Submission, Electricity Authority Retail Data Project
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Introduction

I am very supportive of the Authority's initiative towards improving the validity and granularity of the data base on retail tariffs and pricing outcomes.[1] Thus my answer to Q1 is "yes!".

Purpose

The purpose of the retail data project is to improve customer confidence in the benefits to them of retail competition. The paper takes a narrow view of consumer choice, that is, to enable a consumer to choose the retailer with the lowest price per kWh for their location and demand pattern.

The improved data from this proposal would overcome the present situation, where "What's my number" is only a very rough guess, intended only to point the consumer to the Powerswitch website which again gives only an approximate guess. Improving the integrity and granularity of the data is essential to give the consumer confidence that their effort and risk of switching is worth while.

My primary purpose for improving data integrity and granularity is different: to identify opportunities for residential and SME (small-medium enterprise) consumers to reduce or increase their demand in a way that reduces costs of supply. I refer to such customers as "active", and to others as "passive". Retail choice would include an active consumer being enabled to contract with a chosen demand manager to reduce demand on request, and be paid for providing that value. Demand might be managed through automated control of certain appliances, but also through direct substitution of another fuel for electricity,

This model of a market for flexible demand is being realized in the world's largest electricity market, PJM, as described by Andrew Ott, head of PJM, in an interview on National Radio's Sunday Morning March 9[2]. Their driving objective is innovation, of both technology and business models, and its success is leading to a genuine market transformation there.

The two purposes would merge if we were to define "competition" to include that between retail electricity businesses and innovative businesses that provide household energy services that reduce peak and kWh electricity demand. Thus s. 1.1.3 (b) would be amended to "electricity and gas and their substitutes".

Questions

Questions 1 and 2 are about whether data on retail costs and prices are incomplete, and causing reduced confidence in retail competition. I share both these concerns.

Questions 3-5 all describe problems that I agree inhibit sensible consumer choice. There is incomplete information about retail tariffs and about consumption data, and consumers don't have

[1] The validity of MED's annual "snapshot" of the industry was always questionable – one year the average consumption per residential consumer was given as 8100, far above the trend of previous years; it was revised the following year.

[2] http://www.radionz.co.nz/national/programmes/sunday/audio/2588317/andrew-ott

the basis for a confident decision whether to stay or switch. Again I note that this paper describes a very narrow field of choice – consumers could do far more for themselves if barriers were overcome to investment in energy efficiency or alternative energy systems, or appliances that could be switched automatically.

In analyzing and reporting on these data, an excellent model is the paper referred to in the Project Brief on Low Fixed Charges, presented to the August RAG meeting. The paper is by Simshauser and Nelson, "The Energy Market Death Spiral – Rethinking Customer Hardship." [3] The authors combine energy market and demographic data and find a very close correlation between the family demographic cohort (young and single, initial family formation, growing family, empty nest, active retired, and sedentary retired), household spend on fuel and power, and energy hardship as observed by their retailer (AGL). A similar study in New Zealand, hopefully involving many retailers, would be particularly valuable. One of their findings is that when people scrimp and save, energy sales fall but peak loads increase – a major contributor to the potential electricity death spiral.

Question 7 asks what we understand of current perceptions of retail competition. I find that residential consumers almost universally resent the expectation that they must play the switching game to force discipline onto the industry, essentially taking the place of a price-regulator. However true it might be that poorly designed price regulation might potentially lead to higher rather than lower prices, the alternative of "shopping around" gives no pleasure to any consumer I've met.

Question 8. I agree with the objectives as described in s 3.2.2. and particularly agree with the need for effective industry and market monitoring. Indeed the Authority's announcement of an inquiry into retailers' excuses for the current round of price rises is very much welcomed.

I understand the proposal is to disaggregate prices and demand by Statistics NZ's mesh-blocks – I strongly agree with this, as it will allow trends to be revealed on the relation between demand of residential consumers and incomes, as well as between price and individual consumption profile.

Any monitoring report needs to be peer-reviewed, in confidence, by a representative of small-consumer interests. In the absence of a balanced governance board that equally represents the interests not only of companies in the supply chain (including distributors), but a range of non-industry participants including consumers, energy service providers, and even (as in PJM) financial services providers, balanced peer-review of any monitoring reports is essential.

Question 8. I agree with the objectives as stated, especially 3.2.2 (c) "recognition of the improvements … delivered by [the] market arrangements. In doing so, I am recognizing the experience of PJM and others - that improvements for consumers, including reduced prices, can be delivered by the market. But not the market as it operates today, in which promotion of consumer choice is confined to choice of retailer based on price per kWh offers. Without innovative offers from those companies who do not make more profits from increased sales (retailers and distributors), true price-responsive demand will not be offered. 3.2.2 (a) focuses only on data on retail pricing – data need also to reveal opportunities for reducing the system's physical costs.of supply.

