data (due to limitations below).
 - The charts and analysis throughout this slide pack use a range of data sources, including draft AMP 2024 provided by suppliers in response to an information notice we issued in November 2023.
 - The graphs and analysis is based on the most recent forecasts provided to the Commission, e.g. for expenditure forecasts we have used draft AMP 2024 where available and AMP 2023 in its absence.
 - There could be consistency issues, including due to Commission staff combining data from multiple sources and/or consistency issues in underlying disclosed data. The quantitative impact is likely modest.

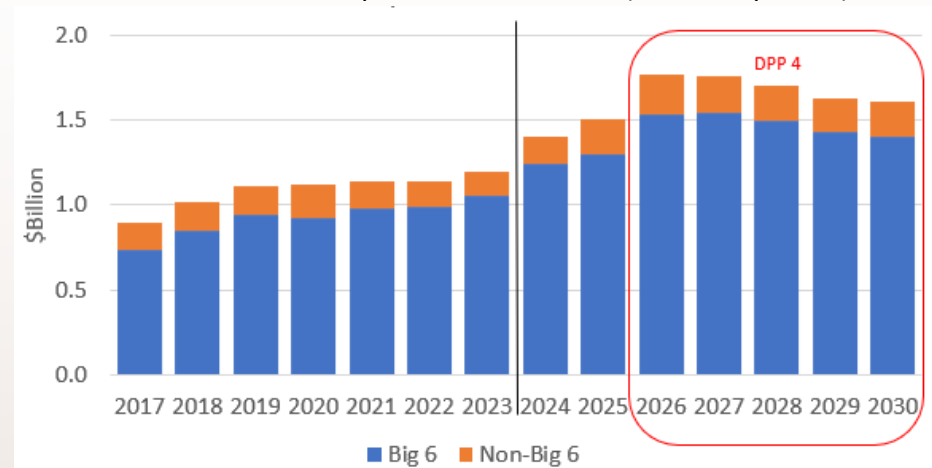
Note: All expenditure figures, unless noted, are before capital contributions (i.e. they are gross figures)



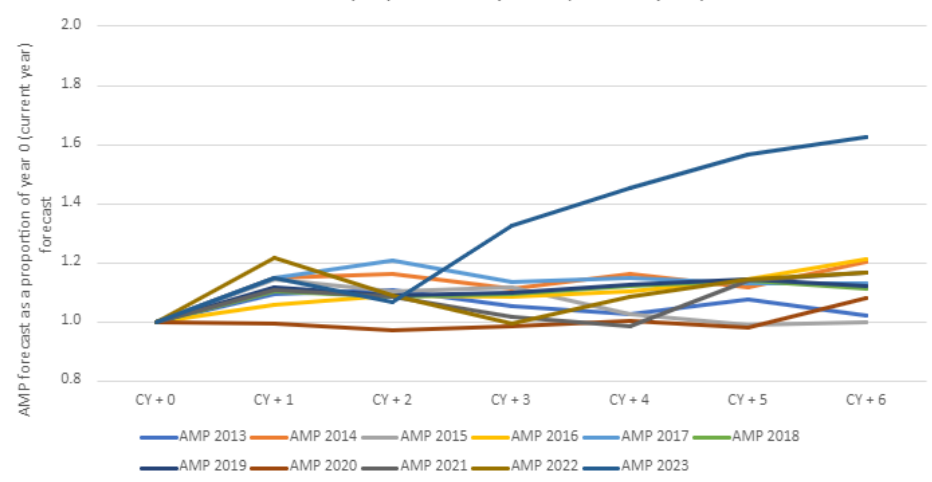
Significant uplift in forecast capex across all EDBs

- EDBs are setting their forecasts in the context of an energy transition to increased electrification, climate change impacts, high inflation, and significant cost pressures (facing both EDBs and consumers).
- This is reflected in the significant uplift in forecast expenditure signalled in EDB AMPs (\$1.7B per year for non-exempt EDBs over the DPP4 period)
- AMP forecasts have changed materially year-on-year in 2023 and 2024 (draft) indicating that forecasts for the DPP4 period are subject to significant uncertainty

Actual and forecasts expenditure on assets (constant price \$)

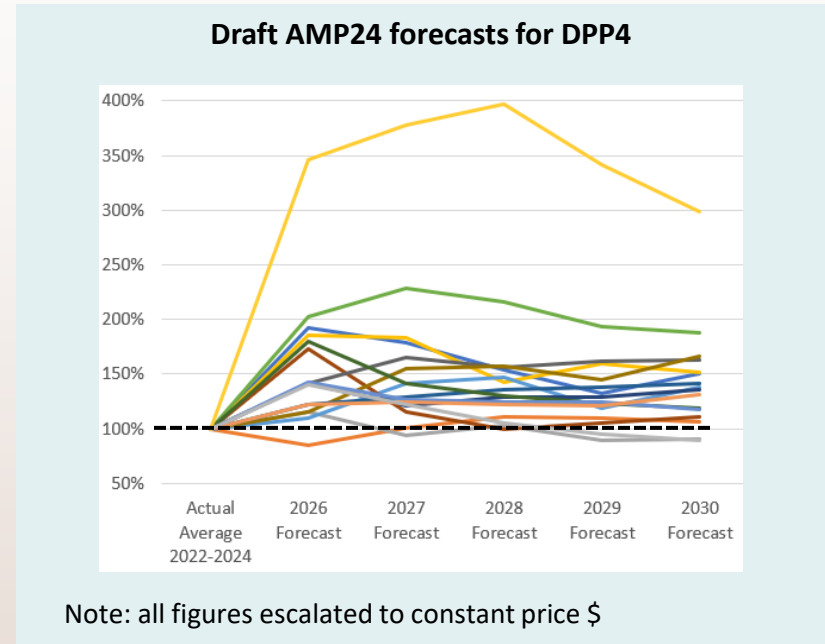


AMP forecasts as a proportion of year 0 (current year) forecast



The DPP AMP forecast need for capex uplifts varies across EDBs

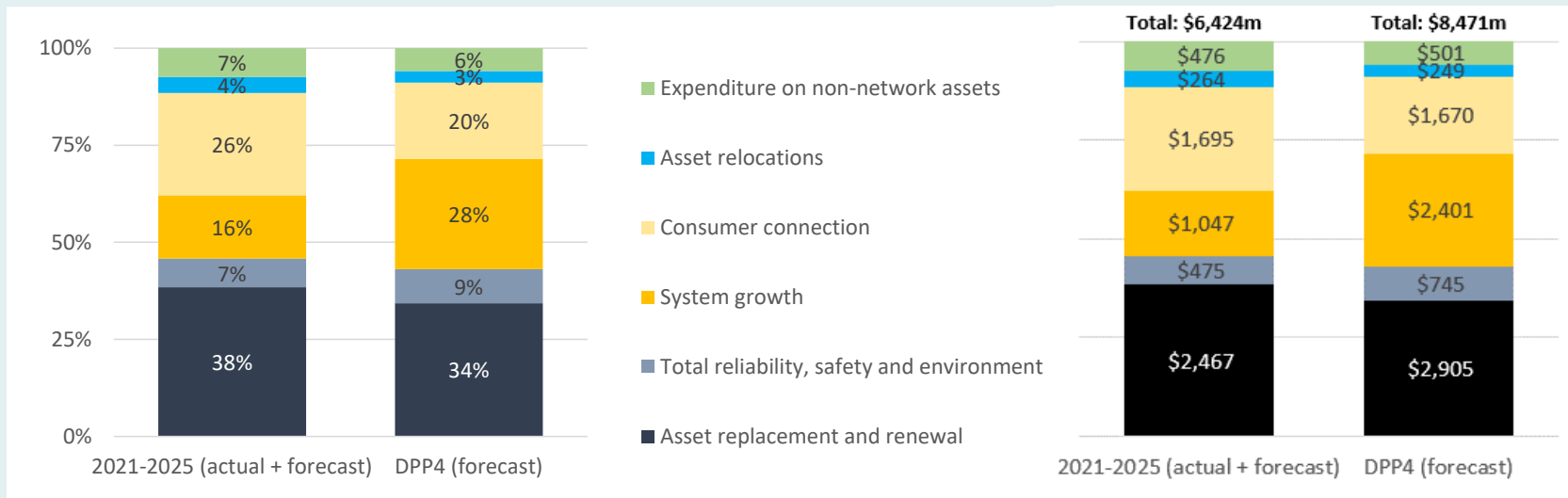
- AMP capex forecasts remain the most relevant starting point for capex allowances.
- Most EDBs are forecasting the need for an uplift in capex expenditure in the upcoming DPP4 period.
- The need for capex uplifts (in total and by category) signalled in AMPs ranges widely across EDBs.
- The drivers of larger uplift vary and include the need to support electrification and decarbonisation (for some EDBs), lifecycle renewal or both.



The makeup by expenditure category* for DPP4 is broadly similar to historical spend

- There is a notable shift in load related capex, with system growth forecast to be 12% higher as a proportion of total expenditure.
- Asset replacement and renewal is forecast to be 3% lower than historical proportion of total spend. Total capex is forecast to be \$2.1B and the decrease of 3% still represents a material increase in forecast expenditure for this category of \$446m.

Composition of expenditure as a proportion of total capex and in \$million



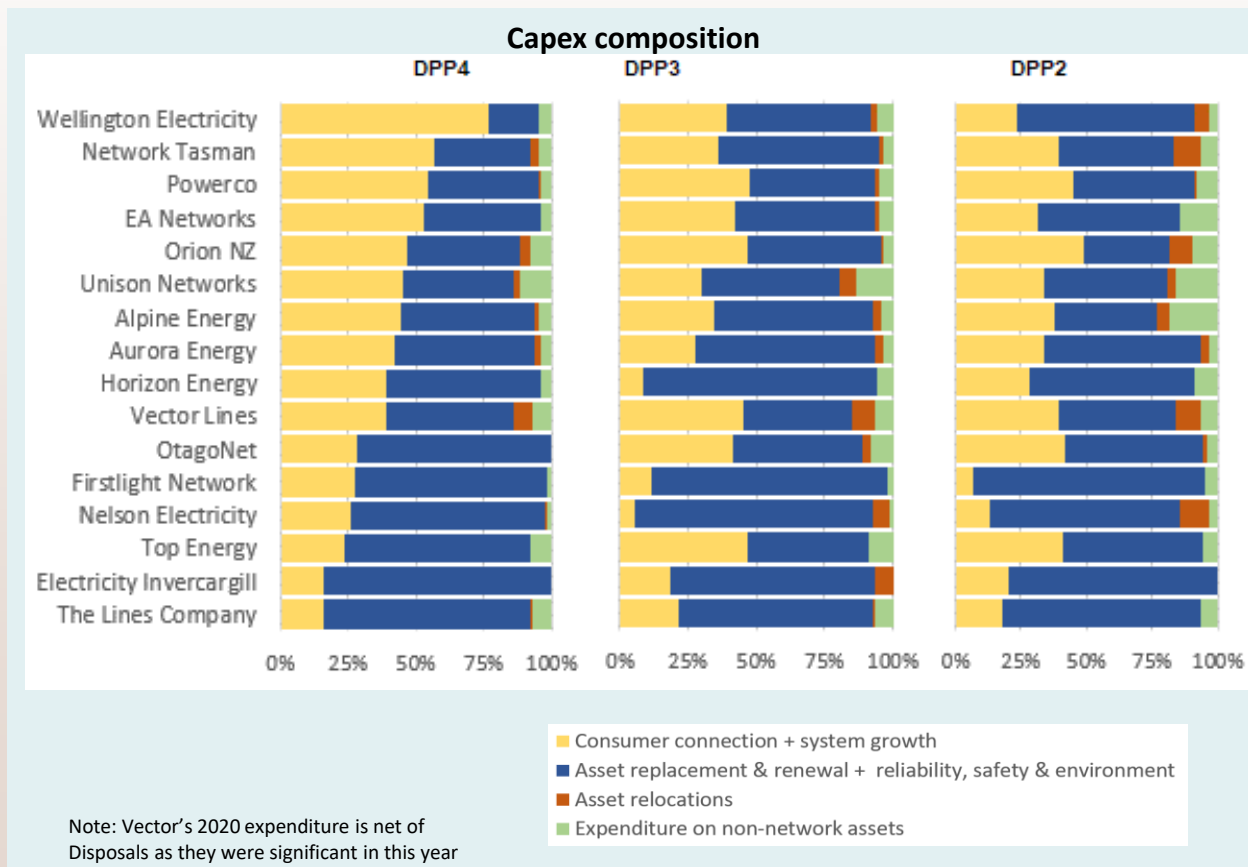
**See appendix for definitions for each category*

Context for DPP4 investment

Focus on the make-up for non-exempt EDBs overall masks great diversity of EDBs' expenditure needs.

