AEMC advice to SCER on differences between actual and forecast demand in network regulation – Stakeholder workshop summary

The AEMC held a workshop with interested stakeholders in Melbourne on 28 February 2013 on Standing Council on Energy and Resources (SCER) request for advice on how differences in electricity demand should be factored into the economic regulatory framework for network businesses (NSPs).

SCER has requested this advice by 31 March 2013. Given the limited time available, this workshop provided an opportunity for stakeholders to put forward their views on the issues and potential solutions.

The workshop was organised into three sessions:

1. A presentation from AEMC staff on the scope of the advice and issues to be considered
2. Stakeholder presentations from AER (Australian Energy Regulator), Energy Networks Association (ENA), Grid Australia and Alternative Technology Association (ATA)
3. Stakeholder discussion on three key aspects to the network regulation framework:
    1. Incentives for efficient investment
    2. Choice between revenue cap and price caps for NSP revenue recovery
    3. Tariff setting process.

Presentations by the AEMC, AER, ENA, Grid Australia and ATA referred to in this synopsis, can be found on the AEMC's website.

Opening Remarks

AEMC Chair (Commissioner Neville Henderson) opened the meeting and outlined the purpose of the workshop and explained the issues raised in SCER request for advice. The following points were made.

- This review covers both the electricity transmission and distribution networks sectors.
- Broadly, SCER has asked the AEMC to:
    - investigate the implications of differences between actual and forecast demand within the operation of the economic regulatory frameworks applied to network businesses;
    - provide advice on the merits of the AER considering differences between actual and forecast demand when undertaking network determinations (in an incentive-based regulatory environment);
    - assess how the risks associated with such differences are shared between the network businesses and consumers under the current regulatory frameworks;
    - assess how the costs of managing such risks affect consumers and businesses' incentives; and

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- provide advice on whether any changes to the current rules are needed to ensure consumers receive the benefits of sustained reductions in demand, including but not limited to the AER's ability to consider previously approved capex and improvements to the rules around annual network tariff setting.
- SCER has requested that in considering potential amendments, the AEMC has regard to the need for actions to be proportionate, and not to compromise the ability of the regulatory frameworks to deliver the National Electricity Objective and meet the revenue and pricing principles.
- The AEMC will consider both possibilities regarding demand patterns; that is, actual demand may turn out to be more than or less than forecast demand.
- While the accuracy demand forecasts are important, this issue plus the process the AER employs in making demand forecast for network determinations are out of scope of the AEMC's advice to SCER.

Session 1:SCER terms of reference

AEMC staff presented an overview of the terms of reference from SCER on this request for advice, AEMC's proposed approach and the issues to be considered. The following points were made:

- SCER has asked us to consider whether the amendments to the Rules are needed to ensure consumers receive the benefits of sustained reductions in demand.
- The key focus of this review is how the current regulatory framework manages the risks associated with using demand forecasts to determine the allowed revenues and prices of network businesses.
- An important aspect to this is how the current framework allocates that risk between consumers and networks businesses.
- The use of demand forecasts in five yearly network determinations and annual tariff processes will create uncertainty and risks as actual demand will inevitability differ from forecasts
- Risks for both consumers and network and the nature and impact of those risks will differ if actual demand is more than or less than forecast. Both of these scenarios are within scope of this review
- AEMC will approach SCER request for advice through the following steps:
    1. What the risks associated with using forecast demand?
    2. What are the impacts/costs of those risks?

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3. How are such risks and costs managed under the current framework and differ between control mechanisms (price cap or revenue cap)?
4. Identify any potential improvements consistent with NEO, with focus on potential solutions relating to:
    - AER's ability to consider utilisation of previously approved capex
    - Annual network tariff setting

