23 March 2024

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Submitted via: Email to infrastructure.regulation@comcom.govt.nz

Submission on EDBs Productivity Study

Introduction

1. Thank you for the opportunity to submit on the Cambridge Economic Policy Associates (CEPA) EDB productivity study carried out on behalf of the Commerce Commission.
2. The Commission has an obligation (under s53B(2)(b)) to publish a summary and analysis of disclosed information for the purpose of understanding the changes in EDB performance over time, and the relative performance of EDBs, which includes their productivity and efficiency.
3. The Commission has advised that the productivity and efficiency review project will be undertaken in three phases.
   a) Phase 1 – Total factor and partial productivity analysis of the EDB sector. An assessment of the total factor productivity (TFP) and partial factor productivity (PFP) for all EDBs in aggregate.
   b) Phase 2 – Proof of concept for EDB comparative efficiency study. Developing and testing appropriate analytical technique(s)/methodology(ies) for assessing EDBs' relative productivity and efficiency, including incorporating engineering expertise.
   c) Phase 3 – Apply analytical technique(s) and methodology(ies) to produce EDB comparative efficiency analysis and performance assessment.
4. The Commission has released the phase 1 report which findings on TFP and opex PFP may be used as context for the draft decision on the DPP4 reset.
5. Orion supports both the Big 6 NERA submission and the ENA submission.

Orion Summary Points

6. The CEPA report finds that "The productivity index [both opex and flow of capital services] has effectively held steady for almost ten years."[1]
7. In the period 2014 to 2023 EDBs have increased outputs while being unable to recover additional revenues, to cover increased input costs of this activity, through prices and in addition attracting IRIS penalties where spend exceeds regulatory allowances.
8. CEPA provides potential explanations for changes in activities whose outputs may not have been captured. Orion agrees that these explanations are factors in unmeasured outputs from their study and provides examples and explanatory detail in the body of this submission.
9. Orion submits that, a consideration of a pattern of the EDB non-exempt group continuing to spend over allowances, may result from an allowance setting process that doesn't effectively capture costs, including from customer and regulatory needs along with increasing cost of inputs, especially if they are not in the baseline at reset time.
10. EDBs wear many 'hats' that mean outputs are greater than those that can be directly anchored in asset conveyance of electricity, and the role of EDBs is changing which suggests increasing unmeasured outputs over time. We;
    - Integrate the physical asset world with the digital world while keeping those systems safe from cyber-attack and improving customer service
    - Provide coordination and design advice around connection processes with contractors, customers and consultants
    - Provide customer services through contact centres, social media, websites and events
    - Meet financial and regulatory reporting and information requirements
    - Build relationships with other lifeline utilities, train our people to response to adverse events and practice simulations of adverse events
    - Communicate and educate about tree hazards and how to avoid these
    - Help homes navigate the journey to new locations and avoid hazards from overhead lines on route
    - Isolate supply so that home maintenance can be done safely

[1] https://comcom.govt.nz/__data/assets/pdf_file/0018/348111/CEPA-EDB-productivity-study-draft-report-March-2024.pdf page 39

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- Influence and partner in the direction of our sector

11. Orion submits that there is sufficient evidence to retain the X-factor at 0% for DPP4. We provide commentary and evidence relating to the follow matters;
    - Orion's social capital in the form of trust, and as a measure of productivity, is high
    - Orion is innovating on a base of high trust
    - Expanding vegetation management is an opex category where increasing outputs have occurred over time
    - EDBs provide the service of high load escorts which increase public safety and mitigate potential power outages
    - Increasing automation of field devices and operational control can be an example of increasing outputs
    - Orion customers value good customer service and Orion continues building customer service offerings which results in a trend change in costs and output
    - Compliance and assurance requirements have increased over time
    - Integration of operational and digital technology results in better customer outcomes
    - Routine and corrective maintenance practices are evolving
12. Orion submits that, in addition, an allowance setting process that effectively captures input costs is critical for DPP4.

Orion Detailed Points

13. Total factor productivity is a measure of productive efficiency in that it measures how much output can be produced from a certain amount of inputs. The word "total" suggests all inputs and outputs have been measured however this is not the case.
14. Orion operates in a context that requires attention to produced capital and human capital, measured by total factor productivity, but also natural capital, social capital and knowledge capital. Conal Smith in the April 2020 paper 'Trust and total factor productivity', pointed out that "Given that standard approaches to calculating total factor productivity (tfp) only address produced capital and human capital (labour), we would expect to see the impact of social capital, and hence trust, reflected in estimates of tfp.[2] While the paper focuses more on generalised interpersonal trust, "that trust is an important component of measured tfp."[3], it does also indicate that "…..there is some evidence that institutional trust is important in terms of economic outcomes (OECD 2017)[4]."
15. **Orion's social capital in the form of trust, and as a measure of productivity, is high**. In our recent customer perceptions survey, overall satisfaction with Orion was 8.3 out of 10. Importantly, customers rated Orion as 78% trustworthy. To garner these responses Orion must be outputting services that customers value, and by inference be productive, however many of these services are not measured by the total factor productivity if it is anchored directly to line function service and doesn't recognise the enabling services we provide.