Observations:

- Expenditure make-up for each EDB was similar in DPP3 (2021 to 2023 actuals) and DPP2.
- For DPP4 expenditure composition is forecast to change significantly.
- For many EDBs the load-related capex share is projected to increase significantly.
- For some EDBs the renewal related capex share is projected to increase.

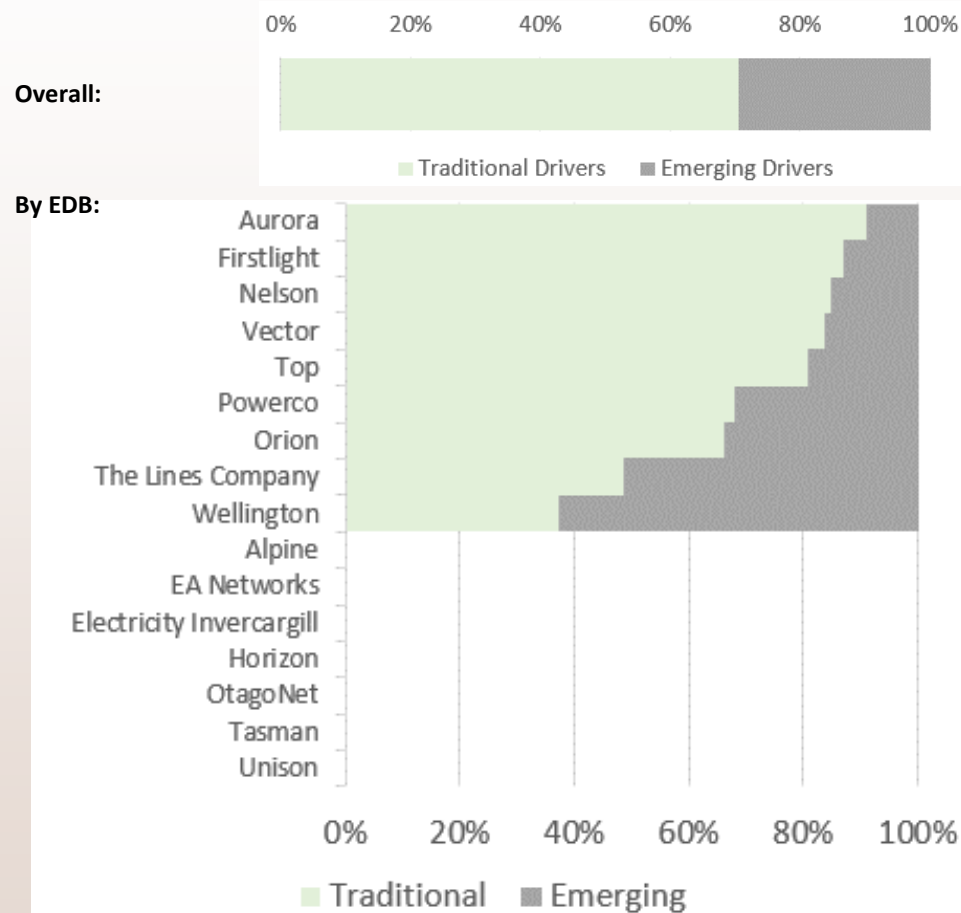


Investment drivers

Our observations

- EDBs with material uplifts across capex categories provided a breakdown of their draft AMP24 network capex forecasts by investment drivers (in response to our s53ZD information notice).
- 'Traditional drivers' remain important'; for some EDBs a material portion of their spend has 'emerging drivers'.
- As part of the expenditure category assessment, we provide:
 - a breakdown between emerging and traditional drivers for each expenditure category
 - our **emerging view** that higher shares of spend on emerging drivers are indicative of more uncertainty in expenditure forecasts

Investment drivers for total network capex



Traditional drivers includes organic growth, asset health and reliability

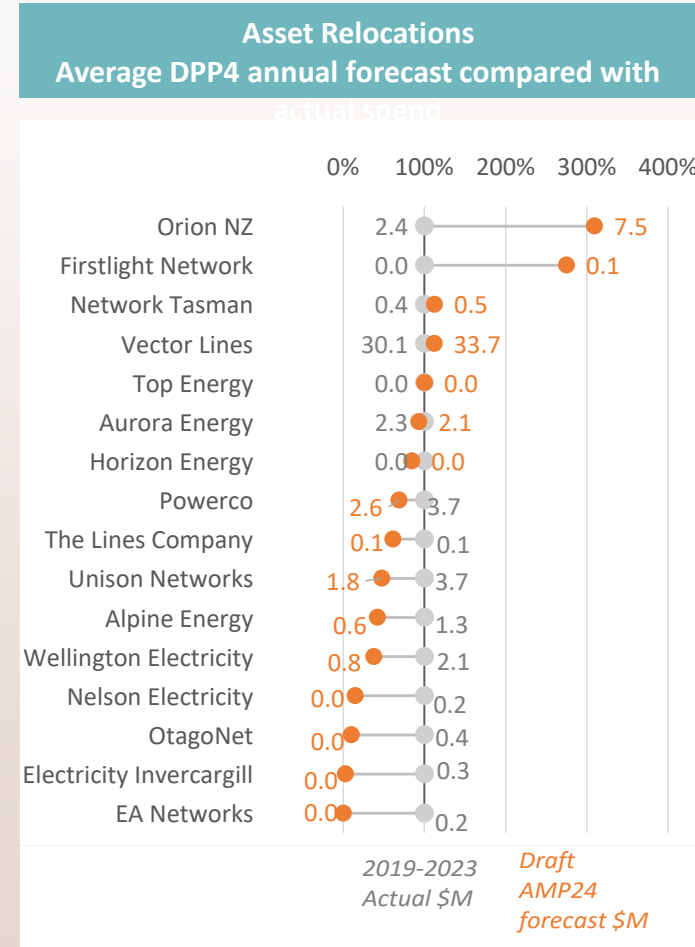
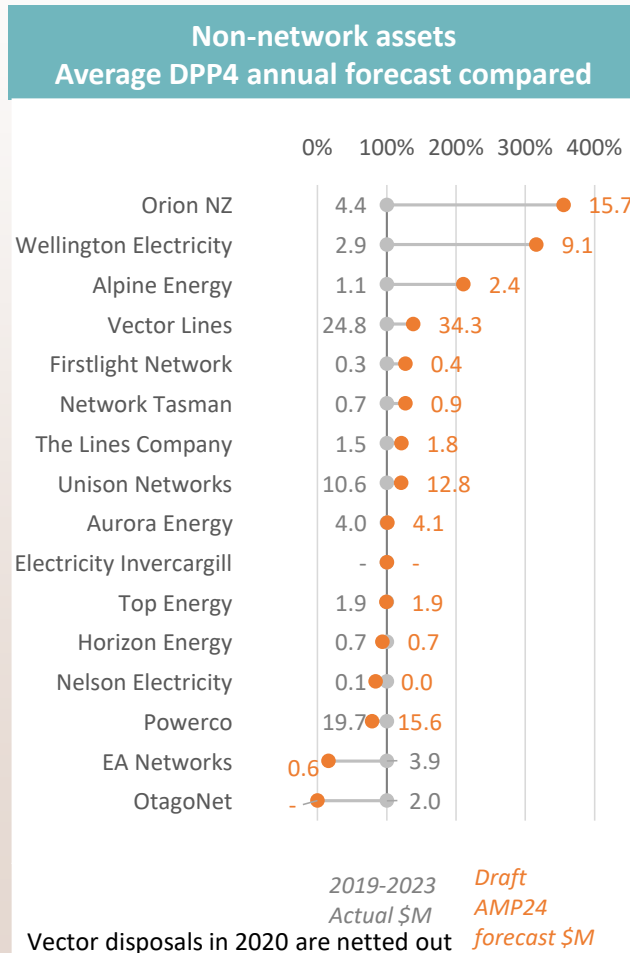
Emerging drivers includes process heat, distributed energy resources, resilience, commercial electric vehicle charging, small gas conversions, electric vehicles – light transport

Capex framework – application by category



Non-network assets and asset relocations

Non-network assets and asset relocations categories are relatively small and for most EDBs at similar levels to past expenditure



Non-network assets and asset relocations

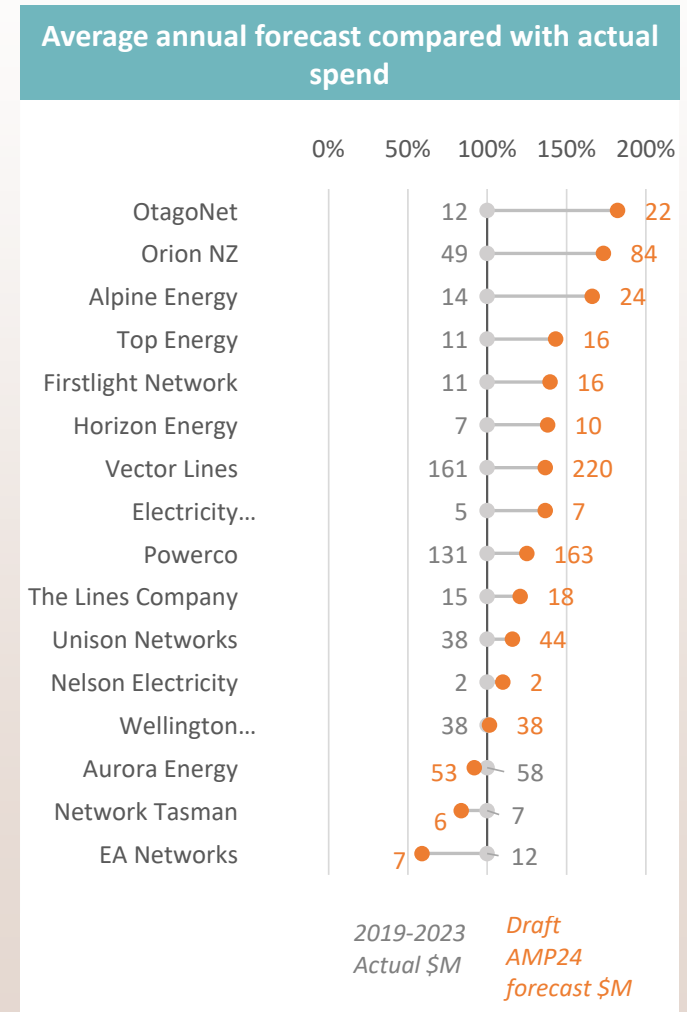
Consistent with a relatively low-cost regime, review of minor capex categories will focus on role of proportionate scrutiny

- Proportionate scrutiny suggests we focus on the capex categories where our scrutiny is likely to have the largest impact on consumer price and/or quality outcomes.
- Non-network assets and asset relocations are relatively minor contributors to total capex (asset relocations represent 3% of expenditure forecast and non-network assets make up 6%) and accordingly may warrant comparatively limited scrutiny.
- Asset relocations and non-network capex do not have clear, quantitative drivers disclosed in AMPs, so scrutinising this expenditure would likely require qualitative assessment of the information in the body of the AMP.
- Additional scrutiny could involve reviewing the rationale in AMP and consistency with s53ZD driver information.

Renewal related capex – ARR + RSE

EDBs are forecasting a significant increase in renewal related capex

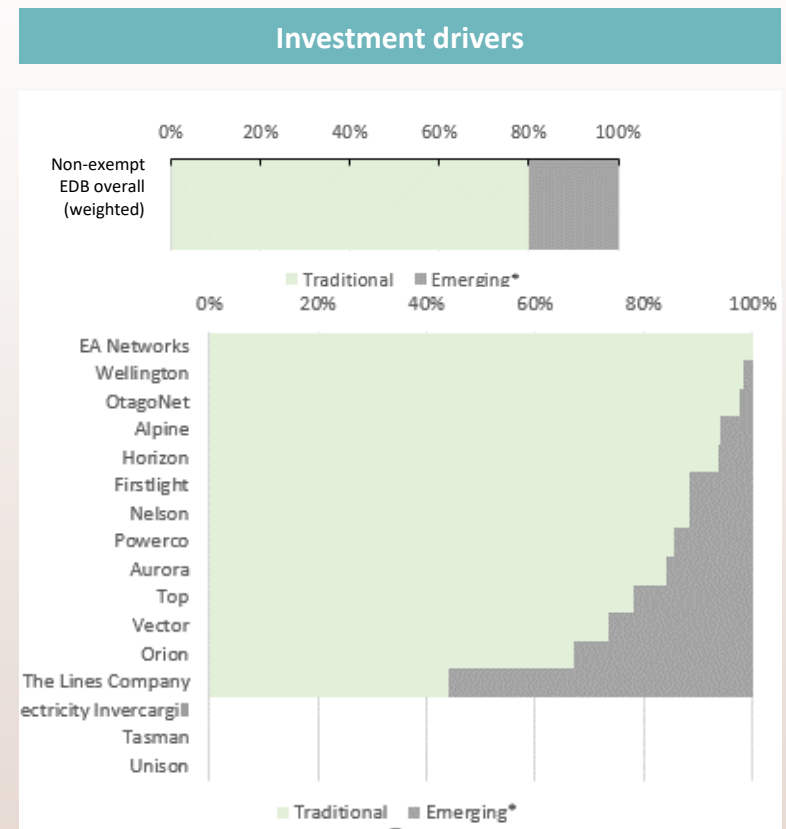
- We have grouped ARR and RSE together as ‘Renewal related capex’ because ARR can often also support RSE purposes. The RSE and ARR expenditure can be interchangeable to an extent, and different distributors have different practices around how they allocate expenditure between these categories.
- Despite the majority of EDBs expecting to stay within 100%-150% of historic levels, the size of spend is forecast to be significant with total forecast spend for non-exempt EDBs forecast to increase by up to \$160m per year compared with 2019-2023.



