



EnergyAustralia

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Dear Dr Ben-David

Developing a reference price methodology for Victoria's energy market - Consultation paper

EnergyAustralia welcomes the opportunity to respond to the Essential Services Commission (the Commission) consultation on developing a reference price methodology for Victoria's energy market as outlined in the Consultation Paper released on 20 March 2018 and the further details provided in a technical workshop on 5 April 2018 with consultant, Frontier Economics.

Recently, we provided comments to the Department of Environment, Land, Water and Planning (DELWP) on the Response to the Review of Electricity and Gas Retail Markets in Victoria (5 April 2018),¹ which noted our strong opposition to the introduction of a regulated price signal, referred to as a Basic Service Offer (BSO) or reference price. It is our understanding that the Government has not taken a decision to introduce a BSO and is still evaluating this option.

As currently constructed, a published reference price has the potential to constrain competition and shift focus from retailers exclusively to cost cutting measures that would reduce the level of service, and restrict investment in any product and services that would support customers using energy more efficiently.

If the government pursues a BSO, we are deeply concerned that the timing and approach to this consultation, set out in the Terms of Reference, is not sufficient to allow the Commission to explore options, risks and consequences and establish a proper methodology and an accurate set of reference prices.

¹ https://www.energy.vic.gov.au/_data/assets/pdf_file/0017/123290/EnergyAustralia-Submission.pdf

Despite this, should the government decide to introduce a BSO, we have sought to provide advice on the problems that exist with the pricing methodology, particularly that the prices produced will not be accurate, achievable in the market and therefore not beneficial to customers and should therefore not be published. These limitations stem from the Terms of Reference - the lack of stated purpose for the reference price, the lack of time allowed for consultation and the exclusion of competition costs.

We urge the Commission to consider the issues we raise and to provide recommendations to the Victorian Government about the use and publication of the reference prices. Some price components are likely to require heavy qualification or may only be reportable as a price range. Publishing reference prices that are inaccurate, particularly in the likely case that they will be too low, is highly likely to damage competition and therefore is not in customers' best interests.

If you would like more information on this submission, please contact Melinda Green on

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Yours sincerely

Kim Clarke

Chief Customer Officer

**EnergyAustralia response to
Developing a reference price methodology for
Victoria's energy market
(Consultation paper)**

April 2018

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1. Executive Summary

EnergyAustralia has strong reservations about the impacts of any type of price regulation in a competitive market, even light-handed forms of regulation like the publication of benchmark prices. While the level of competition should always be open for review and improvement, we fundamentally reject the idea that competition in Victoria's energy markets will be enhanced in any way by the creation of a reference price.

It is incongruous that the Commission has been requested to prepare a methodology and set of reference prices without any apparent integration with the work that DELWP is doing to decide on the purpose and application of BSO pricing. Without alignment and an overall plan (and a Regulatory Impact Statement), we don't believe these will produce a useful outcome, certainly not one that will improve the industry and customer outcomes.

We are also concerned that the scope of the Terms of Reference provided to the Commission is too narrow, limiting the ability of the Commission to develop an accurate set of prices. This will exacerbate negative impacts that will ultimately flow through to customers. Recognising these limitations placed on the Commission, we discuss the difficulties in setting up the methodology to inform a potential reference price. In some cases, we see some flexibility in the Terms of Reference that the Commission could make use of to improve the accuracy of the methodology.

The Commission has engaged Frontier Economics to forecast the wholesale costs, but their time is extremely limited. Fitting this detailed scope of work into three months when nine months has been allowed for similar work will result in inaccurate cost estimates.

We are most concerned that the limited time will mean that electricity spot price and load forecasts and the modelling approach will lead to understated electricity costs. For wholesale gas costs our greatest concern is the difficulty in estimating liquified natural gas (LNG) and transport costs using available data and combining these in a way that correctly forecasts the costs that Victorian retailers face. For the environmental scheme costs, we note the difficulties in determining large-scale renewable energy target (LRET) costs due to the current market conditions and different approaches to purchasing certificates or power purchase agreements (PPAs) that will mean retailers face a wide variety of costs.

In terms of retail costs, our primary issue is the exclusion of 'competition costs'. This means that costs associated with other Victorian Retail Market Review recommendations may not be able to be recouped. We instead propose that the definition of competition costs should be reviewed against the Terms of Reference. The process for setting the retail components is also rushed and there will be insufficient time for the consultation to arrive at accurate values. It will be difficult to find comparable data, so we suggest obtaining data published by listed companies, rather than relying on previous regulatory decisions which are no longer applicable to the current market. With so many regulatory and government changes driving up costs for Victorian retailers, we also recommend that retail costs should be forecasted, rather than benchmarked against historical data as historical data is not necessarily an accurate reflection of future costs due to changes in the market environment.

2. Establishing a reference price

2.1. The purpose of a reference price

There appears to be two competing purposes for the creation of this reference price. One purpose is for use as a possible Basic Service Offer (recommendations 1 and 2). The second purpose is to establish a reference price that can be compared to actual market prices in the competition review (recommendation 8A) and then used to deduce the amount that retailers must be spending on sales and marketing activity. Embarking on setting a reference price without being clear about the purpose, is like shooting in the dark for your target, making it unlikely to be hit. It is important the Commission is clear and upfront with stakeholders on this if it is to engage in meaningful consultation.

In setting reference prices, you need to ensure that the costs are specific to the group of customers that they apply to. As the purpose of the reference prices hasn't yet been confirmed, it may not be possible to do this. If for example, the reference prices end up being a replacement price for standing offer tariffs, or a price suitable for vulnerable customers, then it is important to use that lens when calculating all cost components.

2.1.1. Use of reference prices in a BSO

It's also important to understand the manner in which the reference price could be used as a BSO. Prior to the consultation starting, DELWP outlined that separate retailer BSOs must sit below a regulated price calculated based on fixed and variable tariffs, efficient costs, retail margin allowance, and excluding customer acquisition and retention costs (CARC) and headroom.

If these details are known already then why are they not mentioned in the Commission's Consultation Paper? If these details are not settled yet, then why does not DELWP run an integrated consultation with the Commission to ensure the purpose and the output are aligned?

2.1.2. Use of reference prices in the competition review

We understand that part of the purpose of using the reference price for the competition review will be to delve into findings from other reviews; particularly the Victorian Retail Review and the Grattan report.² Details from both have been misreported at times and raised unnecessary concern, particularly about retail margins. Most often, gross margins are incorrectly assumed to be retailers' profit margins, when in fact they include retail costs (operating costs and sales and marketing costs) and these margins are further exaggerated by a poor understanding of wholesale costs which are often underestimated.

