Energy Efficiency and Conservation Authority
Te Tari Tiaki Pūngao

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David Healy
Chief Advisor
Network Performance Branch
Commerce Commission

Dear David,

EECA submission on the reset of default price-quality path for electricity distribution businesses discussion paper

We welcome the opportunity to comment on the Commerce Commission's discussion paper on the reset of default price-quality path for electricity distribution businesses.

EECA's submission focuses on the application of Section 54Q of the Commerce Act 1986 to the re-set of default price-quality paths for lines companies. Section 54Q requires the Commerce Commission to promote incentives, and avoid disincentives, for energy efficiency and demand side management under Part 4A of the Act.

In our submission we encourage the Commission to include a simple mechanism within the default price quality path to provide lines companies with an incentive to invest in energy efficiency, demand side management and network energy loss reduction.

Our detailed comments are enclosed.

Kind regards,

Steve Torrens
Senior Policy Analyst

Energy Efficiency and Conservation Authority
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EECA submission on the reset of default price-quality path for electricity distribution businesses discussion paper

Executive Summary

1. Perhaps more than ever before energy efficiency is on the agenda for households, businesses and government institutions. The G8 and the International Energy Agency are working together to promote a strong agenda of energy efficiency actions. The European Union state that support for improving energy efficiency will prove decisive for competitiveness, security of supply and for meeting the commitments on climate change made under the Kyoto Protocol. Under the Obama administration the United States has announced a raft of energy efficiency initiatives geared to improve energy security, demonstrate leadership on climate change and tackle the recession. Early recession busting energy efficiency initiatives are now being reinforced and extended through an exhaustive suite of proposed measures in the American Clean Energy and Security Bill.

2. To make a significant and on-going dent in energy demand growth in New Zealand more effort is required across all sectors of our society, and this includes lines companies. The rationale for expending such effort is now clear: lower energy costs for consumers, reduced expenditure on energy supply, improved energy security, reduced greenhouse gas emissions, warmer healthier homes and more productive businesses.

3. EECA's submission focuses on the application of Section 54Q of the Commerce Act 1986 to the re-set of default price-quality paths for lines companies. Section 54Q requires the Commerce Commission to promote incentives, and avoid disincentives, for energy efficiency and demand side management under Part 4A of the Act.

4. We encourage the Commission to include an energy efficiency mechanism within the default price quality path that provides lines companies with incentives to invest in energy efficiency. We believe that lines companies can contribute to improving the energy efficiency of our economy without sacrificing economic efficiency. They can reduce network energy losses where the avoided cost of losses is less than the incremental cost of low loss equipment. They can also invest in demand side management to reduce demand on their network where this is less than the avoided cost of new distribution.

5. The Commission indicates that an energy efficiency incentive mechanism may not be consistent with a cost effective, generic default price-quality path. We argue that a relatively simple energy efficiency mechanism can be developed as demonstrated by the Australian Energy Regulator's (AER) regulation of Victorian lines companies. We note that risks associated with a less sophisticated mechanism can, if necessary, be managed by capping the amount of energy efficiency investment provided with an incentive by the mechanism.

6. The Commission notes that one of the key challenges to implementing an energy efficiency mechanism "is how to distinguish between reductions in throughput resulting from energy efficiency measures, from those reductions due to slowing economic

growth". We argue that the impact of an energy efficiency investment *can* be verified locally, either at the consumer's premise for demand side management investments or at (or close to) the relevant network asset for network energy loss reduction investments. Such local estimates would provide sufficient data for the type of energy efficiency mechanism proposed by the AER. We note that there is already a body of knowledge available that can be called upon by lines companies to robustly verify demand reduction resulting from energy efficiency investments.

Introduction

7. This submission focuses on the application of Section 54Q of the Commerce Act 1986 to the re-set of default price-quality paths for lines companies. Section 54Q requires the Commerce Commission to promote incentives, and avoid disincentives, for energy efficiency and demand side management under Part 4A of the Act.

8. In our submission, for the sake of simplicity, we define the term "energy efficiency" to include demand side management[1] and network energy loss reduction.

9. The Commission have indicated that addressing energy efficiency as a part of the default price quality path may not be feasible[2]. The Commission have - quite rightly - raised a number of concerns in this regard, including:

   - Energy efficiency is not the core business of lines companies;
   - An energy efficiency incentive mechanism may not be consistent with a cost effective, generic default price-quality path;
   - The risk that lines companies may invest in energy efficiency measures that are economically inefficient; and,
   - The challenge of verifying the results from energy efficiency investments.