Renewal related capex – ARR + RSE

The majority of renewal related capex continues to be due to traditional drivers, particularly asset health and age.

- As a primary driver, resilience drives only modest amounts of expenditure in the draft AMP 2024 ARR forecast.
- We have identified the following assessment options for assessing the benefit to consumers of proposed renewal capex:
 - For asset replacement and renewal, we could develop a ‘replacement expenditure’ (repex) model, which takes a probabilistic approach to the likely lives of EDB assets. This goes beyond what is practical for this DPP, but maybe worth considering as a baseline for future DPPs.
 - Depreciation as a proportion of depreciated asset value as a simple screening metric.
 - Compare forecast renewal expenditure against with implied depreciation, as a simple screening metric.



Traditional drivers means asset health, aging assets, safety and reliability

Emerging drivers means non-network solutions, distribution system operator, low voltage data, resilience, distributed energy resources, other

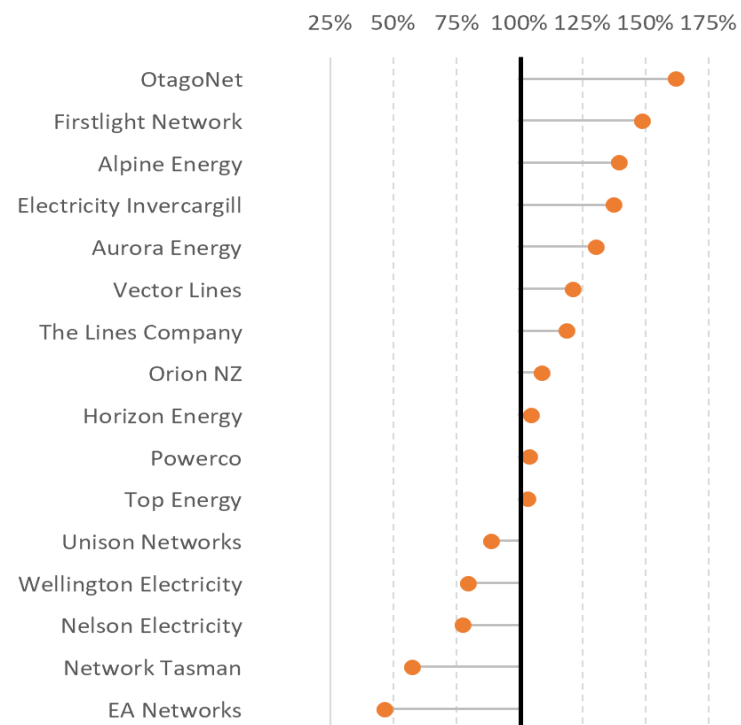
Renewal related capex – ARR + RSE

The metrics are imperfect proxies for asset health and age, but useful for identifying where additional scrutiny may be helpful

- For EDBs that exceed a set threshold, we could:
 - Review Schedule 12a – Asset Condition, with a particular focus on classes H1 and H2 determine if additional expenditure benefits the consumer and can be accommodated or not within the allowance
 - Review the information collected from the s53ZD notice to understand if there are other drivers, outside of asset health and age, that we should consider when setting that EDB's allowance for renewal related capex.

For DPP4, it's likely that we will need to also consider the relatively smaller scope of reopener provisions for ARR (aside from a resilience reopener and a risk event reopener which may apply in some instances) when setting the test for ARR and RSE.

ARR + RSE: Average ratio over DPP4 period



ARR + RSE divided by
Depreciation

Capex framework – application by category

Load related capex



Load related capex: emerging views on approach (1)

Our emerging views are:

- **Load related capex requires granularity of assessment.**
 - For DPP3 we assessed load-related capex in aggregate (based on a new consumer connections metric).
 - Our analysis tells us that this approach may not be appropriate for DPP4: our **emerging view** is to undertake separate assessments for system growth capex and connections capex.

- **The DPP4 context requires use of multiple metrics** to assess load related-capex:

Metric	Consumer connections capex	System growth capex
Proportionate change in expenditure (compared with historical)	✓	✓
Proportion of forecast capex driven by emerging drivers	✓	✓
Cost per incremental peak capacity (compared to historical ratio)		✓
Cost per new connection (compared to historical ratio)	✓	

- **Assessment will be undertaken before capital contributions.**
 - Consumer connections and system growth capex are partly funded through capital contributions determination.
 - Determination of capital contributions will be undertaken as a separate step (not discussed in this workshop).

Load related capex: emerging views on approach (2)

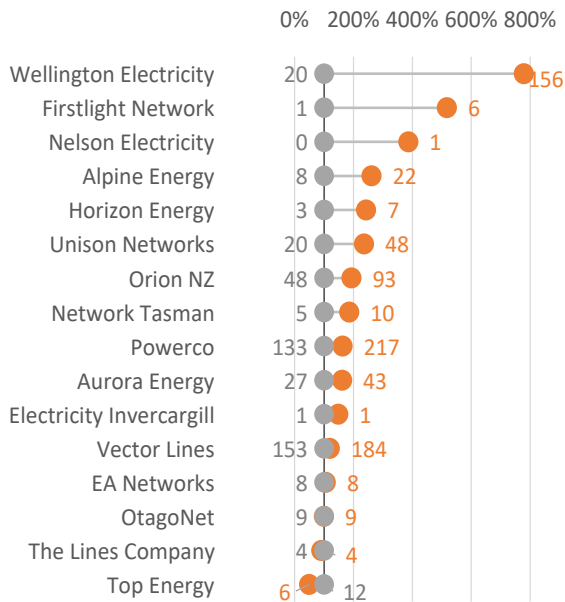
Our emerging view is:

- **Use of metrics in capex framework.** Metrics will be used to establish groupings of suppliers using each metric on their own (“or”) or a combination of metrics (“and”).
- **Thresholds are used to identify EDB groupings.** The groupings will determine different pathways in the capex framework.
 - For example, EDBs in a “high” grouping may be subject to further assessments/scrutiny, whereas EDBs in a “low” grouping may be subject to a simple cap (informed by metrics and/or regulatory judgement).
- **We have not yet formed views on further implications of groupings.**
 - We are considering whether being in a grouping determines level of further scrutiny (high-level or detailed) or whether caps might be appropriate in some circumstances.
 - We intend to use the groupings to identify EDBs and expenditure amounts better suited to reopeners and/or large connection contracts.*

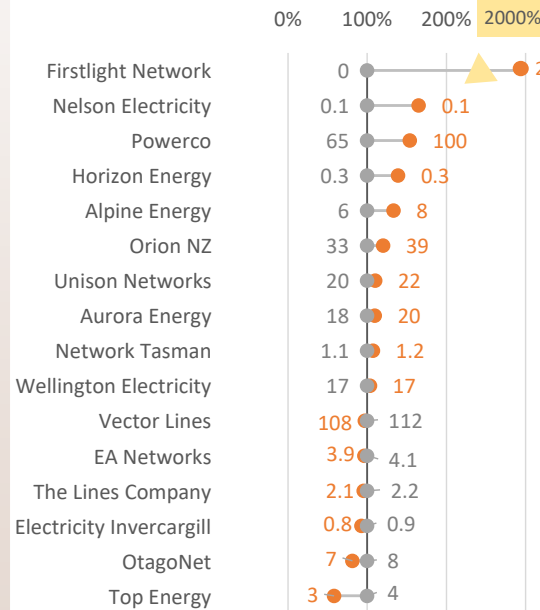
Load-related capex: expenditure

- Figures show relative change in forecast load-related expenditure compared to historical.
- Figures with larger gaps between the orange and grey dots have larger movements between forecast and historical \$ (For further context we also provide the average level of expenditure).
- EDBs with large increases in one of the categories do not necessarily have large capex requirements in the other (eg, system growth step change may not be driven by additions to customer base).

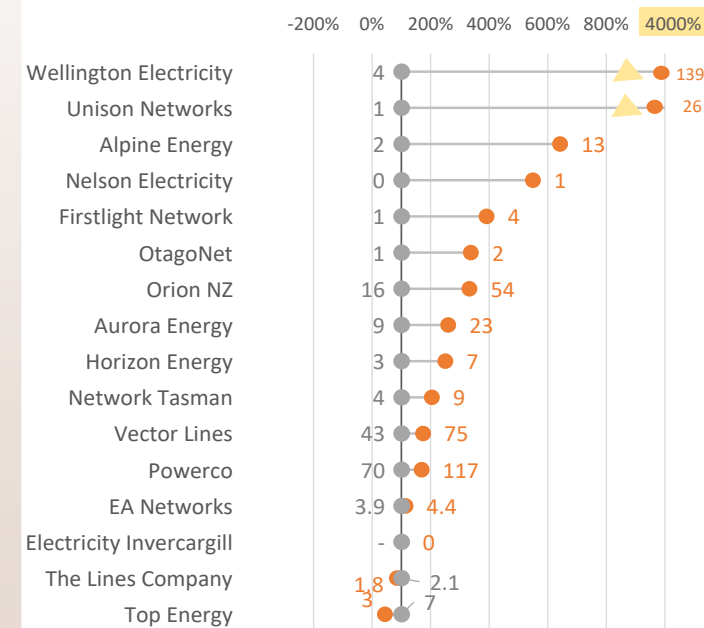
Load related capex (SG+CC)



Consumer connections



System growth

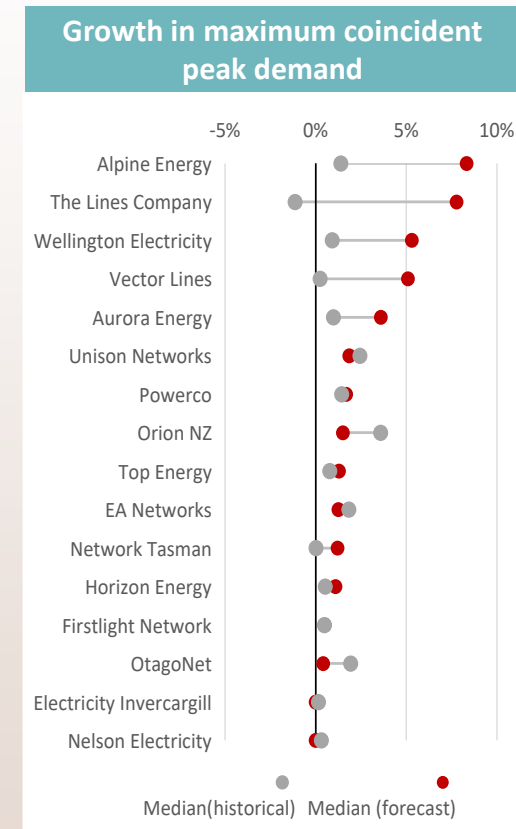
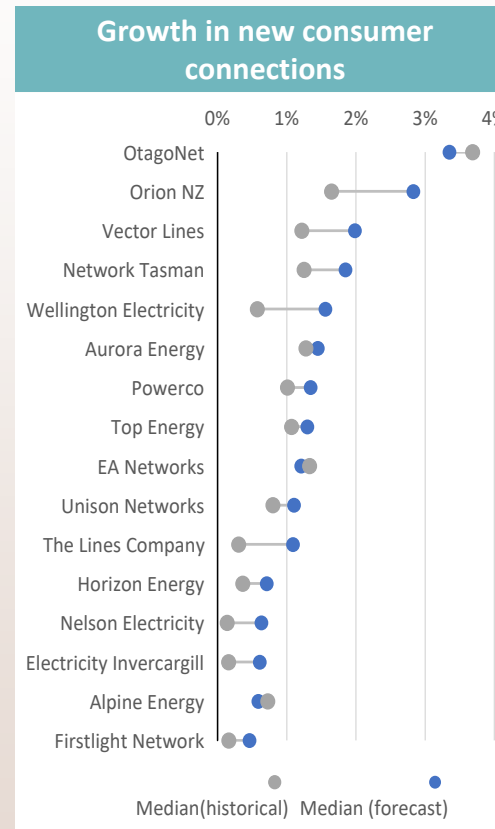


- Draft AMP24 forecast in constant \$m (DPP4 period average)
- 2019-2023 in constant \$m (average)

Load-related capex: key metrics

Our Observations

- In general, EDBs are forecasting **new connections growth** slightly above their historical levels.
- The overall trends tend to remain the same, ie high growth EDBs remain high growth and low growth EDBs remain low growth, with some exceptions.
- Forecast growth in **maximum coincident peak demand** is materially higher for some EDBs compared with their historical growth.



