CANEGROWERS

Quantification of excess costs in QCA draft electricity retail price determination for 2016-17

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sapere research group

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1. Background

1.1 Introduction

This report has been prepared for CANEGROWERS and is funded by a grant from Energy Consumers Australia. The purpose of the report is to review quantify errors in allowances for wholesale and retail electricity costs proposed by the Queensland Competition Authority (QCA) in its Draft Determination, regulated Electricity Retail prices for 2016 – 2017, dated March 2017.

This report follows a CANEGROWERS submission in response to the QCA Draft Determination, in April 2016. CANEGROWERS provided evidence and analysis that, in its Draft Determination, QCA had applied a flawed methodology for estimating allowances for the "R" or retail component of regulated prices. The submission noted that, unless these flaws were addressed fully in the Final Determination, regulated electricity prices would be set substantially in excess of efficient cost.

The April 2016 submission did not seek to quantify the extent the resultant "R" values exceeded what would be an efficient cost. That is the task of the present report.

1.2 N+R retail regulation

The "R" component represents costs contained in regulated retail prices, other than transmission and distribution costs regulated by the Australian Energy Regulator (AER). Those costs represent the "N" component.

The main sub-components of the "R" component are wholesale energy, renewable energy and retail servicing costs. The "R" cost represents a substantial part of the regulated retail price seen by customers. While there is some variation between Ergon and Energex, and the impact of the Uniform Tariff Policy (UTP) to consider, as an approximation, the "R" component may represent around half the retail price seen by customers.

In its April submission CANEGROWERS noted that, for Ergon customers, it no longer makes sense to set the "R" value in relation to Energex. Applying Energex "R" costs to Ergon customers is one source of the errors in the QCA Draft Determination.

1.3 CANEGROWERS

CANEGROWERS represents approximately 4000 sugar cane growers in Queensland and northern NSW. Typically, growers manage small holdings (60ha) and utilise moderate volumes of electricity (50-100MWh/year) for irrigation and hence are subject to notified or regulated prices. A very small number of large growers use more than 100MWh/year. As Figure 1 illustrates, sugar cane farms are distributed along the coast, so the relevant distribution area in Queensland is Ergon East.

Figure 1 Canegrowing areas in coastal Queensland

CANEGROWERS' Queensland members are served by Ergon and currently are for the most part supplied under irrigation tariffs (Ergon T62, T65 and T66). In the Draft Determination these tariffs have been made obsolete, and will be subject to a four year transition glide path of between 10.3 per cent and 11.5 percent per annum before being phased out entirely.[1]

QCA anticipates irrigators will transfer to the main small business tariff (tariff 20) or the seasonal time-of-use small business tariff (tariff 22A). For the purpose of regulated price setting, QCA sets "R" values for both these tariffs by reference to Energex's load profile. The analysis in this report refers to QCA's proposed "R" allowances for tariff 20 and 22A. The "R" value for these tariffs sets the slope of the transitional glide paths.

[1] See QCA Table 20 on page 57.

2. Findings

2.1 No basis for increase in "R" values

The total "R" value proposed in the QCA Draft Determination for Tariff 22A is $140.47 per MWh. This represents an increase of $30.2/MWh (27.4 per cent) compared with the "R" value contained in current retail tariffs, as determined in QCA's 2015 Final Determination.

Our findings are summarised out in Table 1 below.

Table 1 Overall findings of quantitative analysis of "R" estimate ($/MWh)

	QCA 2015	QCA DD 2016	QCA change from 2015	Sapere (mid)	Sapere change from 2015
Wholesale	$79.9	$92.4	$12.5	$80.5	$0.6
RET	$8.7	$11.2	$2.5	$9.7	$0.9
Retail	$21.7	$36.9	$15.2	$21.0	-$0.6
Total	**$110.3**	**$140.5**	**$30.2**	**$111.2**	**$0.9**

Source: QCA, Sapere analysis. *Note numbers above have been rounded to nearest $0.1/MWh.*

On our analysis, there have been no significant changes in market conditions and costs between 2015 and 2016. There are modest increases in wholesale and RET costs, but there would be a modest decrease in retail costs for Ergon, once an appropriate deduction for competition related costs is included. If the QCA estimates are corrected, the net effect would be a modest $0.9/MWh (0.85 per cent) in the "R" value. This would result in a lower percentage increase for 2016-17 for obsolete tariffs.