16. **Orion is innovating on a base of high trust**. Conal Smith in the April 2020 paper 'Trust and total factor productivity' pointed out that "Trust is also believed to affect the rate of innovation" and that "there are thus strong theoretical grounds for expecting trust to increase information flows and innovation."[5]. The paper concluded that "…it is the impact on the rate of innovation and therefore tfp growth that is the most significant effect of trust.[6]". Orion is heartened by the Commission's focus on innovation for DPP4 and we look forward to the redesigned innovation and non-traditional solutions allowance as an important regulatory support to increase productivity. In saying this Orion already has evidence of unmeasured outputs in the innovation space- see our innovation strategy update published April 2024- https://www.oriongroup.co.nz/assets/Company/Innovation/Orion-Innovation-Strategy_Update-FY24.pdf. As NERA submitted in its December 2022 report, unmeasured outputs require innovation to deliver.[7]

Operational Expenditure

17. The CEPA report stated that *"…given the breakdown of operating expenditure in the information disclosures, it is not clear that there is a particular category of operating costs that has increased more than other categories. This could suggest that the EDB industry has experienced a general decline in operating productivity, the changing environment in which EDBs operate has resulted in increases in operating expenditure across the board, or the drivers of the cost increases are not included as an output in our productivity indices."*
18. We agree with CEPA's statement that the "*changing environment in which EDBs operate has resulted in increases in operating expenditure across the board*."

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[2] https://www.productivity.govt.nz/assets/Documents/trust-and-tfp/31f7044933/Trust+and+TFP_final+report.pdf pg 3
[3] [3] https://www.productivity.govt.nz/assets/Documents/trust-and-tfp/31f7044933/Trust+and+TFP_final+report.pdf pg 23
[4] https://www.productivity.govt.nz/assets/Documents/trust-and-tfp/31f7044933/Trust+and+TFP_final+report.pdf pg 5
[5] https://www.productivity.govt.nz/assets/Documents/trust-and-tfp/31f7044933/Trust+and+TFP_final+report.pdf pg 13
[6] https://www.productivity.govt.nz/assets/Documents/trust-and-tfp/31f7044933/Trust+and+TFP_final+report.pdf pg 22
[7] *NERA, Innovation under the DPP: potential barriers and solutions, December 2022, section 4.3.2.*

19. The changing environment for opex expenditure was a focus of EDBs in the DPP3 reset process (2020-2025). This is not a new topic. Orion's own submission to the DPP3 draft decision[8] provided examples of activities and community need from them that remain valid into this reset. Specifically, we said;

    "10. EDBs provided the Commission with submissions to the DPP3 issues paper that indicate operational expenditure is not always related to the scale factors (circuit line length and connections) or historical performance. Examples of these cost increases include vegetation management[9] , the emerging need for feasibility studies and trials, development of distribution control and GIS layers for LV network, implementation of cost reflective pricing[10] , strategic repositioning to support decarbonisation and societal expectations around sustainability, the need for increased control and automation (involving information management expenditure) to support dynamic control of more complex network systems, and increasing regulatory compliance reporting and audit.

    11. We submit that the Commission is not responsive to valid EDB commentary about increasing requirements and responsibilities impacting operating costs for us. Lower opex expenditure allowances than forecast may compromise our ability to provide network services at the levels our customers tell us they want. It is important for quality of service that EDBs are able to carry out the ongoing asset management requirements that maintain our existing assets, and that we can response to broader societal change driven by customers and the government.

    12. Our community and customer feedback is that we should be 'future ready'. On page 78 of our 2019 AMP we share our customers' views on preparation for the future. 79% of residential customers surveyed think it is important or very important for Orion to be a leader of technology, anticipate customer needs, innovate, and proactively prepare for new technologies."

    And

    "14. As an emerging example, the Climate Change Response (Zero Carbon) Amendment Bill recently open for submissions signals potential impacts for our operating environment that will drive opex costs into our businesses."

    And

    "15. As a further example, the Interim Climate Change Committee report, action on agricultural emissions and accelerated electrification, supports using electricity to reduce transport and process heat emissions."

    And

    "16. We submit that the Commission must address these issues by including a trend factor allowance to accommodate these pressures. The only allowance in the Commission's model for non-scale related drivers of opex is the partial productivity factor. We submit that, for DPP3, a negative partial productivity factor should be applied, rather than the 0% proposed and we support the ENA's submission and supporting paper from NERA on this."

20. Orion submits that the assessment of partial productivity factor (opex) fails to account for increasing inputs as a result of Opex activity that has not been captured in allowance setting.

<u>Unaccounted for Outputs</u>

21. Orion submits in agreement with CEPA that "*the drivers of the cost increases are not included as an output in our productivity indices."* We provide some examples of outputs that are not measured by the CEPA approach.
22. **Expanding vegetation Management is an opex category where increasing outputs have occurred over time**. Increases in forecast expenditure are a factor with historical direction from the findings of quality breach investigations by the Commerce Commission and the desire to minimise SAIDI/SAIFI outcomes for customers driving this.
23. For instance, the Commission's review of Alpine's quality breach in 2018[11] concluded there was *"insufficient investment in control of vegetation risks". Specifically, Strata said "We concluded that the failure events contributing to Alpine's non-compliance were: …..2. vegetation as a failure event that contributed to Alpine's non-compliance and could have been mitigated had Alpine increased investment in vegetation management earlier than it did; …."* And *"In our opinion, by not undertaking these actions Alpine did not act consistently with GIP[12]: ….. 2. earlier and increased investment in vegetation management which could have reduced SAIDI and SAIFI due to vegetation impacting on overhead line assets;.."*
24. A further instance was, the Commission's review of Vector quality breaches where it was concluded in Commerce Commission v Vector limited judgement 2019[13], Clause 19(d) *"(iii) Vector should have placed greater focus on managing 'out of zone vegetation' that posed potential reliability hazards by seeking arrangements with relevant tree owners; (iv) Vector did not redirect expenditure to managing vegetation when this would have been appropriate risk management, and/or more efficient than dealing with the consequences or worsening vegetation trends in the form of increases in SAIDI minutes;"*

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[8] https://comcom.govt.nz/__data/assets/pdf_file/0021/162471/Orion-Submission-on-EDB-DDP3-reset-draft-decisions-paper-18-July-2019.pdf

[9] As a result of liability decisions around Consumer Guarantees Act (UDL) and trees, greater weighting of regulation on this as a requirement to demonstrate 'good industry practice' (recent breach investigation reports), to address reliability, and increasing service delivery rates.

