5 December 2022

Gavin Fox
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Submitted by email: DMO@aer.gov.au

Dear Mr Fox

Default market offer prices 2023-24 – Issues Paper

Origin Energy Limited (Origin) welcomes the opportunity to provide comments on the Australian Energy Regulator's (AER) Default market offer (DMO) prices 2023-24 Issues Paper.

The setting of the DMO 5 prices comes at a tumultuous period across energy markets as the unprecedented and significant increase in wholesale market volatility and costs is set to place significant upward pressure on tariffs. Given these conditions, mitigating consumer impacts is rightly a policy priority and it is unsurprising the AER is considering how best to ensure the meeting of its DMO objectives. Ultimately the DMO prices should be set such that it allows retailers to recover a reasonable margin (commensurate with the level of risk), incentivising innovation, competition and consumer engagement, while also ensuring customers are protected from unreasonably high prices. This is a delicate balance, made even more challenging in an environment of rising costs that increases both consumer prices and the risks borne by retailers.

In Origin's view, recent changes to the wholesale energy cost (WEC) methodology including the adoption of the 75th percentile for the margin for forecast error, coupled with suggestions the retail allowance should be reduced to manage customer impacts, will ultimately undermine the balancing of the DMO objectives. If these changes are adopted for DMO 5, they will compromise efficient cost recovery for retailers, weakening the sector and diminishing competition, all of which is not in the best interests of energy consumers. It is important to remain cognisant that the uplift in wholesale energy costs and volatility has a proportionate impact on the risks faced by retailers. It is therefore appropriate the retail allowance continue to be set as a percentage of total costs.

Managing cost of living pressures and the impact of higher energy prices, particularly for vulnerable customers, is of utmost importance, but this should be done outside of the DMO through concession schemes, hardship programs and direct bill subsidies.

A summary of our position on key aspects of the DMO methodology is provided below, with further details outlined in Attachment 1.

1. Wholesale energy costs

- Net system load profile (NSLP): Use of the NSLP excludes the peakier and more variable load of solar PV customers (the penetration of which continues to grow over time), which means there is an inherent bias in the current methodology. Notwithstanding this, we generally support retaining the existing approach on the basis that reliance on alternate data sources would undermine transparency and increase complexity of the modelling process; and it is possible to address this bias by adequately accounting for forecasting error (discussed below).

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- Accounting for forecasting error: Origin's analysis shows that actual pricing outcomes over the DMO 4 period to date have been higher than the range of modelled outcomes. This is indicative of the extreme levels of volatility across the market, in part due to exogenous factors such as the conflict in the Ukraine, and the energy transition. Even limited exposure to higher pricing events can have a detrimental impact on retailers, as evidenced by the six retailer failures that occurred over 2022. When coupled with the continued use of the NSLP, which could have the effect of underestimating the WEC, we strongly suggest reinstating the 95th percentile approach for DMO 5.

- Hedging strategy: We consider ASX futures trades continue to exhibit the requisite level of liquidity and provide a good representation of how retailers manage both their energy and capacity positions, and the associated costs. We do not consider it prudent or necessary to incorporate a broader suite of products as this would increase the complexity of the price setting process and diminish transparency, while also reducing the predictability / stability of the DMO.

- Market intervention / suspension costs: The period of market suspension and administered pricing in 2022 resulted in around 500 separate market interventions, the cost of which will need to be recovered from market customers. Should the timing of when these costs are known be too late to capture in DMO 5, the AER should include working capital allowance to enable retailers to manage these costs within the period.

2. Retail allowance

- Percentage based vs fixed margins: We do not support moving the retail allowance calculation to a fixed dollar amount or any reduction in the percentage. As the allowance represents the revenue at-risk to the retailer, retaining a retail allowance that is a function of total costs faced, set at a suitable level, is appropriate and consistent with good regulatory practice. In the current environment, retailers face a range of added costs and risk, including higher working capital imposts due in part to greater prudential requirements linked to hedging activities. There is also already evidence of margin suppression with a number of retailers now offering tariffs at the level of the DMO (i.e. zero discount) compared with discounts levels of up to 34 percent pre-DMO 4. Further reductions in the retail allowance will exacerbate this trend, diminishing competition. This is inconsistent with policy intent of the DMO, which is intended to provide a safety net for consumers against unjustifiably high prices, not the lowest price tariff in the market.

- Retail allowance glide path: The AERs underlying rationale for the existing glide path was to avoid the imposition of any step change in tariff setting and provide retailers with time to adjust over a three-year period. We support this approach, particularly given the increased level of risk retailers are likely to face during the DMO 5 period.