● 2024-2028 forecast (median)

● 2014-2023 (median)

● 2024-2028 forecast (median)

● 2014-2023 (median)

Capex framework – application by category

Consumer connection capex

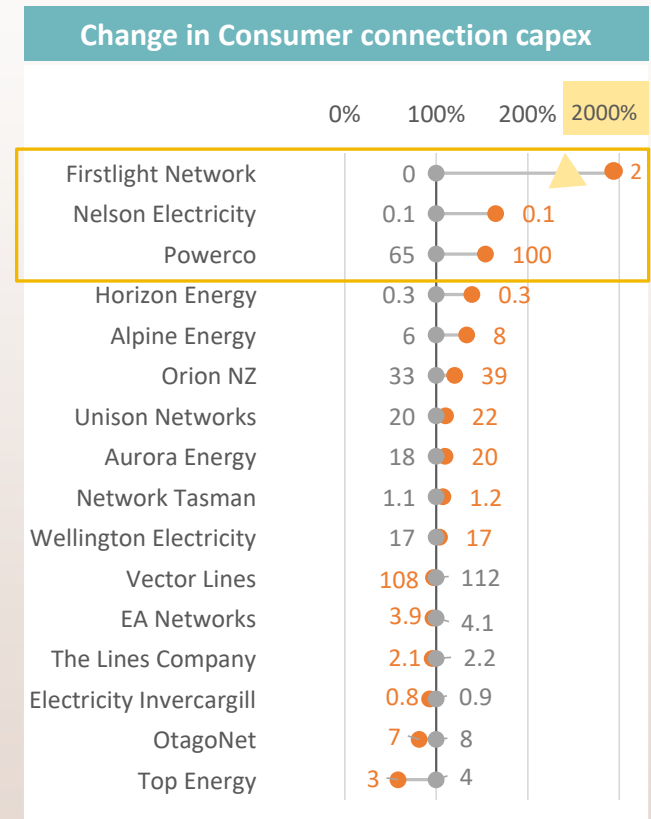


Consumer connection capex: change in capex

Figures with larger gaps between the orange and grey dots have larger movements between forecast and historical \$ (expenditure levels provided for context only).

Our observations

- Overall, consumer connection capex is forecast to be \$75 million (+30%) per year above historical levels.
- 3 of 16 EDBs are forecasting to spend significantly above historical levels.
- Our **emerging view** is:
 - that larger increases in consumer connection capex indicate the potential for greater windfall gains where forecast and actual capex differ materially
 - subject to assessment of capital contributions, not discussed in this presentation.



● Draft AMP24 forecast consumer connection capex (DPP4 period average)

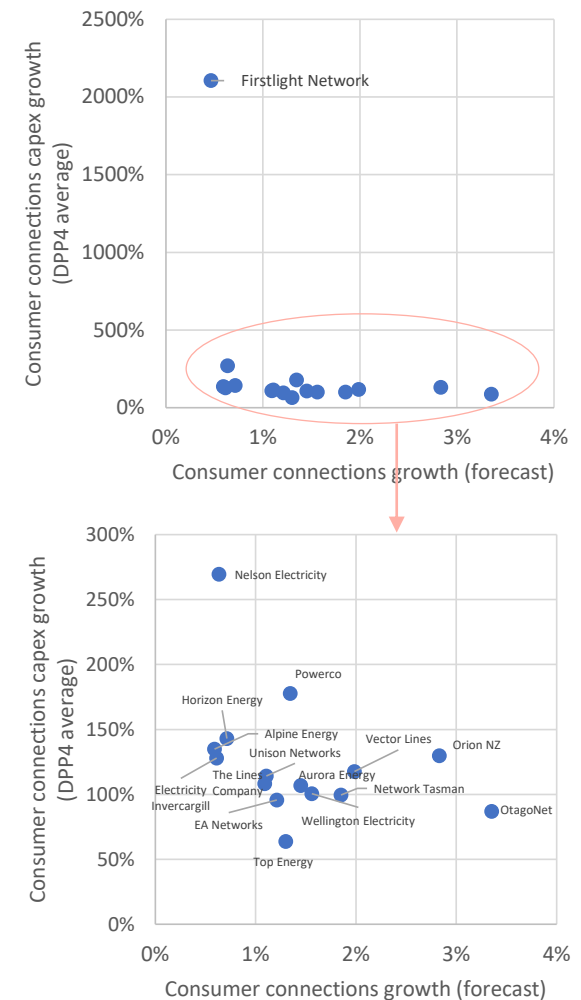
● 2019-2023 consumer connection capex (average)

Consumer connections capex: new consumer connections metric

Our observations

- Growth in consumer connections capex requirements are related to growth in number of new connections.
- Simple plots do not reveal any clear groupings.
 - However, there are also other factors influencing capex growth (eg connection types)
 - The plots of consumer connections capex growth against consumer connections growth confirm that other factors drive consumer connections capex growth (eg some EDBs have low metric growth yet high expenditure growth, and vice versa).
- Our **emerging views** are:
 - we have identified consumer connections growth as the best available metric.
 - this metric is unlikely sufficient on its own to assess reasonableness of consumer connections capex in AMPs.

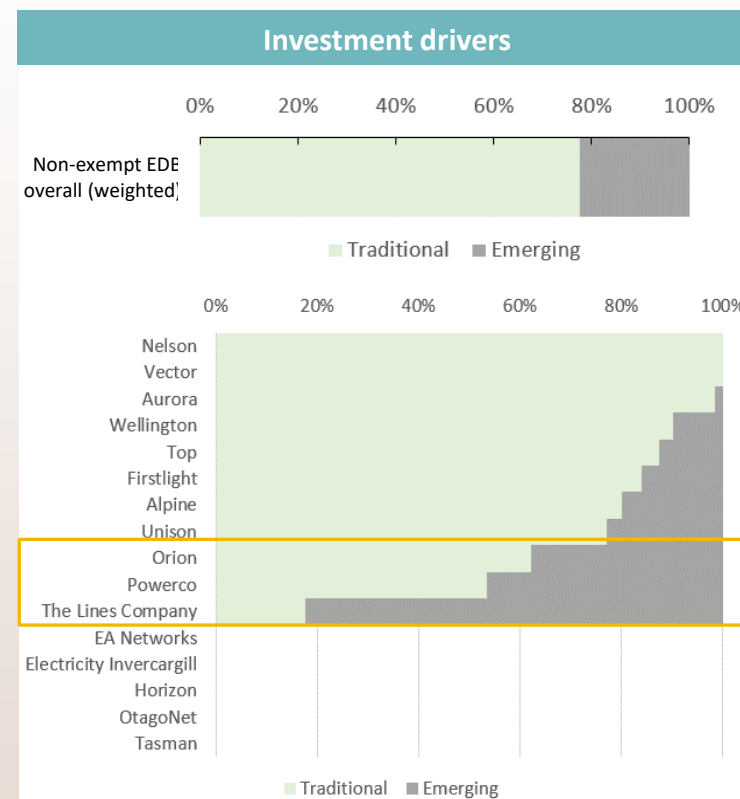
Consumer connections capex growth and consumer connections growth



Consumer connections metric: investment driver metric

Our observations

- For EDBs overall, approximately 80% of consumer connections capex is underpinned by traditional drivers.
- For some EDBs, emerging drivers underpin a material portion of their expenditure plans.
- “Emerging driver capex” is likely more uncertain than “traditional driver capex”.
- Our **emerging view** is:
 - that forecasts with a high portion of expenditure driven by emerging drivers are likely subject to greater uncertainty and therefore may warrant further scrutiny.



Traditional drivers means organic growth

Emerging drivers means process heat, distributed energy resources, commercial electric vehicle charging, small gas conversions, electric vehicles – light transport, and other

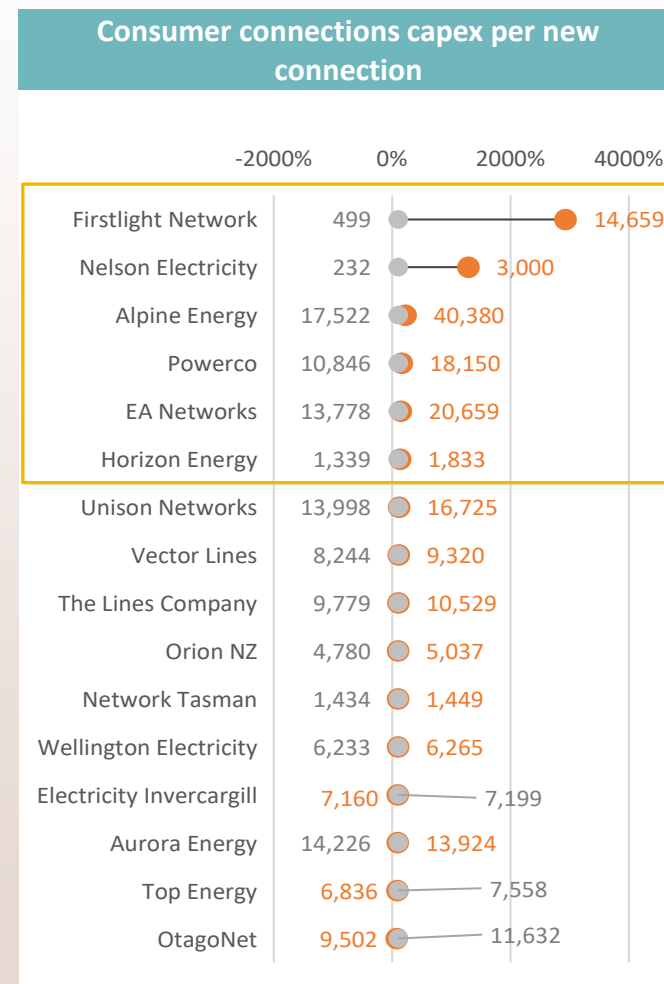
Consumer connections: cost per new connection metric

Figures with larger gaps between the orange and grey dots have larger movements between forecast and historical \$ (expenditure levels provided for context only).

Our observations

- The forecast cost of each new consumer connection when compared to the historical cost per connection may indicate:
 - changes in the scope of new connections.
 - changes in the input cost per new connections.
- For many EDBs forecast cost per new connection, we see modest growth. This may indicate that the make-up of new connections remains similar to historical spend.
- However, there are 6 EDBs forecasting significant (>50%) increases in cost per connection.
- Our **emerging view** is:
 - that large differences in this metric indicate the scope is significantly different for DPP4 and therefore may warrant further scrutiny.