[10] Such as engagement with stakeholders and customers, collaboration with other EDBs, operational changes to billing platforms.

[11] https://comcom.govt.nz/__data/assets/pdf_file/0026/122984/Strata-Energy-Consulting-Limited-Report-on-Alpine-Energy-Limiteds-non-compliance-with-the-DPP-quality-standards-for-the-2016-assessment-period-6-November-2018.pdf

[12] Good industry practice

[13] https://comcom.govt.nz/__data/assets/pdf_file/0017/132506/Commerce-Commission-v-Vector-Limited-Judgment-22-March-2019.pdf

25. Orion's vegetation spend increased in 2019 in response to these findings and analysis against SAIDI and SAIFI (see *Chart 1 and Chart 2*) shows customer benefit from this in terms of reduced trend in outage duration and steady frequency of interruptions remembering that weather conditions are often symbiotic with vegetation interruptions e.g. flying debris rather than branches and trees into lines would still occur in high winds.

Chart 1 Vegetation management spend impact on SAIDI over time

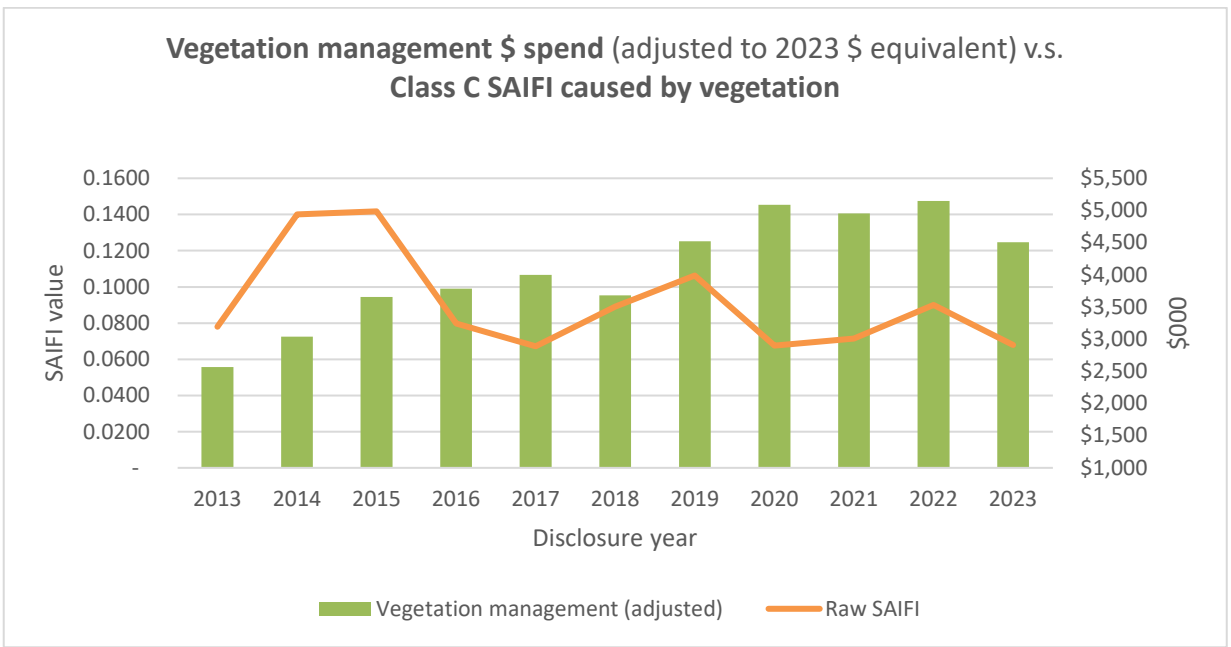

Chart 2 Vegetation management spend impact on SAIFI over time

26. Customers benefit from EDBs more extensive vegetation trimming at all voltage levels, more mitigation of out of zone trees, along with process, operational management/tracking improvements for notification of customers, and from investigation and/or implementation of asset management systems such as Lidar.
27. **EDBs provide the service of high load escorts which increase public safety and mitigate potential power outages**. This service output is provided by Orion at an average rate of 8 high load escorts per week resulting in approximately 4,000 consumer homes delivered safely to their new site across 10 years.
28. **Increasing automation of field devices and operational control can be an example of increasing outputs**. We have a population of 316 Line Switches (LSW) of which 262 are SCADA automated. On average over the last 10 years, we have installed 17 automated switches and retrofitted a further 9 for a total of 26 switches per year. The output benefit to customers is that less customers are affected by a local outage and those outside the immediate fault location are affected for a shorter time. If we include the unaccounted output of automatic power restoration system (APRS)[14] or self-healing network, such as the one that Orion enabled in July 2023, these customer benefits can increase further, and their full potential will not be reflected in base year reliability statistics as yet. *Chart 3* below displays a running total of automated and retro-automated switches from FY15-FY24, and *Chart 4* displays the age profile for the automated and retro-automated switches also from FY15-FY24. While this may show up in reliability statistics it can be masked by increasing weather events of greater severity in an averaged system statistic such as SAIDI/SAIFI, and takes time to come through as more automated switches are installed (see *Chart 5* and *Chart 6* which show reducing interruptions and outage duration (subject to adverse weather severity and duration proxied by comparison with spend on service interruptions and emergencies)).

[14] An APRS automatically determines the location of a high-voltage network fault, completes the power-flow study, and then undertakes the required switching to restore supply to as many customers as possible- all without human intervention. As we install more remotely controllable switches our customer coverage increases so more customers can benefit from this technology in terms of reliability.

