Cost drivers of recent retail electricity prices for small retail customers

A FINAL REPORT PREPARED FOR IPART

November 2016

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1 Introduction

1.1 Background

In April 2014, the NSW Government decided to remove retail electricity price regulation, effective 1 July 2014. This decision was based on findings by both the Independent Pricing and Regulatory Tribunal (IPART) and the Australian Energy Market Commission (AEMC) that the NSW electricity market is competitive.

As part of its decision to deregulate, the NSW Government gave IPART a new role to monitor and report annually on competition in the retail electricity market. As the market monitor, IPART is required to report annually on the performance and competitiveness of the NSW retail electricity market.

IPART is currently undertaking its 2016 review of the performance and competitiveness of the NSW retail electricity market. As part of this review, IPART will analyse price movements in 2015/16 to assess if they are consistent with a competitive market.

Retailers recently announced price increases to take effect around July 2016. IPART would normally assess these price changes as part of next year's review. However, the Minister has asked IPART to look at the drivers of these recent price increases as part of this year's review.

1.2 Frontier Economics' engagement

Frontier Economics has been engaged by IPART to assist in its review of the drivers of the recently announced price increases to take effect around July 2016. Specifically, we have been engaged to:

- identify and discuss important developments that influence, or have the potential to influence, recent changes in electricity prices for small retail customers in NSW
- quantify the potential impact of these developments in 2016/17 through a reasonable range (percentage increase), relative to 2015/16, for an efficient retailer
- outline any caveats or limitations in the analysis, and for IPART's consideration of this advice in assessing whether recent price changes are consistent with a competitive retail electricity market for small customers in NSW.

1.3 This final report

This final report provides our findings on the drivers of recent changes in electricity prices for small retail customers in NSW.

This final report is structured as follows:

- Section 2 provides an overview of the components of the cost of supplying electricity to small retail customers.
- Section 3 considers the potential drivers of changes in wholesale energy costs and provides our estimate of a reasonable range for the increase in these costs from 2015/16 to 2016/17.
- Section 4 considers the potential drivers of changes in the cost of complying with green schemes and provides our estimate of a reasonable range for the increase in these costs from 2015/16 to 2016/17.
- Section 5 considers the potential drivers of changes in network costs and provides our estimate of a reasonable range for the increase in these costs from 2015/16 to 2016/17.
- Section 6 discusses retail operating costs and the retail margin.
- Section 7 sets out our conclusion on the reasonable range of estimates of the increase from 2015/16 to 2016/17 in the total cost of supplying electricity to small retail customers.

2 Components in the cost to supply small retail customers

In competitive markets, prices would be expected to reflect the cost of supply. For this reason, our assessment of the drivers of electricity prices focuses on the various costs that retailers face in supplying electricity to small retail customers.

The costs that retailers face in supplying electricity to small retail customers are generally accepted to consist of:

- **Wholesale energy costs** – which are the costs that retailers face in procuring the electricity that they supply to their customers.
- **The costs of complying with green schemes** – which include the costs that retailers face in complying with their obligations under the Large-Scale Renewable Energy Target (LRET) and the Small-Scale Renewable Energy Scheme (SRES).
- **Network costs** – which include payments for the use of the transmission network and payments for the use of the distribution network.
- **Retail operating costs** – which are the costs that a retailer incurs in supplying electricity to its customers.
- **The retail margin** – which is the return that a retailer requires in order to attract the capital needed to provide a retailing service.

In the sections that follow we consider the potential drivers of changes in the cost that retailers face under each of these cost components.

3 Wholesale energy costs

In supplying energy to small retail customers, retailers incur wholesale energy costs. These are the costs that retailers face in procuring the electricity that they supply to their customers.

There are a number of approaches that are available for assessing the wholesale energy costs that retailers face. These include forecasting wholesale energy costs on the basis of the long-run marginal cost of energy, and forecasting wholesale energy costs on the basis of market forecasts of spot prices and contract prices. For this review, we are not undertaking market modelling of the kind that would be used to implement these approaches. Rather, we focus on the two key drivers of changes in wholesale energy costs: changes in load shape and changes in spot and contract electricity prices.

To assess changes in load shape, we have analysed data on the net system load profile for New South Wales over the last ten years. This analysis revealed no obvious trend in these load shapes, and thus no evidence that changes in load shape are resulting in higher wholesale energy costs.

The analysis of electricity prices provides more mixed results. In the remainder of this section we use publicly available information on electricity prices for 2015/16 and 2016/17 to assess what this information suggests about the increase in wholesale energy costs from 2015/16 to 2016/17. Because we are comparing last year with this current year, we have actual electricity spot prices for 2015/16 but not for 2016/17. These means that, conceptually, there are two ways that we can compare electricity prices for 2015/16 and 2016/17:

- We can compare actual prices for 2015/16 with expectations of prices for 2016/17.
- We can compare expectations of prices for 2015/16 (prior to the commencement of 2015/16) with expectations of prices for 2016/17 (prior to the commencement of 2016/17).

We discuss each of these approaches in the sections below.

3.1 Approach 1 – comparing actual prices for 2015/16 with expectations of prices for 2016/17

AEMO publishes spot electricity prices for every half-hour of the year. The annual average spot price that AEMO has calculated for New South Wales for 2015/16 is $49.36.[1]

Of course we do not yet know what will be the annual average spot price for New South Wales for 2016/17. However, the electricity futures market provides an indication of the market's expectation of the annual average spot price for New South Wales for 2016/17. The best indication of the annual average spot price for New South Wales that is publicly available is the price of an implied base load financial year 2016/17 strip for New South Wales, as published by ASX Energy.[2] The price of this implied base strip as of 1 June 2016 (which is presumably around the time that retailers decide their retail prices for 2016/17) was $51.07. It is generally accepted that contracts of this kind trade at a premium to expected spot prices. If we deduct a contract premium of 5 per cent, this suggests that as of 1 June 2016, the market's expectation was that the annual average spot price for New South Wales for 2016/17 was $48.64.

