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Low-emissions economy
New Zealand Productivity Commission
via info@productivity.govt.nz

Submission on Low-emissions economy draft report

ETNZ - The Energy Trusts Association - represents the Trust owners of electricity distribution businesses throughout New Zealand, the largest of which is the Entrust and smallest of which is the Buller Electric Power Trust. The majority of the Trustees of these energy trusts are elected by electricity consumers who are the beneficiaries of the Trusts.

As the organisation representing consumer and community owners of EDBs, ETNZ has both an asset owner and a consumer perspective in making this submission, which focuses on the section of the draft report (pages 320-346) dealing with electricity and – in particular – on the analysis and resultant recommendations targeted at the distribution industry.

We support many of the suggestions for promoting technologies and systems that will reduce environmentally harmful emissions, such as the development of new technical and data-sharing standards. Our concerns are with some of the views and resultant recommendations relating to regulatory reform, and to the capability and roles of distribution services. We also have serious concerns about the validity of the IEA's 2017 report on New Zealand electricity distribution, which is cited a number of times in the draft report.

Regulation and regulators

A. The Commerce Commission

The draft report makes no mention of section 54Q of the Commerce Act, which probably is the primary legislative instruction to regulators directed towards promoting emission-reduction:

54Q Energy efficiency

The Commission must promote incentives, and must avoid imposing disincentives, for suppliers of electricity lines services to invest in energy efficiency and demand side management, and to reduce energy losses, when applying this Part in relation to electricity lines services.

Although s54Q has been in the Commerce Act since 2008, and despite the fact that it contains two 'musts', the Commerce Commission has made very little real effort to fulfil this instruction.

In fact, on 9 May this year the ComCom wrote a well-publicised 'open letter' to electricity distributors providing "guidance on how EDBs should comply with Part 4 [of the Commerce Act] in relation to emerging technology"¹ and saying that, when dealing with emerging technologies, they "are required to comply with Part 4 of the Act". Effectively - according to the open letter - this means that the Commission considers that investments in *activities that are not part of "the service of conveyance of electricity by line"*² cannot be included in the pool of costs that can be recovered through line charges.

As s54Q is a clause in Part 4 of the Act, the ComCom seems to be contradicting the instruction given in that clause, in taking this approach. This is made explicit in an attachment to the open letter dealing with treatment of electric vehicle chargers:

"In 2015 we posed a series of questions that informed our view of how our rules should be applied to the costs and revenues of certain emerging technology-related investments....

Key questions

Within scope of the regulated service?

Is what the EDB doing part of the service of conveyance of electricity by line, and not excluded by any of the exceptions listed in s54C(2)?

Treatment of capital costs

Is the asset used for the service of conveyance of electricity by line (as described

¹ <http://www.comcom.govt.nz/regulated-industries/electricity/performance-analysis-and-data-for-distributors/impact-of-emerging-technologies-in-monopoly-parts-of-electricity-sector/>

² The wording used in the attachment to the above open letter from the Commerce Commission.

above in question 1)? If so, how are the capital costs associated with this investment treated?

Treatment of operating costs

Are the operating costs attributable to the service of conveyance of electricity by line? If so, how are the operating costs associated with this investment treated?

Treatment of revenues

Are the revenues attributable to the service of conveyance of electricity by line? If so, how are the revenues associated with this asset treated? “

We note that the ComCom is referencing a 2015 policy approach in addressing how EDBs must treat emerging technologies now, rather than taking a new look at this issue given the rapid advances these technologies are now making.

Recommendation 1

ETNZ recommends that the Productivity Commission’s report acknowledges the role that s54Q of the Commerce Act could play in advancing progress towards a low-emissions economy, notes that little effective use of this clause has been made to date, and suggests that the Commission revisit its approach to EDBs accounting for involvements in appropriate new technologies in the light of s54Q.

B. The Electricity Authority

i. The EA’s Statutory Objective

The EA’s statutory objective of promoting “*competition in, reliable supply by, and the efficient operation of, the electricity industry for the long-term benefit of consumers*” is a very broad one. However, it is interesting to contrast it with the “Principal objectives” of the EA’s predecessor, the Electricity Commission:

(1) The principal objectives of the Commission in relation to electricity are:

- to ensure that electricity is produced and delivered to all classes of consumers in an efficient, fair, reliable and environmentally sustainable manner
- to promote and facilitate the efficient use of electricity

Notably, the words “fair” and “environmentally sustainable” have been lost, while the second bullet point – to promote and facilitate the efficient use of electricity – has been scaled back to an EA objective of promoting the efficient operation of the electricity industry. Also, although the EA’s goal of working for “the long-term benefit of consumers” seems a worthy one, it’s also very

vague, especially in today's climate of rapidly evolving technologies with uncertain consumer outcomes.