- It is recognised that the divergence between actual and forecast demand has seem to widen since 2008.
- There are two key risks from using forecast demand in network regulation:
    - Expenditure risk
    - Volume risk
- It was recognised that there exists a range of mechanisms within the current rules to address uncertainty (i.e., cost pass through, contingency projects, capex re-openers).
- Also the incentive regime governing capital expenditure is currently being developed by the AER following the 2012 Network Regulation Rule change.
- These aspects –which are within the AER discretion - will help manage expenditure risk.
- Regarding volume risk, the choice between either a Weighted average price cap (WAPC) or a revenue cap will decide how the risk is allocated between business and consumers.
- The tariff structure will also influence how the risks are translated onto consumers.
- Through two examples, it was explained that networks who are subject to a WAPC, can be able to maximise the upside risk of changes in demand and minimise the downside risk through the rebalancing their tariff structure.
- This review would need to consider whether the impacts on consumers are being appropriately taken into consideration in the choice of form of control and the tariff structure design.

Session 2: Stakeholder Presentations

AER presentation: Chris Pattas from the Australian Energy Regulator (AER) gave a presentation on its perspective of the key issues:

- Chris noted that the following points were mainly staff opinion and have not be formally endorsed by the AER Board.
- An incentive based regulatory regime needs to use forecasts to establish efficient expenditure and to determine revenues/prices. It is also about making sure that risks are borne by those best placed to meet them.
- Existing determinations can only be re-opened for very specific reasons; forecasting error is not one of these. This preserves the effectiveness of the incentive based regime, where network businesses are expected to manage their ongoing risks.

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AER presentation (cont'd)

- The AER does not consider that any further changes to the NER are required this time as the recent changes to the NER and the further guideline work that the AER in undertaking should further mitigate expenditure risks.
- Any interventions within the regulatory period to adjust for forecasting error would undermine the current incentive regime and not be in the long term interest of consumers.
- In terms of volume risk, the AER acknowledges that this is better managed under a WAPC but taking into account broader considerations a revenue cap has less detriments than a WAPC form of control.

Session 2: Stakeholder Presentations

ENA presentation: Garth Crawford from the Energy Networks Association (ENA) gave a presentation on its perspective of the key issues:

- Noted that AEMC advice occurring in parallel to complex series of existing and relevant reviews and processes currently underway.
- Highlighted a number of features of existing rules that address the risk of differences between actual and forecast demand.
- ENA noted its initial views that:
    - It was difficult to see a lack of available mechanisms in the rules.
    - Focus on analysis of revenue cap or price cap choices may not address underlying issues of falling volumes and peaks.
    - If there is a 'new normal' in falling/stable network average and peak demand, then tariff structures which do not reflect businesses costs become increasingly problematic
    - It is unclear if a simple movement to greater revenue cap pricing would address this, or if it could exacerbate the issue
    - A better approach might be to provide NSPs with increased flexibility to restructure tariffs to reflect costs using their more granular knowledge of costs and price elasticities.
- ENA put forward a number of questions for the AEMC:
    - What 'problem' is actually being targeted?
    - Are the existing and recently amended features of the incentive based-regulatory model and Rules sufficiently clear to policymakers?
    - How has the AER typically exercised the existing 'envelope' of capital expenditure incentive measures already available to it?
    - Is there evidence of a Rule deficiency linked to an identified problem?

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Session 2: Stakeholder Presentations

ATA presentation: Craig Memery from the Alternative Technology Association (ATA) gave a presentation on its perspective of the key issues:

- ATA considers that networks under a WAPC have a strong incentive to over-forecast peak demand forecasts in their revenue proposals. Revenue cap networks also have some incentive to overestimate forecast peak demand.
- ATA noted that the AER has shown from actual data from WAPC DNSPs in Victoria that "actual sales volumes often, and perhaps consistently, exceed forecasts."
- ATA highlighted analysis from the AER that showed DNSPs in Victoria had actual capex significantly below the forecast capex between 1996 to 2008 and forecast capex was by DNSPs was projected to be significantly higher between 2009-2015.
- ATA also presented analysis from Carbon Market Economics that showed that that there were significant differences in a TNSP's (Electranet as an example) forecast peak demand in its regulatory proposal and actual demand. It also highlighted that there was a significant difference between the TNSP's forecast and other forecasts for the same period from AEMO and AER.
- ATA is of the view that consumers effectively pay NSPs a considerable premium to carry expenditure and volume risk related to forecasting of demand, yet there is little evidence of the downside impacts on NSPs that would be expected if this risk was based on accurate forecasts.
- ATA suggested that it is consistent with the NEO for NSPs to be held more accountable for the accuracy of their forecasts.