43



● Draft AMP24 forecast (average)

● 2019-2023 baseline (average)

Capex framework – application by category

System growth capex

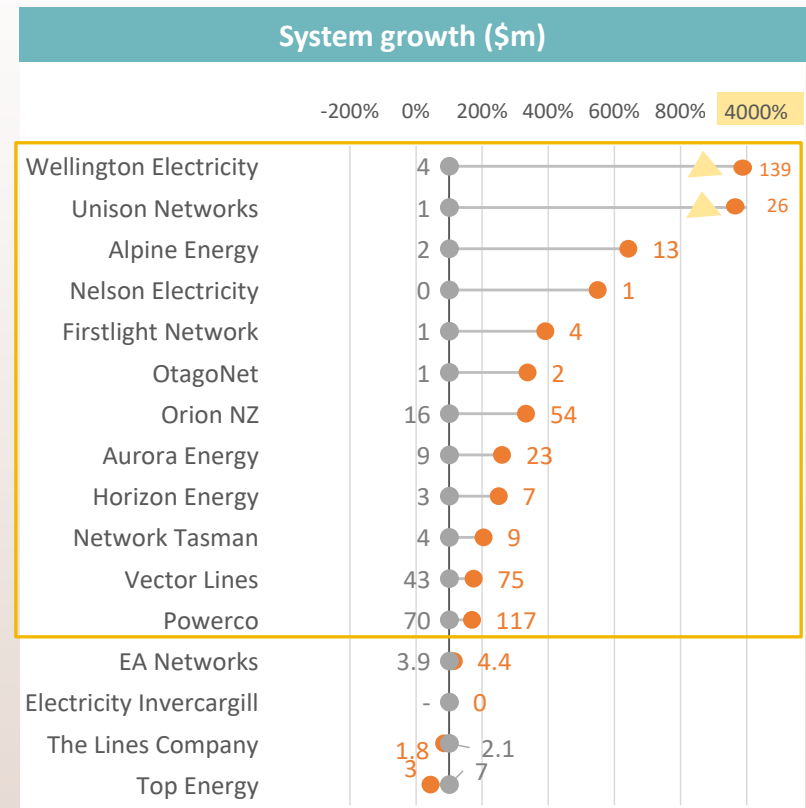


System growth capex: change in capex

Figures with larger gaps between the orange and grey dots have larger movements between forecast and historical \$ (expenditure levels provided for context only).

Our observations

- Overall, system growth capex is forecast to be \$315 million per year (+191%) higher than historical levels.
- The majority of EDBs are forecasting spend more than double (+100%) their historical average.
- Only 4 EDBs are forecasting to spend below or in line with historical levels.
- Our **emerging view** is:
 - that larger increases in system growth indicate the potential for greater windfall gains where forecast and actual capex differ materially
 - subject to assessment of capital contributions, not discussed in this presentation.

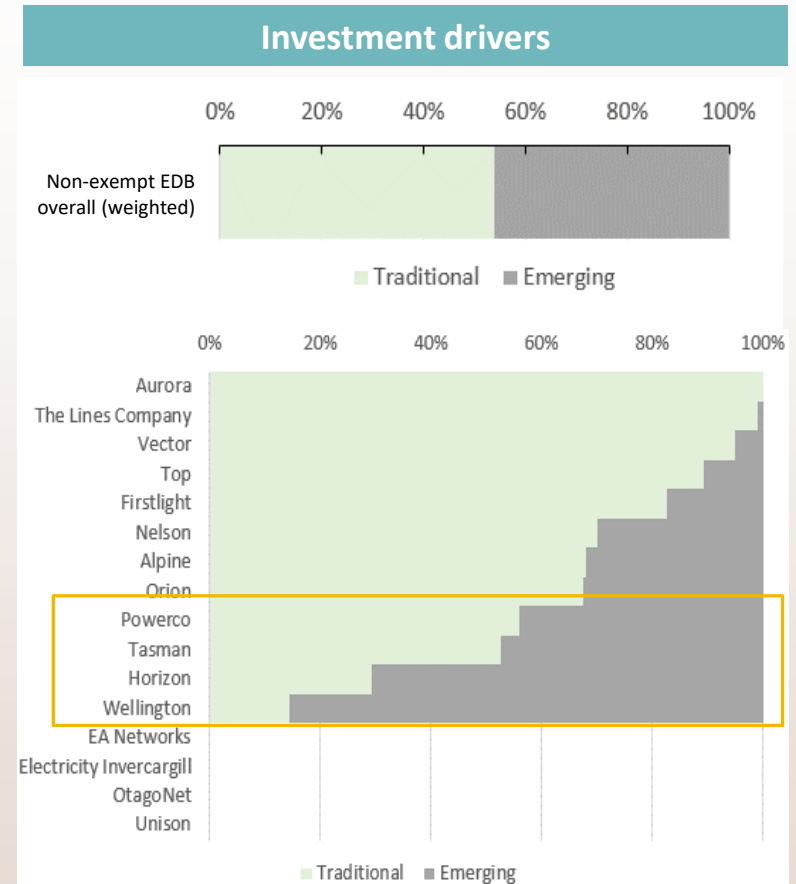


- Draft AMP24 forecast (DPP4 period average)
- Historical 2019-2023 (average)

System growth metric: investment driver metric

Our observations

- For EDBs overall, approximately 55% of system growth capex is underpinned by traditional drivers.
- For some EDBs, emerging drivers underpin a significant portion of their expenditure plans.
- “Emerging driver capex” is likely more uncertain than “traditional driver capex”.
- Our **emerging view** is:
 - that forecasts with a high portion of expenditure driven by emerging drivers are likely to be subject to greater uncertainty and therefore warrant further scrutiny.



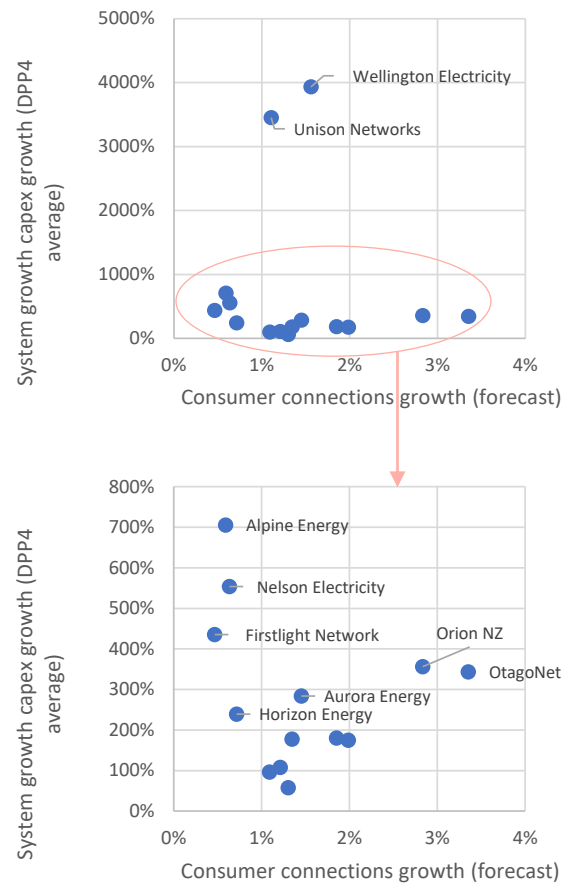
Traditional drivers means organic growth and system security standards
Emerging drivers means electric vehicles – light transport, process heat, commercial electric vehicle charging, small gas conversions, distributed energy resources, utility generation scale >1MW, distribution system operations, other

Relationship between system growth capex and metrics

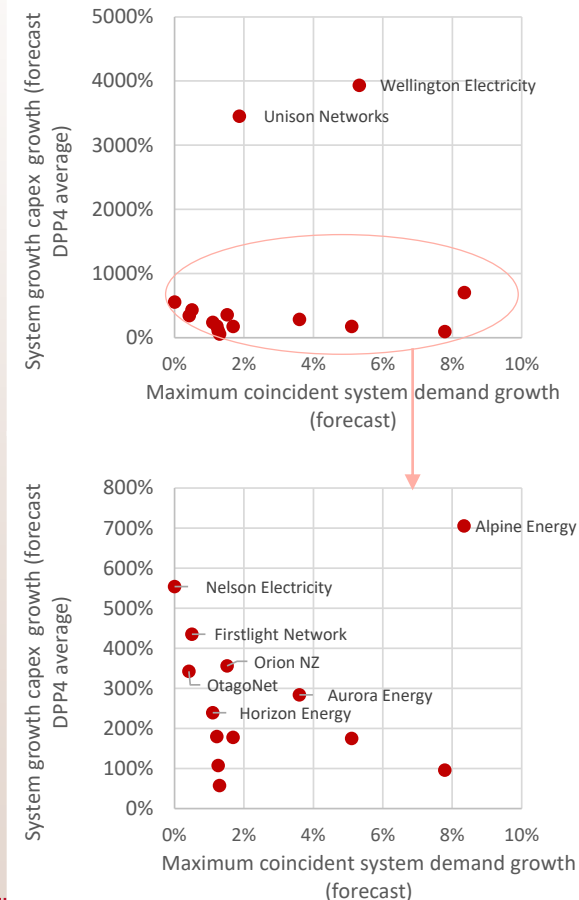
Our observations

- Cross submissions suggested we consider EDB groupings to assist with expenditure assessments eg low, medium and high growth.
- Simple plots do not reveal any clear groupings.
- Our **emerging views** are:
 - to use maximum coincident peak demand growth as the metric for system growth rather than consumer connections.
 - this metric is unlikely sufficient on its own to assess reasonableness of system growth capex in AMPs.

System growth capex growth and consumer connections growth



System growth capex growth and maximum coincident peak demand growth

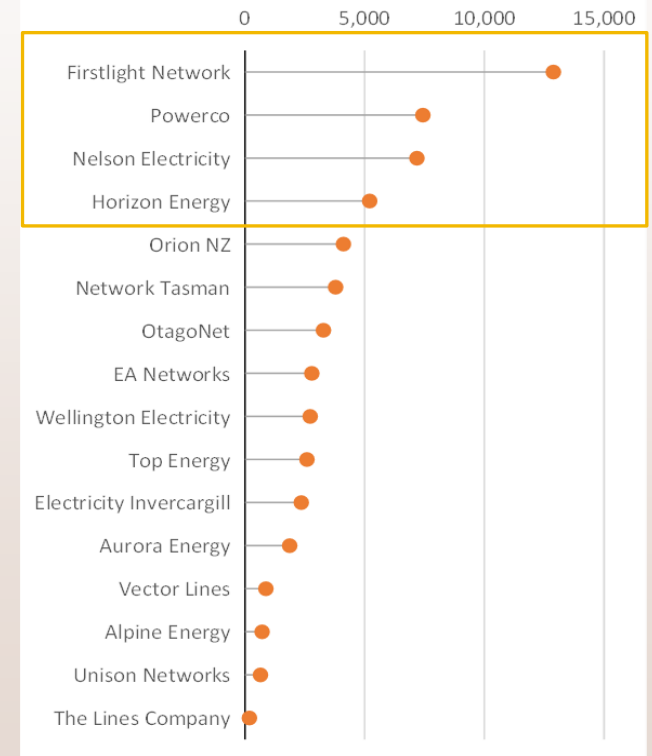


System growth capex per incremental amount of system wide peak demand

Our observations

- Forecast system growth expenditure when compared to maximum coincident peak demand may indicate changes in scope.
- Forecast system growth expenditure compared to peak demand growth can also be compared to historical cost per peak demand growth (next slide).
- Our **emerging view** is:
 - that large differences in this metric indicate the scope is significantly different for DPP4 and therefore may warrant further scrutiny.
 - setting a suitable threshold may be used to identify expenditure that warrants further scrutiny.

Forecast system growth capex per forecast incremental maximum coincident peak demand growth

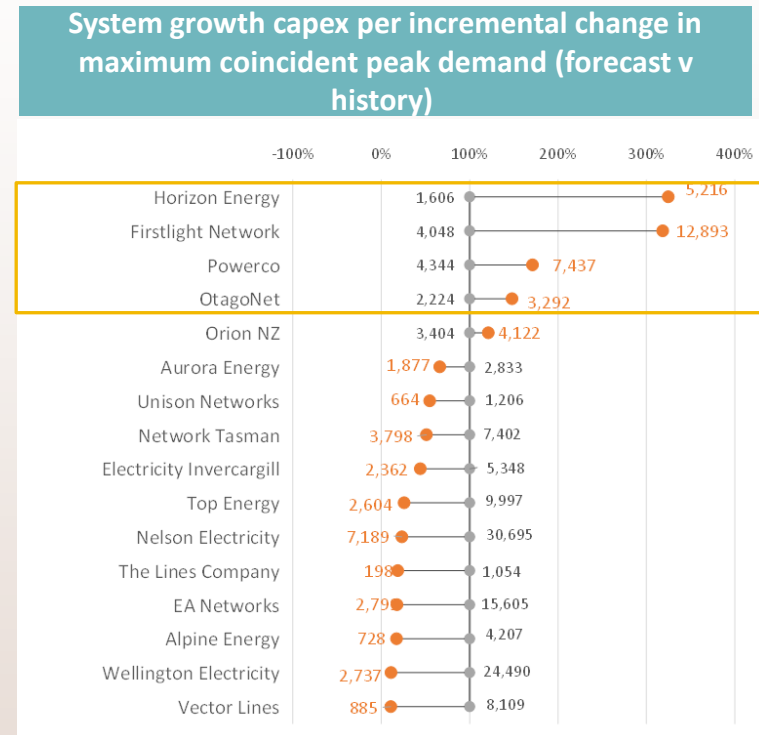


System growth capex per incremental amount of maximum coincident system demand

Figures with larger gaps between the orange and grey dots have larger movements between forecast and historical \$ (expenditure levels provided for context only).