This simple comparison of actual spot prices for 2015/16 with forward prices for 2016/17 suggests that, as of 1 June 2016, retailers could have expected that there would be little change in the spot electricity prices that they faced in 2015/16 and the spot electricity prices that they would face in 2016/17.

However, the issue with this comparison is that retailers set their electricity tariffs in advance. If we assume that retailers set their electricity tariffs once for 2015/16 (prior to the commencement of 2015/16) and once for 2016/17 (prior to the commencement of 2016/17) then comparing actual prices for 2015/16 with expected prices for 2016/17 isn't likely to capture the difference in *expected* costs. To capture this difference in expected costs we would need to compare expectations of prices for 2015/16 with expectations of prices for 2016/17. This is what we do in the following section.

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1 See AEMO's website: http://www.aemo.com.au/Datasource/Archives/Archive769

2 See ASX Energy's website: https://www.asxenergy.com.au/

3.2 Approach 2 – comparing expectations of prices for 2015/16 and 2016/17

Methodology

One way of comparing expectations of electricity prices for 2015/16 with expectations of electricity prices for 2016/17 would be to compare the prices of implied base load financial year strips for New South Wales. However, we know that a typical retailer uses a mix of products to manage their retail load, including a mix of different contracts available from ASX Energy. For this reason, rather than just comparing the prices of implied base load financial year strips, we compare the prices for a number of individual contracts that are settled in each of 2015/16 and 2016/17. The contracts that we consider are:

- peak quarterly swaps
- base quarterly swaps
- base quarterly caps.

ASX Energy publishes daily prices for each of these products.

Since the prices of these instruments have changed by different amounts from 2015/16 to 2016/17 (for instance, the price of caps has increased by more than the price of swaps), we need an approach for estimating an indicative increase in the overall wholesale energy cost. We adopt the following approach to assess the overall change in the wholesale energy cost, from these changes in individual contract prices:

- We report the changes in prices (including a range) for quarterly base and peak swap contracts, and for quarterly cap contracts.
- Of these, we use the changes in prices for quarterly base and peak swap contracts as the best indicators of the increase in the wholesale energy cost (since the premium for cap contracts is typically a relatively small component of the wholesale energy cost).
- We use previous modelling of energy purchase costs for IPART to determine the mix of quarterly base and peak swap contracts that an efficient retailer is likely to enter into for small customers, and we calculate a weighted average increase in the price of this mix of contracts.

In addition, as prices of ASX Energy contracts are quoted on every trading day, in order to compare the prices of contracts prices for 2015/16 and 2016/17, it is necessary to determine the days on which these contract prices should be assessed. Under this approach of comparing expectations of prices for 2015/16 with expectations of prices for 2016/17, it is clear that we want to compare contract prices at an equivalent point of time prior to the commencement of each financial year. The question is, what point of time? As part of previous regulatory

determinations of electricity prices there has been a debate about whether retailers set retail prices on the basis of contract prices at a point-in-time or whether retailers set retail prices based on a rolling average of contract prices over a long period (typically two years, on the basis that retailers have argued that they purchase contracts over a two year period leading up to the relevant year). Our view has always been that prices should be based on a point-in-time approach, but we nevertheless adopt both approaches for the purpose of this review. Specifically, we compare contract prices under the following three approaches:

- Looking at prices on the day closest to the time retailers are likely to make their decisions on retail prices (which we assumes is June 1st of each year).
- Looking at prices averaged over one month leading up to the time that retailers are likely to make their decisions on retail prices (from 1st May to 1st June each year).
- Looking at prices averaged over the two years leading up to the time that retailers are likely to make their decisions on retail prices.

Through comparing prices for the three types of contracts across the four quarters available for settlement in 2015/16 with prices for contracts for settlement in 2016/17 we can develop an estimation of the market's expectations of the change in the wholesale energy cost to supply small retail customers.

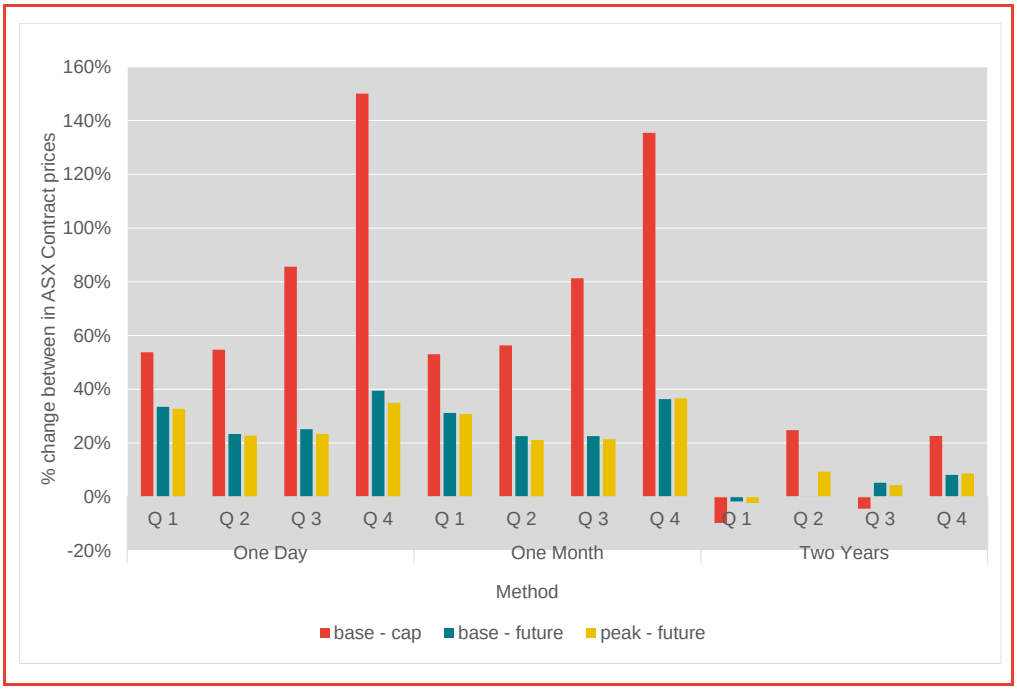
Assessment

Figure 1 provides an indication of the percentage change in ASX contract prices (quarterly base caps and quarterly base and peak swaps) between 2015/16 and 2016/17 using the three methods outlined above. While the first two methods (calculating the percentage change on the 1st of June each year, and averaging the prices between May 1st and June 1st for each year) provide fairly consistent results, the third method (averaging prices in the two years leading up the 1st of June each year), provides significantly different results. For the first two approaches, the increase in the price of swaps is roughly between 20 per cent and 40 per cent, depending on the quarter, while for the third approach the difference in the price of swaps varies between slightly negative and around 10 per cent. The difference in the price of caps is even larger; for the first two approaches, the increase in the price of caps is between 50 per cent and 150 per cent, while for the third approach the difference in the price of caps is varies between slightly negative and around 25 per cent.

