

EDB DPP4 Draft Decision

Capital expenditure plan and overall price increases

NZIER report to MEUG

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Key points

The purpose of this report is to provide evidence that supports the following key messages:

- The low-cost light-handed approach to DPP regulation is not well suited to the size and uncertainty of the structural change required by electrification. It is also inconsistent with scrutiny applied to Transpower and has not been checked against Transpower's forecasts.
- The Commerce Commission's analysis of price changes did not consider the combined impact of its price quality path decisions on the total costs of energy and how those price increases along with wholesale market price pressures and supply constraints could affect the pace of electrification.

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1 Scope

1.1 Approach

The analysis focuses on the following key areas:

- Capital expenditure plans of the six largest EDBs (Vector, Powerco, Orion, Wellington Electricity, Unison and Aurora¹) with respect to:
 - Forecast growth in peak demand versus volume for each EDB in the group.
 - Comparison of EDB peak demand forecasts with Transpower’s forecasts.
 - Comment on evidence that EDBs are considering measures to flatten peak demand in their asset management plans
- Combination of the increases in the Commerce Commission’s draft decisions with the estimated impact of recent wholesale price movements on consumer electricity prices forecast for the next three years.

This note comments on the Commerce Commission’s ‘DPP4 Draft Decision Reasons Paper’². The primary focus of this report is the capital expenditure forecasts to which the Commerce Commission attributes 35 percent of the increase in DPP4 maximum allowable revenue (MAR).

2 Low-cost light-handed approach not suited for rapid growth

2.1 Cost increase drivers

As part of its ‘low cost light-handed’ approach to the DPP4 decisions, the Commerce Commission has set a capital expenditure limit for DPP4 at the lower of the EDB asset management plan forecast or a 25 percent increase on capital expenditure over a reference period of 2019 to 2023. The Commerce Commission also applied a similar rule to DPP3 capex with a maximum increase of 20 percent. The checks applied by the Commerce Commission that the cap is not excluding asset replacement and renewal or reliability and safety need to be tested. They assume that investment in asset can be unbundled into independent packets that each contribute to one of the five main categories disclosed in Schedule 11a(i).

This cap apparently does not consider differences in the timing of recent EDB capital expenditure or whether EDB have used increased investment in capacity as the first option for managing peak demand. The application of the rule does not discriminate between EDBs which have tariff structures that recover the cost of the increased capacity from those who contribute to the cost, as opposed to those that do not.

¹ Although Auror Energy is currently on customised price quality path (CPP) it is included in this group because the CPP ends on 31 March 2026.

² Commerce Commission May 2024, ‘Default price-quality paths for electricity distribution businesses from 1 April 2025 – Draft decision, Reasons paper, Date of publication ; 29 May 2024’. Available at https://comcom.govt.nz/__data/assets/pdf_file/0031/353983/Default-price-quality-paths-for-electricity-distribution-businesses-from-1-April-2025-Draft-reasons-paper-29-May-2024.pdf



Also, it is inconsistent with the change in consumer behaviour and electricity pricing that will be needed for efficient responses to managing the risk of generation shortfalls as the system reliance on intermittent wind and solar energy increases.

2.2 Benefit of scrutiny

The Transpower IPP draft decision³ illustrates the potential for reductions in expenditure proposals after scrutiny. The two separate tests that were considered for the Transpower decision, ‘prudent and efficient expenditure’ and ‘deliverability,’ are applied to the EDB decision.

Table 1 Transpower draft decision

Expenditure reported in \$m 2023/23

Stage	Opex	Capex	RCP4 Total
Transpower proposal	1,961.4	2,449.8	4,411.2
Approved as prudent and efficient	1,946.0	2,426.5	4,372.5
Deliverability reduction	1,877.0	2,135.2	4,012.2
Total reduction	84.4	314.6	399.0

Source: NZIER

2.3 EDB capital spend compared to Transpower

Under the Commerce Commissions Draft Decision, the DPP4 capex allowance⁴ for the non-exempt EDB totals \$5.60bn (in 2024 dollars), more than double the capex allowance of \$2.2bn (in 2023 dollars)⁵ for Transpower over the same period. Capex allowances for Powerco (\$1.59bn) and Vector (\$1.36bn) accounted for 52.6 percent of the capex allowance. Orion (\$0.59bn), Wellington Lines (\$0.38bn), Unison (\$0.37bn) and Aurora (\$0.44bn) accounted for another 31.7 percent of the capex allowance.

Overall, the Commerce Commission does not appear to have considered how to compare the potential costs and benefits of a thorough review of EDB spending for the largest EDBs (Vector and Powerco) or considered where the cost benefit break-even point might lie for applying the “prudent and efficient” and “deliverability tests” to EDBs capital spending proposal, rather than focusing on arguments for a light-handed approach.

³ Commerce Commission May 2024 (1) ‘Transpower’s individual price-quality path for the regulatory control period commencing 1 April 2025, Draft decision paper, Date of publication: 29 May 2024’ page 9.

⁴ Commerce Commission May 2024, ‘DPP4 Draft Decision Reasons Paper’, Table 2.2 DPP4 capex allowances, page 35. In nominal terms the capex allowance is \$6.3bn.

⁵ We have not been able to find the exact adjustment factor used by the Commission to translate 2023 dollars into 2024 dollars. The New Zealand Consumer Price Index (CPI) increased by 4 percent over the 12 months to end of the March 2024 quarter. Applying this adjustment factor to the Transpower capex allowance would indicate a value of about \$2.5bn in 2024 dollars. The increase in the CPI was higher than the increase in the All Groups Capital Goods Index over the same period (which was 3.2 percent). However, the Commission’s approach to translating capital expenditure during the reference period into values that were comparable to the DPP4 starting point was to increase them by the change in the ‘All-Groups Capital Goods Price Index (CGPI) plus an additional 0.8% per annum’. See Commerce Commission May 2024, ‘DPP4 Draft Decision Reasons Paper’, page 44 para 2.59.