This current consultation has the potential to set the record straight, but only if done well. Determining the reference prices in a rushed process is likely to produce prices that are too high or too low and will add to the confusion and impact Victorian retailers and generators and consumers.

² Victorian Government, Independent Review of the Electricity and Gas Retail Markets in Victoria, 13 Aug 2017. Grattan Institute, "Price Shock: Is the retail electricity market failing customers", 13 Mar 2017.

2.2. Approach to determining reference prices

The Terms of Reference for this review allow a variety of methods to be used to set the reference prices, but the Consultation Paper only contemplates an index approach and a cost-based approach with inputs being determined by a consultant. It would be possible to develop other methodologies, such as:

- A propose-respond model similar to the one used in Victoria to set regulated retail energy prices prior to 2009, or that used by the Independent Pricing and Regulatory Tribunal NSW (IPART) to set gas prices in NSW up to mid-2017. In both cases, consultants were used to check that component values were within reasonable ranges.
- A price-based approach that compares market prices and removes or adjusts any components necessary to align with the Terms of Reference. The output could be:
 - a set of structured prices (with fixed and variable charges), or
 - a total annual price for a customer based on different consumption levels.

The latter is similar to the reference prices that the Australian Energy Regulator is currently consulting on. While this may initially seem at odds with what DELWP originally intended, it could be more useful for customers to use when comparing offers, be quicker to develop and could be used in the competition review (Recommendation 8A).

These alternative methodologies would both be relatively quick to implement and could overcome many of the inaccuracy problems of the methodology proposed in the Consultation Paper. It may be possible to use one or more of these approaches to provide supplementary data and provide comfort that the reference price levels are appropriate.

2.3. Combining all the elements into the overall reference price

Regardless of the stated purpose of reference prices, any price produced and published by an independent regulator that is designed to reflect an efficient market price will be seen as a benchmark price and create expectations of where market prices should be in the minds of various stakeholders.

This issue is more acute if the benchmark prices are set artificially lower than could exist in the market. This is highly relevant as the terms of reference exclude aspects of the price that every retailer incurs – i.e. customer acquisition and retention costs.

Additionally, we have no confidence yet that the other cost and margin components will be accurately determined. In previous price regulation consultations, we have been involved in, decisions have often been made based on wholesale, retail costs and/or retail margins area that are set at unachievably low levels. This can occur if each component is set at the level of a theoretically efficient retailer when, in reality, many businesses have competitive cost advantages in different parts of the cost stack and no one retailer can realistically achieve an optimally low level on all components.

An example of this is a small retailer who may not have made a good hedging decision leading to higher than average wholesale costs, but may have a very low cost to serve as they are small enough to utilise a mid-level IT platform used by other small Australian energy retailers and system change costs are shared across retailers.

In general, we feel that the limited time the Commission has been given to develop the reference prices may mean it is most appropriate to publish ranges for each cost and margin component and perhaps even a range for the overall reference prices if this would meet the Terms of Reference. If this is not possible, we suggest that the Commission clearly stipulate the limitations of the final set of prices and that it be used as a theoretical exercise to inform the government's decision about the merits or otherwise of a BSO.

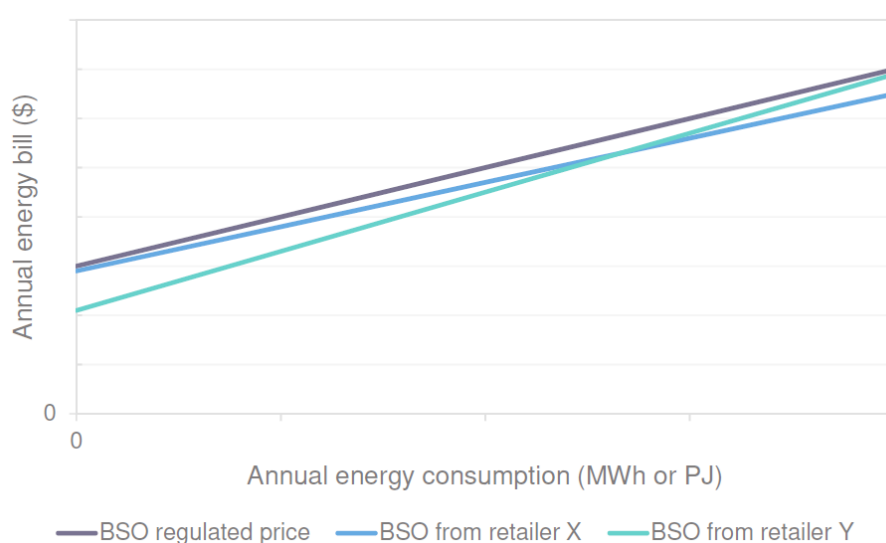
2.4. The applicability of the reference price

2.4.1. Price structures

If the reference prices are set up as peak anytime prices or some other common price structure in particular zone and for a particular customer type (residential or small business), then that price can only be sensibly compared to a like price. Trying to extend the analysis to other price structures (e.g. extending a peak anytime price level to a flexible (time-of-use) price level) is not valid. If the set of reference prices only include (for example) peak anytime electricity prices or non-seasonal gas prices, then the assessment of competition or any other comparison should only be conducted on the market-based prices with those same structures.

The BSO presentation by DELWP to industry stakeholders on 16 March 2018 illustrates a 'BSO curve' which we understand to show that the regulated BSO reference price may cap BSOs offered by retailers (Figure 1).

Figure 1: BSO price curve³



³ DELWP, Responding to the Independent Review of the Electricity & Gas Retail Markets in Victoria, presentation, Melbourne, 16 March 2018, page 8

This construct is not rational. With the CARC component removed, any BSO reference price for any particular area, fuel and customer type price will be lower than the corresponding market prices. Retailers operate in a competitive market so by definition the BSO reference price will be lower than the price retailers are willing to charge, and it may not allow them to recover their costs.

If the reference prices are issued prior to retailers publishing their capped BSO prices, then retailers would be induced to set their 'BSO prices' at exactly the same fixed and variable prices. It would be impossible for retailers to guarantee their 'BSO prices' would be capped by the reference price if it were not issued prior to the retailers publishing their prices.

In addition, if the reference prices were only set as a fixed component with a single ('peak only' or 'anytime') variable rate, then this would more severely constrain more complex price structures that have peak, off-peak, shoulder variable rates as well as demand charges. Any independently set, retailer BSO prices would essentially have to match the relevant reference price closely for the BSO reference price to be an upper limit, or cap.