The reason for this difference between the approaches is that the increase in contract prices for 2016/17 that we observe under the first two approaches has happened fairly close to the start of financial year 2016/17; so, the increase is apparent if we look at contract prices on 1 June 2016, or over the month from 1 May 2016 to 1 June 2016, but far less apparent before that. This is apparent if we compare the prices of base quarterly swaps for 2015/16 and 2016/17 over the two

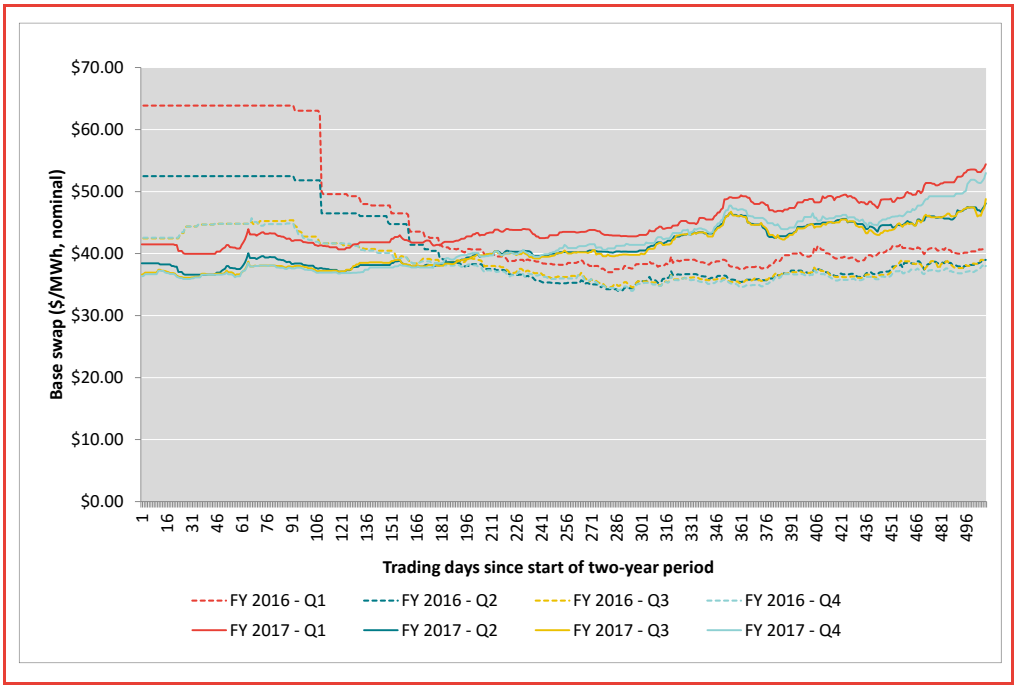
year period that we consider, as shown in Figure 2. Placing these series on the same x-axis (by using a date index rather than the actual trade date) shows that contracts for 2015/16 remained fairly flat up to the start of the financial year while prices for 2016/17 increased up to the start of the financial year.

Figure 1: Percentage change in ASX contract prices between 2015/16 and 2016/17 (nominal)



Source: Frontier Economics using data form ASX Energy

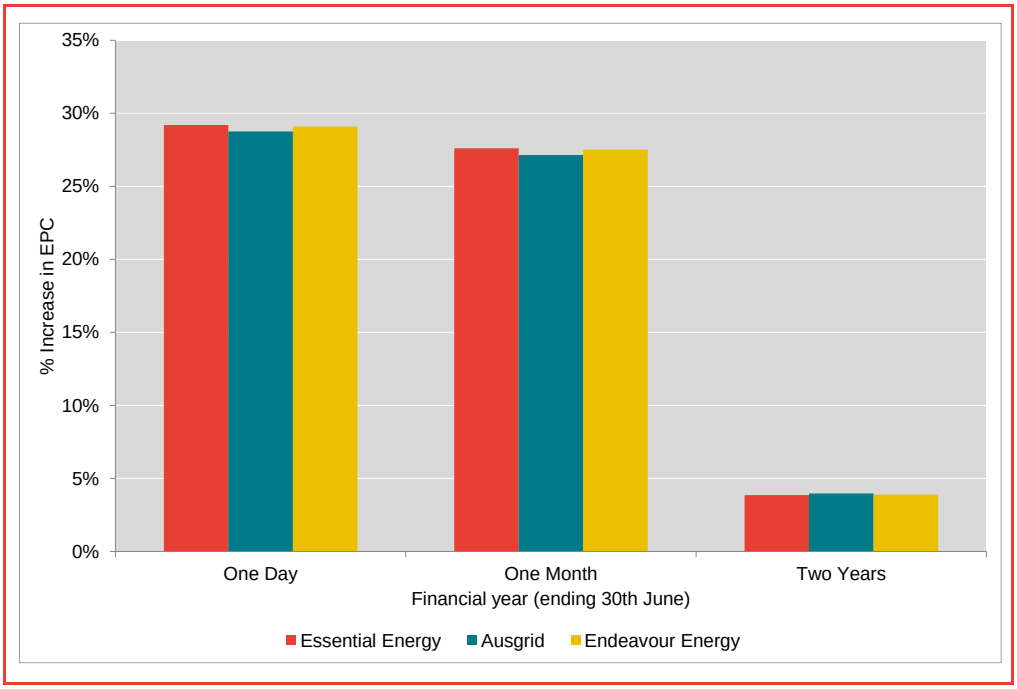
Figure 2: Comparison of base swap contracts price for 2015/16 and 2016/17 (nominal)



Source: Frontier Economics using data form ASX Energy

Applying the approach discussed above, Figure 3 presents the estimated increase in wholesale energy costs based on the increase in contract prices shown in Figure 1. Since the contract mix will be slightly different for the three distribution areas, we present results separately for the Ausgrid, Essential Energy and Endeavour Energy distribution areas. While the change in wholesale energy costs is fairly similar for each business within each method, once again, the third method provides significantly different results. The change in wholesale energy costs from the first two methods is estimated to be between 27 per cent and 30 per cent, the estimated increase in wholesale energy costs under the third methodology is around 4 per cent. This difference simply reflects the different in contract prices under the three approaches.