2.4 Uneven impact on EDB capital expenditure plans

The application of the 25 percent threshold has not materially constrained the proposed capital spending by either Powerco, Vector, Aurora or Unison but has materially constrained capital expenditure by Orion and Wellington Lines. The application of the constraint as a total across the entire DPP4 period also raises the question about how the EDBs alter the profile of their capital expenditure. These questions are illustrated briefly in the following sections by comparing the capital expenditure plans of Vector, Powerco, Orion and Wellington Lines.

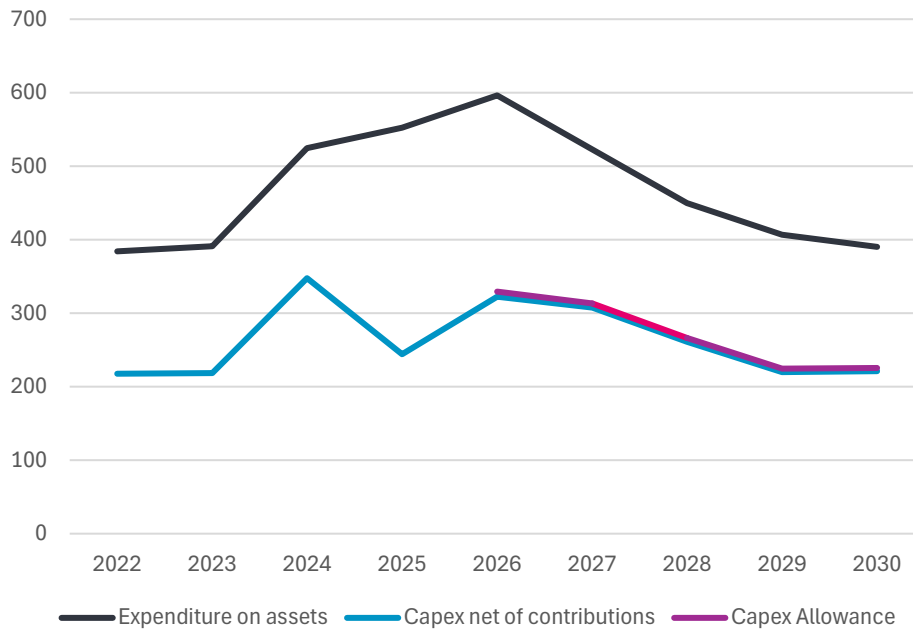
The following figures compare the capital expenditure plans of Vector and Powerco which are effectively not constrained by the Commerce Commission's 25 percent threshold with the plans by Powerco and Wellington Lines which are severely constrained by the application of the 25 percent threshold. The figures suggest the following questions:

- How does deliverability risk for Vector which is proposing a large step increase in spending in the first two years of its plan compare to that for:
 - Powerco and Orion which proposed a gradual increase in capital expenditure over the course of the planning period.
 - Wellington Lines which proposed a temporary lift in expenditure into the future with lead time to prepare for the increase.
- How do Orion and Wellington Lines adjust the delivery of their capital plans to the limitation of their capital expenditure to 67 percent and 39 percent respectively of their planned capital expenditure.

(The difference between the effect of DPP4 decisions on Vector and the EDB that are constrained by the capex allowance threshold is increased by the much higher use of capital contributions to fund capital expenditure than for other EDBs.⁶)

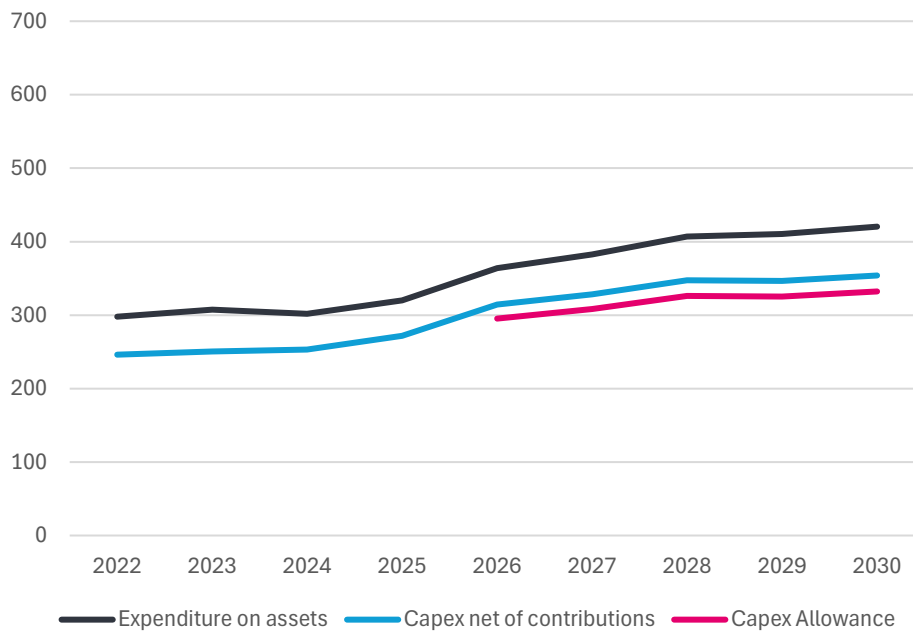
⁶ Commerce Commission May 2024, 'DPP4 Draft Decision Reasons Paper', page 142, Paragraph B143 and B144.