In addition, the old Electricity Commission's focus on ensuring that electricity reached "all classes of consumers" in a fair and environmentally sustainable manner meant that it had a direct interest in the *demand side* of the industry – consumers – rather than the inferred primary interest in the *supply side* embodied in the EA's statutory objective.

Recommendation 2

ETNZ recommends that the PC's final report note that the EA's statutory objective has a poorly defined focus, and should be reviewed in order to ensure that environmental and demand-side efficiencies are given reasonable prioritisation, and to promote socially beneficial outcomes for all classes of consumers.

ii. The EA's rejection of avoidance of transmission charges

The EA also seems to take little or no account of the Commerce Commission's statutory objectives in pursuing its own, despite the longstanding practise of jurisdictional consultation between the two agencies. This is evidenced by the EA's proposed abolition of the so-called ACoT (Avoided cost of transmission) charging component, under which distributed generation activities can avoid paying for Transpower services that they don't need. In our view, existing ACoT arrangements are the only strong regulatory tool delivering the requirements set out in s54Q of the Commerce Act.

In practise, ACOT payments are normally only made to DG installations of 100kWh or larger but, given the current improvements in cost-competitiveness of solar internationally and here, removal of the current ACOT arrangements has the potential to inhibit the growth of solar energy in New Zealand. Typical household solar arrays currently range between 2kWh and 8kWh, meaning that a conglomerate of perhaps 20 solar households, or a community solar project, would be a prime candidate for receiving ACOT benefits once appropriate pricing arrangements develop (and if the AE's drive to remove those benefits is unsuccessful).

The costs of solar technologies are falling very fast, to the point where it seems inevitable that they will displace some conventional generation in New Zealand and put downward pricing pressure on our large sunk cost hydro generation base, meaning additional gains for consumers. ETNZ believes that it is in the long-term interests of the economy and of consumers to accept

that clean, renewable generation options that bypass the grid should not be forced to carry a cost loading to support the technologies they are displacing.

We would have expected the EA to take a progressive approach to the ACOT issue, recognising that solar does reduce the need for transmission, and that its emergence is in the long-term interests of New Zealand and consumers.

Recommendation 3

ETNZ recommends that the Productivity Commission addresses the relative merits of retaining or enhancing existing ACoT arrangements, taking into account the legislative message contained in s54Q of the Commerce Act and the impacts that ACoT are likely to have on the emergence of emission-reducing technologies.

Capability of distribution services

A. The IEA's reference to the Auditor-General's concerns

We take issue with the comment (last paragraph of page 343 of the draft report) "The IEA also noted concerns (raised by the Auditor-General) about the governance and decision-making capability of some EDBs." We address the many examples of hearsay and unsubstantiated conclusions in the IEA's 2017 report below. However, the reference to the Auditor-General seems at variance to the facts.

In June 2017 the Auditor-General published a report³ 'Managing the assets that distribute electricity' that is highly complementary, as the following excerpts show:

Our analysis shows that electricity distribution businesses, as a whole, are generating a commercial return and enabling dividends to their owners. The businesses as a whole also maintain low levels of debt.

Examining the asset management practices of the three companies [the A_G looked in some depth at 3 representative EDBs], we found some effective practices that are well described in their asset management plans.

³ <https://www.oag.govt.nz/2017/electricity-distribution/docs/electricity-distribution.pdf>

In particular, the three companies have adequate base asset knowledge, and there are appropriate initiatives to improve network resilience and ensure continuity of supply.

We have not identified any significant concerns with the financial health of electricity distribution businesses as a whole. The core distribution business is profitable. More widely, electricity distribution businesses have provided double digit profits and dividends and discounts as a proportion of income in each financial year since 2011/12. Electricity distribution businesses have relatively low levels of debt, which means that they have the financial flexibility to respond to unexpected changes in the short term.

Electricity distribution businesses as a whole continue to invest in their networks throughout the country. The level of investment means that electricity distribution businesses are maintaining the average age of the networks, which should help to provide a reliable supply of electricity to consumers in the future.

Electricity distribution businesses as a whole continue to invest in their networks (the regulatory asset base). Since 2011/12, the regulatory asset base increased 12% to \$10.6 billion. About 25% of this increase relates to the annual revaluation of assets and the remaining 75% relates to capital expenditure on the networks.

Electricity distribution businesses have been working together to respond to the emergence of new technologies. For example, they sponsor the Smart Grid Forum, which has examined the effect of emerging technologies. The Electricity Networks Association has carried out modelling to examine how electricity networks would be affected by new technologies.

Inevitably there were a few mild concerns noted by the A-G but these in now way justify the IEA's conclusions:

However, there is room for improvement. Electricity distribution businesses own assets with long useful lives, and we expect them to understand the financial effects of maintaining and replacing these assets for a substantial portion of the assets' life. Instead, the three companies' focus was largely on the short term. With a longer-term focus, the three companies can make better-informed decisions about how to manage their networks.