Our observations

- Difference between forecast capex per MW of incremental peak demand may indicate a change in scope.
- Most EDBs are forecasting \$ per MW at or below historical levels.
- Some EDBs are forecasting large (>75%) increases in \$ per MW of peak demand growth compared to historical levels
- Our **emerging view** is:
 - that large differences in this metric indicate the scope or cost is significantly different for DPP4 and therefore may warrant further scrutiny.

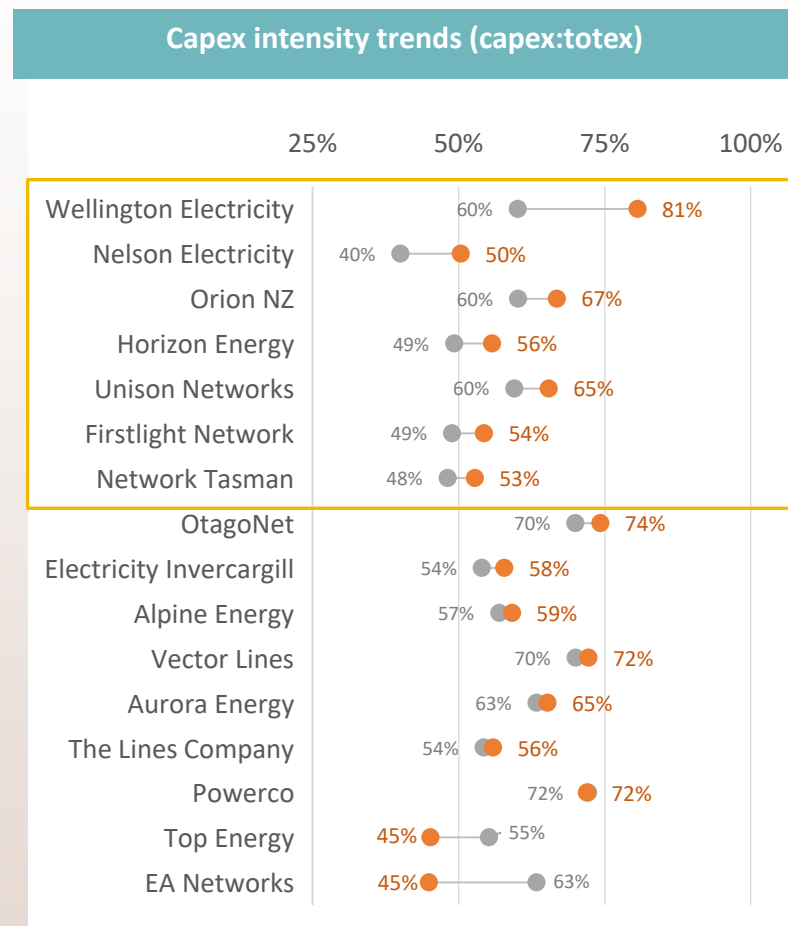


- Forecast \$ per incremental change in maximum coincident peak demand 2024-2030 (average)
- Historical \$ per incremental change in maximum coincident peak demand 2014-2023 (average)

Trends in capex intensity/scope for non-network/non-traditional solutions

Our observations

- A key area of focus during the 2023 IM review was whether the regulatory settings are neutral between expenditure types (capex vs opex), so businesses focus on implementing efficient solutions irrespective of the type of expenditure required.
- Current scope for opex solutions (instead of capex) was indicated to be generally low, but expected to increase over time
- Plotting the ratio of capex:totex indicates a general increase in capex intensity and hence continued focus on network solutions (poles and wires). EDBs forecasts are consistent with increases in capex intensity
- Scope for opex/capex substitution/capex deferral in AMP forecasts cannot be identified within the context of a DPP capex assessment.
- Our **emerging view** is:
 - While we are unable to conduct detailed assessments on the efficiency of the mix of solutions EDBs plan to use, large changes in capex intensity indicate the likely need for further scrutiny.



- Draft AMP24 forecast (2026-2030 capex:totex)
- Historical (2016-2023 capex:totex)

Distribution pricing/AMP integration

- Related to the use of non-network/non-traditional solutions to manage demand, is distributors' use of pricing to influence consumers use-of-system.
- Solar Zero submitted:
 - Now is the first time in history that lines pricing can be used to influence demand profile at the residential level, via for example smart metering that can track electricity usage to a particular time.*
 - Whilst this is an area that the Electricity Authority focuses on, it needs to be an area of intense focus by the Commerce Commission*
 - Lines pricing will determine the rate of growth of peak demand and the degree to which networks consider it necessary to build new infrastructure to meet growth.*
- Understanding the degree of integration between asset planning (for system growth and connections capex in particular) and use of system charges/connection charges would help better understand the efficiency of planned investments.

Please share your views on

Submission questions



Metrics for assessing system growth, consumer connections, and renewal-related expenditure (slides 28-51)

- Are the proposed metrics (individually and/or in combination) useful for identifying EDBs where additional scrutiny may be warranted?
- Are there other metrics we should consider? Please explain your reasons and provide evidence to support your proposal.

System growth – written responses only (slides 44-51)

- Where an EDBs capex intensity is expected to change significantly (eg, 5% or more than historical), please provide indication where your 2023 AMP or s53ZD response explains the overall expected change in expenditure mix and the extent to which you have assessed the efficiency of this change (given the emerging scope for non-network/non-traditional solutions). Alternatively, please state whether you are expecting to provide an explanation as part of your 2024 AMP.
- How could we assess that forecast expenditure has appropriately considered impacts that could be achieved through distribution pricing (in the context of a relatively low-cost DPP)?

Application of additional tests



Application of additional tests

Further reviews, including analysis to support the use of metrics, could be undertaken to assess the appropriateness, timing and value of investments for consumers above certain thresholds.

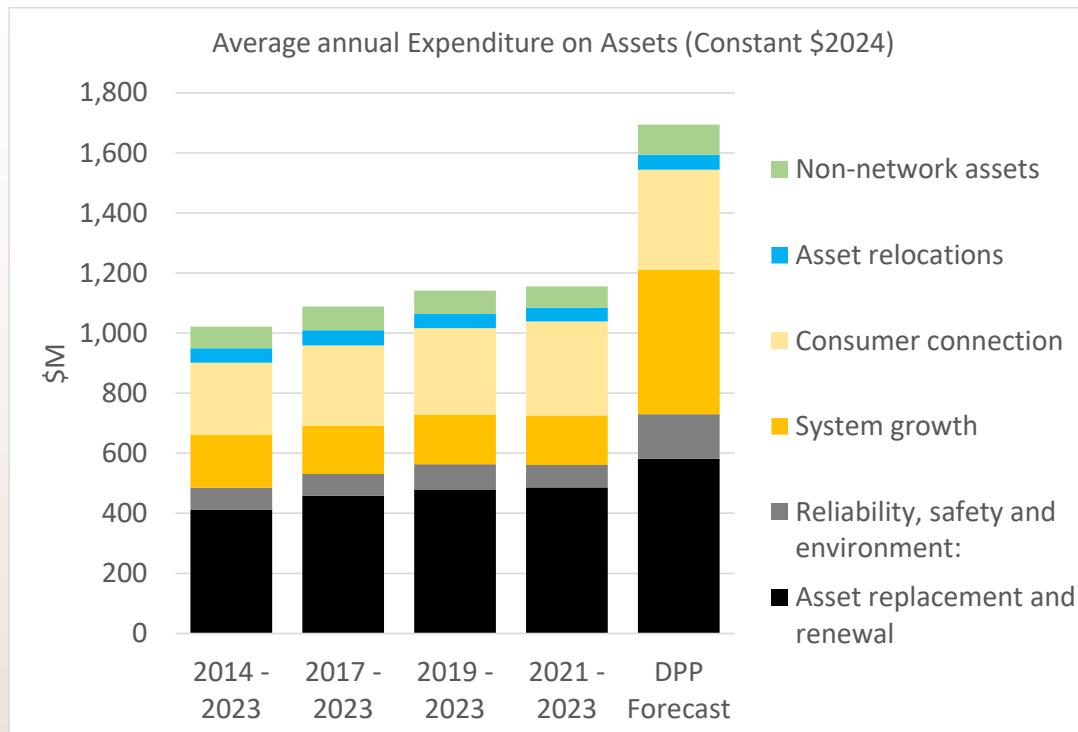
- Considering when additional scrutiny should be applied involves having regard to:
 - Consistency with the relatively low-cost DPP
 - Expected level of additional assurance to be gained from additional analysis (noting limitations identified within the 2023 AMP review on the ability of review to provide greater assurance regarding expenditure forecasts based on publicly disclosed information)
 - Likelihood of additional information requests to support expenditure, beyond what is contained within the AMP, and likely level of effort required by EDBs to respond where additional information may be requested
 - Practicality of identifying (eg with high level metrics) the quantum of incremental expenditure that requires further scrutiny (vs requiring a full review of all expenditure)
 - Isolating the primary drivers of capex and associated expenditure from other network requirements
 - Type of modelling (eg, engineering, analytics)
- Some categories of expenditure may align better with undertaking further assessment, ie they have discrete drivers, projects, or risks that can be easily identified and assessed.

Past expenditure remains a useful reference point for DPP4

- Without reference to a historical reference period, it would be difficult to understand relative scale of change. Use of absolute values do not work well for EDBs who have wide variability (size and nature of network, consumer base, and how they respond to drivers). Past expenditure enables us to reflect these characteristics in a relatively low-cost way.
- Our Issues paper noted that, given the emerging drivers, the use of past expenditure might be less relevant as a starting reference for assessing future spend. The use of a reference period does not require that the values are capped at historical levels and can consider changes in underlying demand or cost factors.
- Our emerging view is that there is still value in using past expenditure as a starting reference to enable us to identify where additional scrutiny is needed, i.e. where emerging drivers are more prevalent or where there are EDB specific circumstances that should be considered.
- Potential options for reference period:
 - 3-years captures recent market challenges, emerging trends and global events like the COVID-19 pandemic and global conflicts
 - 5-years reflects a regulatory period
 - More than 5 years captures more than one regulatory cycle and may provide a more normalised view of spend given the lumpiness of capex profiles. Note a reference period of 7 years was used in DPP3.



Choice of reference period



- Initial analysis suggests that 2019-2023 is the reference period that minimises the extremes (best and worst) outcomes for individual EDBs (not shown here).
- Even if a particular reference period minimises the extremes, it may not be an appropriate choice, for other reasons.
- Note that these statements are based only on Total Expenditure on Assets (assessment of individual capex categories may differ).

Please share your views on

Submission questions



- Some EDBs are expected to be identified (according to the proposed metrics or alternative metrics) to belong to a 'further scrutiny grouping', for one or several expenditure categories. Please identify effective means of providing additional assurance (consistent with the relatively low-cost nature of a DPP) that the forecast levels of investments are in the long-term interest of consumers:
 - additional information requirements and/or tests that could be applied
 - how investments that are particularly uncertain could be identified (on the basis that they may be better addressed through reopeners).
- Historical reference periods are likely required to assess the scale of change. What reference period should the capex framework adopt for DPP4 and why?

Session 2: Discussion questions

Metrics for assessing system growth, consumer connections, and renewal-related expenditure (slides 28-51)

- Are the proposed metrics (individually and/or in combination) useful for identifying EDBs where additional scrutiny may be warranted?
- Are there other metrics we should consider? Please explain your reasons and provide evidence to support your proposal.

Application of additional tests (slides 53-57)

- Some EDBs are expected to be identified (according to the proposed metrics or alternative metrics) to belong to a 'further scrutiny grouping', for one or several expenditure categories. Please identify effective means of providing additional assurance (consistent with the relatively low-cost nature of a DPP) that the forecast levels of investments are in the long-term interest of consumers:
 - additional information requirements and/or tests that could be applied
 - how investments that are particularly uncertain could be identified (on the basis that they may be better addressed through reopeners).
- Historical reference periods are likely required to assess the scale of change. What reference period should the capex framework adopt for DPP4 and why?

Session 3: Other factors which apply to a DPP4 capex framework, including managing uncertainty and considering deliverability risk



The regime is responsive to in-period change

- A key consideration when designing the capex framework is the ability for EDBs to have their revenue limits reconsidered during the regulatory period if:
 - they face changed circumstances; or
 - their capex allowances excluded spend that:
 - was uncertain but for which there is new information that resolves the uncertainty;
 - was insufficiently justified but for which new evidence is available; or
 - had, a significant impact on consumer prices and/or quality that warranted a relatively higher level of scrutiny.
- Reopeners, LCCs and CPPs are mechanisms available to EDBs.