Figure 1 Vector actual and forecast capital expenditure



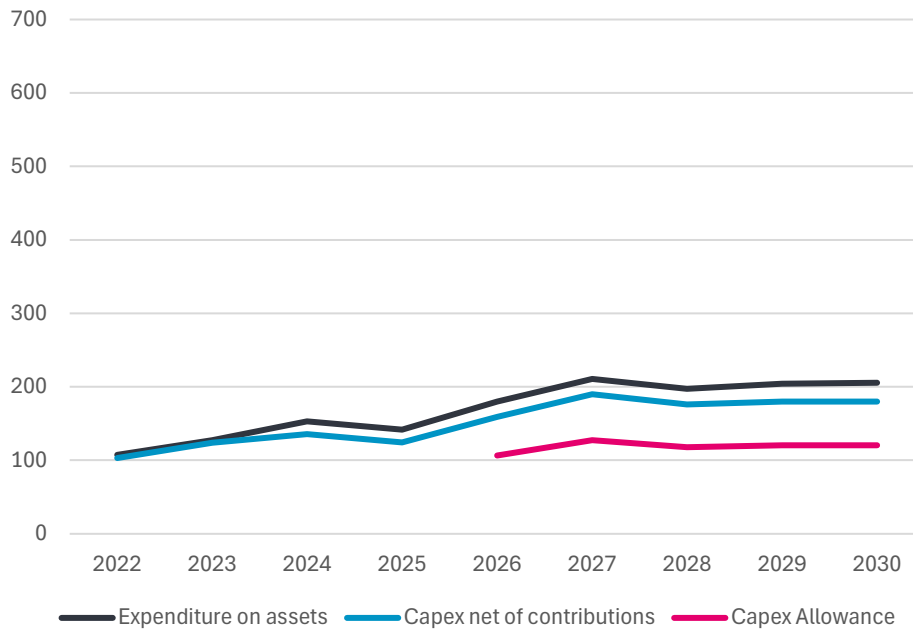
Source: NZIER

Figure 2 Powerco actual and forecast capital expenditure



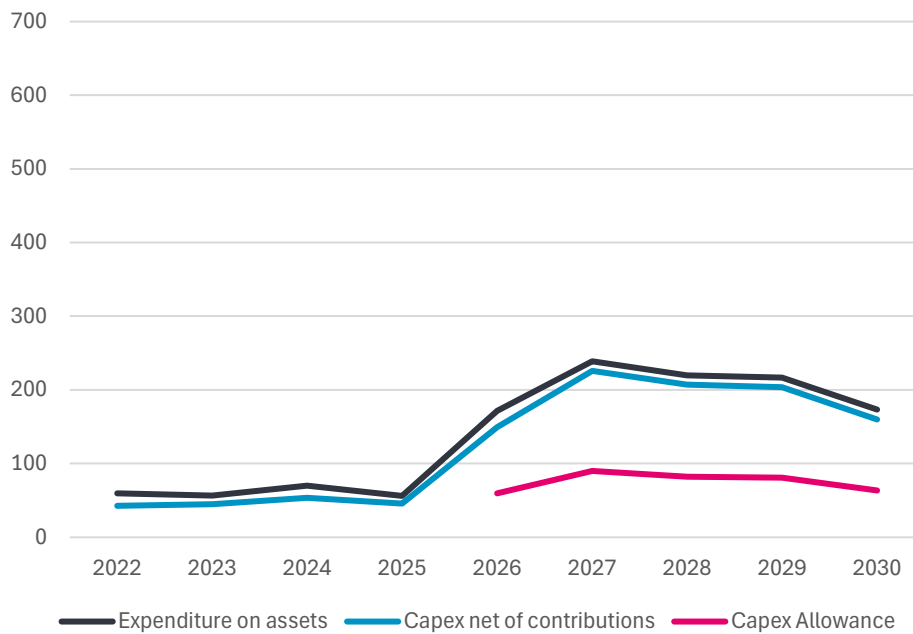
Source: NZIER

Figure 3 Orion actual and forecast capital expenditure



Source: NZIER

Figure 4 Wellington Lines actual and forecast capital expenditure



Source: NZIER

3 Growth in peak demand

3.1 Forecast growth in peak demand

The impact of projected growth in peak demand on EDB investment intentions is not discussed in detail in the capital expenditure sections of the DPP4 Draft Decision Reasons Paper. (Peak demand is considered as potential predictor of operational expenditure but it is the number of ICPs and line length that are the preferred predictors.⁷) However, we suggest that forecast peak demand is a useful cross check on both the outlook for the need for system growth investment and the consistency between EDB and Transpower outlooks for peak demand.

As part of their asset management plans, the EDB provide a five-year forecast of peak demand and the volume of energy delivered. Forecast growth in peak demand is a rough indicator of the driver of investment in network capacity.

⁷ Commerce Commission May 2024, 'DPP4 Draft Decision Reasons Paper', page 214, Paragraph C208 and C211.

Table 2 below compares the 2022 starting point and the compound annual growth rate for both forecast peak demand and energy delivered for the six largest EDBs. (More detailed versions of the annual plan data for each EDB are included in **Appendix A**.) The summary data suggests the six EDBs, have similar rates of growth in volume of energy supplied can be separated into two groups based on peak demand growth profiles:

- Vector, Wellington Electricity, and Unison. These EDBs have reported large increases in forecast peak demand growth between their 2002 and 2024 plans and rates of growth in peak demand that are much higher than the rate of growth in the volume of energy delivered. This implies these EDB expect their demand to be much peakier than it is now. (Of these three, only Wellington Lines had its planned capital expenditure materially limited by the draft decision. Perversely Wellington Lines in 2024 seems to be forecasting a massive growth in energy delivered over the 2024 to 2029 period).
- Powerco, Orion and Aurora which forecast rates of growth in peak demand which are roughly similar to their forecast rates of growth in energy delivered. Aurora is forecasting energy delivered to grow slightly faster than peak demand. Of these EDBs, only Orion's capital spending is constrained by the Commerce Commissions 25 percent and this constraint is modest.