Deciding that BSO prices would only be necessary as a fixed plus 'peak only' variable price structure would be one possible solution to the issue above, although not a sensible one. More complex prices are typically more cost-reflective (e.g. time-of-use prices), but if not available as a BSO price option they would only be available as market prices. For the reasons outlined in this submission, we expect that the reference prices will be lower than the corresponding market prices. The wider roll out of more cost-reflective retail price structures has the ability to lower prices for all customers, so their uptake should not be discouraged.

2.4.2. Timing issues

The Commission and Frontier have discussed the approach for determining each component of the wholesale prices based on information available to retailers in the lead up to calendar years 2018, 2019 and 2020.⁴ That is, for 2018 prices, they will use contract data available on ASX Energy from late 2017; whereas for future calendar years, they can only use the contract data currently trading on ASX Energy. There are several difficulties that will arise. Below we recommend how each could be addressed:

⁴ At the Technical Workshop, 5 April 2018.

Difficulty	Suggested solution
It is very difficult to predict wholesale costs with any accuracy any more than about 6-9 months ahead of the start of a future year.	Specific reference prices are only produced within or shortly before the calendar year for which they apply in the current consultation, just for 2018), and that future years' prices are instead presented as indicative percentage movements per pricing zone. Forecasting wholesale costs too far into the future will always be wrong. It also appears that pricing for 2019 and 2020 are not required by the Terms of Reference.
There are events that can occur after the reference prices are set for a future year, or even that occur during the year, that can invalidate the assumptions that the prices are based on.	The nature of the events that can later invalidate pricing assumptions are listed in the final report with the reference prices, and if any event occurs, the Commission can assess the materiality of the impact with stakeholders and decide whether the reference prices need to be reset.

The approach for addressing material changes in assumptions is similar to that used by IPART and other regulators during price regulation to allow cost pass-throughs (up or down) or to reopen discussions around the methodology. We have come up with an indicative list of events in Appendix A that may trigger a need to revise the Victorian reference prices.

2.5. The process of setting reference prices

There is simply insufficient time to set a meaningful reference price in Victoria in three months. By comparison, IPART took nine months to determine the regulated pricing method for NSW electricity customers only, also with input from Frontier Economics.

The NSW approach for the triennial reviews of the overall regulated pricing methodology allowed nine months between the release of the issues paper and the final determination with electricity prices produced shortly after. Not only has the Commission been asked to do in three months what took IPART nine months, but it is being asked to do it without the benefit of any recent methodology for Victoria to start from and it is also to cover gas as well – doubling the workload.

We understand that the terms of reference set for the Commission for this consultation have a limited scope and allow an extremely short timeframe. Therefore, we encourage the Commission and Frontier Economics to clearly outline where these process limitations could impact on the credibility or applicability of the methodology and reference prices produced for the July 2018 deadline and to indicate where further work is needed.

In time, the methodology could undergo further refinement and consultation to reduce these limitations, but we fail to see that a credible set of prices could be produced in this first phase of work to meet either of the purposes noted above in Section 2. We urge extreme caution in the use or publication of reference prices from this first phase of work.

Throughout this submission, we provide more detail on these limitations that we expect will be relevant and recommend how these can be managed.

3. Wholesale costs

3.1. Electricity costs

3.1.1. The choice of methodology

Both long run marginal costs (LRMC) and market costs have previously provided useful insights in determining wholesale electricity costs as part of regulated or benchmark pricing. However, using market cost alone can lead to unpredictable and perhaps unreasonable steps up and down in price from year-to-year that create uncertainty and risk for market participants and customers. For retailers and generators who make a long-term commitment to the electricity retail and generation, we would like to see a cost floor approach developed that is more conducive to the ongoing viability and competitiveness of the industry with no detrimental impact on the long-term interests of customers. This would cover the cash costs and debt costs of generators and provide some stability to the overall wholesale electricity component.

Changes in the market environment based on supply/demand balance, weather, competitor activity occur constantly, but major changes to the market itself in the next year or two have been proposed– e.g. the National Energy Guarantee (NEG), day-ahead markets, strategic reserve. All are expected to affect prices. Even the comparatively simple carbon price (Jul-12 to Jun-14) affected the merit order of generation meaning that it was not straightforward to adjust for the effects of the carbon price.⁵ Knowing the details of any major change to the market will allow pricing to be predicted with more accuracy. With some of the planned changes above, it will very difficult to estimate how these schemes will overlay on other changes (such as changes to market conditions, the effect of five-minute settlement, possible changes arising from the Australian Competition and Consumer Commission’s electricity or gas reviews, etc.).

There is too little time prior to July 2018 to create a comprehensive methodology for the wholesale electricity cost component that considers the appropriateness of different modelling approaches, or uses data from different approaches to improve the accuracy of the outputs. There is also insufficient time to create an accurate market cost using the methods outlined by Frontier Economics. We expand on this in the following sections.

3.1.2. Spot and load forecasts

Frontier Economics do correctly note that spot and load forecasts must be properly correlated and suitable for use as inputs into the forecast market cost. However, there are two key difficulties in setting the Victorian reference prices that are unlikely to be overcome in this period of consultation:

- Relevant load data is not available. The interval meter data that Frontier Economics have for Victorian mass-market customers:
 - dates from March 2017 or earlier;