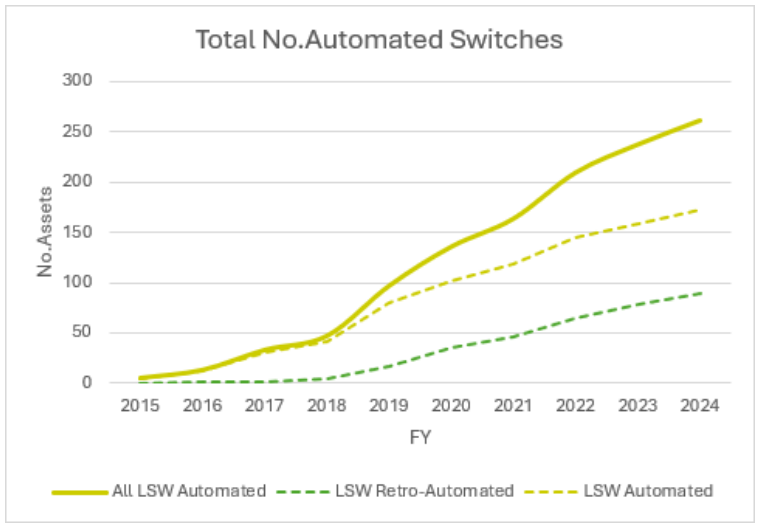

Chart 3 Running total of automated and retro-automated switches

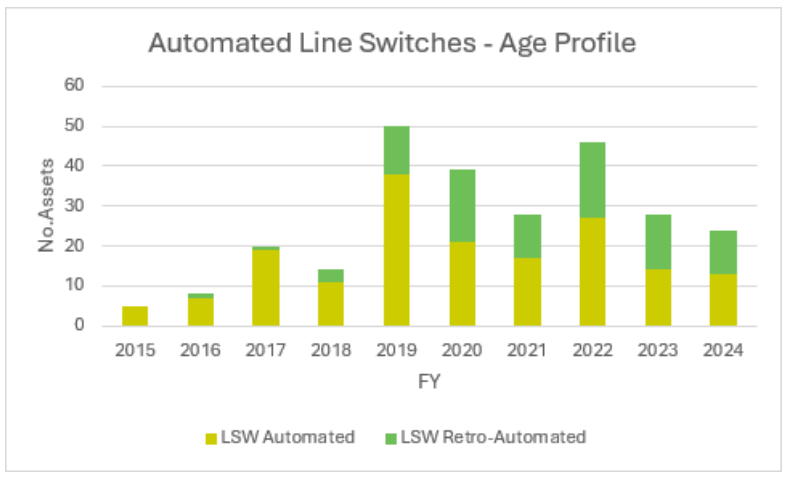

Chart 4 Age profile of automated and retro-automated switches

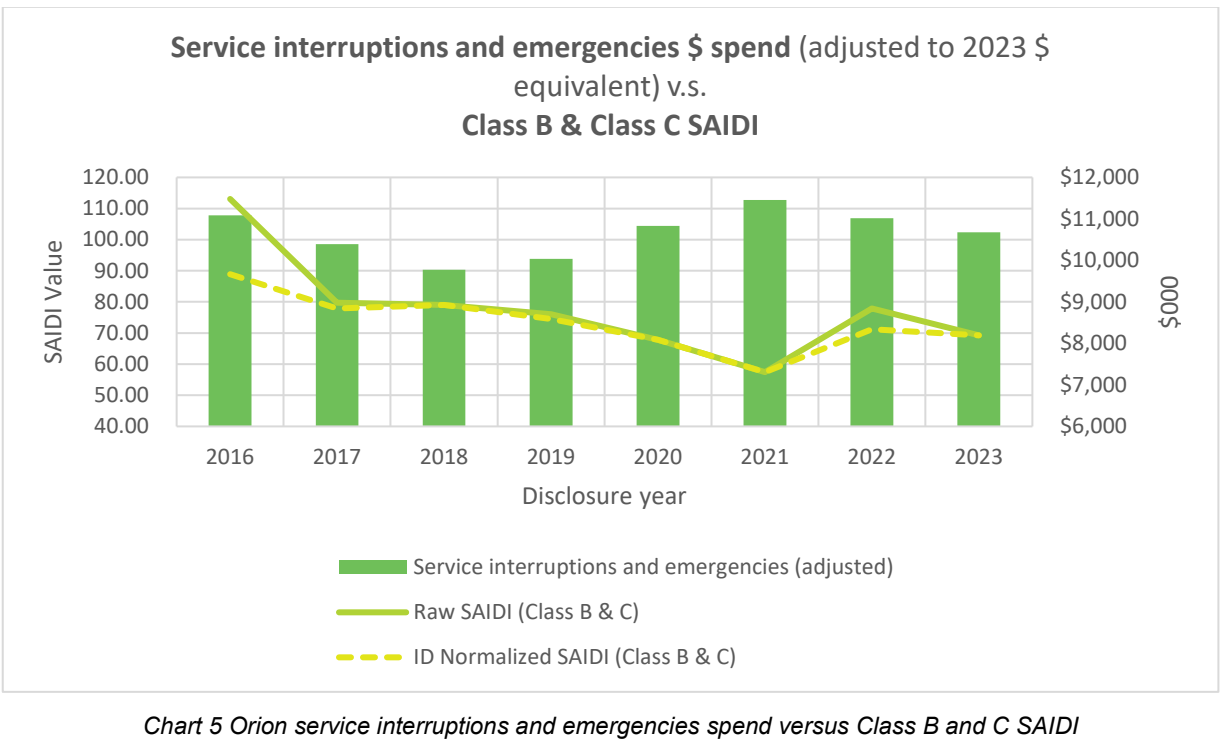

Chart 5 Orion service interruptions and emergencies spend versus Class B and C SAIDI