Table 2 EDB peak demand and volume supplied for plans from 2022 to 2024

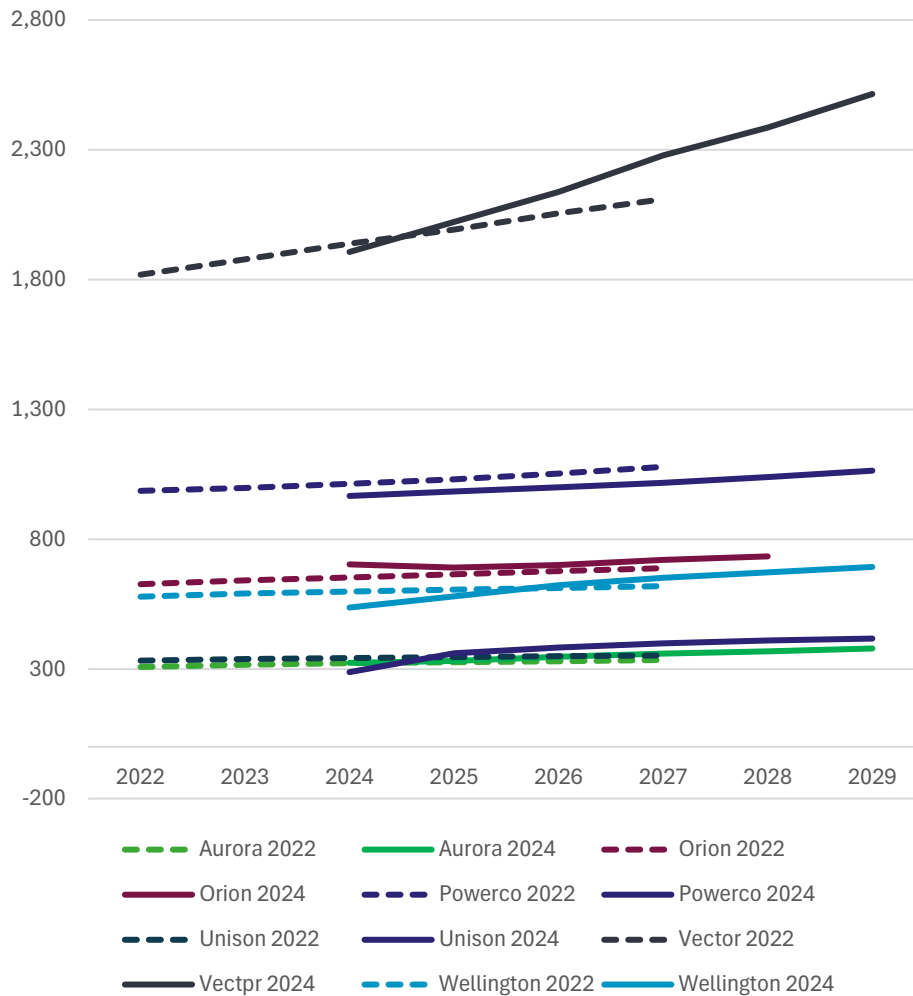
Actual and forecast peak demand and energy entering system for supply to ICP

EDB	Peak Demand (MW)				Energy entering system for supply to ICP (GWh)			
	Actual 2022	Forecast CAGR			Actual	Forecast CAGR		
		2022 to 2027	2023 to 2028	2024 to 2029		2022 to 2027	2023 to 2028	2024 to 2029
Vector Lines	1,807.2	3.02%	4.81%	5.70%	8,724.0	0.40%	1.84%	2.20%
Powerco	986.0	1.80%	2.61%	1.93%	5,266.0	1.80%	2.61%	1.93%
Orion NZ	713.0	1.92%	2.30%	1.57%	3,415.8	1.43%	1.24%	1.21%
Wellington Electricity	579.0	1.35%	4.01%	5.26%	2,379.0	1.20%	1.21%	7.80%
Unison Networks	354.0	1.20%	8.70%	7.71%	1,750.4	0.06%	1.49%	1.48%
Aurora Energy	308.5	1.63%	2.82%	3.17%	1,382.4	0.76%	2.81%	3.70%

Source: NZIER



Figure 5 Peak demand forecasts in 2022 and 2024



Source: NZIER

3.2 EDB and Transpower peak forecasts

The most recent Transpower regional forecasts for peak demand are included in its latest Transmission Planning Report (TPR 2023)⁸. The regions used in TPR 2023 are reasonably similar to the regions covered by the EDBs (except for Aurora Energy).

Transpower peak demand growth rate assumptions to the EDB assumptions for Orion and Aurora but the Transpower forecasts are much lower than those for Vector and Wellington lines.