If you wish to discuss any aspect of this submission further, please contact Sean Greenup (sean.greenup@originenergy.com.au) or Shaun Cole (shaun.cole@originenergy.com.au).

Yours Sincerely,

Steve Reid
General Manager, Regulatory Policy

1. Wholesale energy cost

Origin considers it appropriate for the AER to periodically examine the suitability of key elements of its DMO methodology. In our view, the market-based approach used in calculating the WEC remains robust, and we support adhering to some core aspects of this framework. This includes reliance on ASX futures as the basis of the hedging methodology, and the current book build approach. Notwithstanding this, we consider there is clear evidence for re-visiting the DMO 4 decision to adjust the margin for forecast error with the move to the 75th percentile. This is because the underlying bias associated with continued use of the NSLP and increased likelihood of volatility as the market transitions have heightened the risk that the WEC will be underestimated. We discuss these and other issues related to the WEC in greater detail below.

1.1 Transparency of the modelling process

[1] It is important the modelling undertaken for the WEC component is transparent. This will ultimately improve the ability of stakeholders to meaningfully assess the validity / robustness of the draft modelling outcomes and provide more informed feedback to the AER. It will also improve the predictability / stability of the tariff setting process, which supports the ability of retailers (existing and prospective) to forecast future revenues and plan their business activities.

[2] There is scope to improve the level of transparency around aspects of the modelling process. In particular, ACIL's draft modelling report should be accompanied by a workbook detailing the core assumptions, data and parameters underpinning its wholesale modelling. This is consistent with other regulatory processes, including regulated electricity / gas network determinations. The assumptions workbook published by IES as part of the 2022 Reliability Standard and Settings Review provides a useful example.[1] Key information that should be reported as part of the workbook includes:

- renewable energy resource traces on an hourly basis;
- thermal plant outage scenarios / ranges;
- fuel price scenarios / ranges; and
- the assumed retailer hedging portfolio (on an hourly basis).

[3] We also recommend expanding the existing suite of modelling outputs published for the WEC estimate to include information on hourly spot prices and the associated hedge position for those periods. This will allow stakeholders to potentially benchmark the accuracy of the modelling against actual market outcomes with a view to applying any learnings in subsequent determinations.

1.2 Net system load profile

[4] The current methodology is inherently biased toward reflecting the lower (relative) costs of supplying flatter load profile customers, and not the growing proportion of variable load customers supplied by retailers. This is because the NSLP used by ACIL to estimate customer demand is created using basic meter data, and excludes solar PV customers with smart meters. This is consistent with ACIL's observation that although the NSLP has become increasingly peaky in some regions over the past seven years as rooftop solar PV reduces system load during daylight hours, '*the rate of carve out has slowed and this is most likely due to new rooftop solar PV*

[1] IES, '2022 Reliability Standard and Settings Review – modelling assumptions', 6 June 2022.

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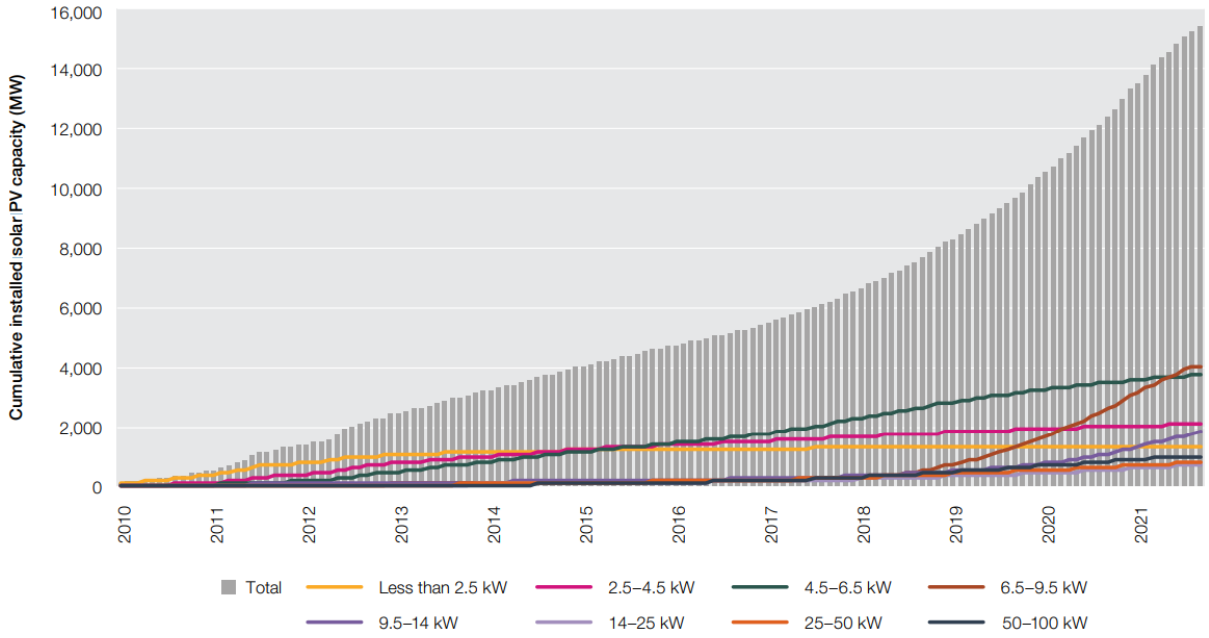
installations being paired with the installation of interval meters – removing those consumers from the NSLP.'[2] Exclusion of this peakier load heightens the risk of underestimating hedging costs and by extension the WEC, given the cap contracts required to cover high demand peak periods are more expensive than base swaps (as acknowledged by the AER).[3]

