

Review of Electricity Distribution Businesses' 2021 Asset Management Plans in relation to decarbonisation

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Introduction/overview

- The Commission released today a report which presents a summary of Electricity Distribution Businesses' (EDBs) 2021 Asset Management Plan (AMP) reporting related to their readiness for the impact on network services of decarbonisation
- Our review has identified a number of policies and actions by EDBs. This does not necessarily mean that enough is being done. We would expect to see initiatives increasing over time
- Review has helped identify that the Commission could consider introducing new Information disclosure requirements relating to greater electrification and decarbonisation

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NZ climate change commitments and developments

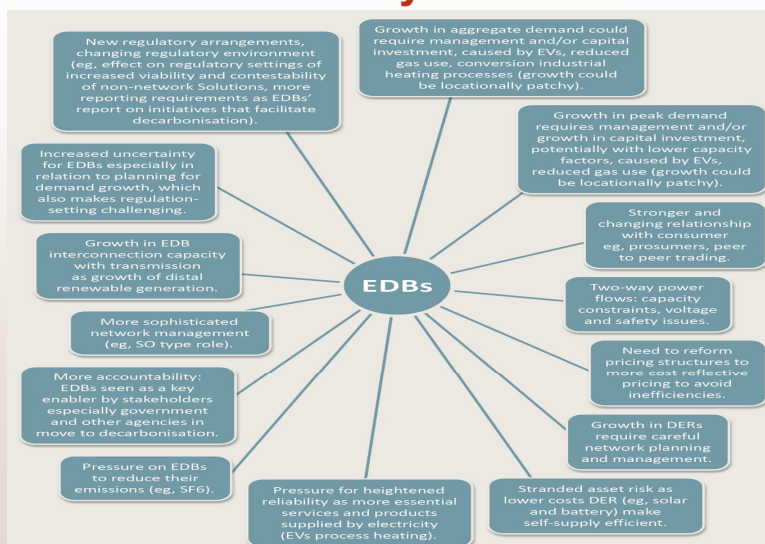


- There have been a number of recent developments which placed more prominence and greater action on NZ reducing its carbon emissions
 - NZ signed the Paris Agreement in 2015 which committed NZ to significant carbon reductions targets
 - In 2019 Government passed the Climate Change Response Zero Carbon Act which legislated a target of NZ achieving net zero emissions of long-lived greenhouse gases (other than biogenic methane) by 2050
 - Relating to the energy sector, He Pou a Rangi (Climate Change Commission) recommended targets for 50% of all energy consumed in New Zealand to come from renewable sources by 2035, and 95-98% of electricity generation to be renewable by 2030. The Government is currently considering the recommendations and plans to respond early-mid next year.

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Decarbonisation will likely effect EDBs in numerous ways



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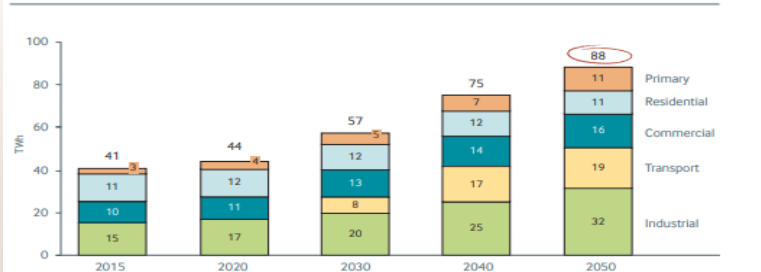
Main near term effects of decarbonisation trends and policy



The main near-term effects are likely to be

- 1) Growth in electricity demand (especially in clusters) leading to greater throughput

Exhibit 3: Estimated delivered electricity demand by sector



From Transpower's Te Mauri Hiko

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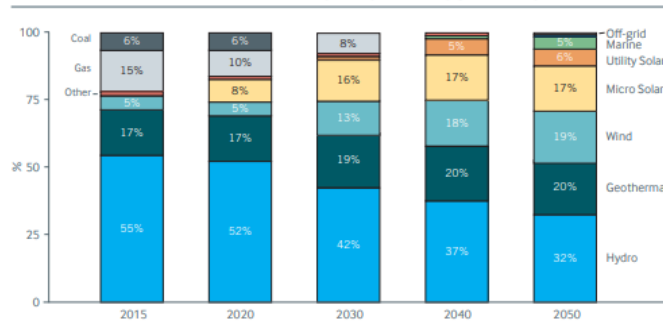
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Main near-term effects - continued



- 2) Growth in Distributed Energy Resources (DER)

Exhibit 11: Composition of New Zealand's electricity supply portfolio by generation type – 2015 to 2050



Growth in DER, especially PV (residential and commercial operations) which will likely impose "common quality issues" for EDBs (ie voltage, harmonics) and hosting capacity issues which will need to be managed.