⁸ Transpower 2023 Transmission Planning Report

Table 3 EDB and Transpower forecast peak demand growth

Peak demand measured in MW. Growth rate is the compound annual growth rate

EDB	2023 (MW)	Growth rate (%)	2029 (MW)	Transpower region	2023 (MW)	Growth rate (%)	2029 (MW)	2038 (MW)
Vector Lines	1,776.0	6.0%	2,515.0	Auckland	2,008	2.60	2,342	3,050
Powerco	973.6	1.5%	1,064.1	Bay of Plenty	392	3.10	471	623
				Central North Island	311	3.00	371	488
				Taranaki	231	1.60	254	294
Orion NZ	660.4	2.4%	760.0	Canterbury	820	2.00	923	1,101
Wellington Electricity	539.0	4.3%	692.9	Wellington	740	1.70	819	949
Unison Networks	351.0	2.9%	417.4	Hawkes Bay	379	1.10	405	445
				Bay of Plenty	392	3.10	471	623
Aurora Energy	312.4	3.3%	378.61	Otago-Southland	556	3.20	672	900

Source: NZIER

4 Retail electricity price increase drivers

4.1 Retail electricity price outlook

Retail electricity prices are about to come under sustained upward pressure from a combination of recent increases in wholesale electricity forward prices and the proposed increases in Transpower and EDB charges.

4.2 Commerce Commission presentation of price increases

The Commerce Commission described ‘consumer bill impacts’ on households in its stakeholder presentation as ‘an additional \$180 per year on average across most of New Zealand’⁹ and described the revenue allowance increase for Transpower as 15 percent for years one and two followed by 5 percent per year for years three to five; and for EDBs, 24 percent for year one followed by business specific increases for years two to five. The Commerce Commission presentation of the consumer bill impacts seems to have focused on the first-year increase in charges. The DPP4 Draft Decision Reasons Paper seems to follow the same approach of focusing on the first-year impact with substantive comment limited to:

- *To mitigate price shocks to consumers we have limited the initial nominal increase in distribution revenue to an average of 24%.5 This equates to approximately \$15 per month (ex GST) on average for a household consumer electricity bill.¹⁰*

⁹ Commerce Commission May 2024 (c) ‘Draft revenue limits and quality standards for electricity lines companies for 2025-2030, Transpower RCP4 and EDB DPP4 draft decisions, 29 May 2024, Vhari McWha, Commissioner’, slides 5 and 20, available at https://comcom.govt.nz/_data/assets/pdf_file/0027/354447/RCP4-DPP4-draft-decisions-presentation-to-stakeholder-and-media-slide-deck-29-May-2024.pdf

¹⁰ Commerce Commission May 2024, ‘DPP4 Draft Decision Reasons Paper’, Summary of draft DPP4 price-quality path decisions, page 6.



- Charts showing ‘estimated average consumer bill impact for each EDB between 2025 and 2026’¹¹ and the effect of revenue smoothing on the change in EDB revenue from 2025 to 2026¹²
- Reference to consumer information web page ‘Electricity Lines and Transmission Charges: What are they, why are they changing and what does this mean for your electricity bill?’¹³

On its Consumer information webpage, the Commerce Commission makes the following observations:

- An average household bill contributes to the following costs: *generation 32%, transmission 10.5%, distribution 27%, retail 13%, metering 3.5%, market governance and services 1% and GST 13%.*
- An approximate estimate of the drivers of the increase in distribution and transmission charges are inflation 25 percent, interest rate increases 40 percent and higher levels of investment 35 percent. The Commerce Commission describes inflation and interest rate increases as ‘externally driven’ and “higher levels of investment’ as related to its draft decision.

4.3 Price increase pressures

Our starting point for analysing the impact of the proposed increases in distribution and transmission charges is the gentailer disclosures on the components of retail electricity prices in \$ per MWh published by the EA (see **Appendix B** for details on the disclosure). The disclosures indicate the following price structure for the year ended June 2023.

Table 4 Gentailer retail price disclosure 2022 and 2023

Retail price components in \$/MWh

Component	Average	
	2022	2023
Revenue	251.55	263.89
ITP	105.77	122.20
Metering	11.60	12.42
Distribution	97.64	103.61
Levies	1.08	1.40
Margin	35.46	24.27
Total Sales (GWh)	13,742	15,200

Source: NZIER

The ITP component is the internal transfer price set by generators for the price of electricity and is mainly determined by three year moving average of ASX electricity future prices plus

¹¹ Commerce Commission May 2024, ‘DPP4 Draft Decision Reasons Paper’, Paragraph 4.57 and Figure 4.5, page 35

¹² Commerce Commission May 2024, ‘DPP4 Draft Decision Reasons Paper’, Paragraph F43 and Figure F8, page 417

¹³ Available at https://comcom.govt.nz/regulated-industries/electricity-lines/electricity-lines-and-transmission-charges-what-are-they,-why-are-they-changing-and-what-does-this-mean-for-your-electricity-bill/_nocache



some adjustment factors for time-of-day seasonality and location. We expect that the ITP will increase to around \$150 to \$175 per MWh over the next two to three years as the moving averages catch-up with recent increases in futures prices. The outlook after this period is uncertain, but for the purpose of considering change in retail prices, we assume it will remain fall back to \$125 to \$150 within 3 years and then remain there (which reflects the current profile of forward prices out to 2027¹⁴).

The distribution component includes both EDB and transmission charges which have increased by about 6.1 percent in 2023 compared to 2022.

(The increase in total sales from 13,742 to 15,200GWh suggests an expansion of coverage of the survey rather than an increase in demand . The Electricity Demand and Generation Scenarios July 2024 (EDGS) 'Reference' scenario reports residential electricity demand of 13,410 GWh in 2022 and 13770 GWh in 2023.)

4.3.1 Contribution from estimates of change in transmission and distribution costs

EDB MAR

Our simulations using data from the Commerce Commissions MAR calculation spreadsheet for individual EDB, which suggests the MAR increase path for the six largest EDB is shown in Table 5 and the annual increase shown in Table 6.

