Ausgrid Submission

ICT expenditure consultation paper

June 2019

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19 June 2019

Attn: Chris Pattas
Australian Energy Regulator
GPO Box 520
MELBOURNE VIC 3001

Lodged by email: AERinquiry@aer.gov.au

Dear Mr Pattas

Please find attached Ausgrid's submission to the Australian Energy Regulator's (AER) *Consultation Paper: Information Communication Technology (ICT) Expenditure Assessment*.

The national electricity market (NEM) is in the midst of a technological transformation, with increasingly innovative ways of generating, storing and trading electricity emerging. In the coming years, electricity distributors will need to adapt to this transformation by investing in the ICT tools, platforms and infrastructure required to keep pace with the rapid rate of change.

For customers, this ongoing technological transformation has the potential to deliver significant benefits. More and more, customers are seeking to use new technologies that allow them to take greater control over their energy usage. Prudent investment in ICT infrastructure by electricity distributors is likely to help them do this by providing the technological backbone for a mass take up of customer owned distributed energy resources (DER).

By automating processes and identifying smarter ways of managing network assets, ICT expenditure can also unlock substantial cost savings for electricity distributors, the bulk of which are ultimately passed on to customers under the existing incentive schemes administered by the AER. Service quality, too, can be improved by investing in advanced analytics and other ICT applications and tools that allow for better management of network reliability and the security of the system.

These customer benefits are likely to lead to ICT expenditure becoming increasingly more important in the delivery of distribution network services. We agree that this makes now an appropriate time to take stock of the existing regulatory settings for assessing ICT expenditure to explore if improvements can be made. For this reason, we support the AER's review and the opportunity to provide our attached submission.

We have sought to take a novel approach to developing this submission. To strengthen our analysis and test our own views regarding the AER's consultation paper, we shared a draft version of our submission with key external stakeholders. The feedback we received was then incorporated into our final submission which is set out below. Thanks to the Council of the Aged (COTA), Total

Environment Centre (TEC) and three members of the Ausgrid Customer Consultative Committee (CCC), Mike Swanston, Louise Benjamin and Mark Grenning, for their support of our approach and for the comments they provided.

Our view is that collaborating with customers in this way will allow us to better understand their needs and assist Ausgrid in the development of a policy position that better reflects the interests of our stakeholders.

If you would like to discuss our submission in more detail please contact Shannon Moffitt, Ausgrid Senior Regulatory Analyst, on (02) 9269 2280 or shannon.moffitt@ausgrid.com.au.

Yours sincerely

Iftekhar Omar
Head of Regulation

Submission

Our submission to the AER's ICT review is divided into two parts. Part 1 identifies the broader regulatory context of the AER's review, while Part 2 sets out our response to each question in the AER's consultation paper.

Part 1: Regulatory context

To assess the regulatory context of the AER's review, we examined how the share of ICT costs as a proportion of total expenditure (totex) in the NEM has changed. We also had regard to ICT benchmarking data on the relative efficiency of electricity distributors.

ICT totex rising as a percentage of total expenditure

The AER's consultation paper noted that 'ICT expenditure has been a growing component of a DNSP's expenditure over recent years'.[1] In reaching this view, the AER observed that ICT expenditure across all electricity distribution businesses has risen from 7 percent of totex in 2009 to 12 percent in 2017.

Ausgrid has observed a similar rise in ICT totex. Using publicly available RIN data, we sought to observe how the expenditure mix of electricity distribution businesses in the NEM has changed. Our analysis is set out in Figure 1 below and shows a similar increase in ICT totex to that observed by the AER in its consultation paper. It shows that ICT totex has been rising as a percentage of total expenditure at a time when other cost categories have been declining.