2.2 Aggregate impact

The aggregate impact of the error in the proposed "R" value on CANEGROWERS' Queensland members is substantial. As indicated in Table 2, there are difficulties in estimating the aggregate impact, due to uncertainties over the volume of electricity purchased by CANEGROWERS members. In addition it has not been possible to estimate the effect of the glide path from obsolete tariffs. Table 2 makes the simplifying assumption that all CANEGROWERS members transition immediately to Tariff 22/22A.

Table 2 Aggregate impact of excess 'R' allowance ($000)

	QCA 2015	QCA DD 2016	QCA change from 2015	Sapere (mid)	Sapere change from 2015
Total - Low volume	$16,074	$20,478	$4,404	$16,211	$137
Total – high volume	$40,184	$51,195	$11,010	$40,527	$343

Volume data has been provided by CANEGROWERS and may not reconcile with aggregate data for irrigator volumes.

Under the stated assumptions, the excess cost recovery would range between $16.2m at the low volume and $40.5m at the high volume. On Sapere's alternative analysis, aggregate cost recovery would go up between 2015-16 and 2016-17 by between $0.137m and $0.343m, depending on the volume assumption.

2.3 Direct implications

There are numerous challenges and uncertainties associated with estimating "R" cost components on a forward looking basis. Sapere estimates in Table 1 and Table 2 reflect mid-points within a range of estimates.

The authors appreciate and understand the difficult task facing the QCA in estimating future "R" costs. If the difference in estimates between the Sapere and QCA estimates were small, say less than five per cent, this could reflect relatively minor and technical differences leading to slightly different estimates.

In addition, where retail competition exists and is judged effective, there are sound reasons why a regulator may opt toward the higher end of a range. This is because, under competition, any errors in the setting of regulated prices would have the effect of increasing competition and reducing reliance on regulated prices. Conversely, if the price were set toward the bottom end of the range, regulation would render competition infeasible for a substantial portion of the customer base (as occurred during a previous Queensland retail price freeze).

In the Ergon retail area, however, retail competition is not feasible due to the current UTP. As a result, in comparison with Energex, it is more problematic if regulated prices are set well above actual and efficient cost. This represents an inefficient wealth transfer from CANEGROWERS' members and other retail consumers in the Ergon area.

The scale of the difference between the SRG and QCA estimates indicates that the QCA's Draft Decision does not apply evidence and analysis in ways that are consistent with the relevant statutory criteria. QCA has not provided robust evidence that forward "R" costs have increased by $30/MWh since the QCA's 2015 Final Determination.

If regulated prices in the Final Determination incorporate the substantial excess above efficient cost, as estimated in Table 1, this would breach the relevant statutory criteria under which QCA is required to set prices. These criteria are set out under Section 90 (5) of the Electricity Act 1994 (Queensland). These include, among other things, reference to the *'actual cost of making, producing or supplying the goods and services'*.

A decision to set notified prices well in excess of efficient costs would also be inconsistent with Section 3 of the Act, which states that the objects of the Act are to *'ensure that the interests of customers are protected'* and to *'set a framework for all electricity industry participants that promotes efficient, economical, and environmentally sound electricity supply and use.'*

It may not be possible to remedy the issues, identified in this report, in the QCA's Final Determination for 2016-17. Retail electricity regulation may be removed for Energex for the period following the present Determination, depending on the Queensland government's response to a review being undertaken by the Queensland Productivity Commission. Whatever, the outcome, it is likely that retail regulation will continue to be required for Ergon to the extent that the UTP in its present form renders retail competition in the Ergon area not viable. Accordingly, there should be an opportunity to revisit and address the issues raised in this report in a future QCA regulatory process to apply from 1 July 2017.

2.4 Wider implications for NEM

The National Electricity Objective (NEO) strictly does not apply in relation to QCA decision making. This is because electricity retail pricing matters are outside the scope of the Australian Energy Market Agreement, 2006. The NEO nevertheless provides a useful and relevant criterion against which to assess the QCA's March 2016 proposals.

> *The National Electricity Objective is to promote efficient investment in, and efficient operation and use of, electricity services for the long-term interests of consumers of electricity with respect to price, quality, safety, reliability, and security of supply of electricity; and the reliability, safety and security of the national electricity system.*

It should also be noted that decisions on retail prices will also affect demand for Ergon's network services – "N". Ergon "N" costs are within the scope of the NEO.