Improving knowledge of asset condition, performance of critical assets, and risk management strategies would complement the asset management practices that we observed. These are fundamental for electricity distribution businesses as their networks continue to expand and new technologies emerge.

B. The IEA report

We are very concerned about the use made by the Productivity Commission of the IEA’s 2017 review of the distribution industry. ETNZ identified a number of basic errors in the IEA report when it emerged, persuading us to obtain an independent review from an exceptionally well-qualified expert in electricity regulation and economics, Professor George Yarrow. An outline of Prof Yarrow’s CV is appended to this submission.

Prof Yarrow’s critique of the IEA report accompanies this submission. It is highly critical of it, pointing out fundamental factual errors leading to erroneous conclusions, and questioning the heavy reliance on inferences and undocumented ‘concerns’.

Recommendation 4

ETNZ recommends that the Productivity Commission considers Professor Yarrow’s report on *The International Energy Authority’s 2017 Review of New Zealand* and takes his views on the adequacy of that report into account in the final version of its low-emissions economy report.

C. Strengthening capability in distribution services

The various references in the draft report to possible problems associated with the number and size of EDBs in New Zealand are well covered in the accompanying report from Professor Yarrow (pages 7-15). In particular we draw the PC’s attention to the comparison he makes with the Nordic countries, which he considers to be good comparators for New Zealand:

	Population density (per sqkm)	Number of EDBs	Number of small EDBs per large EDB	Average connections per EDB (thousands) ⁴
Nordic countries	20.7	481	17.5 ⁵	30.8
New Zealand	16.2	29	8.7	80.5

All the Nordic countries have far more distributors, and far more distributors in relation to connections, than New Zealand. Their ratios of small to large EDBs is also significantly higher than New Zealand's. Despite this, Norway, for example, is a world leader in penetration of electric vehicles, and the Nordic region has achieved high ratios of alternative energy investment.

Recommendation 5

ETNZ recommends that the Productivity Commission directs regulators and policy makers to the Nordic model in considering structures and regulatory processes that advance low-emission objectives.

D. Clarifying roles in distribution services

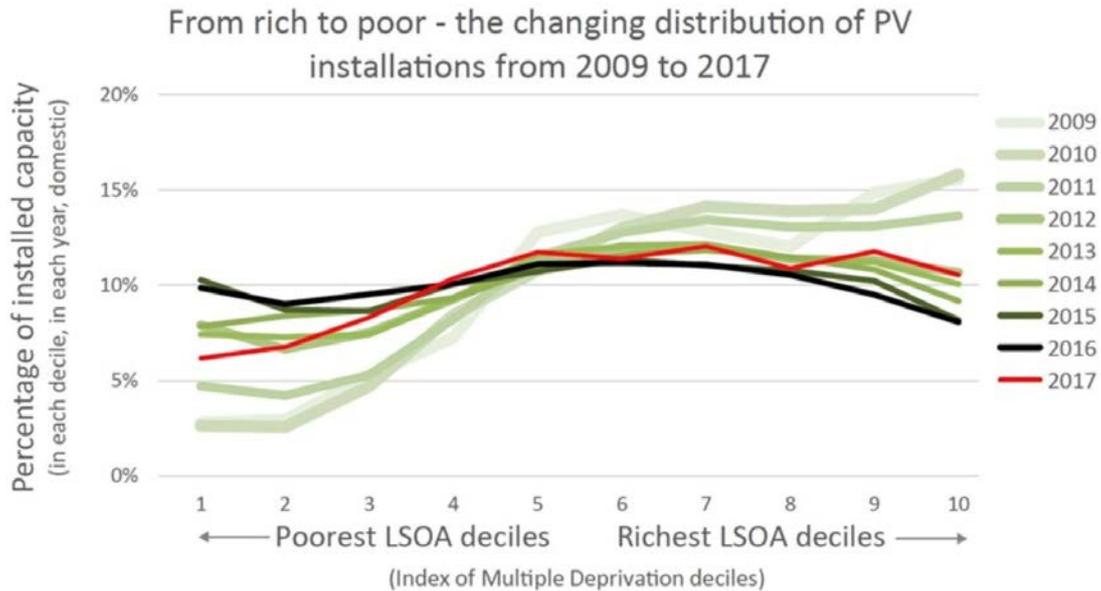
ETNZ is very concerned at the pressure coming from 'upstream' interests in the electricity supply chain to exclude distributors from delivery of new technologies, and to redefine EDBs as 'platforms' where other parties will invest in and supply those technologies.

Firstly, while extending the traditional regulatory approach of 'separating lines and energy' to emerging technologies has a simplistic appeal, practically it would have the effect of disempowering the asset owners with the capability, expertise and commercial and social incentives to promote emission-reducing technologies. Electricity distributors were highly effective in establishing the electricity industry in New Zealand using the original 'poles and wires' technologies, and are very well placed to make similar advances in the new era of sophisticated energy management options.