- 3) More accountability and scrutiny of EDBs because seen as a key enabler by stakeholders, especially government and other agencies, in move to decarbonised economy.

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He Pou o Rangi advice



- He Pou o Rangi recognises the impact on, and the role of EDBs, in meeting the challenges and opportunities of decarbonization.
- He Pou o Rangi's recommendation 20 in their advice to Government on emissions reductions:
 - *Supporting the evolution to a low-emissions electricity system fit for technology evolution. This should include work to **increase the participation of distributed energy resources including demand response, and determining whether lines companies can integrate new technologies, platforms and business models** by:*
 - a. Assessing whether they have the necessary capacity and capabilities to support climate resilience and the transition.*
 - b. Evaluating whether the current regulatory environment and ownership structures of lines companies are fit for future needs.*

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Framework and scope of the review



The statutory framework for the review

- AMPs are disclosed under the information disclosure requirements contained in Part 4 of the Commerce Act
- The purpose of information disclosure regulation is to ensure that sufficient information is readily available to interested persons to assess whether the purpose of Part 4 of the Act is being met.
- Commission has the power to monitor and analyse all information disclosed in accordance with the information disclosure requirements. Commission is required to publish a summary and analysis of that information for the purpose of promoting greater understanding of the performance of EDBs.

AMPs reviewed

- Reviewed EDBs' 2021 AMPs, apart Aurora, as these the most recent and a complete set. Reviewed Aurora's 2020 AMP because it had an exemption to publish an AMP in 2021
- Recognise that AMPs do not contain complete set of all things EDBs doing in relation to decarbonisation because some not published, and some relevant information published in other disclosures – eg EDBs' pricing disclosures, EDBs' annual reports

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The questions (issues) we asked



- We reviewed EDBs' AMPs with a view to answering the following questions:
 - **Recognition** - Does the EDB's AMP recognise and discuss the potential impacts decarbonisation-driven electrification will have on that EDB?
 - **Policies** - Does the EDB's AMP outline policies that demonstrate it is planning for decarbonisation-driven electrification?
 - **Actions** - Does the EDB's AMP describe actions planned or taken in relation to decarbonisation-driven electrification?

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Review's findings



| Question (Issue) | Findings |
|------------------|--|
| Recognition | All EDBs recognised that decarbonisation would impact their businesses. Issues was "when not if" E.g: <ul style="list-style-type: none"> • Growth in demand from EVs, fossil fuel processes being switched-out for electricity in industrial processes • Increased two-way power flows arising from DER that will require managing |
| Policies | Most EDBs outlined policies they were taking to be prepared. These were most common: <ul style="list-style-type: none"> • Adjusting forecasting approach to account for growth in electricity demand due to decarbonisation • Instigating processes to engage with major fossil fuelled loads in their network area to ascertain their plans to switch to electric power • A few EDBs had embedded decarbonisation into their overriding strategic objectives |
| Actions | Nearly all EDBs reported on at least one action they undertaking in relation to decarbonisation. Most common actions were: <ul style="list-style-type: none"> • Increasing and improving EDBs monitoring of their low voltage (<400 v) network • Undertaking trials of new technologies that consistent with decarbonisation |

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Additional observation arising out of the review



- While the focus of review was on EDBs preparedness for decarbonisation-driven electrification, we noticed that many EDBs reported on actions they have taken to reduce their own carbon footprints:
 - reducing emissions from sulphur hexafluoride (SF₆);
 - reducing emissions from travel; and
 - other initiatives related to reduce carbon emission

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Additional comments



- We note that preparation for decarbonisation is a continuous process, for which the requirements will evolve where different solutions will be available, and expectations of EDBs will increase over time
- We also recognise that there will naturally be leaders and followers in this space, and that not all EDBs will address decarbonisation at the same pace or by using the same actions
- However, we expect EDBs to plan, and report on these plans in their AMPs, for different scenarios and it is likely that all EDBs will need to address decarbonisation to a degree
- We anticipate seeing increased maturity of approaches in subsequent disclosures

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Potential new ID requirements related to decarbonisation



- Commission planning to undertake a targeted review of information disclosure requirements next calendar year
- This review of EDBs AMP related to decarbonisation suggests that the following information, provided through amendments to the information disclosure requirements, could be beneficial:
 - Information about network needs (ie, current and forecast network capacity constraints, which can be presented in the form of “heat maps”)
 - Information on EDBs network power quality metrics such as voltage
 - Information about the effect on an EDB’s network, and the plans to address, of the electrification of large fossil fuelled loads in their network area (ie, dairy factories, hospital boilers, electric bus fleet or electric ferry charging).

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Questions?



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