In our view, the QCA's proposed "R" value in its Draft Determination is inconsistent with the long-term interests of consumers of electricity, with respect to price, quality, safety, reliability, and security of supply. If prices significantly exceed costs, then demand is suppressed and investment in and use of alternatives, such as rooftop solar PV, will be higher than otherwise.

Under current pricing arrangements for network services, any reduction in demand is offset by an increase in tariff levels. Accordingly, QCA's proposal can be expected to have adverse effects on unit network costs and prices. The Draft Determination would not, therefore, conform to the NEO, if the NEO applied.

In addition to adverse effects for customers in Queensland, the Draft Decision could also be detrimental for customers in other NEM retail markets, including those where prices continue to be regulated (ACT and Tasmania). This is because the Draft Decision becomes a signification but inaccurate reference point for future regulated retail price setting. The Draft Decision could have provided an opportunity to assess the extent retail market prices

in many NEM markets diverge from prices consistent with the existence of effective retail competition. This opportunity has been missed.

3. Analysis of "R" subcomponents

This section discusses each of the major "R" subcomponents:

- Retailer costs,
- Wholesale costs; and
- Renewable energy costs.

3.1 Allowance for retail costs

Of the $29.28/MWh median difference between the Sapere and QCA estimates, the bulk (54 per cent) of the difference relates to the allowance for retailing costs. This category of costs relates to the cost to serve retail customers. It includes customer service and billing, alongside an efficient mark up or margin to recover a capital charge (including on working capital), a depreciation charge, and provision for tax (in Ergon's case, tax-equivalent).

In its draft decision, QCA no longer seeks to estimate efficient retailer operating costs, as for previous reviews. Instead, it estimates benchmark total retailer cost (exclusive of prudential capital costs which are included in wholesale energy).

We understand this benchmark is based on the difference between retail electricity price observations from across the NEM for market and standing contracts, on the one hand, and estimated costs other than retailer costs, on the other. The difference is deemed to reflect retailer costs.

The resulting QCA estimates for retailer costs are excessive for two key reasons.

- The methodology does not provide a basis for estimating efficient retailer costs under conditions where a large portion of observed electricity prices incorporate substantial "residues", or excess margins, over and above efficient retail costs. It amounts to incorporating non-existent costs in notified prices.
- The methodology includes significant competition costs (customer acquisition and retention costs) that are in fact not incurred by Ergon Retail, where retail competition is not viable and does not occur for <100MWh customers under the current UTP.

3.1.1 Benchmark data includes non-existent costs

The market benchmark used by QCA incorporates non-existent costs reflected in NEM retail prices in markets that are no longer subject to price regulation, and where there is no effective market monitoring. There is evidence from a number of careful studies that retail prices significantly exceed efficient costs for the majority of electricity retail consumers, and that this is persisting for an extended duration rather than merely transitory. These outcomes are consistent with the following observations about the state of competition in NEM retail electricity markets.

3.1.2 Barriers to efficient retail prices in the NEM

Large retailers appear not to have incentives to compete with each other to gain customers by setting prices at their actual or efficient costs, and instead seek to *'maximise their share of*

customer value'. Without explicit coordination, where certain conditions apply, each retailer can independently arrive at a decision to set prices in such a way as to maximise its profits.

Tacit coordination may arise under conditions where, if one major retailer decreases its price, in order to acquire customers from other major retailers, it can expect other retailers to follow suit. This would decrease the profits of all major retailers, which would not be in their interest, individually or collectively.

As a result of anticipating pricing decisions by their major rivals, each retailer can maximise its individual profit by setting prices above its actual (or efficient) cost. Under these conditions, retail prices reflect profits or margins significantly in excess of efficient profits/margins. Even though each participant is making independent decisions, the outcome (excess profits) may be the same or similar to the outcome that would occur if there were explicit coordination in pricing decisions.

In combination, regulatory and market barriers have the effect that any smaller retailer seeking to expand is likely to face higher risks and costs than the major retailers with which it is competing. These barriers make it difficult for smaller retailers to reduce the aggregate market share of the larger retailers.

As a result, smaller retailers may acquire customers based on offering lower prices compared with large retailers. Even collectively, however, smaller retailers seem unable to create a dynamic under which broad retail prices converge toward costs. A key barrier to expansion by smaller retailers is customer acquisition. This reflects:

- persistence of government competition restrictions in the form of mandated requirements to offer standing or default retail contracts;
- existence of retail market frictions –or customer stickiness – associated with search costs;
- likely customer preference for dual fuel services, leading to a requirement to operate in gas and electricity markets;
- continuing information access privileges for 'first tier' retailers under retail market settlement arrangements;
- the possibility of win-backs and saves by incumbent retailers under the current switching rules;
- inability to access capital markets;
- the requirement to provide additional capital to remain within AEMO credit limits; and
- the risk of vertical foreclosure by integrated generator retailers.