Session 2: Stakeholder Presentations

Grid Australia Presentation – Rainer Korte from the Grid Australia gave a presentation on its perspective of the key issues:

- Grid Australia made similar points to ENA in that there were a number of existing mechanisms in the Rules that address the risks of demand forecasting errors.
- It also noted that recent Rule changes strengthen the role of the AER in incentive design and the right response is to "let the AER get on with the job".
- Grid Australia suggested that incentive regulation will become ineffective when there are retrospective changes to incentives – for example applying ex-post adjustments that were not part of the incentive regime at the start of the regulatory period.
- It highlighted that that Australian Energy Market Operator's (AEMO) expanded role to provide independent demand forecasts and to coordinate a consistent approach to forecasting at a localised connection point level (i.e. more relevant to investment decisions) is expected to reduce the mismatch between forecast and actual demand and reduce future risk of mismatch between forecast and actual spending needs.

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Grid Australia presentation (cont'd)

- It noted that under current arrangements, any over or under investment compared to forecast will only result in additional or insufficient revenue for a maximum of 4 years – actual capex is reflected in the RAB at the next revenue reset.
- Grid Australia also noted that there is already an incentive under current Rules to defer capex when demand outcomes are less than forecast, which includes the use of non-network solutions.
- A vast majority of transmission costs are unaffected by the level of demand during a regulatory period and Revenue difference from variation in demand driven capex is relatively small.
- A revenue cap in combination with a properly designed capex incentive scheme (including contingent projects where appropriate) and additional administrative measures (e.g. the RIT-T) is appropriate for transmission.
- In Grid Australia's view, the current regulatory framework makes adequate provision for the AER to address any perceived problem through effective incentive design and Evidence of a Rule deficiency is lacking.

Session 3: Stakeholder discussion

Following stakeholder presentations, the workshop covered the following three areas:

1. **Efficient Investment:** The role of demand forecasts to set allowed expenditure and how actual expenditure adjusts to differences between forecast and actual demand.
2. **Revenue Recovery**: How is choice between revenue cap and price cap is determined and what are the implications for consumers/businesses of differences in demand.
3. **Tariff pricing:** How does the network tariff process affect the allocation of risks of differences in demand between networks and consumers

At the start of each area, AEMC staff provided a quick perspective and raised some questions for discussion.

Efficient Investment

- AEMC staff gave a short introduction to the issue of efficient investment for the scope of this review.
- It is noted that maybe demand trends at the local level may drive investment decisions more so than region wide trends
- Also that a network investment process can take time and there may be limited opportunity during the process to change in face of demand changes.

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- A short explanation of the AEMC network regulation rule changes was provided, including how such changes complement the existing planning provisions (APR, NTNDP,RITs)
- The following questions were raised for discussion:

1. How do NSPs respond to changes in demand and factor them into their investment planning processes within the current framework?
   a. What options do NSPs have to delay or bring forward capex in response to changes in demand during their regulatory control period?
   b. Are there any differences between transmission and distribution NSPs?
2. How should the regulatory framework recognise the investment risks from changing demand?
   a. What are the costs of these risks?
   b. Does the current regulatory framework provide appropriate mechanisms to manage the risks and provide the right incentives for efficient investment?

Efficient Investment – Stakeholder discussion

- MEU and EUAA argued that under the current incentive regime, there is a strong incentive for the businesses to over-forecast their peak demand forecasts.
- To them, the effect of this has led to gold plating of the networks, and the solution is to remove such assets that are un-necessary from the RAB.
- EUAA asked whether this option was within scope of the review.
- AEMC responded that it was, but that this was a matter that the AEMC have already commented on during the 2012 rule changes.
- Other stakeholders argued that the new rules should be given the opportunity to be tested before further changes are made.
- It was raised that for consumers, the risk with expenditures are asymmetric – if networks build too much, consumer lose through higher prices. However, if network do not build enough, consumers also lose through decreased reliability.
- Stakeholders recognised that demand forecasts are becoming more difficult, especially given the growth in solar PV generation.
- There was a strong debate on whether this a material problem
- Large energy user groups argued that the proportion of revenue allocated to demand growth was substantial, however NSPs argued against that. NSPs stated that you need to distinguish between connection capex and reinforcement capex.