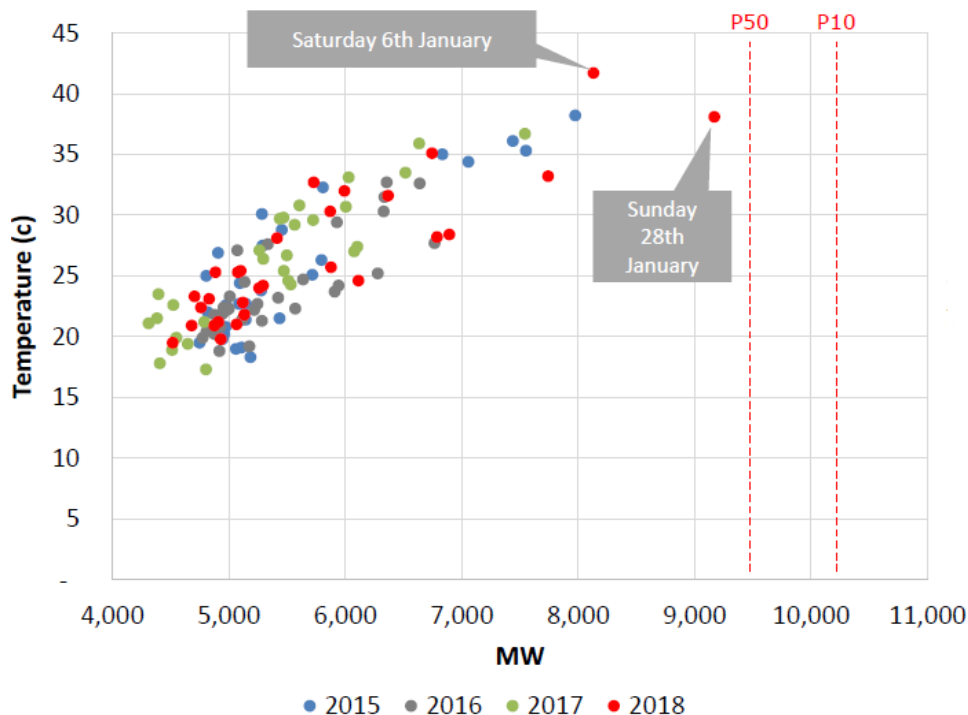
⁵ Frontier Economics, Energy purchase costs: A final report prepared for IPART, June 2013, pages 83-84; EnergyAustralia, Response to the (IPART) draft determination on NSW regulated retail prices & charges for electricity 2013-16, 20 May 2013, pages 17-20.

- is from a period prior to the closure of the Hazelwood Power Station and therefore prior to high price events that have occurred since its closure; and
- is not able to be split into residential and small business customers (peakier residential customers loads have a higher cost than flatter business loads).
- The consultation period is too short to allow participants to review and comment on the detailed outputs from Frontier Economics and allow time for amendments.

In the 2013 consultation, the interaction we had with IPART and Frontier Economics was critical to ensuring the input data and the resulting spot and load forecasts were as accurate and robust as possible. In going through this process, we were able to detect, and Frontier Economics were able to address, many issues that made a material improvement to the final outcome. Not least of these was finding that the Ausgrid area net system load profile history (for mass-market customers) erroneously contained a smelter that significantly altered the outputs.

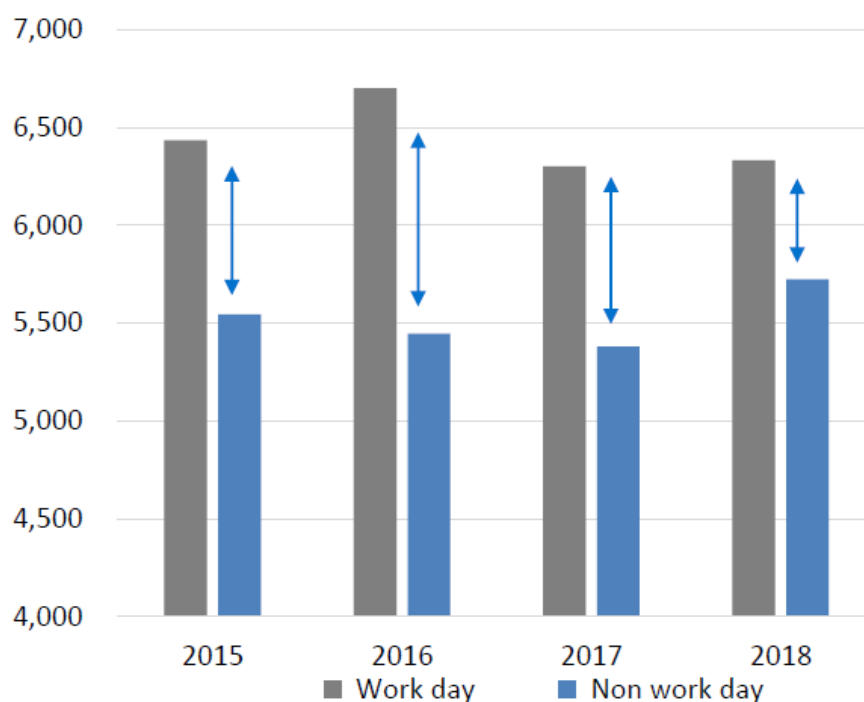
Demand levels reached on some recent high demand days have been very high (Figure 2). More of the high demand days in Q1 2018 occurred on non-working days (weekends or public holidays) than in previous years. If the weather or other high demand conditions, leading to this high demand levels had occurred on working days, it's very likely that demand would have been 500-100MW higher (Figures 2 and 3). This shows that Victorian peak demand is still growing. On peak days, spot prices for any residual unhedged load. Prices can reach the market price cap of \$14,200/MWh and this can drive up the overall wholesale electricity costs. Therefore, understanding and forecasting peak demand is critical to correctly estimating future wholesale electricity costs.

Figure 2: Victorian Q1 maximum temperature vs maximum demand on non-work days (2015-2018)⁶



⁶ AEMO data for operational (grid) demand 'as generated'; temperature data from the Bureau of Meteorology.

Figure 3: Average Victorian Q1 maximum demands on work days compared to non-work days (2015-2018)⁶



However, our primary concern with spot and load forecasts is that using old electricity interval meter data will dramatically understate the average time weighted prices which must be forecast in preparing the wholesale electricity cost component.

Across the States we operate in, there has been a trend that load profiles have become peakier and that there is an increasing coincidence between load and spot prices (i.e. that load peaks when prices peak and vice versa). This drives up the costs of hedging the load as the caps bought to hedge those load peaks are costlier, and because retailers need to pay the high spot prices for any residual unhedged load. However, this effect is notoriously difficult to forecast even when recent data is available and when that data is expected to be representative of future market conditions. Neither of these preconditions are true. Since the load data comes from an earlier time where there was less volatility in Victoria and when there was less correlation between spot prices and load, we are certain that the analysis will only understate the electricity costs that retailers face.

3.1.3. Hedging approach and the STRIKE model

Prudent retailer hedging approach

The choice of prudent retailer and their supposed hedging approach can have a large impact on the resultant costs. Victorian retailers are of many sizes, with different customer bases and different approaches to hedging, and they will naturally experience different wholesale electricity costs. In setting reference prices for Victoria, we suggest that the hedging approach should be relatively conservative in response to the more recently volatile market conditions, and be built up from contracts over the prior two years.

Additionally, the impacts to very small retailers should be considered as their costs may differ significantly. Under a typical prudent hedging approach, retailers with very small loads could find themselves needing to purchase fractional increments each month, which is not possible as ASX energy contracts are only available in minimum contract amounts of 1MW.

