Submission on the AER's Draft Decision for Ausgrid 2019-2024 and Ausgrid's Revised Regulatory Proposal

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This is an individual submission. It has not been reviewed or endorsed by any other person or group.

On page 36 of its Overview Draft Decision for Ausgrid 2019-2024, the AER notes the importance of examining interrelationships between components of its decision. An important interrelationship that appears to be left uncontrolled in the AER's decision is the effect of Tariff on Forecast Demand. One costly problem which results from this omitted variable is (upward) bias in forecasts of system peak demand.

One key benefit of cost reflective pricing is the efficient consumer response it causes. Using energy during peak times drives the need for additional capacity, apparently driving up both local and global peak infrastructure costs. The critical link is that usage today becomes an input for forecasts of future network usage. If demand is stimulated now, but that is not taken into account when forecasting, then results contain the implicit assumption that the demand stimulation will continue.

There are known mathematical links between Tariff and Forecast Demand. For example, "Own Price Elasticity of Demand" is a function which estimates the expected percentage change in demand caused by a small exogenous percentage change in marginal price. "Cross Price Elasticity of Demand" estimates the expected percentage change in demand for a substitute or complementary product resulting from a small exogenous percentage change in marginal price.

There are multiple ways to rectify the problem with omission of consumer responses to price signals in the AER's forecasting models. For example the AER could:

1) Add proxy variables to forecast system demand models based on customers' assigned tariff and the price signals it contains.
2) Keep using the current model, but correct final forecasts for the demand reduction expected from cost reflective tariffs. For example, discount demand forecasts by 5% in year t, 10% in year t+1, and continue adding 5% per year, capped at 25% in year t+5.

A benefit of the second option is simplicity, but the AER must be careful to set proper expectations for tariffs of the future. The first option implicitly calculates price signal strength for each tariff and consumer cohort, which may be useful in other calculations.

In 2016, Ausgrid submitted to the AER its Revised Tariff Structure Statement, which includes *Appendix K: Price Elasticity of Demand.* I take it for granted that the AER understands and accepts the results of this important paper, since it approved Ausgrid's TSS, and the material is attainable anyone whose understanding of regulatory economics is beyond its infancy.

Ausgrid explains the mathematics of price signals and presents results of worldwide studies which confirm that customers do respond to price signals by changing behaviour (broadly yielding 10% to 50% reductions in joint peak demand). As historical tariffs have not empowered Australian consumers to make smart energy choices, it follows that consumer energy demand has been historically stimulated. Since demand forecasts do not account for stimulation in historical data, they are likely to be biased upward.

Response to price signals should be factored into demand forecasts, to the extent that the AER's determination "empowers the consumer" to control their bill.

Ausgrid, *Appendix K: Price Elasticity of Demand* Direct link: https://www.aer.gov.au/system/files/Ausgrid%20-%20Appendix%20K%20-%20Price%20Elasticity%20of%20Demand%20-%20October%202016.pdf

AER page linking to Ausgrid's Revised Tariff Structure Statement Appendix K: https://www.aer.gov.au/networks-pipelines/determinations-access-arrangements/pricing-proposals-tariffs/ausgrid-tariff-structure-statement-2017/revised-proposal

Please let me know if I can clarify any points or recommendations. My information has been provided by email.

Best regards,

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