

# Productivity performance of EDBs – draft findings

ETNZ annual conference  
9 May 2024



# Outline

- Who we are
- Some of what we do - industry analysis and understanding
- Productivity - what is it and why it matters
- EDB productivity study - what we've found
- Next steps for us, and for you?

# Commerce Commission Te Komihana Tauhokohoko



- We are New Zealand's primary competition, fair trading and consumer credit, and economic regulatory agency.
- We play a crucial role in ensuring New Zealand's markets are competitive, consumers are well informed and protected, and sectors with little or no competition are appropriately regulated.
- Our vision is that New Zealanders are better off when markets work well, and consumers and businesses are confident market participants.



# Commerce Commission

## Competition

### Consumer

- Fair Trading
- Consumer Credit
- Product Safety



### Competition

- Mergers and acquisitions
- Business competition

## Regulation

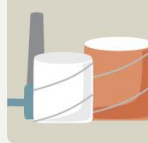
### Telco



### Electricity



### Gas



### Airports



### Dairy



### Fuel



### Retail Payment



### Supermarkets



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# Information Disclosure

- A key tool in our “regulatory tool box” is the ability to impose Information Disclosure (ID) which provides transparency on the performance of regulated suppliers.
    - **Purpose of ID** – so that interested parties can have sufficient information on regulated suppliers to assess whether the purpose of Part 4 (long term benefits of consumers) is being promoted
    - **Form of ID** – varies across the sectors we regulate. For EDBs and Transpower, it consists of schedules which require the regulated party to provide regular information about financial and non-financial measures (eg quality - number and frequency of outages etc). We also require businesses in the energy sectors we regulate to release an Asset Management Plan which details their planning for the next 10 years
    - **History of ID** – ID for EDBs and Transpower came into effect in 2012. That means there is now a long record of consistent data for time series trends
    - **Use of ID** – The Commission under Part 4 is required to publish a summary and analysis of ID information. In the last five years we have published numerous studies of EDBs ID data especially in relation to asset management practices
-



# Analysing the information

## Performance Areas for Commission focus

- Innovation
- Investment
- Efficiency
- Quality / reliability
- Returns

## ETNZ Role

“ETNZ supports our members to get the best outcomes for consumers and communities through efficient and innovative power distribution, unimpeded by unnecessary rules and backward-looking market structures. We seek policy outcomes that deliver supply reliability, lowest reasonable costs and positive reliable outcomes. We also assist members in meeting their responsibilities in providing effective, informed governance of the assets they are entrusted to protect.”

<https://comcom.govt.nz/regulated-industries/electricity-lines/electricity-distributor-performance-and-data>



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# Productivity

- *“productivity isn't everything, but, in the long run, it is almost everything”*—Krugman
- *“Simply put, it is achieving more socially valuable things with fewer socially costly resources.”*—Heatley
- Productivity is a measure of the value of the outputs relative to the cost of the inputs

Inputs

$$I_t = \sum_l W_{lt} X_{lt}$$

Outputs

$$O_t = \sum_l P_{lt} Y_{lt}$$

Index

$$\frac{O_t}{I_t}$$

# The EDB productivity study

- Three phases
  1. Estimate long-run productivity growth for EDBs overall and for non-exempt and exempt EDBs separately
  2. Proof of concept for EDB comparative efficiency study, including incorporating engineering expertise
  3. Apply technique(s) to produce EDB comparative efficiency analysis and performance assessment
- Note legal prohibition on using comparative benchmarking for price-quality regulation of non-exempt EDBs
- Phases 2 & 3 planned for after DPP4 reset

# Inputs and outputs

Table 3.1: Classification of inputs and outputs

Data	Previous classification <sup>14</sup>	Our classification	Change between 2008 and 2023
<b>Real Opex (\$)</b>	Input	Input	44% higher
<b>Real flow of capital services</b>	Not included	Input	39% higher
<b>Transformers (MVA)</b>	Input	Output	32% higher
<b>Overhead line capacity (MVA-KMs)</b>	Input	Output	11% higher
<b>Underground cable capacity (MVA-KMs)</b>	Input	Output	40% higher
<b>Connections (Count)</b>	Output	Output	15% higher
<b>Circuit length (KMs)</b>	Output	Output	8% higher
<b>Energy delivered (GWh)</b>	Output	Output	15% higher
<b>Maximum demand (GW)</b>	Output	Output	11% higher
<b>Ratcheted maximum demand (GW)</b>	Output	Output	23% higher
<b>Reliability – Planned minutes off supply<sup>15</sup></b>	Not included	Negative output	4.3 times higher
<b>Reliability – Unplanned minutes off supply</b>	Not included	Negative output	2.4 times higher

Source: CEPA analysis of Commerce Commission ID data.