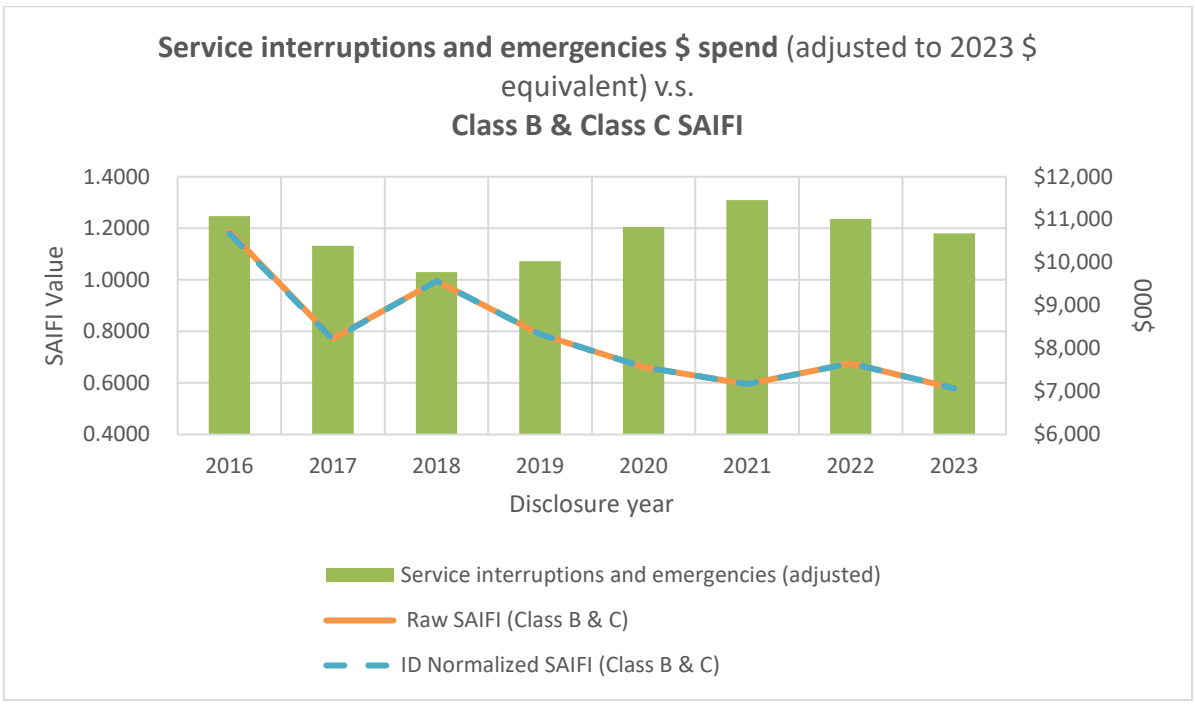

Chart 6 Orion service interruptions and emergencies spend versus Class B and C SAIFI

29. **Orion customers value good customer service.** Orion runs a 24/7 contact centre. In our recent customer perceptions survey customers rated, getting accurate information about outages soon enough for them to prepare, as 90% important with Orion servicing this need to 79% total satisfaction. This unmeasured output is valued by customers and Orion delivers this well as further demonstrated by Figure 1 showing customer experience ratings in our recent customer perceptions survey.

Figure 1 Residential Customer Experience Rating of Orion (2023)

30. **Orion continues building customer service offerings and this results in a trend change in costs.** Examples of increasing customer service offerings during DPP3 that add value for customers and are unmeasured outputs are detailed below. These elements of our service are important for maintaining and building trust over time.

a) Orion customer facing digital platform improvements

Many of our customer facing digital technologies have been upgraded to ensure we have a future-oriented perspective. These platforms have been selected or specifically developed to elevate our customer interactions across multiple channels. Additionally, not only do we currently offer enhanced interactions through these channels, the systems and platforms are geared towards further future enhancements, ensuring our ability to continually improve customer engagement and service.

b) Customer relationship management - CRM

i. Consents

We migrated our consenting applications into a new digital platform, enabling us to have a greater understanding of consenting activities. This has dramatically decreased the time taken for public safety advisors to process consents, improving customer experience for this important safety service. The increase in the quality of information we are able to provide has led to improved safety outcomes.

ii. Connections

As part of a major update to our connection services we have migrated the system into a new digital platform that has increased the visibility of our customer's activities allowing a greater overview and management of connection requirements. This has greatly increased our understanding of the timeframes involved with applications and has begun a significant journey to streamline these interactions for our customers, contractors and staff.

iii. Outage notifications

Enhancing our opt in customer outage notification system from a manual system to a partially automated system that integrates with our power management system. This has allowed for timely and concise notifications and reminders to our customers about planned outages. Whilst a fully automated system was an option, the system was designed to maintain control of notifications through our skilled Customer Support Team.

c) Website

i. www.oriongroup.co.nz

We are due to go live shortly with a major review of our website and content to provide information for our community in a mobile friendly, easy to use format. This key platform for Orion serves over 140,000 visitors per year.

ii. www.oriongroup.co.nz/outages

Enhancing our already widely praised outages system was a key part of our website upgrade. A substantial proportion of visitors to the Orion website are visiting for information on outages. The upgrade provides an improved user interface and vastly improved search functionality across the outages information. Outages search now means our community can search by street, suburb and incident number. The new functionality also means we can enhance our planned outage notifications with hyperlinks taking them directly to the outage affecting them.

d) Apps and social media

i. www.haveyoursay.oriongroup.co.nz

Have your say is a community engagement space that allows us to keep our community notified on upcoming projects, engagements and work that Orion is undertaking. This platform has been chosen as it allows our community choice over how they interact with/receive this information.

ii. Snap Send Solve

With a strong well established user base in our region, Snap Send Solve is a great partner for Orion, allowing our customers to report any network issues simply and quickly such as damage or graffiti. We have worked closely with app developers to drive improvements to the app including in app communication between Orion and reporters. We know our customers value our work, as we have been Snap Send Solve, Solver of the Year award recipients for the past two years. In 2023 we were awarded the "Customer Experience Award" and in 2022 we were awarded the "Customer Service" award.

iii. Social media

We continue to connect with and build our audience on social channels. We use Facebook and Linkedin currently to engage with our community about interesting and newsworthy information. This includes project information, innovations at Orion, events, sponsorships and community advice pieces like our winter warmer series. Due to the dynamic nature of Outage information, we intentionally drive traffic to our outages page on the website rather than post about outages in social channels.