Figure 1: Expenditure mix across all electricity distributors in the NEM (real, FY19)

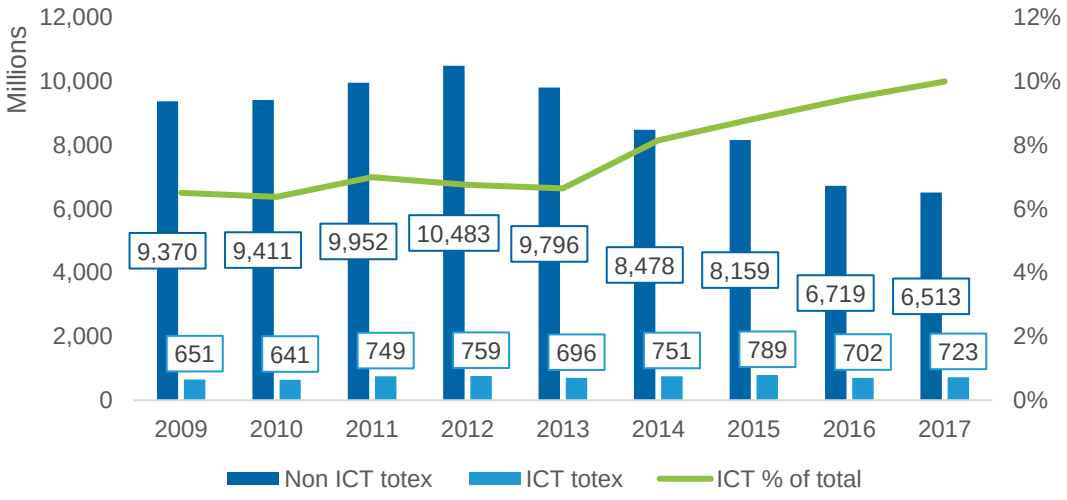
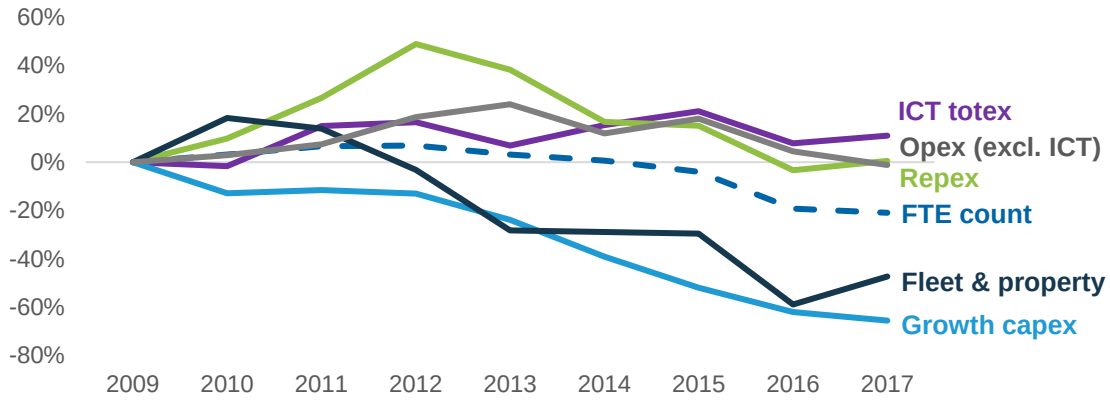


Figure 2 unpacks this analysis further by measuring the percentage change in different expenditure categories. It confirms that ICT totex has increased on 2009 levels. This is at the same time as other

1 AER, *Consultation Paper – ICT Assessment Approach*, May 2019, p. 10

expenditure categories – namely opex and repex – have returned to a level where they were in 2009, while growth capex and fleet and property investments have declined significantly.

Figure 2: NEM percentage change in expenditure since 2009 (inflation adjusted)



The downward trend in FTE count in Figure 2 above (dotted blue line) is worth noting. It shows that at the same time as ICT costs have increased the FTE count across all electricity distributors has fallen. This is indicative of a broader transformation strategy from businesses, in which they have invested more in ICT tools and platforms to replace the lost output from staff reductions. These ICT investments, by automating manual processes and performing other tasks previously performed by employees in larger workforces, unlock efficiencies and deliver cost savings that are in the long-term benefit of customers.

Ausgrid is seeking to make such investments in 2019-24 period. Our ICT Adapt program is targeted at helping Ausgrid to sustain recurrent opex savings. By investing in advanced analytics and digital technologies, the Adapt program seeks to deliver the tools needed to assist our business in finding the further efficiencies required to become a smaller Ausgrid and meet our target of 1% pa productivity improvement from FY21.

Based on the above, we have reached the view that now is a timely moment to take stock of the existing regulatory settings for how ICT costs are assessed. Investing in ICT platforms, tools and infrastructure has the potential to deliver significant long-term benefits. This is particularly the case if these investments unlock productivity gains and deliver other efficiencies that are ultimately passed on to customers. Ausgrid supports the AER's consultation paper for these reasons.