The STRIKE model

Previously, we commented in 2013 on the way the prudent retailer hedging approach was dealt with in Frontier Economics' STRIKE model as we were concerned that non-neutral cashflows were occurring during high price periods.⁷

"... a prudent retailer would aim to hedge in order not to take a position on the spot market at such times. We are concerned that this results in an energy cost projection far lower than actual as it relies on the incorrect assumption that the retailer's hedge position will consistently deliver net gains to the retailer at high price moments, rather than result in a neutral cash flow position.

However, it is difficult for EnergyAustralia to suggest a remedy to this as the hedging strategy is determined by Frontier's STRIKE model using an optimised approach. Our analysis of STRIKE's outputs indicates that it does not produce results in line with the hedging strategy that would be used by a prudent retailer. However, we find the STRIKE model to be opaque and its results unpredictable. Noting that the energy cost calculation is inherently dependent on the hedging strategy, we are concerned with the use of the STRIKE model within the context of this Price Determination."

Anomalous results are always possible with any modelled approach. It's possible that improvements can be made, but we don't believe these types of issues will be found, addressed or even understood in this initial phase of work as there will not be sufficient time to conduct thorough analysis (through to 1 July 2018).

Contract prices – 40-day average approach

We also commented on the selection of ASX Energy (then dCyphaTrade) contract prices:

"The calculation of contract costs for the reference prices should be based on a much longer period than 40 days. Calculating the average contract prices over a longer period (say 1-2 years) will also help to provide more stability to consumers as market sentiment and market events can strongly impact contract prices over the short term. In our view, a prudent retailer would purchase hedging contracts for mass-market load up to two years before the commencement of the term as:

- *The liquidity available in the contract market in any 40-day period is insufficient to hedge a retailer's mass-market load for the following year. Therefore, retailers are forced to begin acquiring hedging contracts far in*

⁷ EnergyAustralia, Response to the (IPART) draft determination on NSW regulated retail prices & charges for electricity 2013-16, 20 May 2013, pages 23-25

advance of the contract term in order to satisfy their market risk requirements.

- *Settlement volumes in the contract market are positive for terms less than two years out, and drop off markedly for terms further than two years out.”*

Intentions to use the same approach again to create a set of reference prices for Victoria in a one-round consultation is highly concerning as we experienced, in 2013, the same approach producing overly low electricity cost forecasts:

"Despite Frontier outlining the framework of the model and IPART providing very detailed outputs from Frontier's work to retailers to assess, we find that STRIKE's outputs are inherently unpredictable. We have done a considerable amount of analysis on the data provided, and ultimately do not believe that the combination of spot, contract and hedge modelling results in an energy cost that is reflective of future expected market outcomes. We feel that STRIKE allows the hedging strategy to be finessed on the basis of spot, contract and load opportunities, thus resulting in an unfeasibly low energy cost."

We encourage the Commission and Frontier Economics to consider that there is adequate coverage of extreme risks. At the technical workshop it was mentioned that the spot price forecasts would include some artificial high prices and that may assist. It is important that the methodology takes into account the amount of caps a retailer would need to buy, and the impact if spot costs are higher than allowed for under extreme events.

Missing contract price data

Frontier Economics notes that low liquidity in exchange-traded contracts for some, or all contracts, can be problematic.⁸ To address this they plan to infer prices for contracts from projected price series and subsequent adjustments. No matter how much effort is put into estimating these contract prices, it will not be accurate where the historical time series data cannot be adjusted properly for changes in the market that have recently occurred or that will occur in future.

The best solution to this is to set prices only within a few months prior to the start or during the calendar year that the reference prices relate to.

3.2. Gas costs

The Australian east coast gas market is notable for its few producers, large geographical size, small customer numbers and lack of wholesale market transparency. This market environment makes it very difficult for the Commission to establish a methodology that will allow an accurate price or even price range that would apply to Victorian retailers.

As discussed earlier, setting a published assumption on wholesale gas costs for Victorian customers in a reference price (or a regulated price that must be offered) is not in

⁸ Technical workshop presentation, 5 March 2018, page 16

customers' best interests. However, for the Victorian gas market, it is even less in customers' interests. It would be easy to overlook the risks that retailers face in this market that impinge on retailers making a reasonable return. A benchmark price that is too low to allow a return would discourage competition among retailers to attract and retain customers and we expect that some may seek to withdraw altogether.

3.2.1. Market-based approach

The use of a netback price to estimate costs

EnergyAustralia generally supports the market-based approach to determine wholesale gas costs using the liquefied natural gas (LNG) netback price if it is based on the notional price at Wallumbilla in Queensland. The Commission notes that this approach is "conceptually sound" but that it "relies on there being a strong relationship between the prices paid by retailers in their GSAs [gas supply agreements] and the international price of gas".⁹

EnergyAustralia sees that the relationship between Australian East Coast GSAs and the international price is applicable when LNG producers have additional gas above their offtake contracts that can be sold to the international LNG spot market or diverted back to the east coast domestic market. The price linkage is stronger for short-term supply GSAs (less than 12 months); however, most retailers tend to purchase gas years in advance to hedge their wholesale exposure risks.

The netback pricing methodology is applicable when the netback price is greater than the cost to produce for local suppliers and where the LNG producers have additional gas above their LNG contracted offtake sale to either sell to the international LNG spot market or divert gas back to the domestic market.¹⁰ However, there is a price point at which international LNG prices might be lower than the domestic cost to produce. In this case, it would not make sense for producers to process the gas and sell it at the LNG netback price at a loss. For example, when Brent was at \$40USD/bbl, a slope of 12% might suggest a Wallumbilla price of less than AUD\$5/GJ, which, if below the cost of production, would invalidate the methodology. If this were predicted to occur, a different methodology would need to be applied.

In future, it may also be useful to expand on the methodology to get inputs from other sources to compare to each other to gain more confidence or to narrow the price ranges produced.

Determining the LNG price component

The proposed methodology assumes that 'LNG prices for most Pacific Basin LNG supply contracts are linked to the price of Japan Customs-cleared Crude (or JCC) which is closely linked to the price of Brent Crude', and that Brent Crude is traded extensively.¹¹ We

⁹ Consultation Paper, page 18

¹⁰ Additional supply for the domestic market may continue to be made available if the Government maintains the right to intervene and divert gas back to the domestic market if there are expected east coast shortages. (see ACCC Gas Inquiry 2017-2020 East Coast Market Outlook).