# Study draft findings

*Table 1: Results by method (not including reliability models)*

	Entire period – TFP	Entire period – Opex partial
<b>Index-based</b>	-1.2%	-1.9%
<b>Econometric</b>	-1.5%	-1.7%

*Table 3: Summary of key results – Index-based methods*

EDB type	Total factor productivity			Opex partial productivity		
	Entire period	Pre-2014	Post-2014	Entire period	Pre-2014	Post-2014
<b>Non-exempt</b>	-1.2%	-2.6%	-0.4%	-1.1%	-1.0%	-1.5%
<b>Exempt</b>	-1.3%	-2.6%	-0.7%	-1.9%	-0.3%	-3.3%
<b>Overall</b>	-1.2%	-2.5%	-0.5%	-1.3%	-0.8%	-2.0%

*Source: CEPA analysis of Commerce Commission ID data.*

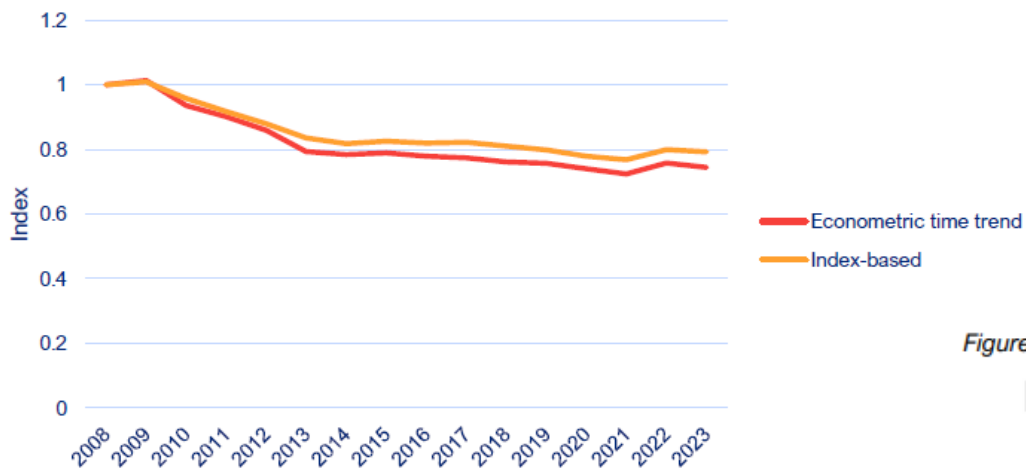
*Table 4: Summary of key results – Econometric methods*

Type	Entire period - TFP	Entire period - Opex
Non-exempt	-1.7%	-1.6%
Exempt	-1.1%	-1.9%
Overall	-1.5%	-1.7%