[5] The impact of this bias is becoming more significant, with the penetration of rooftop solar PV increasing materially across the national electricity market (NEM) over the past decade (see Chart 1 below). Distributed solar PV output accounted for approximately 23 per cent of the residential sectors total underlying consumption in 2021-22.[4] A new NEM-wide operational demand low of 12,583 MW was also set on 25 September 2022, with distributed PV accounting for 42 per cent of NEM underlying demand at that time.[5]

Chart 1: NEM cumulative installed small-scale solar capacity[6]



[6] Having regard to the above, we agree there is merit in continuing to explore how the impact of solar PV growth can be accounted for. However, we are generally supportive of retaining the existing process at this time on the basis that reliance on alternate data sources would undermine transparency and increase complexity; and it is possible to address this bias by adequately accounting for forecasting error (as discussed in Section 1.3 below). We also consider moving to a single load profile for the New South Wales region would be a regressive step in the event it further reduced the representation of solar PV customers in the NSLP of a given network area relative to the current approach.

1.3 Margin for forecast error (75th percentile)

[2] ACIL Allen, 'Estimated Energy Costs – For use by the Queensland Competition Authority in its Draft Determination of 21-22 retail electricity tariffs', 2 March 2021, pg. 39.
[3] AER, 'Default market offer prices 2023-24 – Issues Paper', November 2022, pg. 13.
[4] AEMO, '2022 Electricity Statement of Opportunities', August 2022, pg. 28.
[5] AEMO, 'Quarterly Energy Dynamics (Q3 2022)', October 2022, pg. 10.
[6] AER, 'State of the Energy Market 2022', 29 September 2022, pg. 92.

[7] In DMO 4, the AER determined it would adopt the 75th percentile estimate of ACIL Allen's modelled WEC range. This decision was based on the AER's assessment that several aspects of the DMO hedging assumptions are inherently cautious and geared towards minimising the likelihood of underestimating costs; and adopting the 75th percentile would better balance the risk of over and underestimating costs for consumers relative to the former 95th percentile approach.

[8] We remain of the view this material change in approach was not adequately justified and consider the 95th percentile should be adopted for DMO 5 and subsequent determinations. Further, there is a material risk that ongoing reliance on the 75th percentile in the current market environment will lead to under recovery of wholesale costs and diminished retail market competition.

[9] Spot price modelling is inherently challenging and contingent on iteratively running many statistical simulations with varying parameters, including forced outage profiles, weather sensitive peak demand shapes / renewable output and expected fuel costs. There is heightened potential for greater variation in some of these parameters, due to exogenous shocks (e.g. global fuel supply pressures, pandemics, floods) that can lead to materially different market outlooks. This was evidenced by recent events, where a combination of international and domestic factors (including high coal outage rates, low variable renewable energy (VRE) output and weather driven demand) contributed to higher, and more volatile spot price outcomes than would have typically been anticipated at that time of year (i.e. the relatively benign autumn period and over winter).

[10] The potential for more volatile market outcomes is consistent with the Reliability Panel's finding that greater reliance on weather dependent VRE is changing the risk profile of the NEM. According to the Panel, the distribution of unserved energy (USE) in a high VRE power system is likely to shift towards longer duration, higher impact reliability events, particularly due to the risks from low VRE generation due to co-incident low solar and wind generation events.[7]

[11] As a result, the Panel has recommended the reliability framework is revised to better account for the impact of lower probability, but high-risk events given their materiality.[8] Under the existing framework, the 'expected level' of unserved energy is determined based on a weighted average of all possible outcomes in a probability distribution. Work is yet to commence on developing the new standard, but the intent is to supplement the existing standard with additional metrics that consider the expected impact of more extreme scenarios, as well as risk aversion of consumers to those events.[9]

[12] While some events may be considered unlikely compared to the median / expected market outcome, it is clear they present a material risk for retailers and are within the bounds of scenarios that would be considered under any hedging strategy. This is because even limited exposure to higher pricing events can be detrimental to retailers, as evidenced by the six retailer failures that occurred in 2022. A prudent retailer will typically run stress tests to evaluate exposure to extreme prices for prolonged periods and seek to hedge that exposure in line with established risk limits.