¹¹ Consultation Paper, page 18

believe it is overly simplistic to assume that most Pacific Basin LNG contracts are linked to the price of JCC, as we observe that Pacific Basin LNG contracts are also linked to Brent Crude and the spot LNG market. Ideally, these other links will be taken into account, in future if that is not possible for this phase of the work.

In terms of the LNG price calculation ($= a \cdot \text{JCC} + b$), it appears in the technical workshop pack¹² that Frontier Economics proposes to only use oil linkage as a sensitivity and rely on a world bank forecast of gas price of ~\$8USD/mmbtu moving with a small escalator. In fact, the LNG price will most likely move with oil prices and we expect that this may not be a small steady increase to \$10USD/mmbtu as shown in the chart.

LNG prices are also linked to supply/demand in the LNG markets. Currently, it is estimated that the global LNG market is oversupplied and this is expected to continue until the early to mid-2020s. Although the oversupply is being minimised due to rising Chinese LNG consumption for power generation replacing gas-powered generation.

To be able to accurately estimate wholesale gas costs faced by Victorian retailers, these factors all need to be considered in the methodology. For future years especially, it is very difficult to accurately estimate wholesale gas costs without more attention directed to oil-linkage and to produce price ranges where it is clear that Victorian retailers may face widely varying outcomes.

Determining the transport components of the netback

The reference point of where the gas is 'netted back' is also important, as it determines whether a particular transmission cost is considered as part of the wholesale commodity cost or transmission cost. In terms of the approach specified by Frontier Economics, the short-run marginal cost of liquefaction being around \$1/GJ, the sea transport leg and the transport of gas from Wallumbilla to Victoria appear to be reasonable. However, the Wallumbilla to Gladstone section should only subtract the variable cost, not the total cost.

To determine the price for gas delivered to a customer in Victoria, the following need to be added to the Wallumbilla netback:

- South West Queensland Pipeline (SWQP) tariff
- Moomba Sydney Pipeline (MSP) tariff

We note that APA Group's website gives the combined SWQP and MSP to Victoria as \$2/GJ/day of MDQ¹³ for a flat 100% load factor customer. This means that a mass market customer with a load factor of around 33% could expect to pay up to three times this amount. It is important that the assumptions around load factor are accurately determined. We usually forecast the load factor and find it can change from year-to-year.

¹² ESC, Reference Price Methodology, 5 April 2018, page 23

¹³ MDQ is maximum daily quantity. <https://www.apa.com.au/our-services/gas-transmission/current-tariffs-and-terms/special-offers/>

Capacity and shaping costs

The market price methodology outlined includes maximum daily quantities costs, which the Commission suggests *'can be based on pricing benchmarks obtained from peaking gas providers (such as storage providers Iona and Dandenong LNG supply) [and that], park and lend services provided by gas transporters can also be used to assess the cost of peaking gas'*.¹⁴ These costs are important as the cost of gas needs to allow for differences in capacity or shaping for the specific customer group. Although the confidential nature of the gas contract market means the market value of capacity is hard to estimate.

Obtaining the contract prices for Iona and Dandenong LNG (DLNG) is useful as a start, but must be combined using the correct methodology to give an accurate reflection of market costs. To properly assess the role each of these capacity providers play, the methodology should consider that Iona provides capacity as well as some energy over a short period of time as its storage reservoir is larger. Whereas DLNG and park-and-loan services are much shorter-term solutions. DLNG and park-and-loan will not provide capacity for extended periods.

3.2.2. Actual cost approach

Determining the wholesale gas cost only through assessment of prices in gas supply agreements (GSAs) would be challenging. Retailers with existing long-term legacy GSAs or upstream positions may have access to prices that are beyond the reach of very small new entrant retailers. Consequently, there would be different approaches to pricing from different retailers that would affect this cost assessment approach.

We agree that historical contract prices may not reflect current contract prices as these may not reflect an efficient price at the time of determining the wholesale gas price.¹⁵ This is particularly the case when some GSAs that were foundation contracts that underwrote a market are potentially priced lower than the current market. Foundation pricing is often lower as it must account for the volume risk of the gas not being available if the project falls over. Some of the more recent oil linked contracts may continuously move with oil price and exchange rate if they haven't been hedged through futures contracts.

3.3. Environmental scheme costs

Generally, the approach to calculating forecast environmental scheme costs is straight forward once the forecast certificate prices are determined. There are however, some difficulties and differences in forecasting certificate prices accurately.

3.3.1. Large-scale Renewable Energy Target (LRET) costs

LRET costs are usually the most difficult of the three components to estimate. The methodology proposed in the Consultation Paper suggests using spot and futures market prices. However, many Victorian retailers have made long term power purchase

¹⁴ Consultation Paper, page 18

¹⁵ Consultation Paper, page 19

agreement (PPA) commitments at historically high costs that also include taking the black energy price risk.

In future there is the potential for LGC prices to fall dramatically as the Renewable Energy Target is met and then oversupplied by projects delivered from 2020. We recognise there has been an advantage in the energy component since Hazelwood Power Station closed but this may be short lived with futures markets for flat contracts trading at lower prices for the next few years combined with the large solar and wind build that is expected to also drop the generation load weighted spot prices. When considering both the falling LGC and energy revenues it is very likely that retailers will not recover their historic PPA costs when referencing the latest LGC market prices (and electricity market prices) only. It would be a policy failure if retailers were unable to recover their historic costs as these investments were made in good faith to ensure the policy goals were achieved. Retailers could have chosen to pay the penalty price rather than take these long-term price risks.

Determining the appropriate approach for LRET costs is not easy, as some retailers cannot access the financing to enter into PPAs. These smaller retailers have fewer certificates to purchase and will therefore buy certificates on the market leading to a different cost profile to retailers buying under PPA's. Neither approach has consistent benefits over the other. PPA costs have progressively fallen as renewable technology has improved such that the latest PPAs are now less than 50% of the cost of many of the original PPAs signed during the past decade. These costs are likely to continue falling.

3.3.2. Small-scale Renewable Energy Scheme (SRES) costs

The Small-scale technology certificate (STC) price has been trading close to the cap of \$40 per certificate (between \$37 and \$39) with a short drop in the middle of 2017 when the market was oversupplied. The regulator changes the demand for STCs each April to target a price of \$40 per STC, therefore it seems appropriate that the price should be set at \$40 to match the long-term expected outcome. Modelling prices seems fraught with risk of bias or error and risks not accurately reflecting the prices retailers pay.