Flexibility mechanisms were a key focus of the 2023 IM Review

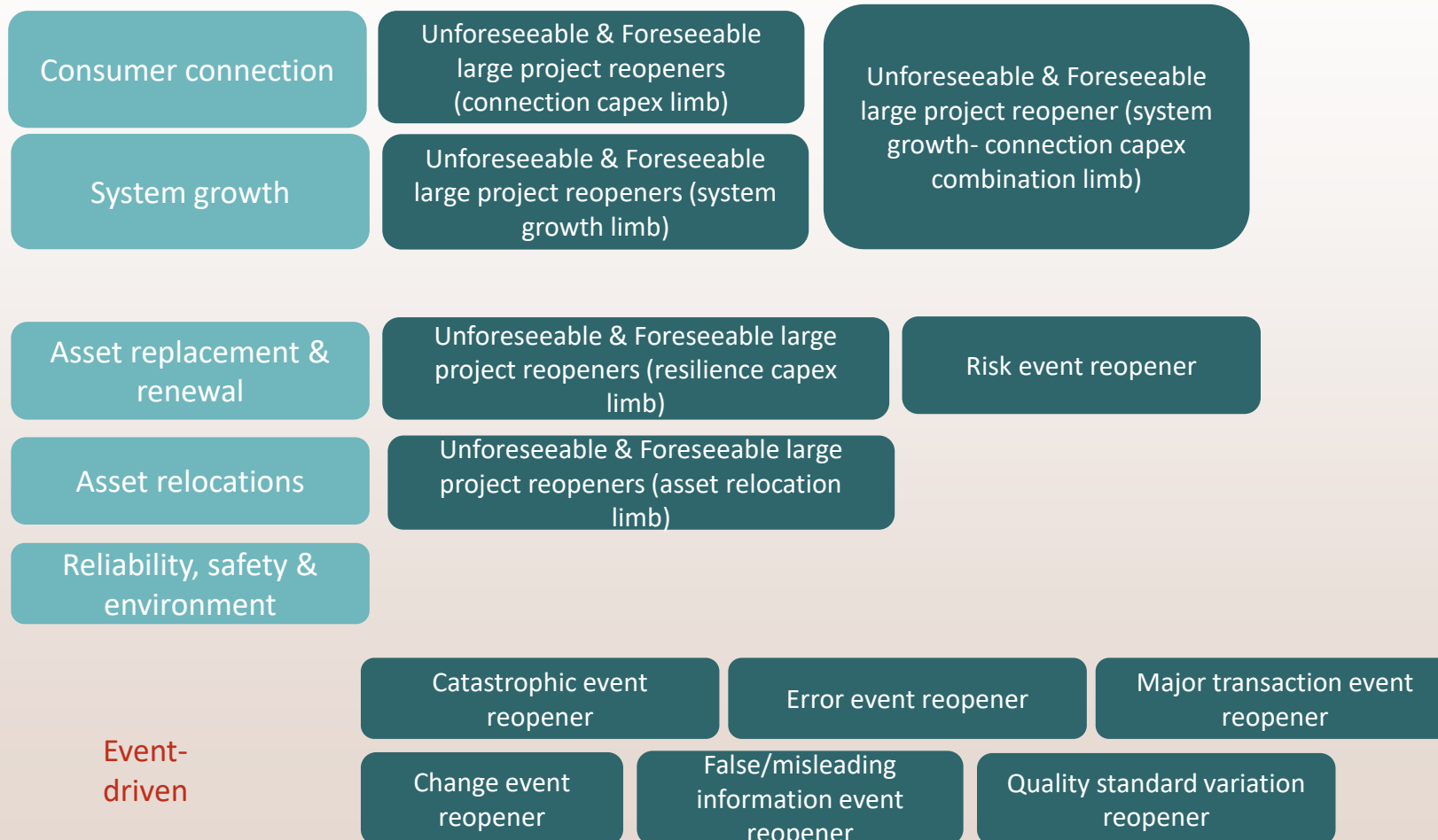
Flexibility mechanisms were considered in detail as part of the 2023 IM Review and changes made to recognise emerging uncertainty facing EDBs where justified. Our emerging view is that no further refinements are required to the DPP flexibility mechanisms apart from the need to consider how they can be appropriately applied in DPP4.

- We introduced new mechanisms (LCC and a new reopener) and expanded the scope of some existing reopeners in the 2023 IM Review in recognition of the emerging uncertainty facing EDBs (see slides 63-65)
- We considered the potential viability of other DPP flexibility mechanisms in the IM Review which allow for recovery of costs but are not reopeners. We did not introduce these:

DPP Flexibility mechanism	Key reason(s) for not introducing
Increasing the scope of pass through or recoverable costs to cover a wider spectrum of categories of costs	Removes the incentive for regulated suppliers to manage risk and costs when they are best placed to do so, exposes consumers unnecessarily to volatility in underlying costs, risk of overlapping with reopeners.
Contingent expenditure allowances	Cost to establish outweighs the benefit of establishing one, given the mechanism may never be triggered. Inconsistent with the purpose of a relatively low-cost DPP.
Use-it-or-lose-it allowances	Unclear where it would be most appropriately targeted at and significant complexity in its design and implementation.
Quantity wash-ups	Cost and complexity to design and implement outweighs benefit and would be inconsistent with the purpose of a relatively low-cost DPP.

Updated range of reopeners now available to EDBs

Expenditure category



Reopener application considerations

- When a reopener is applied for, our expectation is that the reopener application will contain better information or new evidence that justifies the need for that expenditure than what was in AMP forecasts.
- When assessing reopener applications, some key considerations are whether:
 - the expenditure being applied for has already been provided through DPP allowances
 - the EDB has reviewed and reprioritised expenditure within its settings
 - a CPP is more appropriate for the circumstances rather than a DPP reopener
- Be aware of the interpretation of “foreseeability” for reopeners:
 - “unforeseeable” means the expenditure in question was not in forecasts and it was reasonable for it not to have been in forecasts
 - “foreseeable” means the expenditure in question was included in forecasts
- We may need to process higher volumes of reopeners during DPP4 and are aware of concerns raised in submissions for reopeners to be more accessible. We are resourcing for the expected higher uptake of reopeners. In parallel with evaluating live reopener applications, we are streamlining internal business processes to improve speed and efficiency.
- We encourage EDBs considering reopener applications to engage early with us as early guidance can help streamline the reopener application and evaluation process.

LCCs are a new feature introduced in time for DPP4

- An LCC is available as an optional mechanism to address connection forecast uncertainty in situations where :
 - the connection expenditure has not been provided for in DPP allowances
 - the size of the connection is at least 5MW and exceeds either 1% of the EDBs FNAR for the regulatory period or \$5m for Vector & Powerco & \$2.5m for any other EDB
 - the connecting party seeking a connection to the EDB’s network enters into a contract directly with the EDB, is prepared to fund the costs of the connection under that contract and agrees that the terms of the conditions of the contract (including pricing) are reasonable
- We are proposing to introduce compliance provisions in DPP4 that will allow us to verify that LCCs are legitimate, i.e. meets the criteria outlined above.
- LCC-eligible connection expenditure would need to be identified for it to be excluded from DPP allowances to meet the “not been provided for in DPP allowances” eligibility criterion.
- EDBs will need to identify LCC-eligible connection expenditure in AMP 2023 and AMP 2024 to enable us to consider LCCs when setting their capex allowances.

Please share your views

Submission questions



Large connection contracts - written response only

- Please identify whether LCC-eligible connection expenditure is listed in AMP 2023 and/or information provided in response to the s53ZD notice (issued November 2023) and the location of this information within the documentation provided.
 - If you haven't identified LCC-eligible connection expenditure, please comment on the feasibility of creating a list of connection projects and programmes that would potentially meet the definition of an LCC in AMP 2024.
 - If the information is readily available, please provide the listing.

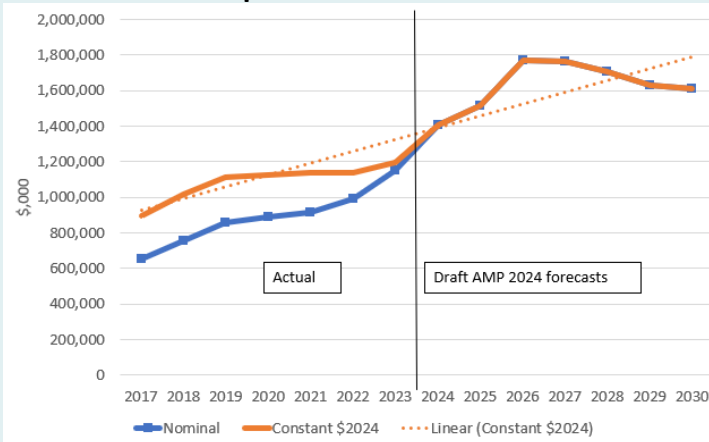
Deliverability



Deliverability

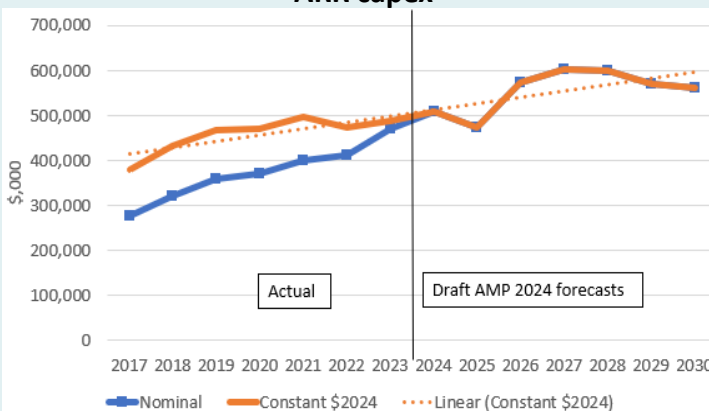
We are concerned that EDBs may not be able to deliver their forecast work programme in the face of labour market and supply chain constraints.

Expenditure on assets¹



- Forecast investment appears to be driven by the need to increase work volumes, more than cost increases (material, labour etc).
- Asset replacement and renewals has a lower slope than overall which suggests that increased amounts of work volume is less of a factor for this category.
- If the change in expenditure were driven just by cost escalation, we would expect the orange line to be flat.

ARR capex



Deliverability

Various independent reports indicate skills shortages in the local, regional and global markets where New Zealand competes

- In the Issues Paper we stated that Waihanga Ara Rau estimates a peak workforce shortage over the next three years of 344,376 people in the infrastructure industry.
- Infrastructure Commission points to a constrained labour market.
- The New Zealand Infrastructure Strategy indicates a construction skills shortage estimated at about 118 500 workers in 2024.
- The 2019 Electricity Engineers Association survey points to need to bring in skills of the future – including AI, software & programme development.
- In other sectors, the 2023 Employers and Manufacturers Association survey found that 71% of employers indicated they could not find highly skilled people, up from 40% of employers in 2022.
- At a regional level, the Australian infrastructure market capacity report indicates
 - a deficit of 229,000 public infrastructure workers as of October 2023, representing an increase of 15,000 in 12 months
 - a 129% shortfall of workers needed to meet demand
- Globally, an OECD survey of more than 40 000 employers across all industries in 40 countries indicates that 75% of employers reported labour shortages in 2022, up from 55% in 2019.



Deliverability

Transpower and its Independent Verifier (IV) confirm that there are challenging market constraints facing the sector

- The IV was of the view that Transpower will face significant competition for skills both from external companies and other jurisdictions that offer attractive remuneration.
- The IV is doubtful about Transpower's ability to recruit about 200 staff over the next three years required to deliver the work programme.
- Transpower staff attrition rates have been increasing from an average of 8.1% between 2017/2018 and 2019/2020, to 12.4% in 2020/2021 and 15.5% in 2021/2022.