10. The following sections will address each of these concerns in turn. We then conclude by briefly discussing how energy efficiency could be promoted through the specification of starting prices in the default price-quality path.

Energy efficiency and lines companies

11. The Commission states that energy efficiency is not the core business of lines companies[3].

12. We argue that energy efficiency can efficiently reduce the cost of delivering network services and hence should be regarded as part of the core business of lines companies. Energy efficiency can be a cost effective way of avoiding or deferring new network

[1] Where demand side management includes energy efficiency, load management or demand response, fuel switching and on-site distributed generation.
[2] Commerce Commission. 2009. *Re-set of default price-quality path for electricity distribution businesses discussion paper*. p. 36.
[3] Commerce Commission. *op. cit.* p. 34.

investments. The International Energy Agency's (IEA) demand side management programme has compiled case studies[4] demonstrating the practical application of energy efficiency as an alternative to investment in more 'lines and poles'. We note that lines companies do not necessary need to have expertise in energy efficiency technologies, as energy efficiency services can be contracted out. Clearly, lines companies also have a role in optimising energy losses on their networks. The economic cost of network assets to consumers includes not only their capital and operating costs but also the cost of energy lost through these assets.

13. The IEA has developed a set of 25 recommendations to advance global energy efficiency efforts. Of particular relevance, they recommend that "governments and utility regulators should consider implementing mechanisms that strengthen the incentives for utilities to deliver cost-effective energy savings to end users…"[5].

Cost and complexity

14. The Commission indicates that an energy efficiency incentive mechanism may not be consistent with a cost effective, generic default price-quality path[6].

15. We argue that the Commission should also consider the costs to consumers of excluding an energy efficiency mechanism over next five year regulatory period. Without a specific mechanism to address energy efficiency we contend that the proposed default price – quality path will continue to offer the same disincentives to energy efficiency as the threshold regime. Consumers will also lose out on the significant co-benefits that energy efficiency provides to our society including reduced climate changes emissions, warmer healthier homes and improved business productivity.

16. The Australian Energy Regulator (AER) has demonstrated that a relatively simple energy efficiency mechanism can be developed[7]. This mechanism was developed for Victorian lines companies and is comprised of two parts. Part A allows lines companies to fully recover the cost of energy efficiency investments up to a capped allowance[8]. Part B allows lines companies to recover lost (or foregone) revenue as a result of energy efficiency investments made under Part A[9]. Energy efficiency investments and forgone revenues are approved on an ex-post basis[10].

17. Risks associated with a simple scheme, such as developed by the AER could, if necessary, be managed by capping the amount of allowed investment. In this way the Commission (and, of course, lines companies) could build up their knowledge and

[4] International Energy Agency's Demand Side Management Programme. (2008). *Worldwide survey of network-driven demand side management projects.*
[5] International Energy Agency. (2008). *Energy efficiency policy recommendations*. p. 7.
[6] Commerce Commission. *op. cit.* p. 35.
[7] Australian Energy Regulator. (2009). *Demand management incentive scheme, Jemena, Citipower, Powercor, SP AusNet and united Energy*.
[8] Translating this into a New Zealand context, this is somewhat like treating energy efficiency investments as a pass through cost.
[9] With the exception of tariff or price based demand side management actions.
[10] Although lines companies can obtain "indicative" ex-ante approval of planned energy efficiency investments.

experience of energy efficiency and the role that it could play in the efficient management of network assets. This know-how could then feed into the development of a more sophisticated mechanism for the next regulatory period.

Inefficient investment

18. The Commission notes that that some energy efficiency investments may not be cost effective[11]. By including an energy efficiency mechanism into the default price-quality path there is a risk, therefore, that lines companies will invest in energy efficiency measures that are economically inefficient.

19. This risk could be mitigated by requiring lines companies to demonstrate that their investment is least cost with respect to alternative options. In practical terms this would mean that lines companies would need to demonstrate that:

    - The incremental cost of loss reduction equipment would need to be less than the present value of avoided network energy losses; or

    - The cost of demand side management measures would need to be less than value of avoided distribution costs. Guidance on how to estimate avoided distribution costs has been developed by the Independent Pricing and Regulatory Tribunal (IPART) of New South Wales[12].