Against this background, it appears that safeguards – market monitoring – to deter any exercise of market power, may not be effective. Whereas there is close scrutiny of every significant price event in wholesale electricity markets, no such scrutiny occurs in retail electricity markets.

3.1.3 Other analysis of NEM retail prices

In its first national review of the effectiveness of retail competition, in 2014, the AEMC concluded that Victorian retail prices substantially exceeded prices in other markets, when normalised for differences observable in supply costs. While concluding that retail

competition was effective, it did not entertain the possibility that retail prices incorporated excess cost recovery, reflecting the existence of market power on the part of retailers.

As pointed out by the Chairperson of the Victorian Essential Services Commission (ESCV), the AEMC findings are not evidence based.[2] Several public and private studies, including those produced by the ESCV, have yielded clear evidence that Victorian retail margins exceed those in other markets.[3]

In its most recent Issues Paper for its current retail review, the AEMC no longer addresses retailer margins.[4] The AER undertakes retail marker monitoring but this does not refer to the effectiveness of retail competition. Some limited retail market monitoring is undertaken by jurisdictional regulators but this is hampered by an unwillingness to exercise data gathering powers.

3.1.4 Sapere quantification of excess contained in NEM retail prices

Figure 2 shows that, outside Queensland, and especially in Victoria observed retail prices contain substantial "residues" above efficient costs. In other words, it shows that the QCA's proposed "benchmark" methodology for estimating efficient retailer costs incorporates an allowance for costs that do not in fact exist.

Figure 3 below presents the analysis in terms of the percentage of the residue relative to retail prices. It shows again that, outside Queensland, residues are substantial. It also indicates a more recent increase "residues" contained in NSW retail prices, following the removal of retail price regulation. This is especially notable for Essential Energy, where competition is weaker than in the two major metropolitan NSW retail markets, and which may have adverse implications for CANEGROWERS' NSW members.

Figure 4 below suggests that, in the past, QCA's regulated prices have been toward the lower end compared with other NEM retail markets. Depending on other price movements, the QCA's proposed "R" could result in Queensland prices moving higher relative to those in other parts of the NEM.

Given the balance of evidence, there is no basis for the QCA to conclude that the market benchmarks it is using reflect efficient retail costs in Ergon retail markets. QCA's methodology incorporates substantial non-existent "costs" into its estimate of retailer costs, and this results in proposed prices that are well above cost.

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[2] Dr Ron Ben-David, *If the retail energy market is competitive then is Lara Bingle a Russian cosmonaut?* Essential Services Commission, June 2015.

[3] Carbon and energy markets, *A critique of the Victorian retail electricity market - A report for the Brotherhood of St Laurence*, June 2015.

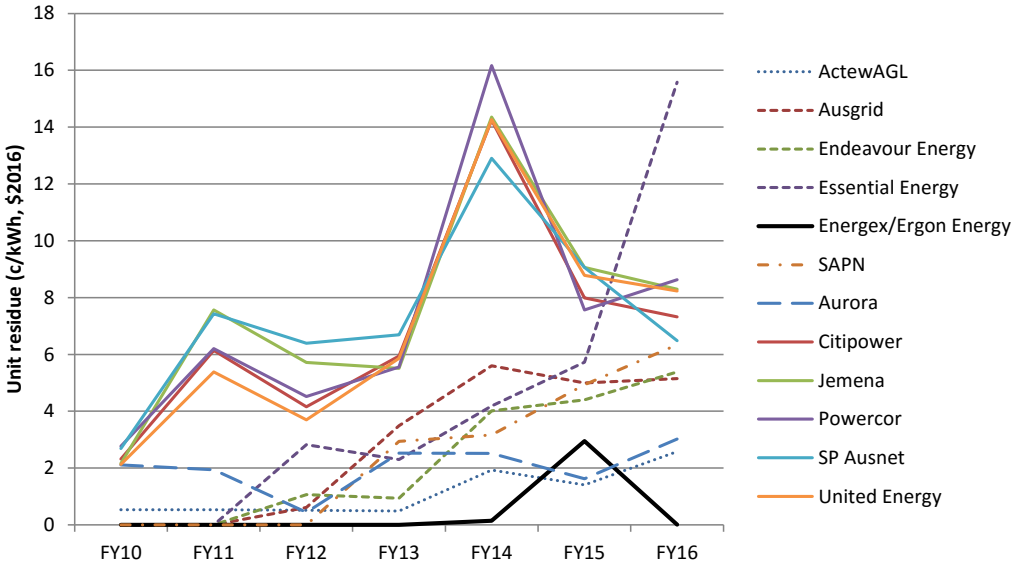
Gavin Dufty & May Mauseth Johnston, *The National Energy Market – Still winging it, Observations from the Vinnies' Tariff Tracking Project*, St Vincent de Paul Society, Victoria, September 2015.

