



Mr Carl Hansen  
Chief Executive  
Electricity Authority  
2 Hunter Street  
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28 October 2013

Dear Mr Hansen

## Sunk Costs Working Paper

Transpower has asked us to review the Electricity Authority's (EA's) transmission pricing methodology (TPM) sunk costs working paper.<sup>1</sup> The paper considers the definition of sunk costs and their relevance to production and pricing decisions. We have been asked whether any of the analysis or conclusions contained in the paper cause us to reconsider any of the findings in our earlier reports. In short, they do not. Although there is very little in the paper with which we disagree, nothing in it causes us to change our views.

Throughout the paper, the EA places a strong emphasis on the distinction between sunk costs and fixed costs. It characterises the former as those costs that cannot be recovered if a firm ceases operations, i.e., costs that are "committed irrevocably".<sup>2</sup> Fixed costs are described as those that "do not alter with changes in production".<sup>3</sup> In a previous report,<sup>4</sup> we approached the issue of sunk costs by setting out the conditions that must exist before Transpower would relocate or sell an asset.

We explained that, given the highly specific nature of most transmission investments, it will rarely (if ever) be efficient for Transpower to cease using or relocate an asset once it is in place.<sup>5</sup> This led us to conclude that, even if a change to the TPM was going to affect the revenue that Transpower would earn from its existing network, this would be unlikely to have any effect on what it efficiently does with those assets – they will stay where they are. It is for this reason that we described the costs of those assets as "sunk for all practical purposes".<sup>6</sup>

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<sup>1</sup> Electricity Authority, *Transmission pricing methodology: Sunk costs, Working paper*, 8 October 2013 (hereafter: "Sunk costs working paper").

<sup>2</sup> Sunk costs working paper, §5.23.

<sup>3</sup> *Ibid.*

<sup>4</sup> CEG, *Letter to Mr Carl Hansen, Chief Executive, Electricity Authority, Transmission Pricing Conference – Response to Questions*, 25 June 2013, p.5.

<sup>5</sup> In fact, we have been advised that the costs that would be incurred removing/redeploying an asset tend to be greater than the cash-flow that Transpower could receive from it once it is redeployed/sold.

<sup>6</sup> CEG, *Letter to Mr Carl Hansen, Chief Executive, Electricity Authority, Transmission Pricing Conference – Response to Questions*, 25 June 2013, p.5.

Under the EA's narrower definition, those costs may not be fully sunk. For example, if there was an alternative use for an asset and some demand for it in its current use, a portion of its costs might be recoverable.<sup>7</sup> However, regardless of whether one describes the costs of existing assets as sunk or fixed, that does not detract from the basic point in our previous reports. The fact is that, in practice, nothing the EA does to the TPM is likely to reduce the cost or change the nature of those past outlays. The key question is therefore how best to recover those costs via transmission prices. As the EA acknowledges:<sup>8</sup>

*"The debate in economics is about how best to recover fixed costs (and sunk costs are fixed costs), and not whether a distinction is required between sunk and other costs for the purpose of infra-marginal pricing".*

In relation to this question, we have observed on a number of occasions that the EA's proposal to reallocate the costs of past investments (whether defined as sunk, fixed or otherwise) using a "beneficiaries-pay" approach is highly unlikely to promote static or dynamic efficiency. As we explained our most recent report,<sup>9</sup> the nodal pricing arrangements in the wholesale market, when coupled with the current TPM appear to closely resemble an efficient Ramsey-Boiteux two-part tariff;<sup>10</sup> since:<sup>11</sup>

- the short run marginal cost of transmission grid usage is reflected in the differences in wholesale spot prices between nodes; and
- the fixed costs of existing transmission assets are recovered through a series of fixed charges, with a view to minimising distortions to grid usage.

It was for this reason that we concluded that there is little scope for changes to the TPM to deliver incremental static efficiency benefits.<sup>12</sup> However, there is the clear potential for static inefficiency to arise if such changes distort the use of existing assets and the recovery of past costs. For example, we have explained in some detail on several occasions why the introduction of variable "beneficiaries-pay" charges may cause generators to modify their bids in ways that compromise the efficiency of wholesale dispatch.<sup>13</sup>

We have, however, noted that any static inefficiency costs stemming from changes to the TPM might *in principle* be outweighed by long term dynamic efficiency benefits.<sup>14</sup> This could

<sup>7</sup> Sunk costs working paper, §5.6.

<sup>8</sup> *op. cit.*, §7.18.

<sup>9</sup> CEG, *Economic Review of EA CBA Working Paper, A Report for Transpower*, October 2013, §29.

<sup>10</sup> See: Frank. P. Ramsey, "A Contribution to the Theory of Taxation", *Economic Journal* (1927), pp.47-61.

<sup>11</sup> CEG, *Economic Review of EA CBA Working Paper, A Report for Transpower*, October 2013, §47.

<sup>12</sup> *op. cit.*, §49.

<sup>13</sup> See for example: CEG, *Economic Review of EA CBA Working Paper, A Report for Transpower*, October 2013, §4.1; CEG, *Letter to Mr Carl Hansen, Chief Executive, Electricity Authority, Transmission Pricing Conference – Response to Questions*, 25 June 2013, pp.8-11; and CEG, *Transmission Pricing Methodology – Economic Critique*, February 2013, §4.2.

<sup>14</sup> CEG, *Economic Review of EA CBA Working Paper, A Report for Transpower*, October 2013, §4.2.

occur if price changes resulted in better investments in new assets and delivered benefits that outweighed the costs of any short term distortions to the use of the existing grid. This might even be facilitated by levying variable charges, as the EA has observed.<sup>15</sup> But the key point is that such outcomes are highly unlikely *in practice* in this instance, because:<sup>16</sup>

- the “beneficiaries-pay” charges would not necessarily signal the long-run marginal cost of future investments or even provide a robust estimate of private benefits, i.e., they have no obvious role in the establishment of efficient transmission prices;<sup>17</sup>
- the benefit of deferring future investments through transmission pricing is likely to be small at present, given the point in time in the investment cycle, i.e., the recently completed upgrades will create spare capacity for many years; and
- it has not been suggested that the Commission’s capital investment framework is incapable of delivering the right investment outcomes, i.e., there is no clear source of dynamic inefficiency to be addressed.

There is therefore likely to be few if any dynamic efficiency benefits to be obtained through TPM reform – particularly through the proposed “beneficiaries-pay” charge. Moreover, those benefits would almost certainly be outweighed by the static and dynamic efficiency costs that would inevitably be associated with such change. The impact upon wholesale dispatch has already been discussed, and the costs of disputes would also increase substantially. The heightened risk produced by the proposal may also reduce retail competition.

For those reasons, nothing in the sunk costs working paper changes our view that there is unlikely to be any material efficiency benefits associated with applying a “beneficiaries-pay” approach to reallocating the costs of existing assets. We remain of the opinion that the primary effect of any such change would be to impose substantial additional costs. We hope that you find these thoughts helpful in your important deliberations on these matters, and we look forward to seeing further details as they develop.

Yours sincerely



**Hayden Green**



**Dr Tom Hird**

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<sup>15</sup> See: Sunk costs working paper, §7.18.

<sup>16</sup> All of these factors are explained in more detail in our most recent report, see: CEG, *Economic Review of EA CBA Working Paper, A Report for Transpower*, October 2013.

<sup>17</sup> Moreover, the investment decisions of generators and load are likely to be determined primarily by factors other than transmission charges, i.e., providing an additional price signal (however designed) through the TPM might not materially change investment behaviour.