“To complete the RCP4 work programme, we will require significant growth of our own workforce as well as active support to encourage the growth of engineering consultants, service providers, and specialist contractors from offshore. We also need resilient supply chains and inventory to ensure we have the required material and equipment as we need them.” – Transpower RCP4 proposal



Deliverability

We received mixed views from submitters about the need to explicitly consider deliverability when setting capex allowances for DPP4

- We are concerned that if EDBs receive allowances for projects that are not delivered, this may translate into elevated profits, not through improved efficiency but non-delivery.
- We then asked stakeholders how should our capex forecast take into account potential sector-wide deliverability constraints.
- Submitters told us that:
 - Deliverability risk falls outside the Commission’s mandate when considering that individual scrutiny is inconsistent with the relatively low-cost nature of the DPP regime (Vector, Unison)
 - While they share the Commission’s concerns on deliverability, they do not think it is necessary to make any revenue adjustments since the AMPs already account for this risk (Aurora, WELL & ENA)
 - Much of the step change is a cost increase (Orion, Alpine & Aurora)
 - Concerns stem from Covid pandemic, markets are easing (TLC, ENA, Aurora)
 - They share the Commission’s concerns and support making a deliverability adjustment (some retailers and MEUG)



Deliverability

The AMP review was unable to give us assurance that EDBs have factored deliverability in their forecast

- IAEngg's view is that an increased capital programme of this size will likely provide significant deliverability challenges, due to the labour market constraints in New Zealand.
- Only a few EDBs appear to have considered the deliverability challenge in their AMPs.
- The report was unable to delineate between expenditure driven by cost and the proportion driven by increased volumes of work, although indications are that there are material increases in the volume of activities forecasted, given the size of the total increase in forecast expenditure.
- Some EDBs have indicated an expanded volume of works, requiring an increase in the number of workers.



Deliverability

Our emerging view is that we will need to consider deliverability alongside need, timing and cost when adjusting expenditure allowances to account for uncertainty.

- We are concerned that if EDBs receive allowances for projects that are not delivered, this may translate into elevated profits, not through improved efficiency but non-delivery.
- We consider that the sector is aware of and actively responding to deliverability risks.
 - However, we have concerns that it may be difficult for the sector to scale up to deliver the larger work programme forecasted, given other sectors in New Zealand and global markets are also seeking the same materials, equipment and skilled personnel.
 - In general, representations contained within AMPs and in response to the Issues paper are high-level. Whilst we understand EDBs may have considered the deliverability of its programme of work individually it is unclear how this aligns with expected-industry or wider constraints.

Additional reporting requirements

- Our emerging view is that to the extent the increase in forecast expenditure is driven by an increase in the size of work programmes and not cost increases, deliverability of increased volumes of work is likely to be a challenge for the sector, especially with expected industry-wide constraints on delivery resources.
- We consider that it may be beneficial to specify additional reporting requirements for EDBs who have elevated work programmes.
- One option we are considering is the use of Annual Delivery Reports (ADR).
 - EDBs are already required to disclose certain information, in terms of the Electricity Distribution Information Disclosure Determination
 - Where necessary the Commission can specify additional information reporting requirements, including the publication of an ADR
 - An ADR is an accountability mechanism that allows interested stakeholders to assess whether an EDB is delivering on the investment programme outlined in its AMP (which the DPP would be based on)
- In the case of a DPP, an ADR, if implemented, would enable interested stakeholders (including the Commission) to monitor delivery progress of an EDB's work programme.

Please share your views on

Submission questions

Deliverability

- We understand that forecast expenditure is driven by project size & scope, volume of work and cost of the work programme. To the extent that the increase in the forecast work programme is due to cost, please explain the variation in cost increases across capex categories beyond CGPI. What support information / analysis can you provide?
- Apart from having considered the challenges of delivering your work programme at an individual EDB level, what approach and evidence do you have that you have also taken into account potential sector-wide deliverability constraints?
- What are your views on our proposal to consider deliverability as part of uncertainty regarding EDB expenditure, alongside need, timing and cost?
 - What alternatives do you propose?
 - Are there particular categories of capital expenditure which are more likely to be exposed to potential deliverability constraints?

Please share your views on

Submission questions



Additional reporting requirements

- What are your views regarding our proposal to place additional reporting requirements on EDBs with significant increases in work programmes?
 - What alternative proposals can you suggest that would achieve a similar outcome of enabling interested stakeholders to assess how well EDBs are delivering their significantly increased work programmes?
- What are the challenges you perceive in providing additional reporting?
 - Are there any implementation or workability concerns that we should be aware of?
 - What information do you currently produce for internal reporting purposes that could be used to achieve similar outcomes?

Large connection contracts – written responses only

- Please identify whether LCC-eligible connection expenditure is listed in AMP 2023 and/or information provided in response to the s53ZD notice (issued November 2023) and the location of this information within the documentation provided.
 - If you haven't identified LCC-eligible connection expenditure, please comment on the feasibility of creating a list of connection projects and programmes that would potentially meet the definition of an LCC in AMP 2024.
 - If the information is readily available, please provide the listing.

Session 3: Discussion questions

Deliverability

- We understand that forecast expenditure is driven by both the size and cost of the work programme. To the extent that the increase in the forecast work programme is due to cost, please explain the variation in cost increases across capex categories beyond CGPI. What support information / analysis can you provide?
- Apart from having considered the challenges of delivering your work programme at an individual EDB level, what evidence do you have that you have also taken into account potential sector-wide deliverability constraints?
- What are your views on our proposal to consider deliverability as part of uncertainty regarding EDB expenditure, alongside need, timing and cost?
 - What alternatives do you propose?
 - Are there particular categories of capital expenditure which are more likely to be exposed to potential deliverability constraints?

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- What are the challenges you perceive in providing additional reporting?
 - Are there any implementation or workability concerns that we should be aware of?
 - What information do you currently produce for internal reporting purposes that could be used to achieve similar outcomes?

Other issues



Other emerging views

Our emerging view is no explicit changes are required to our capex framework for resilience, timing of investment and choice of capex inflator in our capex framework

Topic	Emerging view
Resilience	<ul style="list-style-type: none">• Resilience is difficult to identify and separate, it is embedded in how EDBs plan and make investment decisions.• We do not need a separate test or explicit adjustment in the capex framework to account for increased resilience spending. While it is clearly an emerging driver, there is not yet a unified and accepted framework for assessing resilience expenditure.• Resilience could be a factor in additional metric design or additional tests but is not a workstream of its own, noting there is also a resilience capex reopener.
Timing of investment	Investing earlier in response to increased number and scale of investments is more prevalent in EDB AMPs and our regime can accommodate this
Capital goods price index	Subject to any significant findings from our independent review, we propose to use CGPI for capex (refer to appendix for plots of indices).

Summary of questions & next steps



Questions from Session 1: Setting capex allowances within a DPP, including use of 2023 AMP Review



Findings from review of 2023 Asset Management Plans (slides 16-17)

- In your view how could the “NZ EDB 2023 AMP Review” report be taken into account within our capex framework?

Questions from Session 2: Assessing capex forecasts

Metrics for assessing system growth, consumer connections, and renewal-related expenditure (slides 28-51)

- Are the proposed metrics (individually and/or in combination) useful for identifying EDBs where additional scrutiny may be warranted?
- Are there other metrics we should consider? Please explain your reasons and provide evidence to support your proposal.

System growth – written responses only (slides 44-51)

- Where an EDB's capex intensity is expected to change significantly (eg, 5% or more than historical), please provide indication where your 2023 AMP or s53ZD response explains the overall expected change in expenditure mix and the extent to which you have assessed the efficiency of this change (given the emerging scope for non-network/non-traditional solutions). Alternatively, please state whether you are expecting to provide an explanation as part of your 2024 AMP.
- How could we assess that forecast expenditure has appropriately considered impacts that could be achieved through distribution pricing (in the context of a relatively low-cost DPP)?

Questions from Session 2: Assessing capex forecasts

Application of additional tests (slides 53-57)

- Some EDBs are expected to be identified (according to the proposed metrics or alternative metrics) to belong to a 'further scrutiny grouping', for one or several expenditure categories. Please identify effective means of providing additional assurance (consistent with the relatively low-cost nature of a DPP) that the forecast levels of investments are in the long-term interest of consumers:
 - additional information requirements and/or tests that could be applied
 - how investments that are particularly uncertain could be identified (on the basis that they may be better addressed through reopeners).
- Historical reference periods are likely required to assess the scale of change. What reference period should the capex framework adopt for DPP4 and why?

Questions from Session 3: Other factors which apply to a DPP capex framework



Large connection contracts (slide 65)

- Please identify whether LCC-eligible connection expenditure is listed in AMP 2023 and/or information provided in response to the s53ZD notice (issued November 2023) and the location of this information within the documentation provided.
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 - If the information is readily available, please provide the listing

Additional reporting requirements (slide 74)

- What are your views regarding our proposal to place additional reporting requirements on EDBs with significant increases in work programmes?
 - What alternative proposals can you suggest that would achieve a similar outcome of enabling interested stakeholders to assess how well EDBs are delivering their significantly increased work programme?
- What are the challenges you perceive in providing additional reporting?
 - Are there any implementation or workability concerns that we should be aware of?
 - What information do you currently produce for internal reporting purposes that could be used to achieve similar outcomes?

Questions from Session 3: Other factors which apply to a DPP capex framework



Deliverability (slides 68-73)

- We understand that forecast expenditure is driven by project size & scope, volume of work and cost of the work programme. To the extent that the increase in the forecast work programme is due to cost, please explain the variation in cost increases across capex categories beyond CGPI. What support information / analysis can you provide?
- Apart from having considered the challenges of delivering your work programme at an individual EDB level, what approach and evidence do you have that you have also taken into account potential sector-wide deliverability constraints?
- What are your views on our proposal to consider deliverability as part of uncertainty regarding EDB expenditure, alongside need, timing and cost?
 - What alternatives do you propose?
 - Are there particular categories of capital expenditure which are more likely to be exposed to potential deliverability constraints?

Submission process

We welcome your views on the questions raised in this slide pack, or on other matters relevant to our establishment of capex allowances.

Written feedback is due by 5pm on 11 March 2023.

Responses should be addressed to:

Ben Woodham, Electricity Distribution Manager

c/o infrastructure.regulation@comcom.govt.nz

Please include “**Submission on EDB DPP4 capex workshop**” in the subject line of your email.

We prefer submission in both a format suitable for word processing (such as Microsoft Word document) as well as a ‘locked’ format (such as a PDF) for publication on our website.

Confidential submissions

- We discourage requests for non-disclosure of submissions so that all information can be tested in an open and transparent manner. However, we recognise that there may be cases where parties that make submissions may wish to provide information in confidence. We offer the following guidance:
 - If it is necessary to include confidential material in a submission, the information should be clearly marked, with reasons why that information is confidential.
 - Where commercial sensitivity is asserted, submitters must explain why publication of the information would be likely to unreasonably prejudice their commercial position or that of another person who is subject to the information.
 - Both confidential and public versions of the submission should be provided.
 - The responsibility for ensuring that confidential information is not included in a public version of a submission rests entirely with the party making the submission.
 - We request that you provide multiple versions of your submission if it contains confidential information or if you wish for the published electronic copies to be 'locked'. This is because we intend to publish all submissions on our website. Where relevant, please provide both an 'unlocked' electronic copy of your submission, and a clearly labelled 'public version'.

Closing Karakia

Ka hiki te tapu
Kia wātea ai te ara
Kia turuki ai te ao
mārama
Hui ē, Tāiki ē

*Restrictions are moved aside
So the pathway is clear
To return to everyday
activities
Enriched and unified*



End of presentation



Appendices

Capex workshop

26 February 2024



Definitions

Asset replacement and renewal means **expenditure on assets** where the primary driver is the need to maintain network asset integrity so as to maintain current security and/or quality of supply standards and includes expenditure to replace or renew assets incurred as a result of the progressive physical deterioration of the condition of network assets or their immediate surrounds;

- a) the obsolescence of network assets;
- b) preventative replacement programmes, consistent with asset life-cycle management policies; or
- c) the need to ensure the ongoing physical security of the network assets

Other reliability, safety and environment in relation to expenditure, means **expenditure on assets** where the **primary driver** is to improve **network** reliability or safety or to mitigate the environmental impacts of the **network**, but is not included in either of the **quality of supply** or **legislative and regulatory categories**. For example, this category may include **expenditure on assets** where the **primary driver** is to ensure staff safety or meet the **EDB's** environmental policies.

System growth means expenditure on assets where the primary driver is a change in demand or generation on a part of the network which results in a requirement for either additional capacity to meet this demand or additional investment to maintain current security and/or quality of supply standards due to the increased demand. This expenditure category includes expenditure on assets associated with SCADA and telecommunications assets.

Consumer connection means expenditure on assets where the primary driver is the establishment of a new customer connection point or alterations to an existing customer connection point. This expenditure category includes expenditure on assets relating to-

- a) connection assets and/or parts of the network for which the expenditure is recoverable in total, or in part, by a contribution from the customer requesting the new or altered connection point; and
- b) both electricity injection and offtake points of connection

Trends in capital goods price indices

- Since a step change in the capital goods prices index specific to electricity distributors between 2007 and 2011, the index has broadly tracked the 'all groups' capital goods price index.
- Source: NZ Statistics and Commission calculation