Essential Services Commission, Retailer Margins in Victoria's Electricity Market — Discussion Paper, May 2013

SKA-MMA, Analysis of Electricity Retail Prices and Retail Margins 2006 - 2012 Report For Essential Services Commission May 2013.

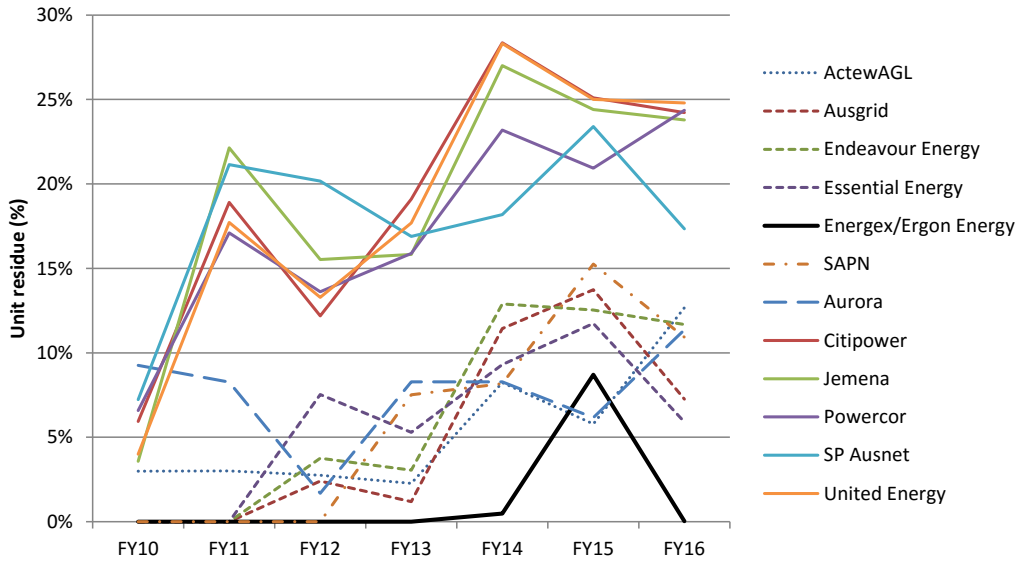
[4] See page 16 of the AMEC's *Approach Paper, 2016 Retail Competition Review*, 22 October 2016.

Figure 2 Retail unit retailer "residue" (c/kWh, converted to 2016 values)