31. **Compliance and assurance requirements have increased over time**. This is an output required to provide visibility and accountability across finance, regulatory, health and safety and sustainability. These outputs cannot be directly associated with the output in productivity indices calculated by CEPA. The types of audits being undertaken include financial and regulatory reporting compliance, asset management maturity and public safety audit, climate-related maturity and financial disclosures, cybersecurity and assurance audits on process. The total cost of this required or best practice compliance and assurance activity amounts to approximately $2.9m over the ten years (FY14-FY23) or $300k per annum.
32. **Integration of operational and digital technology results in better customer outcomes**- The future for electricity distribution means greater integration of physical and digital assets. EDB's work in this space means less technical debt, lower cyber risk, improved and proactive support and productivity tools. These activities result in unmeasured outputs that ensure our investments are protected, we manage risk (such as through retiring legacy systems, and protecting data), we do our work more efficiently, we deliver on our lifelines utility obligations, our customers can contact us or self-service through our website, and the lights stay on in service of our customers.
33. **Routine and corrective maintenance practices are evolving**. This operational expense can benefit customers from identifying or preventing asset issues or defects before they occur. This is efficient in reducing customer impact from outage. Orion has been innovating in this space, for instance, through the use of drones and field capture of data. Chart 7 shows reducing SAIDI from defective equipment in line with an increased trend in routine and corrective maintenance spend, and Chart 8 shows reducing SAIFI from defective equipment in line with an increased trend in routine and corrective maintenance spend.

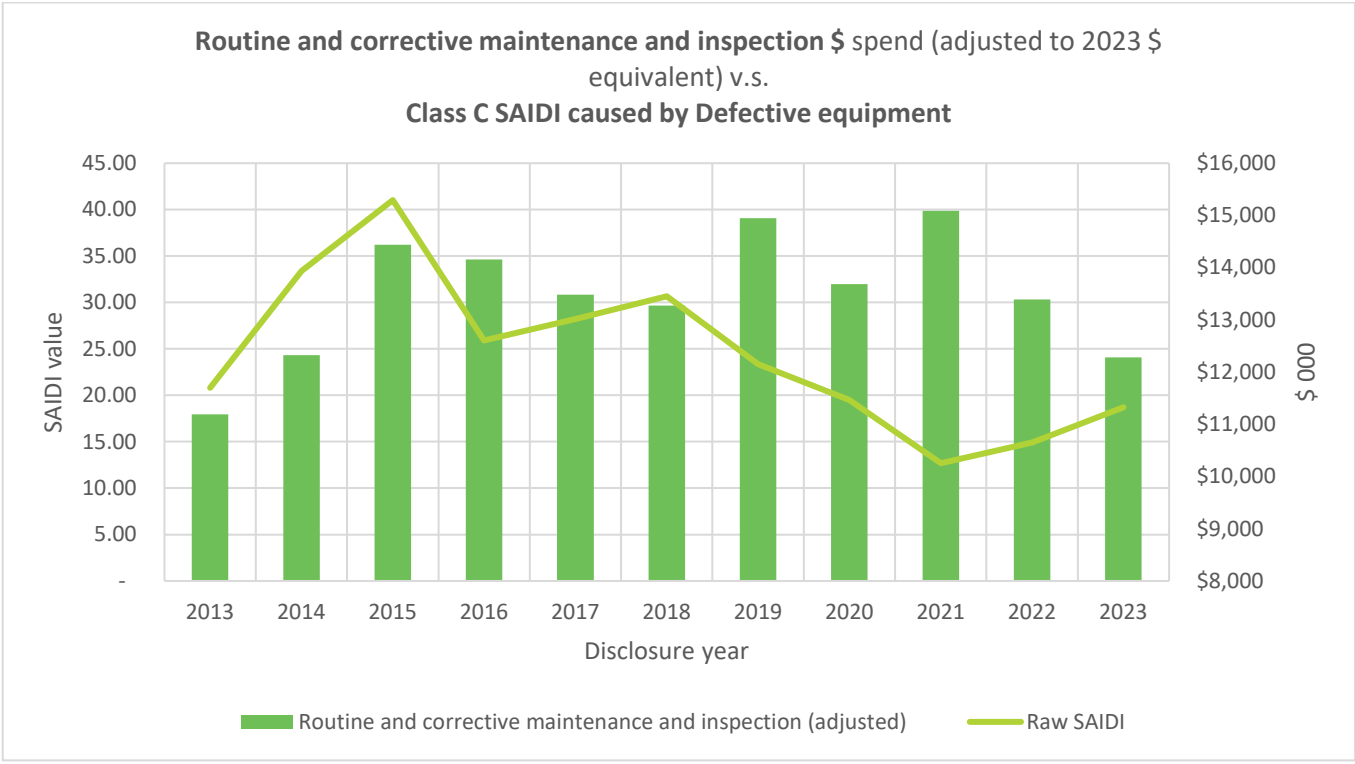

Chart 7 Routine and corrective maintenance trend compared to SAIDI from defective equipment