Benchmarking of ICT costs

We have undertaken benchmarking analysis to gauge the relative efficiency of electricity distributors in the NEM. Our analysis has been done at the totex level and applies partial performance indicators based on ICT expenditure per customer, per FTE and as a proportion of each electricity distributor's regulated asset base (RAB). As shown in Figures 4-6, Ausgrid performs well on each of these metrics in terms of relative efficiency.

Figure 4: Annual historical ICT totex per customer ($real, FY19)

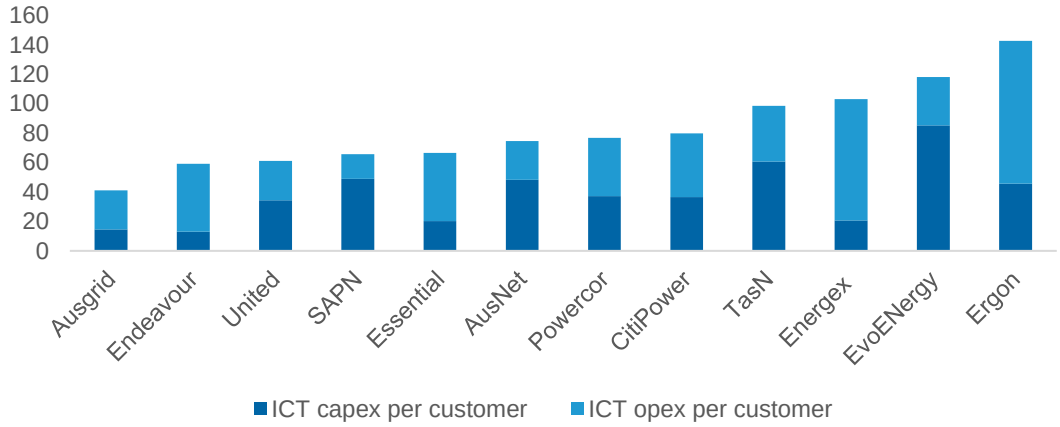


Figure 5: Annual historical ICT totex per FTE count ($real, FY19)

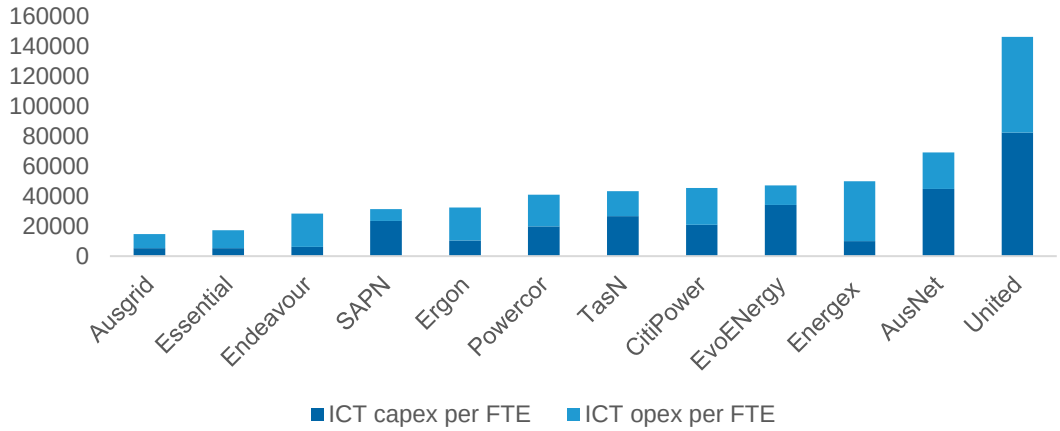
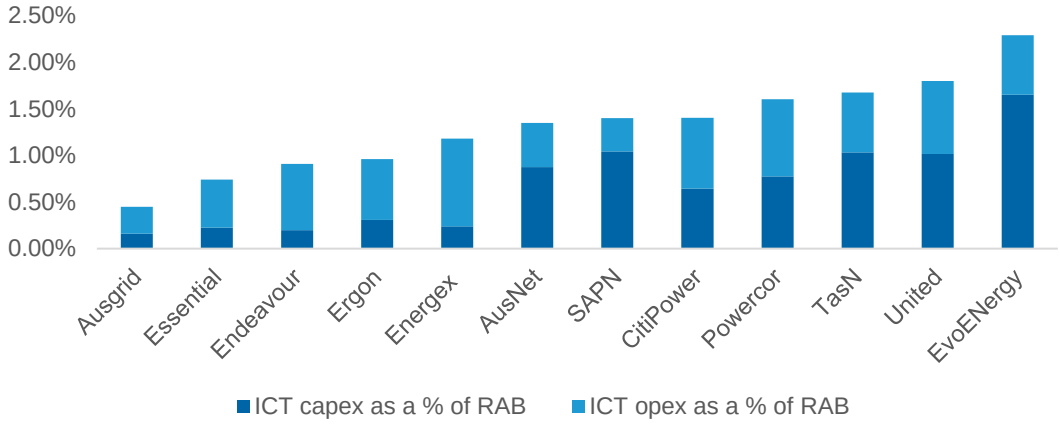