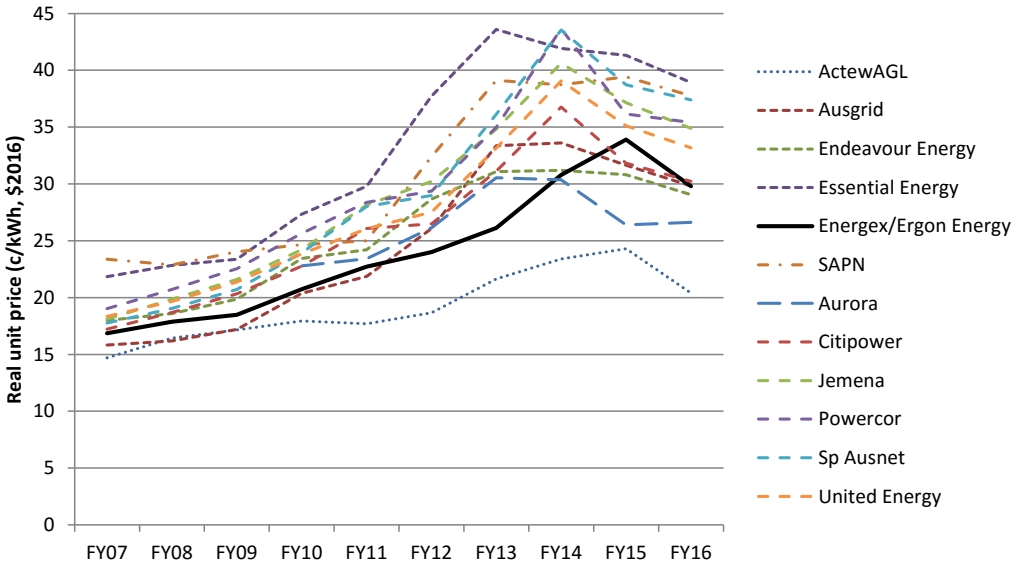
Source: Sapere research and analysis

Figure 3 Percentage retailer residues



Source: Sapere research and analysis

Figure 4 Retail unit price path



Source: Sapere research and analysis

3.1.5 Inclusion of non-existent competition costs

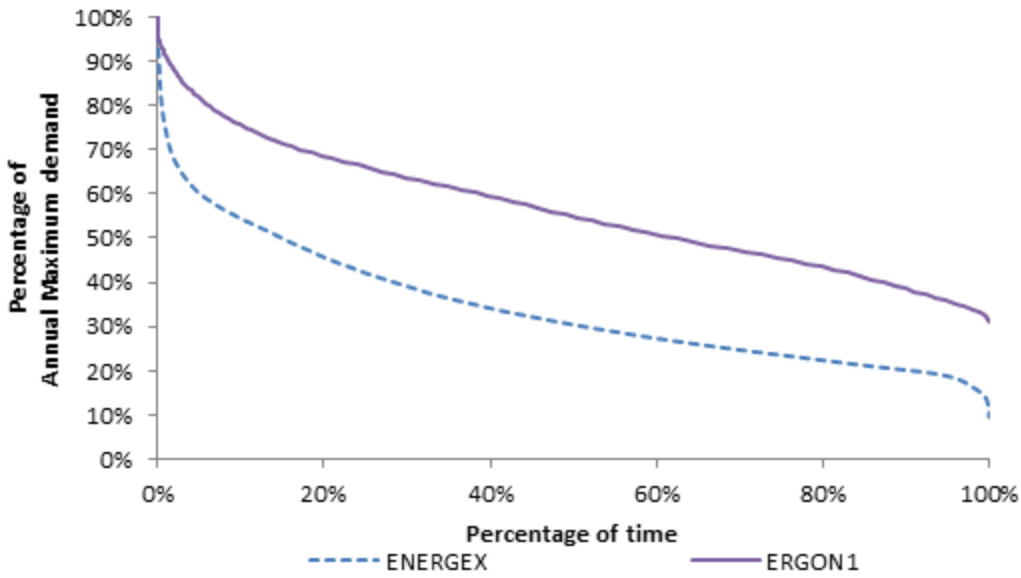
QCA's proposal to base costs in the Ergon area on costs in the Energex area also results in the inclusion of non-existent costs. As a result of full retail contestability, retailers in the Energex region incur certain competition related costs, or customer acquisition and retention costs. In the Ergon area, retail competition is not currently feasible under current UTP arrangements. Hence, these costs do not relate to the actual cost of delivering electricity in the Ergon area.

3.2 Allowance for wholesale costs

Forty (40) per cent of the difference between the QCA and Sapere estimates relate to the allowance of wholesale costs, excluding renewable energy costs. Since high wholesale prices correspond with periods of high network demand, the cost to supply consumers is related to their demand profiles. This is reflected in the QCA's approach to the wholesale component of tariffs and the classification of tariffs by settlement class.

The main driver of this difference between the QCA and Sapere estimates of wholesale costs is the fact the wholesale cost of supplying Ergon retail market is substantially lower than for the Energex retail market. This is illustrated by the differences in the load duration curves for the two Net System Load Profiles, as shown in Figure 5 below.