Table 5 DPP4 Maximum Allowable Revenue (MAR) estimate for six largest EDB

\$m

EDB	20225	2026	2027	2028	2029	2030	DPP4
Vector Lines	420.6	580.0	641.8	710.3	786.1	870.0	3,588.3
Powerco ¹	328.1	486.1	495.8	505.7	515.9	526.2	2,529.7
Orion NZ	171.5	219.5	253.0	291.6	336.1	387.4	1,487.5
Wellington Electricity	98.9	118.8	134.1	151.4	171.0	193.0	768.3
Unison Networks	108.2	136.1	157.4	182.1	210.6	243.6	929.8
Aurora Energy	94.5	157.3	160.5	163.7	167.0	170.3	818.7
Total	893.8	1,211.6	1,346.8	1,499.1	1,670.7	1,864.3	7,592.5

Note:

- Values for Powerco for 2027 to 2030 are estimated using the data published in the DPP4 Draft Decision Reasons Paper' for 2025, 2026 and DPP4 combined with the application of a constant annual increase rate that generates values for 2027 to 2030 that with the published value for 2026 add to the published DPP4 total.

Source: NZIER¹⁵

¹⁴ electricity Authority May 2024 'Forward price dip following new Tiwai smelter contracts' available at <https://www.ea.govt.nz/news/eye-on-electricity/forward-price-dip-following-new-tiwai-smelter-contracts/>

¹⁵ Copied from 'Electricity Distribution Business, Price-Quality Regulation 1 April 2025 DPP Reset, MAR Waterfall model (MAR2021 to MAR2026), Draft DPP4 Determination, Published 17 June 2024v1.using worksheet 'Waterfall' and changing the name of the selected EDB.



Table 6 DPP4 MAR annual increase for six largest EDB

Year on year change

EDB	2026	2027	2028	2029	2030
Vector Lines	38%	11%	10.7%	11%	11%
Powerco	48%	2%	2%	2%	2%
Orion NZ	28%	15%	15%	15%	15%
Wellington Electricity	20%	13%	13%	13%	13%
Unison Networks	26%	16%	16%	16%	16%
Aurora Energy	66%	2%	2%	2%	2%
Total	36%	11%	11%	11%	12%

Source: NZIER

Assuming a load growth of 2 percent per year for EDBs, the MAR increase rate for the six largest EDB in Table 6 translates to a cost increase in \$ per MWh of roughly 34 percent in 2026 and about 9 percent each of the following DPP4 year. (The 2 percent assumption is consistent with the EDGS Reference case assumption of 2.08 percent per year over the DPP period.

Transpower RCP4 MAR

Table 7 Transpower RCP4 Forecast MAR¹⁶

Transpower	2025	2026	2027	2028	2029	2030	DPP4
Revenue (\$m)	840	969.8	1,119.4	1,175.4	1,234.2	1,295.9	5,794.7
Year on year change		15%	15%	5%	5%	5%	

Source: NZIER¹⁷

For the purpose of this price change estimate, we assume that the Transpower's MAR increases will translate to an increase in \$per MWh costs of 13 percent.

Impact of MAR increases on distribution

We use the Commerce Commission's description of the components of the average household bill (*transmission 10.5%, distribution 27%*) to weight the impact of the MAR increases above on distribution expenses as measured in the gentailer disclosure.

The estimated increase in distribution cost as a result of the DPP4 and RCP4 decisions is 28 percent in 2026, 10 percent in 2027 and 8 percent for each of the years 2028, 2029 and 2030.

¹⁶ Commerce Commission May 2024 d, 'Transpower's individual price-quality path for the regulatory control period commencing 1 April 2025 Draft Decision Attachment A – Revenue path design, Date of publication: 29 May 2024page 12, 'Table 2.1 RCP4 Forecast MAR'.

¹⁷ Copied from 'Electricity Distribution Business, Price-Quality Regulation 1 April 2025 DPP Reset, MAR Waterfall model (MAR2021 to MAR2026), Draft DPP4 Determination, Published 17 June 2024v1.using worksheet 'Waterfall' and changing the name of the selected EDB.



If for example we assume that the 2025 starting value for the distribution component would be 5 percent above the 2023 level at \$108.80, then the MAR increase would increase distribution expenses to about \$139 per MWh in 2026 and \$154 per MWh in 2027. This would be an increase of 12 percent 2026 and a further 6 percent increase 2027 followed by regular price increases of about 4 percent each year 2028 to 2030 on 2023 retail prices measured in \$ per MWh. This bakes in price increases that are well above the expected rate of inflation.



Appendix A EDB peak demand and volume carried forecasts

The following tables include compare peak demand and volume of electricity carried for the six major EDBs.

Table 8 Vector Lines

Actual and forecast peak demand and energy entering system for supply to ICP

Year	Peak Demand (MW)				Energy entering system for supply to ICP (GWh)			
	Actual	Forecast			Actual	Forecast		
		2022	2023	2024		2022	2023	2024
2020	1,745.0				8,748.0			
2021	1,730.0				8,542.0			
2022	1,807.2	1,818.5			8,724.0	8,707.4		
2023	1,758.6	1,877.6	1,776.0		8,813.0	8,964.9	8,779.7	
2024		1,938.0	1,898.0	1,906.0		8,808.0	8,774.9	9,037.0
2025		1,992.7	2,013.0	2,022.0		8,852.0	9,226.2	8,678.0
2026		2,054.8	2,076.0	2,138.0		8,877.2	9,336.9	9,498.0
2027		2,109.8	2,137.0	2,278.0		8,882.0	9,447.0	9,692.0
2028			2,246.0	2,386.0			9,619.5	9,884.0
2029				2,515.0				10,076.0
CAGR		3.02%	4.81%	5.70%		0.40%	1.84%	2.20%