Figure 3: Percentage increase in wholesale energy costs between 2015/16 and 2016/17 (nominal)



Source: Frontier Economics using data form ASX Energy

What has driven the increase in contract prices for 2016/17?

What we observed in the previous section is that spot prices for 2015/16 were higher than the market expected them to be at the start of 2015/16, and that, over the same period that spot prices were increasing, forward prices for 2016/17 were increasing. This raises the question of what was driving these increases in electricity prices.

On the whole, our view is that the recent increases in wholesale electricity prices are not out of the ordinary. Indeed, the recent increases in wholesale electricity prices are really just a return to prices that are more characteristic of longer-term prices. This can be seen in Figure 4 and Figure 5.

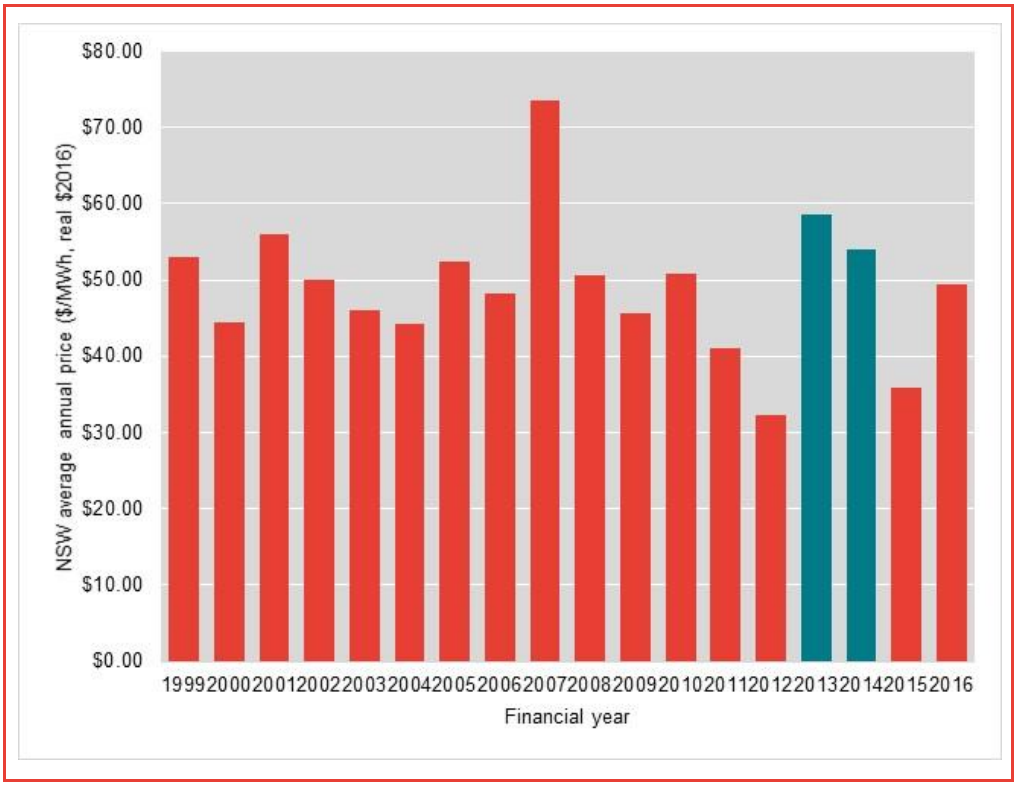
Figure 4 shows the average annual New South Wales regional reference price for each year since the market commenced in 1998/99. These prices are in real dollars, and the average prices for 2012/13 and 2013/14 are highlighted, because these prices were affected by the carbon price that was in place in those years (which increased electricity prices by around $20/MWh).

It is clear from Figure 4 that the electricity prices for 2011/12 through to 2014/15 were the lowest prices, in real terms, that New South Wales has experienced (once the impact of carbon in 2012/13 and 2013/14 is accounted for). When retailers

were setting prices for 2015/16, their only recent experience would have been with these historically low spot prices.

The electricity price in 2015/16 is a return to levels that were much more typical over the period 1998/99 to 2009/10 (before demand started falling). When retailers were setting prices for 2016/17, their recent experience would have included the material increase in spot prices in 2015/16.

Figure 4: Average annual NSW regional reference price (real $2016)