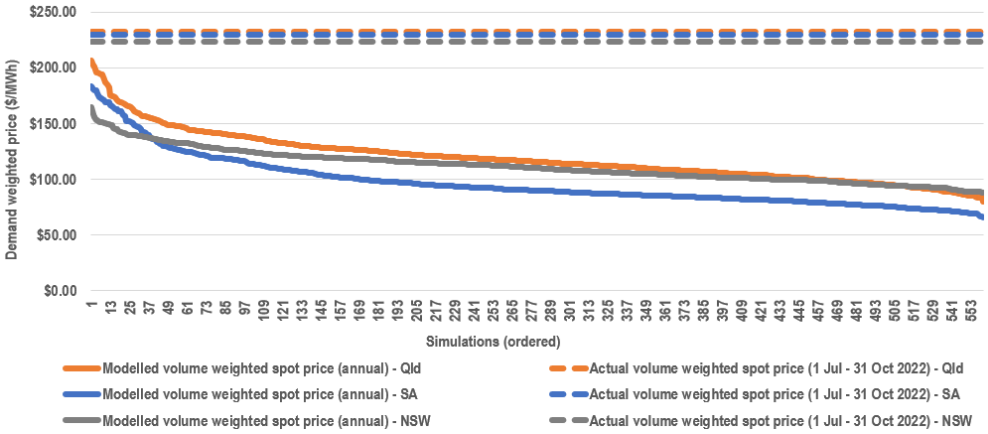
[13] An outworking of the above is there is a higher likelihood in the current environment that modelled WEC estimates may not reflect the actual costs incurred by a prudent retailer during a DMO period. The material uplift in wholesale electricity prices observed over winter 2022 to levels not anticipated in the WEC modelling provides a relevant case study in this respect.

[14] Chart 2 below compares the distribution of ACIL's simulated annual demand weighted spot prices for 2022-23 with the actual average demand weighted price observed for each region over the

[7] AEMC Reliability Panel, '2022 Review of the Reliability Standard and Settings', pg. 39.
[8] Ibid, pg. 29.
[9] Ibid, pg. 42.

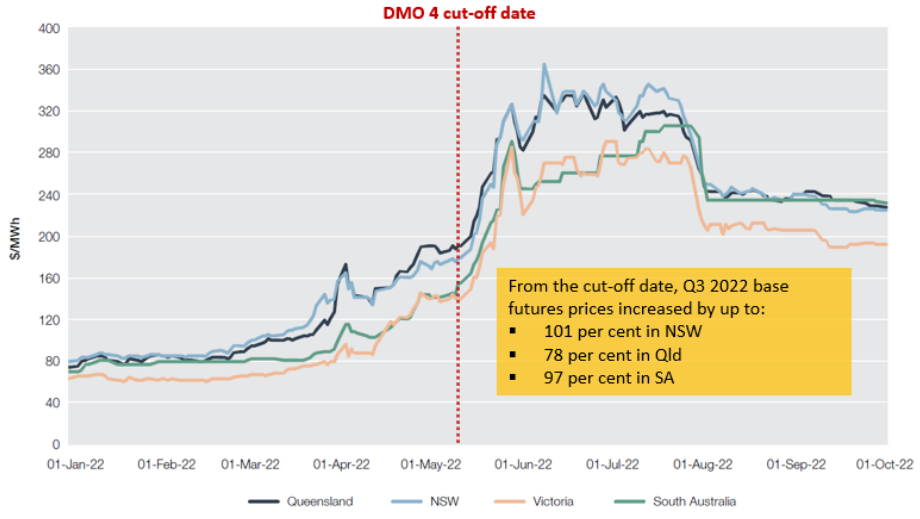
period from 1 July to 31 October 2022. It is clear from the chart that in each region, actual prices are above the range and modelled spot price outcomes.