3.3.3. Victorian Energy Efficiency Target (VEET) costs

We agree with the proposed approach to estimate forecast VEET costs using the volume-weighted price history of trades from brokers. The timing of the relevant historical period would need to align with prudent retailer hedging practices and consideration given to different approaches used by retailers. In addition, we have observed some step changes in VEET costs and uncertainty around VEET costs in previous years, particularly due to changes in Government policy or delays in decisions.

4. Network costs

The Commission's proposed approach to calculating network costs is appropriate, except that we note two matters that need to be considered in setting the reference price.

4.1. Calculation of gas network costs

4.1.1. Gas transmission charges

Gas transmission charges are notably more complex than most other network tariffs. The injection charges for the Victorian Transmission System (VTS) costs include a demand charge based on the top 10 peak injection days (these normally occur during winter). The peak injection assumptions are regulated and are reset in the quarter prior to the beginning of the calendar year. There are numerous other assumptions that must be made about load factors and the movements of gas across the system.

We understand that the Commission intends to use the tariff calculator on the APA Group site to determine the VTS charges. However, we are not sure that the input assumptions used in this online calculator will be suitable. Ideally, the Commission will confirm all material inputs and revise them with stakeholders so final reference prices are accurate.

4.1.2. Areas with different gas transmission charges

Most of Victorian gas customers are serviced via the VTS run by APA Group. However, in some areas, customers receive gas directly from the Eastern Gas Pipeline, or other transmission line instead of via the VTS. In other areas, the gas is transported via the VTS and then through another transmission pipeline which carries additional charges. For example, this latter situation affects customers who live several towns between Carisbrook and Horsham. Gas transmission prices can be significant and should relate to the actual transport arrangements that retailers use to supply gas to that area.

4.2. Estimation of future network costs

Network cost estimates are straightforward to estimate accurately when they are based on the approved final tariffs for the year in question. However, these approved tariffs for Victoria are typically set in November each year for the forthcoming calendar year. The movements in future network costs cannot be known with any accuracy before November. Network companies and the Australian Energy Regulator do produce guidance on future network tariff movements in various documents, but it is frequently the case that the final approved tariffs differ substantially from these forecasts.

As network costs are a major proportion of customer bills in Victoria¹⁶ and individual network tariff movements often vary widely from the average movement, any reference prices based on indicative network tariffs will be relatively meaningless as a set of detailed reference prices. It would be better, where final approved network tariffs are not yet available to only publish an indicative average price movement across each pricing zone. There will also be uncertainty about future wholesale prices if published too far in advance of the year to which they apply.

¹⁶ Around 48% of retail electricity bills and 27% of gas bills for small customers (post discounts).

5. Retail costs and margin

5.1. Retail operating costs

5.1.1. The exclusion of competition costs

Another extraordinary part of the Terms of Reference is that it requires competition costs to be excluded from reference prices in considering recommendations 1, 2 (BSO) and 8A (competition review). While in other recommendations (3A-H, 4A-E and 5A), retailers are likely to be required to invest in changes to the way we sell or market to customers. If the reference prices are published or the BSO takes effect, we expect that we won't be able to recoup the costs of implementing these changes.

We understand many people would like to see energy prices drop, but some of these proposed ideas could easily eliminate retail interest in the Victorian energy market and have flow on effects to generation investment.

Under the Terms of Reference for this consultation, the Commission must exclude from the reference price, the retail costs that relate to customer acquisition and retention costs (CARC) or headroom for competition. The Consultation Paper interprets this to mean that retail operating costs associated with customers switching between retailers need to be excluded along with sales and marketing costs. We question that CARC contains anything other than sales and marketing costs. There are several problems if the operational costs of competition are excluded along with direct sales and marketing costs:

- **Excluding these costs will create an unachievably low reference price for Victorian retailers** - The costs of customers switching relate to our systems and market interfaces, reports, compliance costs, customer collateral and operational processes cost more than they would if customers had no choice of retailer. In a competitive market, CARC and the operational costs of competition are offset by reductions elsewhere in the cost stack.
- **It is highly artificial to exclude these costs** – the Victorian market allows customers to have a choice of retailer and retailers cannot avoid or stop incurring these charges in the same way we could decide to stop sales and marketing to all or some customers. Existing or new market entrants in Victoria must set up operational retail systems that allow customer switching,¹⁷ that ensure the process works in the background to service customers energy needs from installing or altering meters, getting meter reads as well as switching customers and keeping electricity and gas supply attributes up to date.
- **Customer switching costs cannot be easily split from our other retail costs** – this will make the benchmarking between similar retailers even more difficult than it would otherwise be. To be able to provide the retail costs to the Commission, EnergyAustralia would have to undertake a separate study of costs,

¹⁷ Many of the IT systems that retailers use in Victoria have to be customised to operate in the contestable retail energy markets that exist in the eastern States. Similarly, these back-end operations must be added in other industries such as telecommunications (mobile number portability) and banking industries. Recently in the National Electricity Market, retailers and other participants had to further customise IT systems to give effect to metering contestability changes (Power of Choice) by 1 December 2017.

perhaps using a detailed approach to assessing customer call types, etc. This would take some lead time to organise and may be advisable for the Commission to specify some guidelines for how to approach it so that all retailers provide consistent information.

We request that the Commission reconsider the Terms of Reference and whether it is necessary or desirable to exclude the operational costs of competition.

5.1.2. Calculating retail costs

We agree that the bottom up and benchmarking methods proposed by the Commission for determining retail costs are appropriate. It is also true that both methods require accurate inputs and time to properly analyse to arrive at the efficient costs. Aside from the very tight timeframes, it will also be difficult for the Commission to access comparable retail costs that exclude CARC, particularly if CARC also includes operational costs that are recategorised as acquisition costs.

The assessment of retail costs should also aim to predict the movement in underlying operating costs rather than just looking at historical averages. Accurate assessment of Victorian retail costs should account for the higher level of investment that retailers have had to undertake compared to other States, and any future costs that will be incurred in Victoria. These include may costs that arise from regulatory decisions:

- the requirement to implement the Commission's Payment Difficulties Framework in early 2019. We expect the framework will increase retailers operating costs, exposure to bad debt and therefore retailers cost of capital;
- differences in retail regulations and exempt seller regimes (for alternate retailer operating models) between Victoria and other States;
- large variation in the operating requirements to manage State-based electricity rebate (concession) schemes; and
- Victoria's decision to defer the start of electricity metering competition from 2017 until at least 1 January 2021 (which is part of the Power of Choice reform package).