Source: NZIER



Table 9 Powerco

Actual and forecast peak demand and energy entering system for supply to ICP

Year	Peak Demand (MW)				Energy entering system for supply to ICP (GWh)		
	Actual	Forecast			Actual	Forecast	
		2022	2023	2024		2022	2023
2020	923.0				5,181.0		
2021	944.0				5,154.0		
2022	986.0	986.0			5,266.0	5,234.0	
2023	974.0	997.0	973.6		5,225.0	5,292.4	5,349.0
2024		1,013.0	1,009.5	967.0		5,377.3	5,546.0
2025		1,031.0	1,028.3	983.3		5,472.9	5,649.6
2026		1,053.0	1,050.8	999.3		5,589.7	5,772.9
2027		1,078.0	1,077.4	1,017.5		5,722.4	5,919.2
2028			1,107.5	1,038.9			6,084.6
2029				1,064.1			5,851.5
		1.80%	2.61%	1.93%		1.80%	2.61%
						1.80%	2.61%
							1.93%

Source: NZIER

Table 10 Orion NZ

Actual and forecast peak demand and energy entering system for supply to ICP

Year	Peak Demand (MW)				Energy entering system for supply to ICP (GWh)		
	Actual	Forecast			Actual	Forecast	
		2022	2023	2024		2022	2023
2020	605.6				3,418.5		
2021	625.1				3,383.8		
2022	713.0	625.9			3,415.8	3,432.5	
2023	654.9	641.0	660.4		3,521.2	3,481.6	3,457.8
2024		652.6	680.3	703.0		3,531.4	3,500.7
2025		664.4	695.9	691.0		3,581.8	3,544.1
2026		676.5	711.2	701.0		3,633.0	3,588.0
2027		688.4	724.2	720.0		3,684.8	3,632.4
2028			739.8	734.0			3,677.3
2029				760.0			3,783.8
		1.92%	2.30%	1.57%		1.43%	1.24%
						1.43%	1.24%
							1.21%

Source: NZIER



Table 11 Wellington Electricity

Actual and forecast peak demand and energy entering system for supply to ICP

Year	Peak Demand (MW)				Energy entering system for supply to ICP (GWh)			
	Actual	Forecast			Actual	Forecast		
		2022	2023	2024		2022	2023	2024
2020	520.8				2,393.9			
2021	557.0				2,379.0			
2022	579.0	579.0			2,379.0	2,404.0		
2023	537.8	591.0	539.0		2,370.6	2,449.0	2,481.0	
2024		598.0	566.0	536.3		2,473.0	2,527.8	2,399.0
2025		605.0	609.0	579.3		2,499.0	2,552.8	2,799.5
2026		612.0	628.0	622.8		2,525.0	2,579.9	3,065.3
2027		619.0	644.0	650.7		2,552.0	2,606.9	3,236.0
2028			656.0	671.6			2,635.0	3,383.3
2029				692.9				3,491.8
CAGR		1.35%	4.01%	5.26%		1.20%	1.21%	7.80%

Source: NZIER

Table 12 Unison

Actual and forecast peak demand and energy entering system for supply to ICP

Year	Peak Demand (MW)				Energy entering system for supply to ICP (GWh)			
	Actual	Forecast			Actual	Forecast		
		2022	2023	2024		2022	2023	2024
2020	329.0				1,712.0			
2021	339.0				1,710.0			
2022	354.0	331.6			1,750.4	1,783.0		
2023	350.9	337.9	351.0		1,728.2	1,788.0	1,729.0	
2024		342.1	493.4	288.0		1,788.0	1,762.8	1,765.0
2025		345.7	502.6	360.2		1,788.0	1,791.0	1,829.0
2026		349.6	520.7	382.4		1,788.0	1,811.9	1,847.0
2027		352.1	527.1	398.0		1,788.0	1,835.9	1,864.0
2028			532.6	409.2			1,862.1	1,882.0
2029				417.4				1,900.0
CAGR		1.20%	8.70%	7.71%		0.06%	1.49%	1.48%

Source: NZIER



Table 13 Aurora Energy

Actual and forecast peak demand and energy entering system for supply to ICP

Year	Peak Demand (MW)			Energy entering system for supply to ICP (GWh)			
	Actual	Forecast		Actual	Forecast		
		2022	2023	2024	2022	2023	2024
2020	283.2				1,431.1		
2021	298.6				1,385.4		
2022	308.5	308.0			1,382.4	1,388.0	
2023	308.7	316.0	312.4		1,434.6	1,396.1	1,401.1
2024		322.0	327.3	323.9		1,407.2	1,467.3
2025		326.0	337.4	330.9		1,418.5	1,513.0
2026		330.0	346.2	346.7		1,429.9	1,552.3
2027		334.0	352.2	359.2		1,441.3	1,579.5
2028			358.9	367.5			1,609.4
2029				378.6			1,782.9
CAGR		1.63%	2.82%	3.17%		0.76%	2.81%
						3.70%	

Source: NZIER

Appendix B Gentailer retail electricity price components

B.1 Estimating price increases from 2024 in \$ per MWh

The Commerce Commission’s description of the price increase provides little context with respect to either the increases that are ‘in the pipeline’ up to 2025 or the overall level of increase in electricity prices that will occur at the beginning and during DPP4. In this section we combine estimates of the following:

- Expected increases in gentailers’ internal transfer price for electricity as the three-year moving averages catch-up with the recent increase wholesale futures prices.
- Increases in distribution and transmission charges included in EDB pricing methodologies for 2024/25.
- Estimated Increases in transmission and distribution costs in 2025/26 and 2026/2027

We use this approach to make a rough estimate of the potential increase in retail energy prices that are already ‘baked-in’ as result of the approved increases in transmission and distribution charges and the momentum from adjustment to wholesale energy prices.