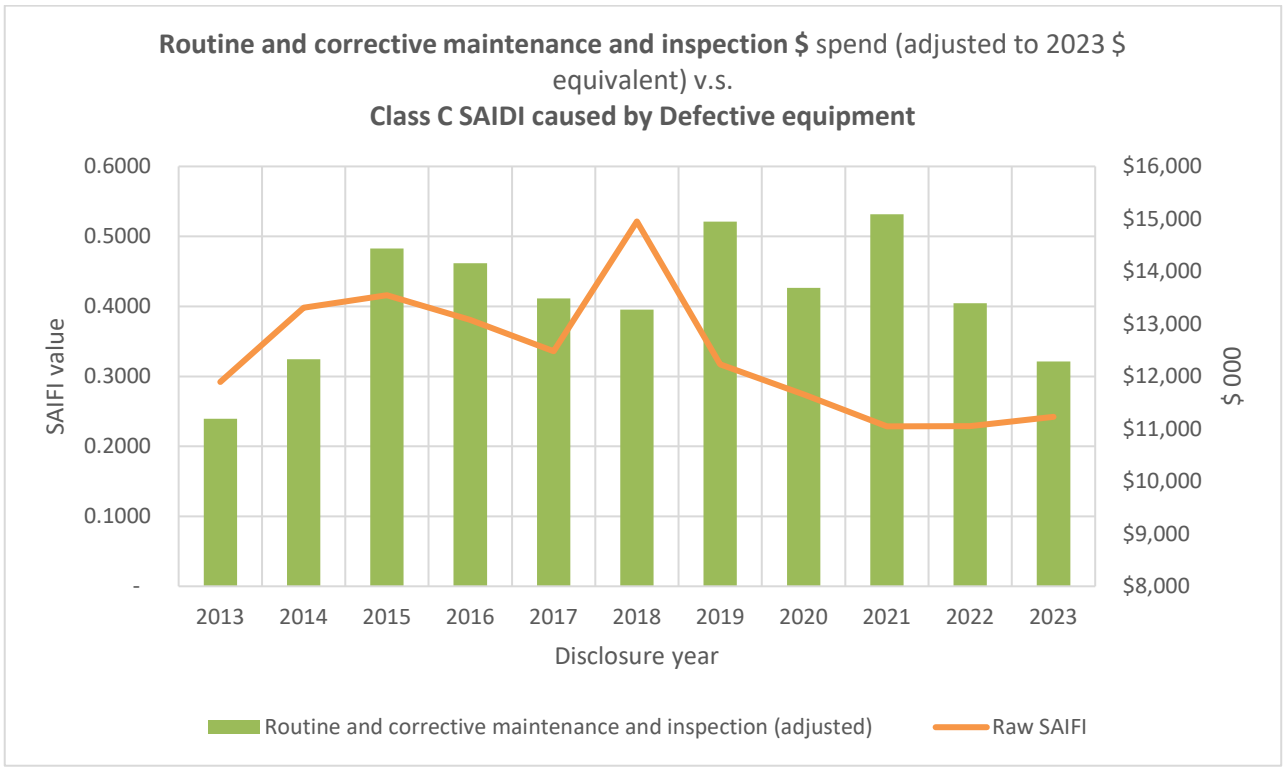

Chart 8 Routine and corrective maintenance trend compared to SAIFI from defective equipment

Increased Inputs

34. **EDBs input costs have increased significantly in the last five years to 2023**. Data from EDB's that service 81% of all non-exempt EDB's customers illustrates that the unit costs of core network components increased substantially over the 5 years to 2023 (see Table 1 below). The average cost of a pole increased by 72%, while the cost per kilometre of line/cable more than doubled. It is costing more to do the same work. Realistic allowance setting by the Commission is important to ensure core asset management outputs continue to be delivered at the level consumers have come to expect. This has a direct impact on total productivity measure.

		Quantity Installed/replaced					Commissioned Asset value (gross additions) $'000					Average unit value per asset ($'000 calculated)					Total % movement	CAGR%
		Year ending March					Year ending March					Year ending March						
		2019	2020	2021	2022	2023	2019	2020	2021	2022	2023	2019	2020	2021	2022	2023		
Poles	no.	10,255	12,285	13,433	10,672	9,370	$56,853	$83,479	$95,012	$76,371	$88,846	5.54	6.80	7.07	7.16	9.48	71%	11%
Conductors	km	146.57	252.16	309.75	196.91	186.03	$2,441	$5,448	$6,800	$3,895	$5,836	16.66	21.61	21.95	19.78	31.37	88%	13%
Transformers	no.	2,321	2,954	2,808	2,820	2,252	$39,200	$50,821	$44,994	$49,211	$56,701	16.89	17.20	16.02	17.45	25.18	49%	8%
Cable /line	km	884.97	839.93	765.80	855.85	657.16	$50,108	$74,297	$64,405	$73,577	$76,465	56.62	88.46	84.10	85.97	116.36	106%	15%
Switches	no.	2,862	4,316	4,433	3,731	2,858	$46,200	$64,309	$63,284	$56,970	$63,495	16.14	14.90	14.28	15.27	22.22	38%	7%

Table 1 Unit cost movement of EDB network components (2019-2023)

35. **Effective allowance setting is critical to ensure maintenance of outputs**. Orion's data (*Chart 9* and *Chart 10*) shows that since DDP3 allowances were set an apparent tipping point is reached around 2021 whereby SAIDI and SAIFI outcomes are beginning to be compromised. This aligns with increasing input costs following Covid from supply chain disruption, increasing material costs, inflation, an aging asset from a lifecycle perspective[15]. Allowance setting for DPP4 is critical to assist EDBs to arrest this emerging trend.