Figure 6: Annual historical ICT totex as a percentage of 2017 RAB



Our analysis is based on an average of the last five years of ICT opex and ICT capex.[2] It therefore gauges the relative efficiency of historical costs, rather than the forecast expenditure either currently under review (QLD/SA distributors) or recently approved (NSW/ACT/Tas distributors). We consider this appropriate given that the AER will look at historical costs when using benchmarking to test the efficiency of a distributor's "revealed" ICT expenditure.

We provide further comment on the benchmarking of ICT costs in our response to question 2 of the AER's consultation paper below. We agree that benchmarking analysis should be done at the totex level, as, in the words of the AER: 'benchmarking over totex [accounts] for differences between DNSPs on whether devices and infrastructure are leased (opex) as opposed to purchased (capex)'.[3] We consider this to be particularly important as distributors begin to adopt different ICT strategies in terms of ownership of on-premise data centres (capex) or the adoption of 'cloud' based software subscription models (opex).

Importantly, there is a degree of variability in the performance of some businesses depending on the metric that is used. For example, some businesses perform towards the front of the pack on ICT totex per customer, but poorly on a per FTE count basis.

There could be many reasons for this variability. For example, performance on a per FTE count basis will be heavily influenced by a business's outsourcing approach. In our view, this variability demonstrates that regard should be had to multiple metrics when seeking to benchmark the relative efficiency of a firm against its peers.

In their comments on our draft submission, COTA and CCC members expressed support for using other metrics when benchmarking ICT costs. Both COTA and CCC members suggested that benchmarking should consider other markets/industries. CCC members also suggested that overseas data should be incorporated. We agree that it would be a worthwhile exercise to look at data for distributors in comparable overseas markets. Obvious care would need to be taken when undertaking comparisons with other industries (e.g. water utilities).

Part 2: Response to the AER's consultation paper

We outline our response to each question in the AER's consultation paper below. Ausgrid would support changes to the AER's assessment approach that are targeted at setting out more clearly how electricity distributors are required to demonstrate customer benefits when putting forward an ICT proposal. We consider the AER's consultation paper outlines an approach that offers greater clarity around these expectations.

We would, however, suggest that care should be taken in placing too much weight on the application of net present value (NPV) outcomes. A better approach to promoting the prudence and efficiency of ICT investments is to develop regulatory arrangements that encourage customers to be involved more in the decision-making processes. Ausgrid is currently seeking to do this for innovation and compliance driven ICT projects via the establishment of customer advisory committees.

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2 Jemena is not shown in Figures 5-7 due to confidentiality claims of their RIN responses

3 AER, *Consultation Paper – ICT Assessment Approach*, May 2019, p. 17.

Question 1: Does it make more sense to disaggregate ICT into its 'recurrent' and 'non-recurrent' components? Ausgrid presented their ICT capex forecast into the categories 'Comply', 'Protect (cyber)', 'Maintain' and 'Adapt' that are based on purpose. Would stakeholders find these categories more useful than our suggested recurrent and non-recurrent categories?

Ausgrid considers the disaggregation of ICT expenditure into 'recurrent' and 'non-recurrent' components is a sound basis for the AER to begin an assessment of an electricity distributor's proposed forecast.