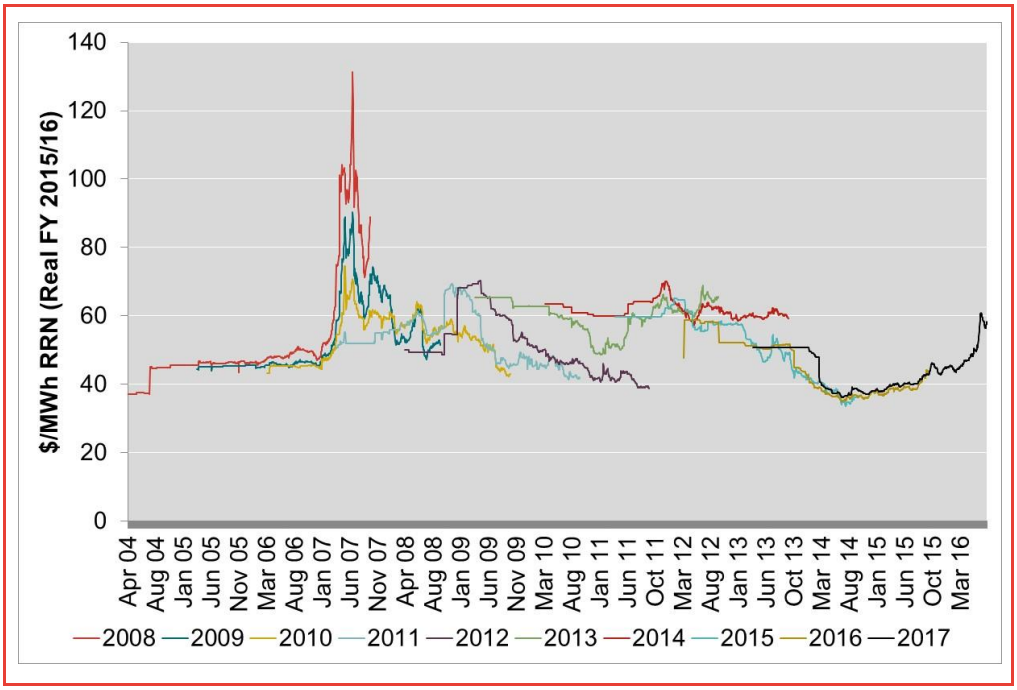


Source: Frontier Economics analysis of AEMO data

Figure 5 shows the price of implied base load financial year strips for New South Wales for each year from 2007/08 to 2016/17, as published by ASX Energy.[3] Consistent with what we saw for annual average spot prices, the recent increases in contract prices for settlement in 2016/17 are a return to prices that are more consistent with the prices that were observed before the recent historically low New South Wales prices.

[3] See ASX Energy's website: https://www.asxenergy.com.au/

Figure 5: Financial year strip prices for NSW (real $2016)

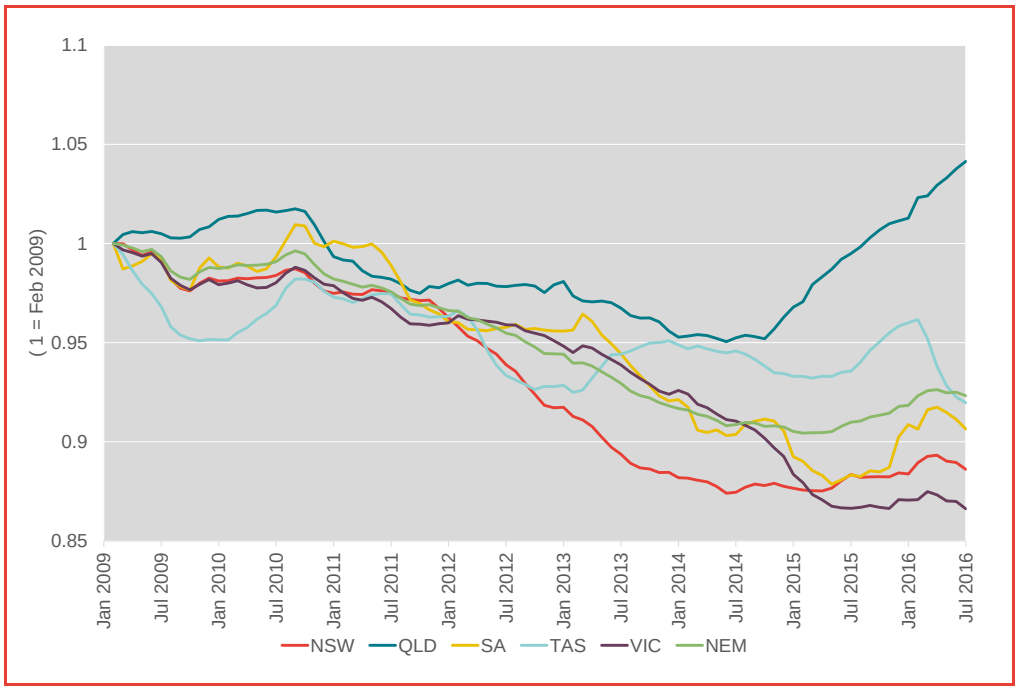


Source: Frontier Economics using data form ASX Energy

More specifically, in our view, there are likely to be three key explanations for the increase in electricity prices that we have seen recently.

The first explanation is that there are signs that electricity demand is returning to growth. Figure 6 shows an index of electricity demand in each region of the NEM, as well as for the NEM in total. The index begins in February 2009, which was peak demand for electricity in the NEM. In February 2009, demand began falling in all regions, and these reductions in demand continued up until around 2015. However, following six years of falling demand, since the beginning of 2015 there have been signs of sustained return to growth in electricity demand (except recently in Tasmania owing to the drought and Basslink interruption that they have experienced). Also, AEMO is forecasting moderate growth in demand over coming years. An increase in demand can be expected to increase electricity prices as generation plant with higher marginal costs set the market clearing price with higher demand.

Figure 6: Index of electricity demand in the NEM



Source: Frontier Economics analysis of AEMO data

The second explanation is that there have been a number of retirements of baseload generators over recent years in the NEM. In New South Wales, Munmorah, Wallerawang C, Redbank have all retired since demand started falling around 2009 (and Smithfield is schedule to retire next year). The most recent retirement in the NEM has been Northern Power Station in South Australia, which has been an important cause of the recent high price events that have been observed in South Australia (with flow on effects for other NEM regions). There have also been a number of longer-term scheduled outages of generation plant over the last six months. A decrease in generation supply – particularly in the supply of baseload generation – can be expected to increase electricity prices as generation plant with higher marginal costs set the market clearing price with higher demand.

Finally, there is also evidence that gas prices have been higher during 2015/16 than they were in 2014/15. For instance gas spot prices on the Short Term Trading Market (STTM) in Sydney have been higher during 2015/16 than they were in 2014/15, although the increase is really a return to gas prices that are more consistent with the longer-term average on the STTM in Sydney. Higher gas prices increase the cost of gas-fired generation and can be expected to increase electricity prices.

Wholesale energy costs

3.3 Conclusion

If we compare actual prices for electricity in 2015/16 with expectations of prices for electricity in 2016/17, the available data suggests that there would be little increase (or perhaps even a decrease) in the wholesale energy component of retail electricity prices for small customers.