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<u>Revenue Recovery</u>:

- AEMC staff gave a short introduction to the issue of revenue recovery for the scope of this review.
- For TNSPs, the AER is required by the NER to apply a revenue cap. For DNSPs, the AER can exercise discretion in selecting the form of control having regard to a range of factors.
- It was explained that for a revenue cap, consumers bear the volume risk, while for a price cap, the businesses are subject to the risk to changes in demand.
- The following questions were raised for discussion:

1. How does each form of control mechanism permitted in the current framework affect an NSP's risk of recovering its allowed revenues?
   a. How does revenue cap and price cap approach balance the volume risks from changes in demand?
   b. Is there appropriate consideration of consumer impacts in the choice of form of control mechanism under the current arrangements?

2. Is the current framework adequate to recognise the costs and benefits of volume risks?
   a. Are the control mechanism criteria in the NER for DNSPs appropriate?
   b. How do other aspects of the regulatory framework manage the revenue recovery risks?

- **<u>Revenue Recovery – Stakeholder discussion</u>**
- Stakeholders recognised that the AER has added further criteria to assist its choice for the forthcoming NSW and ACT distribution network determinations.
- TNSPs noted that there are good reasons, such as the lumpiness of investment, why TNSPs are subject to a revenue cap and those reasons remain relevant today.
- AER noted that while WAPC provides good theoretical basis for incentivising NSPs to set efficient prices, recent observations from DNSPs under WAPC do not indicate that this has occurred in practice.
- DNSPs were concerned with any move to revenue caps as it would remove any incentive on them to structure their tariffs in an efficient manner.

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Tariff pricing

- AEMC staff gave a short introduction to the issue of tariff pricing for the scope of this review.
- The focus of the review is on DNSPs since it is the DNSP who passes on the transmission charges and determine the structure of network prices faced by consumers.
- It was noted that the AEMC power of choice review made a range of recommendations regarding network pricing, including:
  - Strengthening the distribution pricing principles
  - Having more robust consultation with retailers and consumers for the annual tariff setting process
  - Improving the AER verification process for the annual network tariff setting process.
- It was questioned whether was sufficient connection in the rules between the choice of form of control and the tariff structure approval.
- NSPs currently used actual demand volumes from previous year to determine tariffs in the forthcoming coming year.
- The following questions were raised for discussion:

1. What incentives and risks are created for efficient tariff structures from the choice of control mechanism?
2. How much discretion should NSPs have in restructuring their network tariffs? Should DNSPs under a price cap be allowed to restructure their tariffs as means of managing volume risks?

Tariff pricing – stakeholder discussion:

- Some stakeholders commented that the more to time varying tariffs may actually increase the risks to networks and were concerned about the implications for consumers.
- It was questioned whether it was sensible to continue the practice of using historical demand levels to set future prices given the current trend of falling demand.
- NSPs responded that historical demand levels are only used to test the overall average price constraint and not to set individual prices.
- AER suggested that the Distribution Pricing Principles in the Rules should be strengthened to align the DNSP's tariff pricing incentives with the control mechanism.
- Stakeholders generally acknowledged that there were some improvements that could be made to the Rules in the annual tariff setting process in line with the AEMC's Power of Choice recommendations.

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Concluding comments from the Chair

- The Chair noted that there was a healthy debate on the issues and thanked the participants for their comments.
- The Chair noted that the there is very little time for any further consultation, but if any stakeholder wants to provide written comments to the AEMC on any of the issues discussion today, it will be most welcome. However, sooner rather than later would be better as the advice is due to SCER in 4 weeks.
- AEMC would also appreciate any empirical evidence that could support the claims made today in the stakeholder discussion sessions.