As noted by the AER, our 2019-24 regulatory proposal presented our ICT capex forecast into four categories based on their purpose. We use these categories – comply, protect, maintain and adapt – internally to plan and implement our ICT strategy. In their comments on our draft submission, CCC members broadly supported the use of categories similar to ours. We appreciate the CCC members support for our approach, but it is likely that other businesses group their costs differently to us.

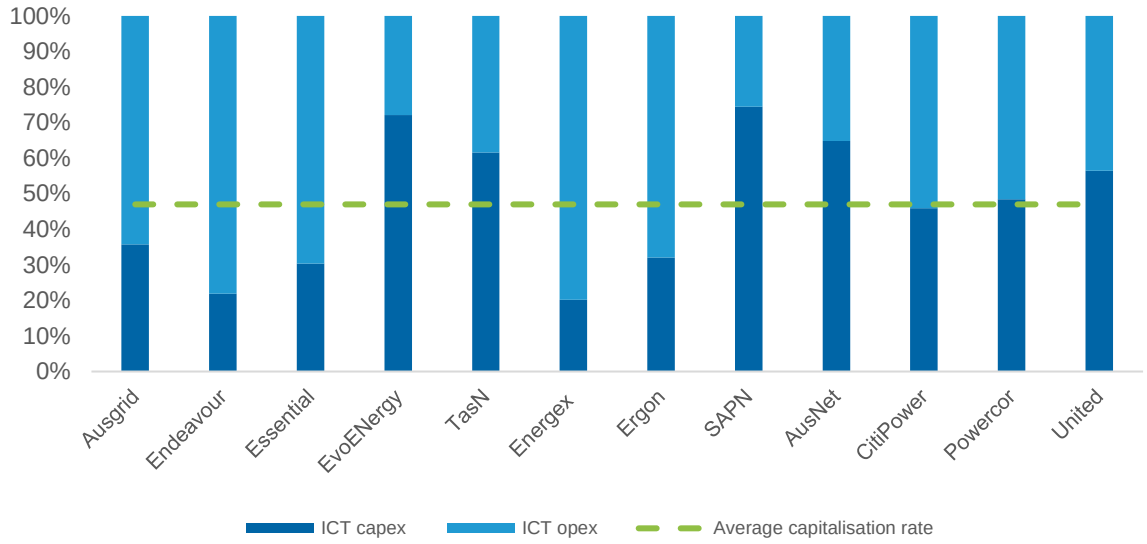
We consider, in light of these different approaches, that the way the AER disaggregates an ICT expenditure proposal before assessing its efficiency should be sufficiently adaptable to businesses across the NEM.

Question 2: What other methodologies can we use to benchmark ICT capex? What are the benefits and disadvantages of each approach? What other benchmarking normalising factors do you consider appropriate? For example, Regulatory Asset Base (RAB) could be used as a proxy for asset size.

We agree that benchmarking is a useful tool to compare the performance of an electricity distributor with its own past performance and with the performance of other businesses in the NEM. As noted in Part 1 of our submission, Ausgrid is a strong performer when benchmarked on ICT costs.

When benchmarking, we agree it is important to account for opex/capex interrelationships. As shown in Figure 7 below, there is significant variation in the percentage of capitalised ICT expenditure among electricity distributors. This variation is likely to become more pronounced in the future as different ICT strategies are adopted; for example, if, or how fast, individual electricity distributors transition from on-premises data centres (capex) to cloud-based subscription models (opex). To gauge overall efficiency in this changing environment, totex is a sound basis for benchmarking.

Figure 7: Average split of ICT capex and ICT opex from 2013 to 2017



In terms of normalisation factors, Ausgrid supports the use of customer numbers. The contractual arrangements for the supply of ICT applications – such as SAP, GIS and other tools – are such that the costs incurred by a business are linked to the volume and complexity of the firm's technical configurations. For electricity distributors, customers numbers act as a good proxy for the higher ICT costs that are incurred as the scale of their operations, and therefore technical configurations, increases.

FTEs is a factor that could be used to normalise benchmarking results because there is a relationship between the number of staff within a business and the volume of licences for ICT programs that must be acquired for use on devices. Further, all businesses in the NEM are incentivised, by opex benchmarking for network services and the regulatory framework more generally, to efficiently manage the size of their workforce. However, caution should be used when assessing FTE benchmarking results, as there is the possibility of outsourcing models driving FTE benchmarking results, rather than underlying efficiency.