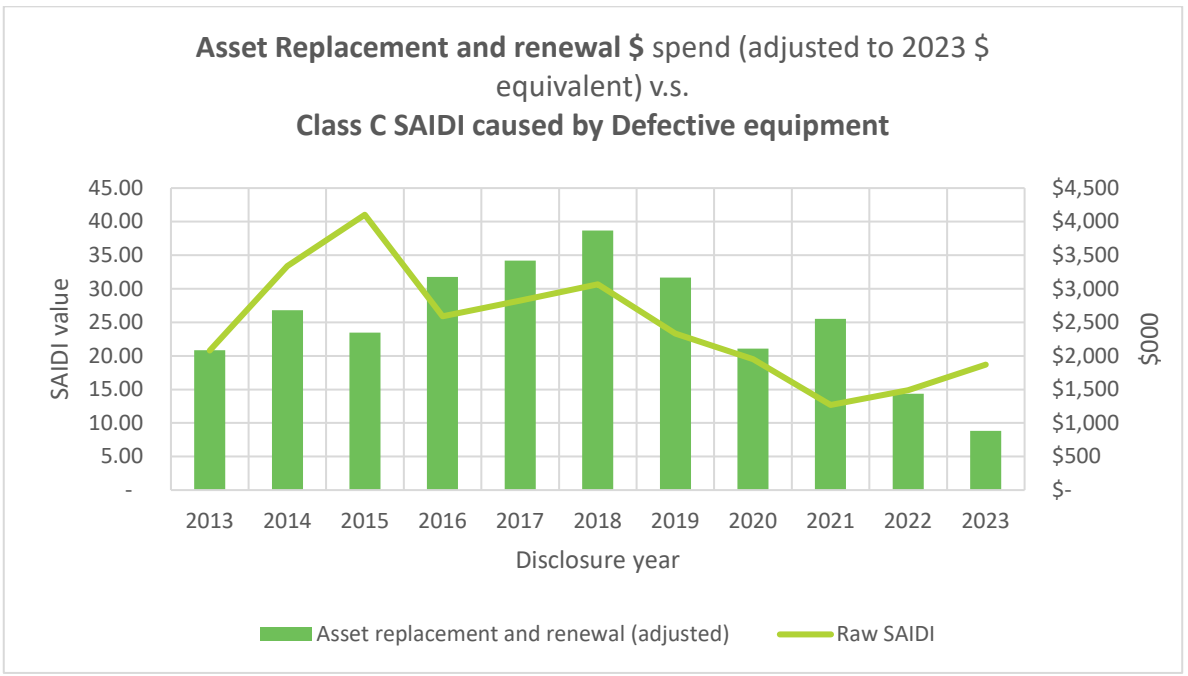

Chart 9 Asset replacement and renewal versus defective equipment SAIDI

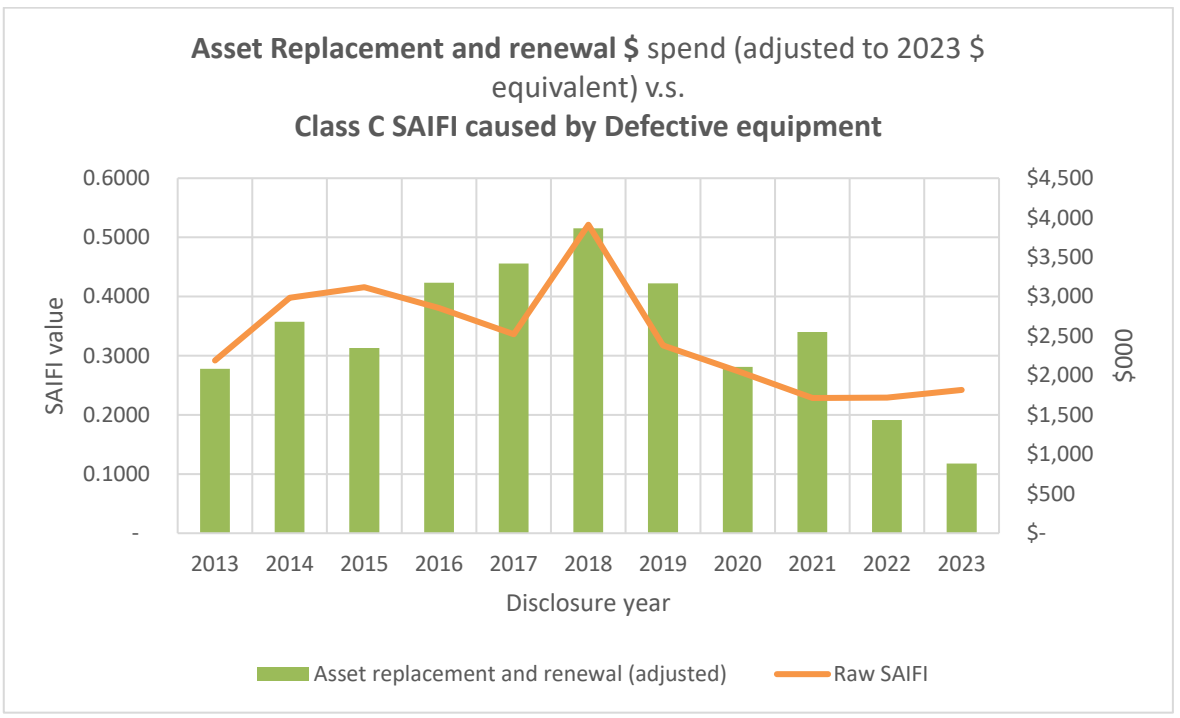

Chart 10 Asset replacement and renewal versus defective equipment SAIFI

[15] *Noting Orion adjusted its approach to capitalisation of refurbishment (for 2023)*

Concluding Remarks

36. Thank you for the opportunity to provide feedback. We do not consider any part of this feedback is confidential.

37. If you have any questions or queries or aspects of the submission which you would like to discuss, please contact us on 03 363 9898.

Yours sincerely

Dayle Parris

Head of Regulatory and Commercial