Chart 2: Demand weighted average spot prices – simulated annual 2022-23 vs actual to date[10]



[15] Charts 3 and 4 below also demonstrate the increase in ASX base future and cap prices that occurred from April 2022 across all NEM regions. The later cut-off adopted for assessing wholesale market data (13 May 2022) is appropriate to the extent it captures the most up to date trading information available prior to the DMO commencing. However, the material change in market conditions from mid-May onward would still have only been partially captured and reflected in WEC simulations.

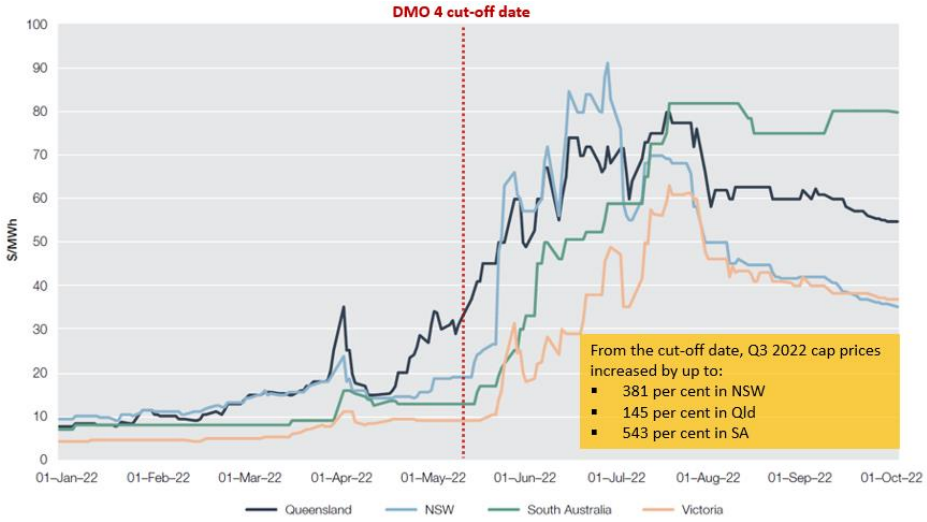
Chart 3: Q3 2022 base future prices[11]



[10] Actual spot prices reflect the average demand weighted price observed from 1 July to 31 October 2022 for the Qld (Energex), SA (SAPN) and NSW (Endeavour, Ausgrid, and Essential) region. The volume weighted spot price curves reflect the annual load weighted spot prices determined by ACIL for each of the 561 simulations modelled for each NSLP (see 'ACIL Allen Consulting – Default market offer prices 2022-23 – Final Determination', excel workbook), which have been ordered from highest to lowest to show the pricing range for each region. The NSW curve represents a demand weighted average of the individual Ausgrid, Endeavour and Essential spot price data.

[11] Origin Energy analysis of AER Wholesale Markets Quarterly (Q3 2022) data, Figure 9.1.

Chart 4: Q3 2022 cap prices[12]



[16] The above issue is a key reason ACIL has historically adopted the 95th percentile of the distribution of WECs as part of its modelling approach, which is also utilised by the Queensland Competition Authority (QCA) in setting regulated electricity prices in regional Queensland. To this end, ACIL has noted:

- it is much easier to estimate the WEC during periods of contract price stability, and the error in the WEC estimate (due to contract price variation) is likely to be greater in an environment of increasing prices – this is because of the skewed nature of wholesale electricity prices in the NEM (prices can increase a lot more than they can decrease) and demonstrates the risk faced by retailers (pg. 22);[13] and

- adopting a higher percentile estimate recognise the varying degree of price uncertainty between the different regions and load profiles, and minimises the risk of underestimating the true value of the WEC.[14]

[17] In its Final Determination for DMO 4, the AER indicated the dollar spread between 75th and 95th percentile estimates was minimal in NSW and Queensland, but larger in South Australia due to a broader range of demand forecasts and dependence on variable renewables.[15] In Origins' view, this does not provide adequate justification for adopting such an approach. The AER's recognition that the '*spread of outcomes appears dependent on market conditions in any given year*' also highlights the very risk the 95th percentile estimate is intended to address, particularly in a transitioning market with elevated levels of volatility.