Question 9. The detail of information to be assembled is appropriate to the limited objective. In 3.2.4, "data on retail prices and costs" clearly includes costs to the retailer of network charges, but not physical costs of supply.

[3] http://eraa.com.au/wp-content/uploads/No-31-Death-Spiral.pdf

To cut to the chase, consumers are VERY interested in retail margins; they are generally happy to pay the costs of supply, but not inflated charges intended to meet the expectations of their shareholders for dividends.

Question 10. The type of data to be collected is appropriate, except that in S 3.2.4 (c), the actual transmission charge should be disclosed separately from the distribution charge. For my broader purpose, a wider range of data will be important.

Question 11. I particularly approve of the objective statement in 3.3.1, as it separately includes support to consumers to understand retail offerings, and the reduction of barriers to providers of energy services. It is such innovative services that hold the promise of genuine market transformation to the benefit of consumers. However s. 3.3.7 appears to retreat back to the narrow purpose, just switching between retailers rather than including energy service providers (involved in alternative fuels, energy efficiency, and on-site energy storage.

Question 12. I strongly agree with the approach of 3.3.5, that the Authority might (should) consider the potential to integrate gas and dual-fuel tariff plans into the data base.
I wonder whether the Vector offer can be included - to install solar PV plus batteries, retaining ownership (for the period of the payoff?). This is being received with much enthusiasm, and may indeed become a "disruptive technology" which could help fuel a gentailer death spiral.
Competition of this type must be promoted in any way possible, as the best possible discipline on an effective oligopoly of gentailers.

Question 13. Rather than "alternative approach" to acquiring the data, an important issue is for what purpose the data streams are used – here the objectives of the end-consumer – lower prices and better control of power bills – must come to the fore. End consumers and alternative service providers must have a much bigger input to this project – and indeed to he governance of the industry.

Question 14. In the objectives statement, I particularly support the objective of reducing barriers for provision of energy services.

Question 15. I particularly support the recognition that the consumer owns their data. These should be recorded in a format that is useful to a variety of retailers, not only gentailers. I would go farther and require a retailer from which a consumer switches away to erase their copy of the consumption stream. Presumably the full data set is retained by the central data administrator. The same should apply to natural gas consumption data.

Question 16. The alternative approach that would most empower consumers would be to widen the scope of the project, as a presumed stage two, and bring a wide range of actors into a project to overcome barriers to competition by energy service providers, demand aggregator/ managers, and financial service providers, with a focus on residential and SME consumers. The demand side projects already happening are available to market participants only, and perhaps not many of those. Aggregation of flexible demand from small consumers promises to be the most cost-effective way to integrate solar, wind, and other uncontrolled renewable energy into the electricity system.[4]

[4] [4] http://www.iea.org/media/presentations/PowerOfTransformation_Factsheet.pdf
http://www.iea.org/newsroomandevents/pressreleases/2014/february/name,47513,en.html

Further comment

Beyond the specific questions in the consultation document, it would be very important for data-intensive research on drivers of electricity demand. Which consumers would benefit from progressive (inverse block) tariffs? What types of customers are able to shift demand by hours, days, or seasonally in order to accommodate supply variations?

The International Energy Agency report, "The Power of Transformation"[5] concludes that demand-side response is by far the most cost-effective way to integrate variable renewables into a power system. Residential consumers can provide distributed generation by solar or even by thermoelectric panels in a wood fire. Most cost-effective of all is distributed storage, sometimes with batteries alongside PV panels, but more cheaply and effectively, in large hot water buffer tanks. Up to 30% of wind and solar can be integrated readily, or given a full transformation of the electrical system, up to 45%.

Such opportunities depend on physical costs of both generation and network services, as they vary according to time and location.[6] The best opportunities are likely to be in the deferral of distribution investment, as the renewal cycle is only beginning for most network areas, unlike the renewal of transmission assets is so fully planned that it is now considered a sunk cost.

Types of information

The information most relevant to active demand side management is about supply costs at times and locations where residential and SME consumers could best respond to costs.

Just one example, recently posted on SEF News (Sustainable Energy Forum) is that solar electricity would appear to be most valuable in the very months that hydro inflows are at a minimum after the snow melt) – and most valuable (in approach to winter).

Therefore I recommend that the supply-side information from the Data Warehouse (formerly the Centralised Data Set) should clearly separate out embedded generation. At present, the generation from some of the Tararua wind farms appears as negative demand, so any attempt to analyse demand trends there cannot give real results. I believe this is true for embedded generation in other regions.

[6] Furthermore they depend on the economic model used to assess costs. I believe different consumers have very different discount rates – very low for most householders that expect to be in their homes for more than a decade or who have high environmental aspirations, very high for those in debt, and examples of all in between. Therefore financial service providers should have a role in demand side response – as they do in PJM.