As the industry transitions to cloud-based Software-as-a-Service (SaaS) delivery models, we consider the relationship between ICT expenditure, customer numbers and FTEs will strengthen. Under SaaS arrangements, the cost of service is based on volumetric pricing in which businesses are charged more according to how much data they consume when accessing the 'cloud'. As data volume is intrinsically linked to the scale of an electricity distributor's operations, we take the view that ICT totex per customer is an appropriate normalisation factor that can be used on a longstanding basis. Given that businesses across the NEM adopt different outsourcing models which would influence per FTE benchmarking, ICT totex per IT User might be an alternative or additional normalisation factor that could be used.

Whatever measure is used, differing operating environments can have a significant impact on costs. For example, a key operating environment difference between NSW and other regions in the NEM that impacts on ICT costs is the presence of contestable arrangements for network connections. This

presents a need to adjust for operating environment factors (OEFs) when benchmarking ICT expenditure, in the same way that the AER adjusts its benchmarking results when assessing the relative efficiency of an electricity distributor's network opex.

Question 3: We note the difficulty in assessing the efficiency of implementing a compliance driven step-change ICT projects. What information do you consider is required to assess the efficiency of these projects?

The technological landscape for electricity distributors is evolving rapidly. While this presents enormous opportunities, the timing, cost and scale of new compliance obligations is becoming increasingly difficult to predict – especially when asked to submit a five-year regulatory proposal. These difficulties are likely to compound in the coming years as the rapid pace of change accelerates even further and new compliance obligations continue to grow in response to the increasing complexity and interconnectedness of ICT infrastructure.

In the face of such dynamism, Ausgrid considers that the existing regulatory framework can accommodate high levels of uncertainty if electricity distributors take proactive steps to directly involve their customers in the decision-making process. We did just this in relation to a compliance driven step change to recover additional cyber security costs within our upcoming 2019-24 regulatory period. As part of our regulatory proposal we provided independent expert advice signalling that a new regulatory obligation with respect to cyber security, though not yet made, was imminent. We then made a commitment to set up a Technical Review Committee (TRC) that will act as a vehicle for customers and their representatives to directly engage with Ausgrid about our cyber security obligations and the associated costs.

The establishment of the TRC, which was supported by the AER and customer advocates, offers a blueprint to respond to the challenges presented by the rapid pace of change in ICT compliance obligations and the energy sector more broadly. It, moreover, offers a solution that involves customers in the decision-making process and does not necessitate any changes to the existing regulatory framework. In terms of the next round of AER determinations, we expect that the TRC model could be used by other electricity distributors in relation to compliance driven step changes that are either contingent on an uncertain event or where the costs in question are difficult to quantify. This is provided that in all cases where such an approach is sought to be used, there is broad stakeholder support for its implementation.

Question 4: What do you consider a sufficient business case for an ICT project should include?

We broadly support the description in the AER's consultation paper of a sufficient business case. We agree that this supporting information should provide a detailed assessment of business needs and the current risks under a business-as-usual (BAU) situation. Options analysis should also be realistically costed and ranked according to risk.

In setting standards for ICT business cases, we would encourage the AER to foster a holistic assessment approach. The quantification of benefits and risks using NPV analysis, for example, is an important element of a robust business case. There are nonetheless likely to be benefits or risks that may not be apparent from NPV results. Examples include more qualitative drivers, such as investments targeted at improving customer experience. Some commercial decision making is also

difficult to quantify. For example, when selecting from a range of options a commercial decision could be made based on a vendor's reputation in terms of safety or on their ability to deliver their product on time according to specifications.

We consider a more holistic assessment of options should be pursued and can be fostered through greater customer participation in investment decision-making. As noted above, we are seeking to move towards this approach via the establishment of our TRC and have also established a Network Innovation Advisory Committee (NIAC). The latter, the NIAC, will offer Ausgrid an opportunity to engage with our customers on the most prudent and efficient investment options for innovative technologies. Our expectation is that this dialogue with our customers about the range of options available will lead to better investment decision-making and ultimately greater long-term benefits compared to a more narrowly focused, mechanistic application of NPV outcomes.

