8 August 2018

More Hidden Bias in Demand Tariffs:
A Submission on the NSW DNSPs' TSSs.

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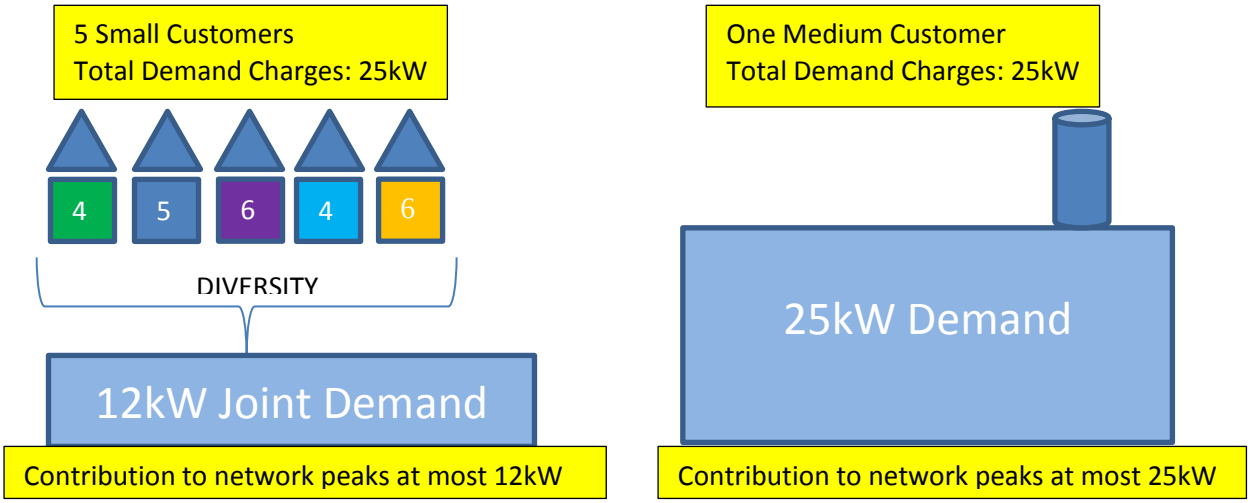
Many thanks to members of SA Renewable Energy Policy Group for feedback.
This work does not express the official opinion of any group or organisation.

If all customers pay the same price for maximum Demand ($/kW per billing period), then small customers pay many times their cost-reflective impact on network peaks.

Figure 1: Bias in Demand Tariffs against the smallest customers.



Joint Demand of 12kW is a representative case, based on anecdotal estimates of average joint demand for residential customers with 5kW usage each: "2 customers average 7.5kW joint demand, 3 customers average 9kW, 4 customers average 10.5kW, and 5 customers average 12kw". Actual coincident demand for the 5 small customers in Figure 1 can range from 6 to 25kW, with results highly dependent on the window of measurement (15 minutes or 4 hours) and the number of days in a billing period (30 or 365).

By contrast, we *know* that the larger customer's Demand actually reached 25kW, and may have been sustained over long intervals.

The bias in Demand charging is even more apparent when we examine larger groups and larger customers. 1000 small customers might need only 1MW of joint peak capacity but could be charged for 5MW, 5x their estimated peak impact, when a single large customer using the same 1MW of peak Demand pays 1/5th the price.

Incredibly, some networks have set Demand charges on a DECLINING BLOCK, offering even lower prices to already subsidised large businesses within a tariff class. For those correctly thinking "but it costs more to serve the 1000 small customers", my reply is, first, "not 5x as much", and second that the additional cost is completely recouped through the 1000x supply charges and/or capacity charges. Local network costs are not meant to be recovered through peak surcharges.