However, this is unlikely to be the best comparison. The reason is that retailers tend to set retail prices in advance, for a period of time, based on their expectation of their cost of supply over that period of time. To reflect this, we also compare expectations of prices for electricity in 2015/16 with expectations of prices for electricity in 2016/17.

This comparison of expectations of energy prices also provides differing results. If we assume that retailers base their expectations of energy prices on the rolling-average contract price over a two-year period, then the implied increase in wholesale energy costs is only around 4 per cent. However, if we assume that retailers base their expectation of energy prices on contract prices at a point in time (either a day, or an average over a month), then then implied increase in wholesale energy costs is between 27 per cent and 30 per cent.

Of course each of these estimates can only provide an indication of the increase in wholesale energy costs. We have not done detailed forecasting of changes in load shapes or prices, or changes in the correlation between the two; nor have we estimated an efficient mix of wholesale contracts and estimated the cost meeting load using this mix of contracts for 2015/16 and 2016/17. This more detailed work would provide a more precise estimate of wholesale energy costs.

However, we consider that we have accounted for the two principle indicators of changes in wholesale energy costs: changes in load shapes and changes in swap prices. In regard to our estimate of the change in expectations of future prices, it may be that more detailed analysis would suggest a different mix of quarterly swap products, and therefore provide a different estimate of the change in wholesale energy costs. However, the fact that all swaps have increased by similar amounts suggests that this more detailed analysis is unlikely to change our result significantly. Similarly, it may be that accounting for the role of caps in hedging load would provide a different estimate of the change in wholesale energy costs. However, given that caps are a relatively small component of wholesale energy costs, accounting for caps is unlikely to significantly increase our result.

Finally, we would get different results if we assumed that retailers made their pricing decisions at a time other than 1 June each year. In particular, for contracts for settlement in 2016/17, prices continued to increase markedly during June and July, partly as a response to spot price outcomes throughout the market over this period. However, we think it is reasonable to assume that retailers need some lead time before changing their retail tariffs.

4 Costs of complying with green schemes

In supplying energy to small retail customers, retailers must incur costs associated with complying with green schemes, including the costs that retailers face in complying with their obligations under the Large-Scale Renewable Energy Target (LRET) and the Small-Scale Renewable Energy Scheme (SRES).

Through comparing prices of large-scale generation certificates (LGCs) and small-scale technology certificates (STCs), and their corresponding renewable power percentage (RPP) and small-scale technology percentage (STP), we can estimate the change in the cost of complying with these schemes from 2015/16 to 2016/17.

4.1 Approach

Utilising time series data on traded prices for LGCs and STCs from Mercari and Greenmarkets, we can compare the prices of certificates for 2015/16 and 2016/17. Our approach for estimating the costs of complying with green schemes is similar to the approach we adopted for ASX Energy contracts, with one key difference: ASX Energy contracts are forward prices while certificate prices are spot prices. This means that we do not have the same direct information on the expected price for certificates for 2016/17 that we do for ASX Energy contracts. However, we consider using spot prices as a guide to retailer's expectations of future certificate prices is a reasonable approach for this review.

As in our analysis of wholesale energy costs, we adopt three different methodologies to compute the costs of complying with green schemes:

- Looking at prices on the day closet to the time retailers are likely to make their decisions on retail prices (which we assume is June 1st of each year);
- Looking at prices averaged over one month leading up to the time that retailers are likely to make their decisions on retail prices (from 1st May to 1st June each year); and
- Looking at prices averaged over the two years leading up to the time that retailers are likely to make their decisions on retail prices.

Estimates of the RPP and STP are more straightforward. The RPP and STP provide an indication of the rate of liability under the LRET and SRES, respectively. Utilising published estimates from the Clean Energy Regulator, supplemented by our own estimates calculated in a manner set out in the *Renewable Energy (Electricity) Act* 2000, we can estimate the changes in the number of certificates that retailers need to surrender from 2015/16 to 2016/17.

4.2 Assessment

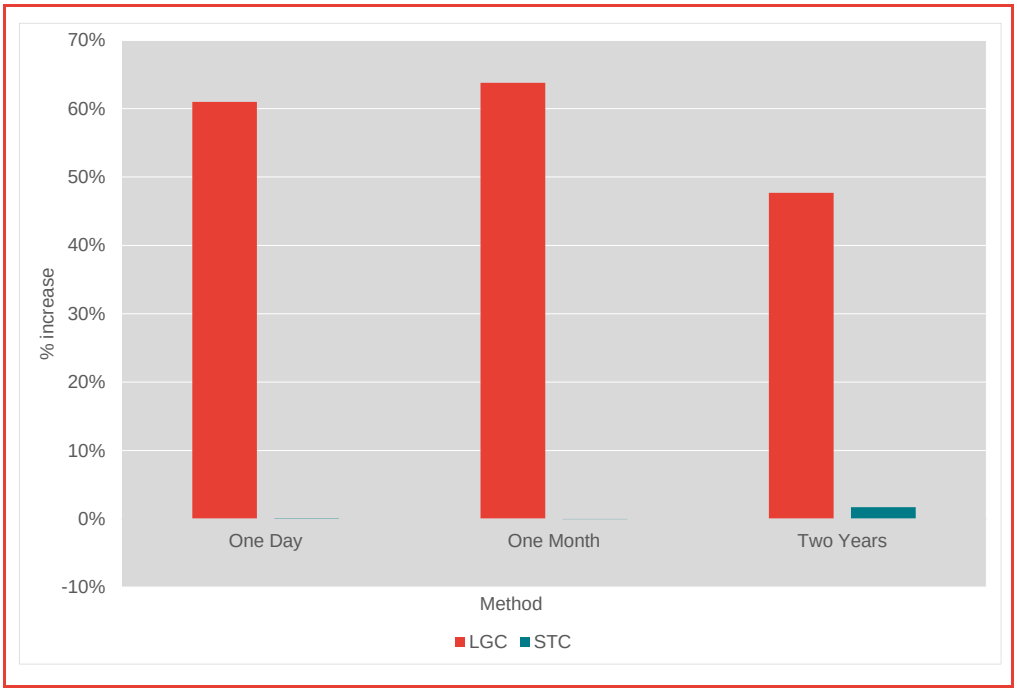
Figure 7 provides an indication of the change in prices for LGC and STCs between 2015/16 and 2016/17.

