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# Explanatory notes to one-page performance summary of electricity distributors

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**Purpose of this explanatory document**

1. The purpose of these explanatory notes is to provide guidance on the interpretation of our one-page summaries of the performance of electricity distribution businesses (EDBs).

**Purpose of the one-page summaries**

2. The summaries are designed to promote a better understanding of each lines companies' performance by providing high-level statistics on measures such as profitability, capital and operating expenditure, asset condition, line charge revenue and network reliability, on one page.

3. These one-page summaries are available as a PDF page for each electricity distributor or as an Excel workbook. These are located on our website.

**General information**

4. The information compiled for the one-page summaries is derived from publicly available data.[1] Most of the data has been audited and/or certified by the directors of the businesses. However, we cannot guarantee that there are no errors in the data provided. The one-page performance summaries cover the period up to 31 March for the given year.

5. The data we have highlighted presents a snapshot in time and is not intended to represent a thorough picture of performance, but it does suggest some differences between the performance of different lines companies, such as the health of assets including poles, lines and substation equipment in some lines companies. In cases of apparent poor performance, we will follow up with the companies to better understand their circumstances and we are likely to undertake further detailed analysis in the future.

6. All 29 individual EDBs have been aggregated together to provide a snapshot of the industry. Generally, sums or weighted averages are used. However, for reliability and return on investment measures, the simple average of the distributors has been used.

7. When assessing an EDB against the industry average or other businesses, it is important to note where there may be differences in the nature of their networks. For example, whether it is in a predominantly rural or urban area or whether the network consists of overhead power lines and poles or underground cables.

[1] The Commission publishes on an annual basis, an Excel database of information disclosure data provided by electricity distributors. The latest database is located on our website.

**Price indices**

8. The one-page summary expresses financial terms in constant dollars.

    8.1 Historical data is converted to constant dollars using price indices obtained from Statistics New Zealand.

        8.1.1 Capital expenditure data is converted to constant prices using the capital goods price index (CGPI);

        8.1.2 Operating expenditure data is converted to constant prices using a weighting of the labour cost index (LCI, 60%) and the producer price index (PPI, 40%); and

        8.1.3 Other financial data is converted to constant prices using the consumer price index (CPI).

    8.2 Forecast capital and operating expenditure uses the constant price forecasts provided by the electricity distributor. However, older forecasts are adjusted to reflect the constant prices of the current year.

9. The one exception to the use of constant prices is the information on changes to the regulated asset base (RAB) which are expressed in nominal dollars because revaluations capture the inflationary effects.

**Feedback**

10. We welcome feedback on the one-pager or this document for future consideration. Please send feedback to infrastructure.regulation@comcom.govt.nz with "EDB Performance summaries – feedback" as the subject.

**Disclaimer**

11. While all reasonable care and diligence has been used in processing, analysing, and extracting the data and information included in the one-page performance summaries, we give no warranty that the data is error free. We accept no legal liability whatsoever arising from, or connected to, the use of or reliance on any material contained in these one-pagers.

**Outline**

12. The following page has an outline of the performance summaries with sections broken down into boxes. Please refer to the hyperlink for further detail on that section.

Drop down to change business

**Summary statistics**

13. For various high-level parameters, there are four columns representing:

    13.1 the actual value for year;

    13.2 a small graph showing the 5 year trend (the mini-graphs can be hovered over in Excel to see the actual values for the time series);

    13.3 the three year compound annual growth rate (CAGR); and

    13.4 the rank relative to other EDBs where for:

        13.4.1 most measures, 1 = the largest value and 29 = the smallest value;

        13.4.2 reliability measures, 1 = most reliable and 29 = least reliable.

14. The values for SAIDI and SAIFI outages are the non-normalised planned and unplanned network interruptions only. These values are from Information Disclosure Schedule 10(i), Class B and C.

**Line charge revenues**

15. Line charge revenue has been disseminated into standard and non-standard consumers based on the data provided in Schedule 8 of the information disclosures. The percentage of line charge revenue allocated to these two consumer groups is stated in the row below.

16. The line graph illustrates the total line charge revenue (in constant dollars) over the last five years.

**Network ratios**

17. There are three network ratios to provide indicative measures of efficiency and reliability on the network. These are placed on a red-yellow-green colour scale to show how each area is performing. The network ratios are:

    17.1 Load factor—the average electric load on the system as a percentage of the maximum electric load. Generally, this ratio falls between 50% and 70%.

    17.2 Loss ratio—the percentage of electricity lost on the network from entering supply to being delivered to the end consumer. Generally, these losses fall between 4% and 8%. Electricity losses higher than this may raise concerns and will fall in the red zone.

    17.3 Interruption rate—the total number of interruptions on the network for every 100 kilometres (km) of lines or cables. This is derived from only planned (Class B) and unplanned (Class C) interruptions directly attributable to the network. Generally, there are around 10 to 20 interruptions per 100 km of lines and cables per year.[2]

[2] This differs from the interruption rate disclosed in information disclosure as that includes interruptions caused outside of their network, such as interruptions on the transmission lines.

**Company details**

18. This section provides general information about the EDB as at the publication date.

**RAB changes**

19. This section summarises the change in the value of each business' assets (known as the RAB) over the last three years in nominal dollars, and the breakdown of that change.[3]

**Capital expenditure**

20. The main graph shows historic actual capital expenditure with a solid line and forecast capital expenditure with a dashed line. There are also references to the forecast from the previous two years (where known) so that one can compare previous forecasts with actual capital expenditure.

21. Three ratios are provided along with the distributors ranking relative to the rest of the industry. To account for lumpy expenditure, the ratios are over the most recent three years.[4] These ratios are:

    21.1 total capex over asset base – the percentage of capital expenditure relative to the RAB.