B.2 Retail price components in \$ per MWh – 2023 starting point

The Electricity Authority has gathered data on average prices charged by gentailers and the methods used by gentailers to set retail energy prices. Essentially the gentailers determine an internal transfer price for energy based on an average of electricity forward contract prices (for a constant 24-hour supply) plus adjustments for seasonality and daily highs and lows. Other costs incurred from third party providers such as distribution, metering and levies are apparently passed through

Table 14 reports the gentailer price components for 2022 and 2023 published by the EA. The weighted average indicates that distribution cost (Transpower plus EDB charges) were about 38.8 percent and 39.3 percent of the retail electricity price in 2022 and 2023 respectively.

Table 14 Gentailer retail price disclosure 2022 and 2023

Retail price components in \$/MWh

Component	Contact		Genesis		Mercury		Meridian		Average ¹	
	2022	2023	2022	2023	2022	2023	2022	2023	2022	2023
Revenue	235.30	269.00	281.00	269.22	262.00	278.00	226.08	234.26	251.55	263.89
ITP	107.00	129.55	111.16	125.53	104.00	122.00	99.62	111.06	105.77	122.20
Metering	12.30	14.00	10.86	11.55	14.00	14.00	9.62	9.76	11.60	12.42
Distribution	95.40	107.00	101.32	105.27	100.00	107.00	93.76	93.82	97.64	103.61
Levies	1.10	1.00	1.09	1.34	1.00	2.00	1.12	1.09	1.08	1.40
Margin	19.50	17.45	56.57	25.53	43.00	33.00	21.96	18.53	35.46	24.27
Sales (GWh)	3,689	3,500	3,877	3,900	2,870	4,400	3,305	3,400		

Note:

1 Average of retail price component for each gentailer weighted by each gentailers' share of total gentailer sales.

Source: NZIER



Table 15 reports the internal transfer prices used by the gentailers. According to information published by the EA¹⁸, four of the five gentailers base their transfer price on a simple average of ASX futures prices over the past three years with some variation in the contracts chosen within the three-year period. Mercury appears to be the only gentailer to use a forward-looking average, based on futures prices for the next three years.

¹⁸ See EA, 'Retail category / Datasets Internal transfer pricing ITP disclosures for financial years ending in 2022' available at <https://www.emi.ea.govt.nz/Retail/Datasets/InternalTransferPricing/2022>



Table 15 Genter internal transfer prices

Prices in \$/MWh

Component	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23
Contact	84.12	81.08	87.51	91.92	107.55	129.55
Genesis	80.16	83.53	84.40	87.30	111.16	125.53
Manawa	83.79	85.37	89.91	97.20	101.60	104.10
Mercury	88.00	88.00	89.00	99.00	104.00	115.00
Meridian	76.83	75.82	81.17	88.55	99.62	111.06
Simple average	82.58	82.76	86.40	92.79	103.79	117.05

Source: NZIER

B.3 MAR data

Table 16 MAR data for selected EDB

\$ million

EDB	2025	2026	2027	2028	2029	2030	DPP4
Alpine Energy	46.2	70.2	73.4	76.8	80.3	83.9	384.7
Aurora Energy	94.5	157.3	160.5	163.7	167.0	170.3	818.7
EA Networks	36.0	45.8	52.1	59.2	67.4	76.6	301.1
Firstlight Network	26.0	35.7	40.3	45.5	51.3	57.9	230.7
Electricity Invercargill	13.3	17.0	19.0	21.3	23.9	26.8	108.1
Horizon Energy	25.9	34.1	36.0	38.1	40.3	42.6	191.2
Nelson Electricity	6.0	7.0	7.7	8.4	9.2	10.1	42.5
Network Tasman	28.6	37.0	41.3	46.1	51.5	57.5	233.3
Orion	171.5	219.5	253.0	291.6	336.1	387.4	1,487.5
OtagoNet	27.9	33.6	39.9	47.4	56.3	66.8	244.1
The Lines Company	37.6	48.4	52.7	57.4	62.5	68.1	289.1
Top Energy	41.1	53.0	61.3	71.0	82.2	95.1	362.6
Unison Networks	108.2	136.1	157.4	182.1	210.6	243.6	929.8
Vector Lines	420.6	580.0	641.8	710.3	786.1	870.0	3,588.3
Wellington Electricity	98.9	118.8	134.1	151.4	171.0	193.0	768.3
Powerco	328.1	486.1	495.8	505.7	515.9	526.2	2,529.7
Total	1,510.4	2,079.5	2,266.4	2,476.1	2,711.4	2,976.0	12,509.5

Source: NZIER



Table 17 MAR increase for selected EDB

Year on year change %

EDB	2026	2027	2028	2029	2030
Alpine Energy	52%	5%	5%	5%	5%
Aurora Energy	66%	2%	2%	2%	2%
EA Networks	27%	14%	14%	14%	14%
Firstlight Network	37%	13%	13%	13%	13%
Electricity Invercargill	28%	12%	12%	12%	12%
Horizon Energy	32%	6%	6%	6%	6%
Nelson Electricity	18%	9%	9%	9%	9%
Network Tasman	29%	12%	12%	12%	12%
Orion	28%	15%	15%	15%	15%
OtagoNet	21%	19%	19%	19%	19%
The Lines Company	29%	9%	9%	9%	9%
Top Energy	29%	16%	16%	16%	16%
Unison Networks	26%	16%	16%	16%	16%
Vector Lines	38%	11%	11%	11%	11%
Wellington Electricity	20%	13%	13%	13%	13%
Powerco	48%	2%	2%	2%	2%
Total	38%	9%	9%	10%	10%

Source: NZIER