For STCs, we see that there has been little change in the STC price over time, regardless of the method that we adopt. The reason is that the price of STCs has been very close to the STC clearing house price of $40 for a number of years now.

For LGCs, we see that the price varies materially depending on the method of estimation utilised. For instance, averaging prices over the two years leading up to June 1st of each year and comparing them indicates that LGC prices have increased by around 50 per cent, while taking the price on June 1st of each year or an average of the prices between May 1st and June 1st of each year, suggest that prices have increased by around 65 per cent. This difference reflects the recent trend towards higher LGC prices, which is shown in Figure 8.

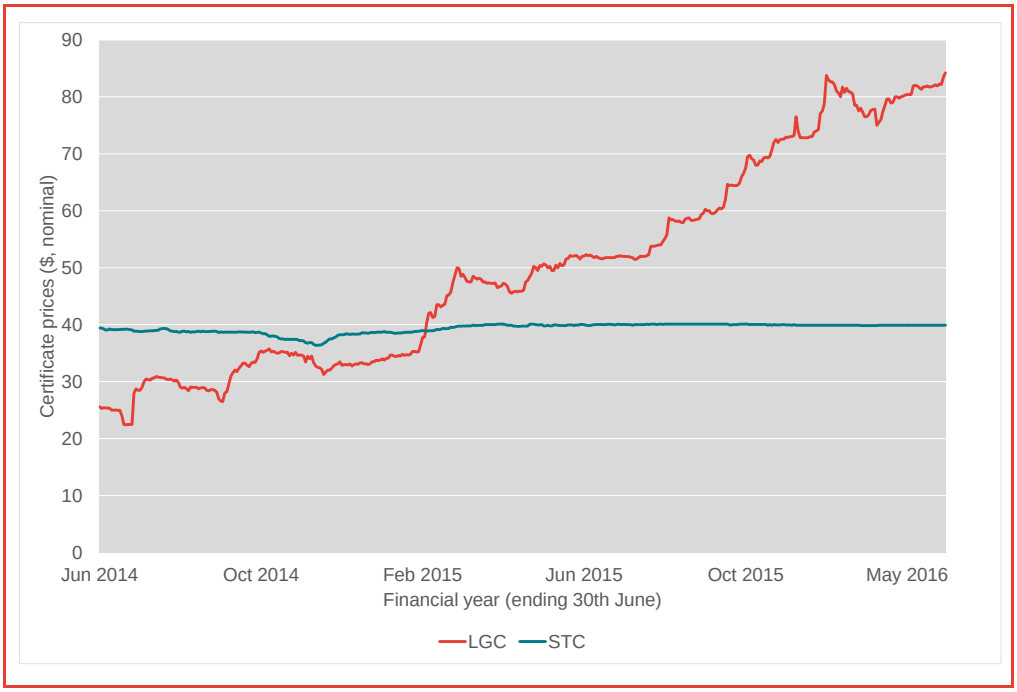
The increase in LGC prices over the last year seems to be driven by some businesses facing a shortage of LGCs, meaning that they have to procure LGCs through the spot market. It is typically the case that large retailers will procure a large proportion of their LGCs by entering into power purchase agreements with wind generators. However, recent market activity suggests that some businesses are procuring a significant number of LGCs on the spot market, which is driving up spot prices. Our view is that spot prices are unlikely to persist at these levels; our estimate is that the LGC price required to bring about new renewable investment is more likely to be in the range of $50 to $60 per certificate (depending on the level of spot electricity prices). The fact that spot prices are significantly higher than these may reflect the fact that renewable investments were delayed in recent years as a result of the policy uncertainty that existed at the time.

Figure 7: Percentage increase in LGC and STC prices between 2015/16 and 2016/17 (nominal)



Source: Frontier Economics using data from Mercari and Greenmarkets

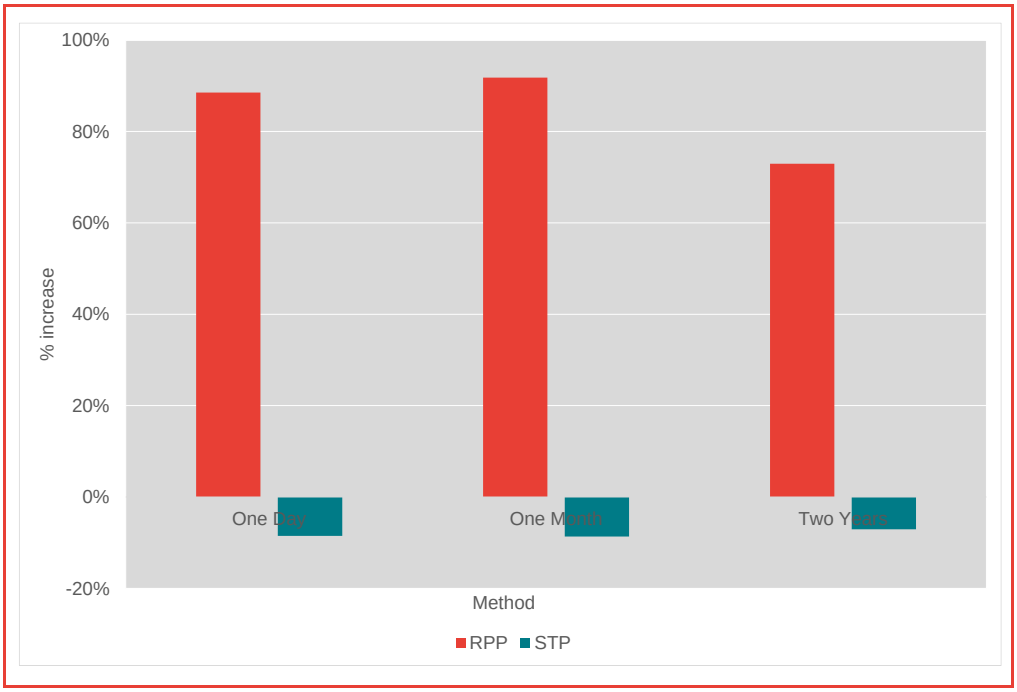
Figure 8: Time series of LGC and STC prices