Secondly, convergence of technologies is a reality that makes creating walls between classes of participant increasingly difficult and, ultimately, inefficient.

As ETNZ's members are elected by consumers and communities, and represent their interests, they have a strong focus on bringing the benefits of new technologies to those consumers and communities. Within ETNZ considerable attention is being given to options for trusts and their companies to ensure that poorer consumer groups are able to share in those benefits. We are heartened here by a recent report from the UK⁴ suggesting that there is a trend for lower income consumers to gain in this way:

⁴ <https://www.regensw.co.uk/news/new-study-on-the-future-challenges-for-the-electricity-distribution-network-24-january-2018>



Recommendation 6

ETNZ recommends that the Report notes (a) the reality that convergence of technologies makes separation of roles or restriction of distribution services to conventional technologies an inefficient option; (b) that distribution asset owners have a focus on delivering the benefits of new technologies to consumers and communities, and recognise the need to ensure that low income consumers are not excluded from those technologies.

E. Pricing issues

We note the progress being made towards restructuring pricing arrangements to meet the needs of an increasingly empowered demand-side sector. We suggest that it would be worthwhile, in the interests of making realistic progress towards a low-emissions electricity industry, for the PC to also look at the impacts that revising some of the core wholesale electricity market pricing arrangements could deliver.

As an example, the long-established nodal pricing arrangements (under which prices at the various Grid Exit Points reflect the marginal impacts of losses and constraints) were a useful tool for signalling new transmission investment priorities. However, with focus now shifting to the demand side, nodal prices deliver perverse incentives. Thus, while prices at the end of long or constrained transmission rises are very high, particularly at peak times

(reflecting the cost of delivering the most expensive kW of electricity in the relevant time period) they fall away just as sharply if a local investment occurs that reduces those losses or constraints. Finding an alternative wholesale pricing arrangement that rewards efficient downstream investments would be very beneficial. At present, only the ACoT arrangements – currently being challenged by the EA – deliver useful signals of this type.

Thought could also be given to the establishment of wholesale pricing hedging instruments that deliver benefits to providers of low-emissions electricity options.

Recommendation 7

ETNZ recommends that consideration be given to reviewing entrenched wholesale pricing elements, such as nodal pricing, to reflect the new priorities created by emerging technologies.

Karen Sherry
Chair, ETNZ

Appendix 1

Professor George Yarrow: Summary CV

Born: Sunderland, UK, 27/02/48 **Education:** St John's College, Cambridge University
Degrees: MA (Cantab), MA (Oxon)

Current positions: Chair, previously Director, Regulatory Policy Institute; Emeritus Fellow, Hertford College, Oxford University.

Previous and other academic positions: University of Warwick (faculty 1969-71, later visiting); Newcastle University (faculty 1971-8, later visiting); Oxford University (faculty, later Emeritus, 1978-); Queen Mary and Westfield College, University of London (visiting); Harvard University (visiting); University of California (San Diego, visiting); University of Urbino (visiting); International Institute for Management, Berlin (visiting); Jagiellonian University, Krakow (visiting).

Research activities: Principal area of work has been the economics and political economy of competition, regulation and privatization. Secondary areas include: monetary theory; environmental policies; corporate objectives and the market for corporate control; aspects of industrial organization theory; health economics; and the reform of social security.

Best known works are "Privatization in theory and practice", Economic Policy, 1986, variously reprinted including in the International Library of Critical Writings in Economics, and, with Professor Sir John Vickers, Privatization: An Economic Analysis, published by MIT Press in 1988, and subsequently in Spanish and Chinese editions. Most recent major paper is Brexit and the Single Market (July 2016).

Other academic: Served as nominator for the Nobel Prize in Economics and was a member of the editorial boards of Economic Policy, the Oxford Review of Economic Policy, the Journal of Industrial Economics, Applied Economics, and Applied Financial Economics.

Government panels, reports and advisory: A wide range of activities over the years for virtually all major UK government departments and regulatory agencies concerned with micro-economic policy issues. The most enduring was an association with Ofgas, then Ofgem, extending from 1993 to 2009, first as a member of the Ofgas academic panel, then as economic advisor to Ofgas/Ofgem, finally as a Member of the Gas and Electricity Markets Authority. At the international level this strand of activity has encompassed work for the European Commission (including on issues of transition in Central and Eastern Europe (1989-95), the Republic of Ireland's Dept of Transport (serving twice on the Aviation Appeals Panel) and Commission for Communications Regulation, the Australian Commonwealth Government and AEMC, the NZ Commerce Commission, the Government of Japan (Ministry of Finance), the Government of Hong Kong, World Bank, OECD, UNCTAD and the UN Development Programme.