1.4 Hedging methodology

[18] The AER's Issues Paper raises concerns around the liquidity of the ASX futures market and the extent to which current reliance on these trades remains appropriate to estimate retailer hedging costs, particularly in South Australia. The paper also suggests the accuracy of the WEC estimate

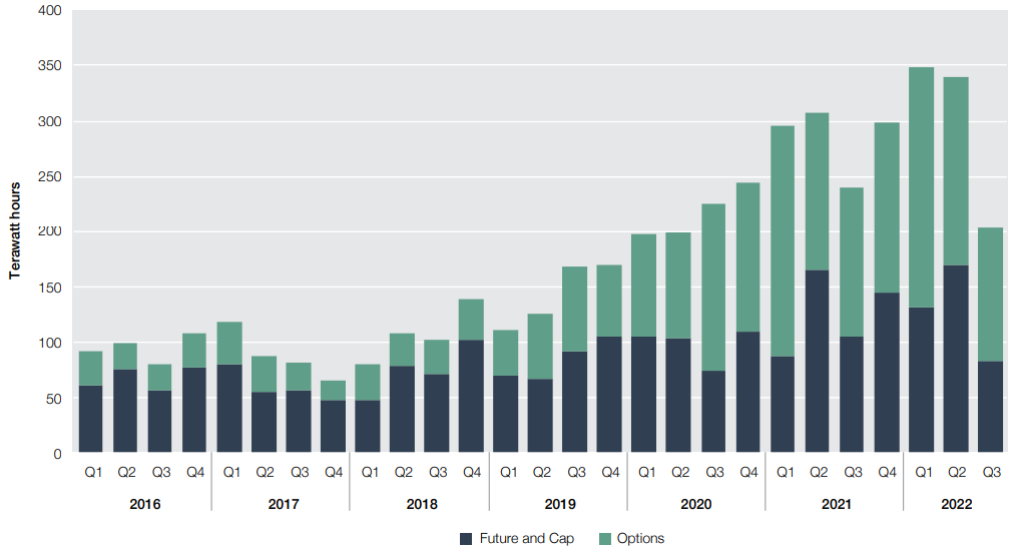
[12] Ibid, Figure 9.2
[13] ACIL Allen, 'Default Market Offer 2022-23 – Wholesale energy and environment cost estimates for DMO 4 Final Determination', 23 May 2022, pg. 22.
[14] Ibid, pg. 34
[15] AER, 'Default market offer prices 2022-23 – Final Determination', May 2022, pg. 25.

could be improved by using a more realistic hedging strategy that includes other complex hedging products used by market participants, namely power purchase agreements (PPAs), weather derivatives and options. In Origin's view, there is no material justification for deviating from the current modelling approach.

Liquidity of ASX futures is sufficient to support the existing approach

[19] While recent market dynamics have created challenges in the context of higher margin calls for trading market participants and reportedly reduced access to clearing houses, liquidity of ASX futures (particularly base futures and caps) remains comparable to historical levels and is sufficient to support continued reliance on the futures approach (see Chart 5 below). Notwithstanding an observed reduction in ASX trades for some contract types during June / July 2022 (likely attributable to the period of market disruption), trade volumes in August 2022 were higher than any volume previously traded in the month of August since records began in 2002.[16]

Chart 5: Traded contract volumes (TWh)[17]



[20] The Issues Paper indicates base future trading volumes in SA (which have always been lower relative to other NEM regions) have declined below levels observed at the same point in time for DMO 4.[18] Consistent with previous approaches, we recommend ACIL continues to benchmark the ASX energy contract data with broker data for swaps and caps.[19] If a material misalignment in trade prices is observed, this could indicate a need to consider alternate data sources to benchmark retailer hedging costs in SA. However, we would not endorse approaches that would reduce the transparency of the modelling process, as discussed further below. We also consider any reduced certainty that may be associated with lower trading volumes could also be alleviated by adopting the 95th percentile WEC, as previously highlighted by ACIL.[20]

[16] AER, 'State of the Energy Market 2022', 29 September 2022, pg. 26-27.
[17] AER, 'Wholesale Markets Quarterly (Q3 2022)', November 2022, pg. 27.
[18] AER, 'Default market offer prices 2023-24 – Issues Paper, pg. 14.
[19] ACIL Allen, 'Default Market Offer 2022-23 - Wholesale energy and environment cost estimates for DMO 4 Draft Determination', 23 February 2022, pg. 32.
[20] Ibid.

Reliance on ASX futures trades is the most efficient approach to determining wholesale energy costs

[21] The AEMC provided advice on best practice retail pricing methodologies in 2013 and noted: '*A liquid well-functioning futures market is likely to be the least-biased estimator of future energy purchase costs*.'[21] This is because the many participants in the market bring a diversity of views, resulting in an unbiased estimate of the future wholesale market based on information available at that point in time. The futures methodology was also found to best satisfy the AEMC's governing criteria for a cost-efficient methodology, in that the method is forward-looking, reflects the current supply / demand balance and includes a time dimension.

[22] Consistent with the above, we consider ASX futures trades continue to provide a good market-wide representation of how retailers manage both their energy and capacity positions and the associated costs. This aligns with Frontier Economics' view that it is far more common for retailers to use financial derivatives to hedge risk than own generation or enter PPAs, meaning approaches based on these financial derivatives are more likely to reflect a typical retailers' efficient costs under current market conditions.[22] Information on ASX trades is also publicly available and verifiable, which are important attributes in the context of supporting the DMO process.