*Source: CEPA analysis of Commerce Commission ID data.*

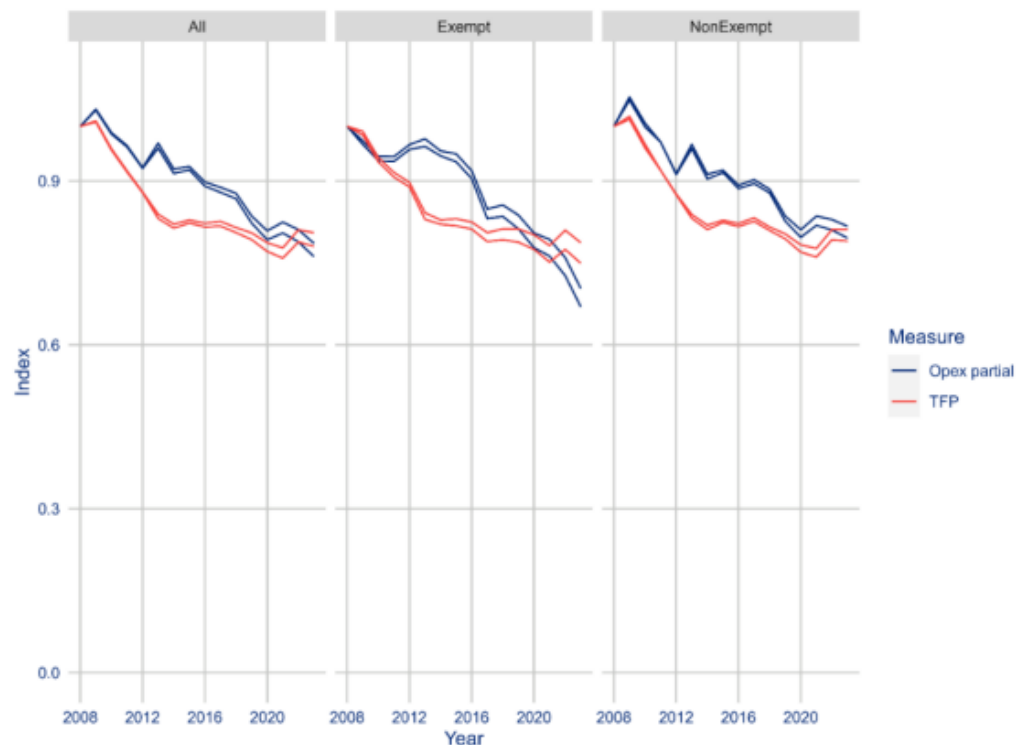
# Study draft findings

Figure 2: Comparison of the year-on-year change for the index-based and econometric approach for Model 1



Source: CEPA analysis of Commerce Commission ID data.

Figure 1: Model 1 - Productivity indices (Output: Circuit length/ICPs)



Source: CEPA analysis of Commerce Commission ID data.

# Study draft findings

- The findings in English
  - EDB costs would be ~20% lower if measured productivity in 2023 was at their 2008 level
  - In other words, distribution prices could be ~20% lower. We note that the distribution component represents about 27% of the total price consumers pay for electricity.
- Main drivers
  - Increasing opex, especially for exempt EDBs since 2021
  - Decreasing reliability
- Analytical challenges
  - EDBs provide different services
  - Handling of long-lived sunk investment
  - Valuing the quality of EDB services
  - Insufficient information on EDB outputs (unmeasured outputs?)



# Feedback & opportunities

- Some things we've heard:
  - Uncontrollable costs have increased (H&S, traffic mgmt, storms)
  - Unmeasured outputs (injuries, resilience, DER, consumer engagement)
  - Measuring productivity is challenging, questioning value of findings
- Opportunities
  - More & better data to measure productivity
  - Learn from other EDBs to improve productivity
    - management, organisational, skills & capability, technology, innovation
- Helps us understand how well ID regulation is working

# Next steps

- Currently processing stakeholder feedback
- Publish final study in June/July
- Move onto phase 2 – develop and agree techniques to do comparative efficiency benchmarking of individual EDBs
- After DPP4, move onto phase 3 – apply techniques and regularly publish individual EDBs' relative efficiency performance

# Electricity Work Programme

Electricity work programme		Q4 23/24				Q1 24/25			Q2 24/25	
Initiatives	Detail	Apr-24	May-24	Jun-24	Jul-24	Aug-24	Sep-24	Oct-24	Nov-24	Dec-24
EDB DPP4 reset	Statutory reset of the Default Price-Quality Path for electricity distribution businesses (EDB)		Draft decision	Draft decision consultation period					Final decisions	
					Topic-based workshops/additional consultation (if required)					
Transpower Regulatory Control Period (RCP4)	Statutory reset of the Individual price-quality path applying to Transpower		Draft decision	Draft decision consultation period		Final expenditure decisions and revised draft IPP determination published for information only			Final decision	
Transpower MCPs	Assessment of Transpower's major capex proposals									Receive Transpower application (Upper South Island)
TIDR (2024)	Targeted Information Disclosure (ID) Review (2024)									
2023 EDB AMP review	Review of EDB 2023 asset management plans		Stage 2 report(s)							
EDB Productivity and Efficiency	Phase 1: Total factor and partial productivity analysis of the EDB sector	Draft report feedback period		Phase 1 Final report						
EDB Trends	Summary & analysis of EDB revenue, profitability & quality trends			Final report						
EDB and Transpower ID Amendment Determinations	Amendment ID determinations to incorporate the 2023 IMs. We will also consider any changes from exemption requests and fixing simple clarifications and errors.				Draft decision (TBC)	Draft decision consultation period (TBC)			Final decision (TBC)	
EDB public disclosures: ID and AMP	ID and AMP due dates. The Commission generally publishes ID database updates and performance summaries within 6 months of the ID disclosures	AMP update due				Annual EDB ID disclosures due				
Transpower ID disclosures	ID due dates. The Commission plans to publish a Transpower database update within 6 months of the ID disclosures							Annual Transpower ID disclosures due		Annual Transpower ID disclosures due
Wellington Electricity Unforeseen Capex Reopeners	Reconsideration of default price-quality path for Wellington Electricity Lines Limited – unforeseeable major capex projects to supply Weta FX and to relocate disaster recovery assets		Draft decision and Draft decision consultation period		Final decision					
Aurora Capacity Event Reopener	Reconsideration of customised price-quality path				Draft decision	Draft decision consultation period	Final decision			