Source: Frontier Economics using data from Mercari and Greenmarkets

Combining these changes in LGC and STC prices with changes in the RPP and the STC, Figure 9 provides an indication of the percentage change in the cost of complying with the LRET and the SRES from 2015/16 to 2016/17 across the three methods. While the change in cost of complying with the SRES is fairly consistent across the estimation methods, the change in cost of complying with the LRET varies materially depending on the method of estimation utilised. For instance, averaging prices over the two years leading up to June 1st of each year and comparing them indicates that the cost of complying with the LRET has increased by around 70 per cent, while taking the price on June 1st of each year or an average of the prices between May 1st and June 1st of each year, suggest that the cost has increased by around 90 per cent.

Figure 9: Percentage change in cost of complying with the LRET and SRES between 2015/16 and 2016/17 (nominal)



Source: Frontier Economics using data from Mercari and Greenmarkets

4.3 Conclusion

Each of the approaches that we have adopted provides similar estimates of the change in the cost of complying with the LRET and the SRES: large increases in the cost of complying with the LRET as a result of increases in the price of LGCs

and an increase in the RPP and small decreases in the cost of complying with the SRES as a result of flat prices for STCs and a fall in the STP.

The key uncertainty with these results is whether current (or past) spot prices for LGCs and STCs provide a reasonable indicator of forward prices for LGCs and STCs. While these are clearly an imperfect indicator of forward prices, retailers operate with the same information that we use.

5 Network costs

In supplying energy to small retail customers, retailers must incur network costs, which include payments for the use of the transmission network and the distribution network.

Through using publicly available data on network tariffs we can estimate network costs incurred by retailers in suppling small retail customers.

5.1 Approach

In supplying energy to small retail customers, retailers incur network costs which they pass through to customers. Network tariffs for the three electricity distributors in NSW are publicly available, and can be compared for each distribution area in NSW. Through using information on the breakdown of network tariffs and an estimation of primary and controlled load electricity consumption for a typical customer (4,060 kWh and 1,900 kWh respectively), we can estimate the cost incurred by retailers in supplying a typical small retail customer in NSW for each year. A comparison between the bill of the typical consumer in 2015/16 and 2016/17 provides an indication of any changes in the costs incurred by retailers in suppling small retail customers.

5.2 Assessment

Table 1 provides a range of the change in the total primary and controlled load bills for a typical customer across the three electricity distributors in NSW. Across the three energy distributors, NUOS charges for primary load have increased by between 2 per cent and 6 per cent and NUOS charges for controlled load have increased by between -1 per cent and 2 per cent.

Table 1: Percentage change in network tariffs between 2015/16 and 2016/17 (nominal)

	NUOS primary	NUOS Controlled load
% change	2% to 6%	-1% to 2%

Source: Frontier Economics using data from the AEMC and network businesses

5.3 Conclusion

As retailers pass through the network costs associated with supplying small retail customers in the form of network tariffs, we can analyse changes in tariff prices across the three distributors in NSW between 2015/16 and 2016/17 to estimate the change in network costs incurred by retailers. The change in costs range between 2 per cent and 6 per cent for primary load and -1 per cent and 2 per cent for controlled load.

It should be noted that this analysis utilises data on network tariffs for the 2016/17 period that are still under judicial review. As such, the exact change in tariffs between 2015/16 and 2016/17 across the three distributors may change.

6 Retail operating costs and retail margin

In supplying energy to small retail customers, retailers must incur retail operating costs (the costs that a retailer incurs in supplying electricity to its customers) and cover their retail margin.

However, as retail operating costs and retail margins account for a comparatively small portion of the total costs incurred by a retail business, and there is no reliable public data that would indicate how these have changed from 2015/16 to 2016/17, we have not attempted to estimate a percentage change in this component of the cost to supply small retail customers.

7 Summary and conclusion

The analysis provided in the sections above allows us to quantify a reasonable range for the increase in wholesale energy costs, green costs and network tariffs from 2015/16 and 2016/17.

As these cost components account for the majority of the cost of supply for small retail customers, we can use estimates of proportion of total costs accounted for by each of these cost components to convert our estimates of a reasonable range for each cost component into an estimate of a reasonable range for the increase in the total cost of supplying electricity to small retail customers from 2015/16 to 2016/17.

However, there is a degree of uncertainty about the proportion of total costs accounted for by each of these cost components (not least of all because this proportion changes over time, reflecting changes in wholesale energy costs and changes in network costs, in particular). Reflecting this uncertainty, we have used a range for the proportion of total costs accounted for by each component, where this range is informed by data from the most recent price trends report from the Australian Energy Market Commission (AEMC). The range for each cost component is shown by the estimates for the two approaches in Table 2.

Table 2: Estimates of proportion of costs

Cost component	Approach 1	Approach 2
Wholesale energy costs	43%	24%
Costs of complying with green schemes	6%	8%
Network costs	38%	51%
Retail operating costs and margin	13%	17%
Total	**100%**	**100%**

Source: Frontier Economics

Table 3 provides a range of estimates of changes in total costs incurred by retailers in supplying energy to small retail customers, for each of the methodologies we adopt for wholesale energy costs and green costs. The range is a range accounts for differences across the three distribution areas and across the different estimates of the proportion of each cost component.

Table 3 only accounts for the range when comparing expected energy costs for 2015/16 with expected energy costs for 2016/17. The range if comparing actual energy costs for 2015/16 with expected energy costs for 2016/17 would clearly be lower than any of these approaches.

Table 3: Changes in total supply cost between 2015/16 and 2016/17 (nominal)

	Energy and green costs priced on 1 June	Energy and green costs priced over 1 month to 1 June	Energy and green costs priced over 2 years to 1 June
Total cost	11.2% to 16.7%	11.0% to 16.1%	4.4% to 5.7%

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