[23] Incorporating a broader suite of products would generally increase the complexity of the price setting process and reduce transparency, noting the terms and conditions of more bespoke products are not readily available in the public domain. As noted above, this would limit the extent to which industry and consumers could meaningfully interpret and engage with the analysis to test its validity, while also reducing the predictability / stability of the DMO.

[24] Further, it assumes the products under consideration are: principally used to hedge retail load; typically available to all retailers; and able to be accurately reflected in the hedging methodology applied. There are several issues to consider in this respect.

- *PPAs*: As noted by ACIL, the value of long-dated assets associated with PPAs is determined by conditions in the market at a given point in time.[23] The price in a PPA or the annualised historical cost of generation reflects the long-term value of the generation anticipated at the time of commitment when the investor was faced with a variety of uncertain futures. As a result, there would be considerable challenges in using the price of PPAs as a basis for estimating current hedging costs[24]. Smaller retailers may also not be in a position to use PPAs given the associated capital requirements and uncertainty around future load.

- *Weather derivatives*: These products can be highly specialised and include a range of bespoke terms and conditions (e.g. number of geographic reference points, event triggers, maximum duration or number of events within a period, cost thresholds before paying out, payout limits etc.). It would be difficult to standardise these products to derive an associated hedge cost for a typical retailer.

- *ASX options*: Options products are typically used by financial traders and not for retailer hedging purposes and should therefore not be included in the hedging strategy. They also trade in large block sizes (25 MW) and may therefore not be readily utilised in hedging approaches of smaller retailers.

[21] AEMC, 'Advice on best practice retail price methodology – Final Report', 27 September 2013, pg. 39.
[22] Frontier Economics, 'Review of retail wholesale cost estimation methodology – Final Report for the AER', 14 April 2022, pg. 33.
[23] ACIL Allen, 'Estimated Energy Costs – For use by the Queensland Competition Authority in its Draft Determination of 21-22 retail electricity tariffs', 2 March 2021, pg. 10.
[24] Ibid.

[25] It should also not be assumed that incorporating these products into the hedging strategy would necessarily alter (or lower) the WEC estimate given: ACIL already benchmarks ASX futures against broker data for OTC contracts to ensure alignment in trade prices; the value of PPAs from a hedging perspective is inherently dependent on the level of output from the relevant resources; and weather derivatives are relatively high cost products that also expose retailers to a higher degree of basis risk than cap contracts.[25] In a scenario where the inclusion of these products does result in a lower WEC estimate that is potentially not achievable by smaller retailers / new entrants, this could also be detrimental to retail market competition, as acknowledged by Frontier Economics and discussed further in Section 2 below.[26]

1.5 Book build approach

[26] Origin generally supports the existing book build process which occurs over a two to three year period and agrees pricing stability is important for customers. We recognise the AER is not in favour of assigning a higher weighting to contract trades and prices that occur closer to the relevant period, which would better account for more up to date pricing expectations. However, adopting the 95th percentile WEC estimate would obviate the need for such a change in any case, to the extent it better accounts for potential forecasting error.

1.6 Market intervention / suspension costs

[27] The period of market suspension and administered pricing in 2022 resulted in around 500 separate market interventions from the Australian Energy Market Operator (AEMO), the cost of which will need to be recovered from market customers. This includes the costs associated with compensation claims made under the two different cost recovery mechanisms. It is likely these costs will be material, but the timing of when all costs will be known may occur too late for the AER to include them in the final DMO. Should this occur, retailers could be left with significant holding costs. To mitigate this risk, the AER should include an allowance for working capital for any market suspension costs not included in this DMO.

2. Retail allowance

[28] The setting of the retail allowance is a crucial part of achieving and ultimately balancing the various components of the DMO objective. The allowance should be set such that it allows retailers to recover a reasonable margin (commensurate with the level of risk) and incentivises innovation / competition in the market and consumer engagement, while also ensuring customers are protected from unreasonably high prices. This is a delicate balance, made even more challenging in an environment of rising costs that increases both consumer prices and the risks borne by retailers.

[29] The Issues Paper raises a concern that due to the retail allowance being expressed as a percentage of the final DMO price, increasing input costs will result in a higher margin that could further exacerbate price increases for customers. The paper goes on to suggest this could be addressed by reducing the allowance in percentage terms and (or) deviating from the glide path set in DMO 4 that would allow for the converging of the retail allowance to 10 and 15 percent for residential and small business customers respectively in DMO 6. However, Origin considers there is compelling evidence to indicate that such an approach runs contrary to the meeting and appropriately balancing of the DMO objectives given:

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[25] This is because spot prices do not always align with weather events.