Monitoring and verification of energy efficiency measures

20. The Commission notes that one of the key challenges to implementing an energy efficiency mechanism "is how to distinguish between reductions in throughput resulting from energy efficiency measures, from those reductions due to slowing economic growth"[13].

21. Monitoring the impact of energy efficiency investments on *total* network demand would be difficult, considering that demand will be influenced by a variety of factors (e.g. economic conditions, population growth or just normal yearly variations in weather) and that such investments may only reduce total network demand by a relatively small percentage.

22. We argue that the impact of an energy efficiency investment *can,* however, be monitored locally, either at the consumer's premise for demand side management investments or at (or close to) the relevant network asset for energy loss reduction investments. Such local estimates would provide sufficient data for the type of energy efficiency mechanism proposed by the AER.

23. Part B of the AER's scheme requires lines companies to verify actual (i.e. ex-post) demand reductions from energy efficiency investments so that they can be compensated

[11] Commerce Commission. *op. cit.* p. 34.
[12] Independent Pricing and Regulatory Tribunal. (2005). *Guideline: Calculation of avoided distribution costs.*
[13] Commerce Commission. *op. cit.* p.34.

for foregone revenues. The AER allows lines companies to base their demand reduction estimates on[14]:

- A representative sample, where the energy efficiency investment impacts multiple consumers; and

- If the energy efficiency investment is implemented through an energy services contract then the measurement and verification processes associated with that contract may be used (presumably if suitably robust).

24. Practical examples in New Zealand of ex-post verification of energy efficiency actions include:

- Transpower's demand side participation pilot and trial[15]. Transpower demonstrated that demand side resources can be contracted to manage peak demand. For both the trail and pilot contracted demand side resource service providers had to verify their actual contribution to demand reduction and a number of verification techniques were successfully demonstrated.

- Orion's study of the impact of household insulation retrofits on peak demand[16]. This study measured average peak winter demand for 116 houses with and without insulation. It demonstrates how representative sampling could be used to establish demand reduction for energy efficiency investments impacting multiple consumers.

25. It is likely that there will be a number of methods that will be suitable to verify actual demand reductions from lines companies energy efficiency investments. In this regard it may be possible to adapt some of the methodologies used in the New South Wales Energy Savings Scheme[17].

26. Energy supply obligation or white certificate[18] programmes suggest an alternative to ex-post verification of energy efficiency investments. These programmes define a list of pre-approved energy efficiency measures. For each measure the programme administrator determines the level of demand reduction on an ex-ante basis. This approach is likely to be more suitable for residential energy efficiency investment which tend to be more amenable to standardisation. This method may, though, provide lines companies with more certainty and has the potential to reduce demand reduction verification compliance costs.

[14] Australian Energy Regulator. *op. cit.* p. 12-13.
[15] Transpower. (2008). *Demand-side participation (DSP) trial 2008*.
[16] Orion. (2004). *Effect of improved insulation on peak period demand*.
[17] Refer to http://www.ess.nsw.gov.au/default.asp
[18] The South Australian Residential Energy Efficiency Scheme is one example of a white certificate programme. Refer to http://www.dtei.sa.gov.au/energy/government_programs/rees

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Starting prices

27. Over time, with an appropriate incentive mechanism, energy efficiency investments may become 'business as usual' for lines companies with these investments included within asset management plans and recovered in the same way as other costs.

28. The Commission have asked if energy efficiency could be promoted through the specification of starting prices in the regulated price-quality path[19]. Adjustments to individual lines companies starting prices are to be determined by the Commission based on current and projected profitability. We argue that energy efficiency investments should be included within the regulatory asset base used to determine current profitability and within the scenario based assessments used to determine projected profitability. Compatibility with any energy efficiency mechanism would need to be ensured. It may be that forecast energy efficiency investments that materially impact starting prices should be excluded from taking advantage of further incentives provided by an energy efficiency mechanism. The AER energy efficiency mechanism excludes energy efficiency investments already included in forecast expenditure approved as part of each lines company's regulated price path[20].

29. By including energy efficiency investments within the process for determining starting prices the Commission would send a positive signal to lines companies that energy efficiency is a legitimate investment activity for lines companies.

[19] Commerce Commission. *op. cit.* p. 58.
[20] Australian Energy Regulator. *op. cit.* p.7