    21.2 average capex per connection – the amount of capital expenditure spent per consumer.

    21.3 total capex over depreciation – the ratio of capital expenditure to the depreciation during the period which is intended to assess whether the distributor is replacing the value lost through depreciation (although the capex will include some expenditure to manage growth in addition to the replacement of old degraded assets).

22. Capital expenditure is broken down into the categories contained in information disclosure, and the amount of capital expenditure that is spent through related parties is also shown. The three columns are:

    22.1 'Average (20XX–20XX)'—the average capital expenditure over the last three years;

    22.2 '5 year trend'—a small graph showing the 5 year trend (the mini-graphs can be hovered over in Excel to see the actual values for the time series); and

    22.3 '% of capex'—the percentage that category makes up of the total capital expenditure.

[3] On 8 August 2023, Alpine Energy notified the Commission of a historical material error regarding their financial disclosures from disclosure years 2014 to 2022. The material error was in relation to the calculation of depreciation in Schedule 4. As a result, the revaluations and opening and closing values of the RAB for these disclosures years were also incorrect. Alpine Energy restated their disclosures to the Commission in November 2023. This mean performance summaries published prior to 2024 for Alpine Energy and Industry total will include these errors.

[4] The capital expenditure rankings are in ascending order: 1 = the smallest ratio and 29 = the largest ratio.

**Operating expenditure**

23. The main graph shows historic actual operating expenditure with a solid line and forecast operating expenditure with a dashed line. There are also references to the forecast from the previous two years (where known) so that the reader can compare previous forecasts with actual operating expenditure.

24. Three ratios are provided along with the distributors ranking relative to the rest of the industry. Consistent with capital expenditure, these ratios are over the most recent three years.[5] These ratios are:

    24.1 network opex over line length—the amount of operating expenditure spent on the network per km of lines and cables;

    24.2 non-network opex per connection—the amount of operating expenditure spent on non-network activities per consumer; and

    24.3 total opex over gigawatt (GW)—the amount of operating expenditure spent per GW of peak demand.

25. Operating expenditure is broken down into the categories contained in information disclosure, and the amount that is spent through related parties is also shown. The three columns are:

    25.1 'Average (20XX–20XX)'—the average operating expenditure over the last three years;

    25.2 '5 year trend'—a small graph showing the 5 year trend (the mini-graphs can be hovered over in Excel to see the actual values for the time series); and

    25.3 '% of opex'—the percentage that category makes up of the total operating expenditure.

**Reliability**

26. This section has a summary of the reliability statistics for the network and therefore includes only Class B (planned) and Class C (unplanned) interruptions. The arrows show the general direction of that reliability measure over the last five years.

27. CAIDI shows the average amount of time it takes to restore a fault to a consumer. It is calculated as SAIDI divided by SAIFI.

28. The reliability measures used in the performance summaries have not been adjusted for any major event days which can have a significant impact on the electricity distributor (for example, extreme weather events).

[5] The operating expenditure rankings are in ascending order: 1 = the smallest ratio and 29 = the largest ratio.

**Asset condition**

29. There are two sections on asset condition covering eight asset categories including switchgear, transformers, lines and cables, and poles.

30. For each of these asset categories, a dial is used to indicate the condition of these assets. On the dial, green is indicatively good, yellow is appears OK, and red is a potential risk.

31. A formulaic approach has been used to determine where each of the asset dials are located and judgement has been applied on how much weighting to give grade 1, grade 2, unknown grade, and old assets. For indicative purposes:

    31.1 over 15% of assets being classed as grade 1 will put that asset into the red zone;

    31.2 over 60% of assets being grade 2, unknown grade, or over its life expectancy will put that asset into the red zone; or

    31.3 some combination of the above.

32. We caution that asset condition is a somewhat subjective measure and electricity distributors may have different interpretations on what each grade means. Asset condition should be considered alongside EDBs Asset management plans to understand how the networks are responding to the proportion of aging assets in accordance with good asset management planning.

33. Also, for each of the asset categories, there is some summary data relating to quantity, age, grading, and replacement intentions. For further clarification:

    33.1 Over generic age—the number of assets that exceed the standard physical asset lives in accordance with Schedule A of the electricity distribution services input methodologies.[6]

    33.2 5 year replacement required—our estimation of the proportion of assets requiring replacement over the next five years and is based on the number of grade 1 (100%) and grade 2 (50%) as disclosed by the distributor.

    33.3 5 year planned replacement—the percentage that the distributor intends to replace over the next five years. Concerns may be raised if this differs significantly from our estimation above.

    33.4 Forecast repex—the forecast average annual expenditure on asset replacement and renewal associated with this asset for the next five years (which is disclosed in their asset management plan), and how this compares to their historical spend.

[6] Commerce Act (Electricity Distribution Services Input Methodologies) Determination 2012 [2012] NZCC 26, as amended.

33.5 Repex series—a time series of actual and forecast asset replacement and renewal expenditure associated with the asset.

34. Our treatment of asset grades is guided by definitions provided in the information disclosure determination and replicated in the Table 1 below. There is scope for EDBs to apply judgement when assigning a grade to their assets. Consequently, some distributors' assets may appear worse than they are in reality.[7]

**Table 1: Definitions of asset grades**

| | |
|---|---|
| Grade 1 | means end of serviceable life, immediate intervention required. |
| Grade 2 | means material deterioration but asset condition still within serviceable life parameters. Intervention likely to be required within 3 years. |
| Grade 3 | means normal deterioration requiring regular monitoring. |
| Grade 4 | means good or as new condition. |
| Grade unknown | means condition unknown or not yet assessed. |

[7] In some cases, we are aware of EDBs that have inappropriately used asset age as a proxy for assigning grades which we intend to investigate further.