A further point of clarification relates to DER based ICT projects and their categorisation as non-recurrent expenditure in the AER's consultation paper. While investment in DER enabling technology is a growing proportion of total ICT expenditure, it is not an entirely new category of ICT spend. We therefore hold the view that DER related ICT capex should not carry a presumption of non-recurrent expenditure. Instead, a case-by-case approach should be taken when seeking to categorise it.

Question 5: What is your opinion on us requesting DNSPs provide post implementation reports from historical ICT investments?

We are committed to exploring ways for showing more transparently how historical ICT investments have delivered benefits for customers. Post-implementation reports (PIR) are an option that should be considered, yet their details need to be defined more clearly through further engagement.

The timing of PIRs should be considered by the AER. It may take years for the benefits from an ICT investment to eventuate, particularly if a new ICT system or tool will extend the capabilities of an electricity distributor in a way that enables them to defer the replacement of long lived network assets. Such non-network ICT investments that trade off network capex over an extended time horizon are set to become a larger feature of ICT expenditure and should be considered in relation to how they impact on the timing of PIRs. In their comments on our draft submission, the CCC members concurred that this is an issue that will need to be given consideration.

We also consider that a materiality threshold should be set. It would be administratively burdensome for every ICT investment, irrespective of cost, to be subject to a post-implementation assessment. We likewise consider there to be diminishing returns associated with furnishing extensive reports to the AER and stakeholders on every ICT program regardless of cost. This is such that a more targeted approach focusing on only the most material investments is likely to provide more robust regulatory oversight and dialogue with stakeholders about customer benefits than a regulatory 'catch all' that requires a PIR for even minor investments.

One option to maximise the efficacy of the information gathering process is to periodically require a single report to be furnished to the AER covering the most material ICT investments delivered by a business over a clearly defined period. The obligation to provide this report could be inserted into the AER's Reset RIN, facilitating its submission to coincide with the time an electricity distributor provides its regulatory proposal. To promote broad customer and stakeholder engagement, a requirement that these ICT summary reports are written in plain English could be imposed.

Ultimately, Ausgrid wants to work with stakeholders and the AER to identify ways to more transparently demonstrate customer benefits from ICT projects. Though PIRs may achieve this outcome, other options should be explored – particularly if they will reach the same or similar outcome at lower cost.

Question 6: What do you consider is required to demonstrate that DNSPs have incorporated benefits into its overall proposal?

In terms of the incorporation of benefits into the overall expenditure proposal submitted by an electricity distributor, Ausgrid broadly supports the options outlined by the AER in its consultation paper. We agree, as a general principle, that non-recurrent ICT expenditure should be justified based on the incorporation of benefits via a negative step change, a productivity adjustment or a reduction in overheads. There will, however, be certain scenarios, as outlined in our response to question 7 below, where this may not be appropriate.

Question 7: Which scenario - self funding or productivity improvement - would you prefer and why? Are there other scenarios we should consider?

Ausgrid has previously applied productivity adjustments in support of an ICT capital program. Our 2019-24 proposal included a productivity adjustment applied to the labour component of our capex forecast and a 1% productivity adjustment applied to our forecast opex. These adjustments were in part linked to our forecast Adapt ICT program totalling $8.1 million in the 2019-24 period.

Other scenarios should be considered by the AER. In some instances, electricity distributors will require one-off, non-recurrent ICT expenditure to embed cost savings that have already been made. These investments will often follow major transformation programs in which inputs from a business are removed at a speed that outpaces management's ability to implement the ICT programs needed to sustain the cost reductions. We consider this sequence of events for major transformation programs should be factored into the AER's considerations regarding the funding of non-recurrent ICT expenditure.

Question 8: We welcome stakeholder comments on the practical application of a productivity adjustment. If we were to include a productivity adjustment on the basis of ICT expenditure, how should it be incorporated? If so, how should we determine how large should this adjustment be? What aspects of a DNSP's forecast should it be applied to?

We are open to engaging further with the AER about the practical application of productivity adjustments. COTA and the CCC members both provided views on this issue in their comments on our draft submission. Both COTA and the CCC members expressed the view that productivity gains should be shared with consumers.

Our view is that consideration should be given to the interrelationship between the acceptance of non-recurrent ICT expenditure and the AER's recent industry wide review of opex productivity. Other than this, we consider that the precise mechanics can be worked through in more detail via an electricity distributor's five-year regulatory proposal.


Thank you
Ausgrid