Figure 5 Ergon vs Energex Net System Load Profile in FY 2015

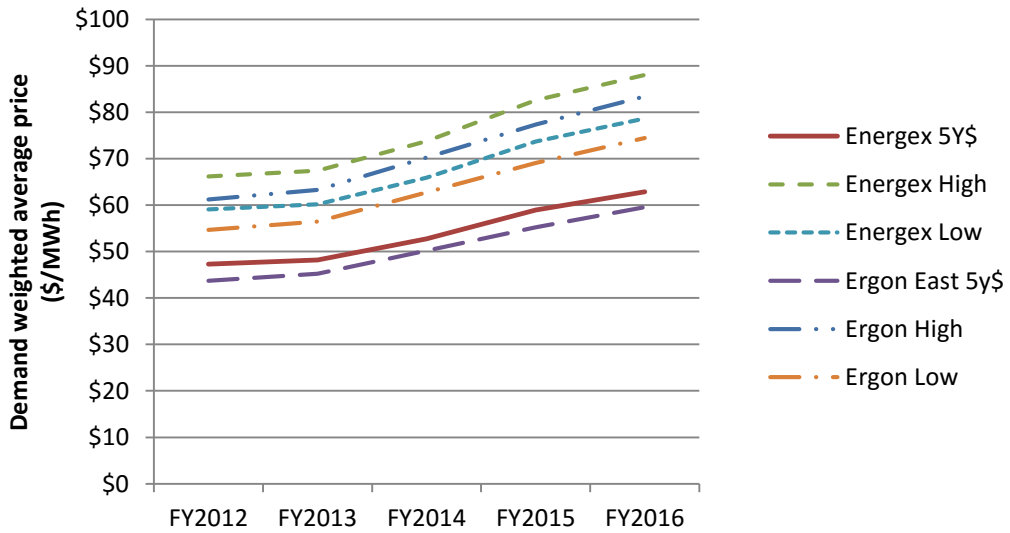


Source: Sapere analysis of AEMO data

Figure 5 above compares the load duration curves for the Energex and Ergon distribution area for financial year 2015. It clearly illustrates that the Energex net system load profile (NSLP) is 'peakier' than Ergon's NSLP, such that, as the draft determination acknowledges, the Energex profile is more expensive than the Ergon profile.

The Draft Determination finds the wholesale cost for the Energex NSLP is $92.35 compared to $86.53 for the Ergon NSLP. The difference in the two load duration curves, yields substantial differences in wholesale costs, as shown in Figure 6 below.

Figure 6 Queensland estimated wholesale costs

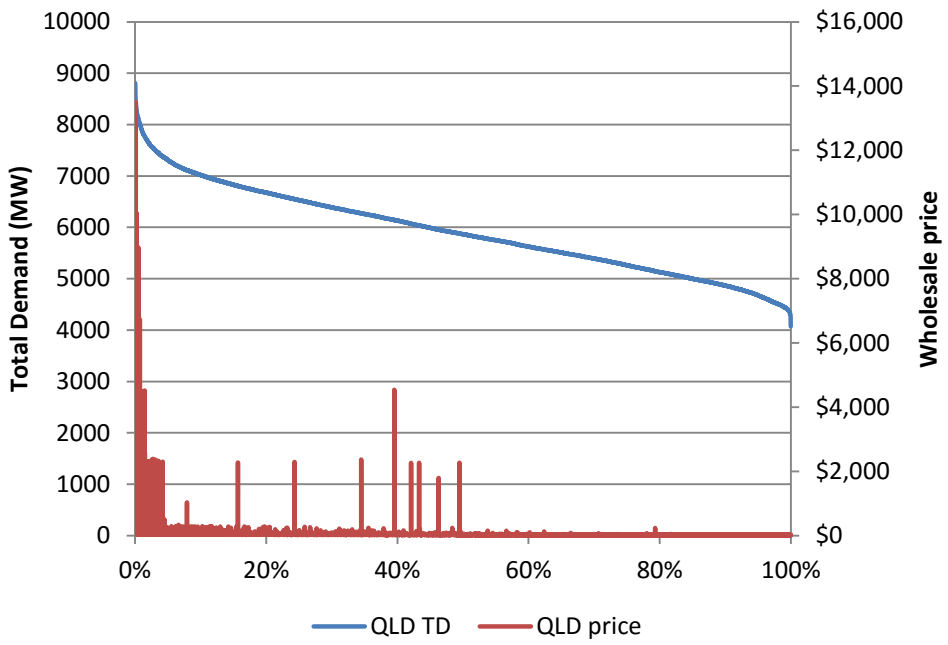


Source: Sapere analysis of AEMO data

On the whole, there is a correspondence between peak demand and high wholesale electricity prices. Figure 7 illustrates the total demand load duration curve for Queensland for the full financial year, ranking total demand for each ½ hour trading interval from highest to lowest. In general, this indicates the demand for the top 1000MW of capacity represents just 1.3 percent of trading intervals in a year.