There is an opportunity to reduce retail operating costs significantly in Victoria when the Commission looks at reviewing and revising regulatory frameworks for the retail energy market under recommendation 9A of the Victorian Retail Market Review. Ideally, this review will reconsider costly regulated requirements (for example around billing and sales calls) that are intended to protect customers, but instead confuse customers or are ignored by customers.

5.1.3. Applying retail costs in setting the reference prices

Once the overall level of Victorian retail costs is determined they need to be applied to the set of reference tariffs. We recommend that:

- **Separate retail operating costs are set for residential and small business customers** – The cost to serve different types of customers can be significantly different and the reference prices should be made as cost-reflective as possible.

- **Retail costs are only included in the fixed component of each retail reference price** - The retail costs tend to vary more with customer numbers than they vary with electricity consumption. The only retail cost component that is partly influenced by consumption is the cost of bad debts.

5.2. Retail margin

The setting of the retail margin in the reference prices is similarly complex to set. Energy retailers (like a market participant in any sector) expect to obtain a margin which they consider represents a reasonable return on investment, the risk involved in seeking that return and the prevailing market conditions.¹⁸

Retail risks have been increasing in recent times, so we were alarmed to see that the Commission is "*proposing to use a regulatory decision benchmark for retail margin. This is from previous ICRC and IPART decisions.*"¹⁹ In discussion, it appears that this comment refers to the broader approach for determining margins rather than utilising the numeric ranges for retail margins that seem to have not been revised since 2013.

The approach used by the ICRC is problematic as they have sought feedback from additional consultants recently, but in the end set a margin that is at the lower end of the range for retail margins decided by IPART in 2013 given that other components of the price had increased significantly that year. The ICRC's approach to determining regulated electricity prices has done little to encourage competition in the ACT electricity market. However, they do contemplate that updates are required to the five-year old range set by IPART and noted they will be refreshing this soon.²⁰

As for most of the other Victorian reference price components, we would prefer that the retail margin is thoroughly reviewed and that a range of approaches (expected returns, bottom up and benchmarking) and different data sources are used to determine an appropriate level for the margin.

With little time to do this we understand the Commission prefers the benchmarking approach. As there is a lack of recent data and ranges for retail margin available from Australian regulators, we recommend that the benchmarking approach include a range of industries and gives more weight to recent data from relevant listed firms rather than regulatory decisions that date back several years.

5.3. Obtaining data for benchmarking from publicly listed companies

When listed companies report retail costs, they do not necessarily include all the costs of running a retail business. Some differences are due to organisational structure - for example, a retail business unit may have a decentralised finance team, or the entire

¹⁸ See additional comments about retail margins in: EnergyAustralia, Submission to the ACCC Electricity Price Inquiry, 30 Jun 2017, <https://www.accc.gov.au/system/files/EnergyAustralia.pdf>, pages 26-27

¹⁹ ESC, Technical workshop, Reference Price Methodology presentation, 5 April 2018, slide 30. ICRC is the Independent Competition and Regulatory Commission in the ACT.

²⁰ ICRC, Final report: Standing offer prices for the supply of electricity to small customers from 1 July 2017, Report 6, July 2017, pages 35, 36 and 65

finance function might be centralised within a corporate business unit. Where corporate overheads are mentioned, these may or may not be fully allocated to business units.

Adjustments are sometimes made to statutory reports when presenting cost to serve, for example, revenue relating to fees and charges might be subtracted from reported operating costs. These fees and charges may or may not be cost reflective, and may or may not be charged by all retailers.

When reporting cost to serve per account, there are also several ways of reporting customer numbers. For example, a retailer may take the view that account numbers are all the meters that they are financially responsible for, or they may take the view that account numbers are the number of meters for which they have an active service agreement. There can be significant differences between these datasets, which then affect the reported cost to serve per account. It is also not certain that numbers are always reported on a consistent basis by the same company.

Different approaches are taken at times to highlight particular trends, and at times, an anomalous large cost or saving can make the cost to serve look significantly higher or lower than it otherwise would. There are also differences in the accounting treatments used between listed companies. For example, some costs may be reported as gross margin by one retailer, but as operating expenses by another. Another area where retailers may differ is with capitalisation of retail costs. For example, all large retailers will need to invest in a billing system capable of supporting large numbers of customers, but a retailer that has recently implemented such a system is likely to have higher costs than one that implemented their system several years ago. A new entrant would likely face larger costs than existing retailers, as they would be investing at today's prices.

The data published by public listed companies is typically not provided in enough detail about how each measure has been calculated making a like-for-like comparison difficult. In our experience, these values are significantly lower than what the Commission should rely on to benchmark retail costs for Victorian retailers.

Appendix A Events that may invalidate the reference price

The events below have the potential to materially change the costs that retailers incur and the inherent risk in the market.

1. Unexpected changes in a law or regulation, or a decision by a regulatory body that materially changes any price or cost component across the market. i.e. The introduction of a new law or regulation, amendment, revocation, repeal or postponement of a relevant law or regulation
 - a. A decision made by any government, minister, agency, department, instrument or other authority of government.
 - b. A decision made by any regulatory body, the Australian Energy Market Operator, safety or other regulatory authority.
 - c. e.g. the introduction of a carbon price, an official delay to the expected introduction of a policy affecting wholesale or regulatory markets, a decision by a regulator that induces a wide-spread change in marketing practises that substantially increases or decreases customer switching, etc.
2. An unpredicted closure or change in market structure affecting wholesale market prices.
3. The late setting of environmental scheme policy, including targets or compliance percentages or policy changes that affect market prices.
4. Out of cycle changes in network costs through an appeal or successful cost-pass through determination for a distributor.
5. Application of a forced direction by any regulator or government or market authority – e.g. direction to run a generator, market suspension pricing, a retailer of last resort event, etc.
6. The imposition, removal or change in application, calculation or interpretation of a relevant tax.
7. A change in any of the above in an international market that affects prices or costs in the Australian electricity and gas markets e.g. a change of regulation that affects international oil prices, etc.

This list is indicative only. It excludes long-term trends, usual market events, or changes expected at the time the reference prices are set – e.g. climate change, the planned introduction of a specific form of the National Energy Guarantee (if this were to be known, which currently it is not), incremental changes in the take-up of batteries and solar panels, intense marketing activity by a competitor, etc. Changes to the reference price would not be necessary if the changes were immaterial, although it's possible for several immaterial changes to result in a material change overall.