Figure 7 also illustrates the occurrence of spot market price peaks during these periods of high demand for the year ending 30 June 2015. For that year, 57 periods or 63 percent of prices exceeding $1000/MWh occurred during demand for this top 1000MW of capacity, and 67 or 63 percent of prices exceeding $300/MWh.

Figure 7 Queensland spot prices peaks and total demand for FY2015



Source: Sapere analysis of AEMO data

Table 3 below highlights the difference between estimated wholesale energy costs, depending on the NSLP applied.

Table 3 Ergon estimated wholesale energy costs

$/MWh	QCA Energex	QCA Ergon E	SRG Ergon E low	SRG Ergon E high
Total	$92.35	$86.53	$74.50	$83.44
Difference		$5.82	$17.85	$8.91

Source: QCA, AEMO, Sapere

On the QCA's view, the difference is $5.82/MWh. On Sapere's view, the difference may be greater.

The QCA explicitly assumes recent changes to the rules around generator rebidding recently finalised by the AEMC would be ineffective. By contrast, Sapere's estimate assumes that stricter rules around rebidding will reduce the size and frequency of extremely high wholesale price spikes.

The AEMC rule change was in response to evidence that generators, including in Queensland could take advantage of the previous 'good faith' rules around rebidding and so exercise market power in ways that materially increase wholesale electricity prices. While the Queensland sector remains relatively concentrated, the AEMC adopted the rule change for rebidding on the basis that, overall, the additional costs from adopting the new rules would be exceeded by the benefits, in the form of lower wholesale prices than otherwise.

Table 4 below quantifies the potential effect on spot prices of tighter rules around generator rebidding, and the consequential effect for prudential costs.

Table 4 Possible effect of generator rebidding on spot prices in FY 2015 ($/MW)

		Constrained rebidding	Actual (with rebid)
Demand weighted average spot price	Energex	$73.26	$81.12
	Ergon	$60.93	$66.58
Distribution Loss Factor applied	Energex	$77.82	$86.18
	Ergon East	$66.65	$72.8
Prudential factor applied	Energex	$97.28-93.31	$107.72-$101.98
	Ergon	$83.32-100.99	$91.05-$110.37

Source: Sapere analysis of AEMO data

The QCA Draft Determination assumes that generators will continue to exercise market power, despite the rule changes, and that it is reasonable for regulated prices to incorporate an extra component to reflect ongoing inefficient wholesale prices. In our view, the QCA proposal eliminates or at least reduces any incentive for retailers to seek to minimise any generator market power following the AEMC rule change. This would reinforce and perpetuate inefficient wholesale prices in Queensland. While inefficient wholesale prices may represent a "cost" to the retailers, but they are in excess of efficient wholesale costs.

We agree with QCA there should be a reasonable margin for prudential costs. However, by setting aside rebidding, prudential costs will be overstated.

3.3 Allowance for renewable energy costs

Five (5.4) per cent of the difference between the Sapere median estimate and the QCA estimate relates to the proposed allowance for renewable energy costs. The Small Scale Renewable Energy Scheme (SRES) cost reflects our understanding of falling cost trends applicable for this sector. The difference in our estimate relates to the Large Scale Renewable Energy Target (LRET) cost.

The draft Determination adopts a market based approach to estimate LRET costs. The allowance for LRET should reflect efficient costs of producing large scale renewable energy. Due to the current "hiatus" in large scale renewable energy project construction, recent LRET market prices do not reflect the actual cost of producing renewable energy. Instead, they reflect the post-tax effect of the penalty applicable to liable entities that fail to meet their renewable energy obligations.[5]

Table 5 Renewable energy costs

$/MWh	QCA LRET	SRG LRET
LRET – total	$7.27	$5.69
LRET - difference		$1.58
SRES	$3.97	$3.97
Total	**$11.24**	**$9.66**

Source: QCA and Sapere analysis

If retailers are allowed to pass through almost in full the costs of failing to meet their LRET obligations, this further weakens incentives for retailers to procure sufficient LRET certificates or physical output and hence undermines the integrity of LRET. The Draft Determination undermines the integrity of the LRET and proposes inclusion of non-existent costs in regulated prices. This appears inconsistent with the relevant statutory criteria.

[5] This is because penalties are not tax-deductible for liable entities.