[26] Frontier Economics, 'Review of retail wholesale cost estimation methodology – Final Report for the AER', 14 April 2022, pg. 30.

- the heightened risks faced by retailers, which are a function of, rather than independent of, increasing wholesale prices and price volatility; and

- the importance to competition of enabling retailers to offer diverse market offers (including at a discount to the DMO) in an environment of higher electricity bills, and to invest / innovate to improve services and products for the benefit of consumers.

[30] Origin also does not support moving the retail allowance calculation to a fixed dollar amount. As the allowance represents the revenue at-risk to the retailer, it is common to express the margin as a percentage of the bill. Retaining a retail allowance which is linked to the quantum of the total cost, and set at an appropriate level, is important to meeting the DMO objectives.

[31] Further, it is important the various cost components of the DMO continue to be set based on a methodology that seeks to reflect the efficient costs (inclusive of a competition allowance) associated with retailing electricity to small customers, as independently assessed by the AER. Managing cost of living pressures and the impact of higher energy prices, particularly for vulnerable customers is rightly of utmost importance, but this should be done outside of the DMO through concession schemes, hardship programs and direct bill subsidies.

[32] This approach is consistent with that applied in the UK, where despite significantly larger movements in retail market conditions, no changes were made to retail margin allowances by the regulator (Ofgem). It also recognises that it would be inequitable to solely rely on the retail sector to meet any overall bill reduction objectives (to the extent these are desired by governments), noting the retail allowance represents only a small component of retail bills relative to other key inputs like network costs.

[33] To the extent any changes to the retailer allowance are considered, this should also be predicated on the AER providing a clearer view of the two key components of the retail allowance, namely the profit margin and competition allowance. This will be necessary to allow for an objective assessment, particularly in light of the additional risks and costs retailers are facing, as discussed in the proceeding sections.

2.1 Retailers are facing elevated risks

[34] Overall, the risks and costs of being a retailer in the NEM have increased over the past year, as evidenced by the nine retailers which have ceased actively servicing the market since March. Some of the key cost stack elements are increasing and becoming harder to anticipate, which also adds to retailer risks. Many of these are non-diversifiable (i.e. systematic or market risk) and relate to the current market volatility and uncertainty. The rationale for considering non-diversifiable risk in the retail allowance is articulated by SFG Consulting in their previous work for IPART, which noted '*the retail margin [allowance] must be sufficient to provide reasonable compensation for the potential variation in response to various economic conditions. It is positively related to the variability of revenue in association with economic circumstances.*'[27]

[35] Frontier Economics draws on this work and further outlines the fundamental principles of financial economics that "*in efficient and competitive capital markets, the minimum return required by an investor will correspond to the return required to compensate for non-diversifiable risk*."[28] It is also

[27] SFG Consulting, 'Estimation of the regulated profit margin for electricity retailers in New South Wales (Methodology and assumptions)', 14 August 2009, pg. 7.
[28] Frontier Economics, 'Retail costs and margin – A report for the Essential Services Commission' 24 April 2019, pg. 23.

consistent with the AEMC's view that '*a robust and effective retail margin must be capable of responding to changes in market conditions'*.[29]

[36] The elevated and growing risk profile faced by retailers includes cuts across several areas as discussed further below.

Higher working capital requirements and cost of capital

[37] Electricity retailing is a financial capital-intensive business, with high short-term capital (or 'working capital') and longer-term capital (mix of debt and equity capital) requirements. Retailers enter into hedging contracts and post collateral on an ex-ante basis, purchase electricity in real-time (weekly settlement) and incur operating costs on an ongoing basis. These costs are then recovered from customers on a delayed ex-post basis via electricity bills. This is especially the case for residential and SME customers who typically pay their bills on a monthly or quarterly basis in arrears, and for whom retailers hedge furthest in advance for.

[38] When the electricity market is facing sustained high prices and price volatility, as is currently the case, there is an increase in retailer working capital requirements. Technically this would not need to be accounted for in the retail allowance if increases in capital requirements are fully reflected in components of the DMO. However, this may not always be the case, as discussed in Section 1. These components and associated working capital requirements include:

- *Increasing wholesale electricity costs, including the cost of hedging*: AEMO prudential requirements and ASX margin requirements have increased in line with higher wholesale spot prices and futures contract prices, respectively. Meeting these increased collateral requirements has necessitates a much higher level of working capital than was previously required, and this is likely to continue to be the case.

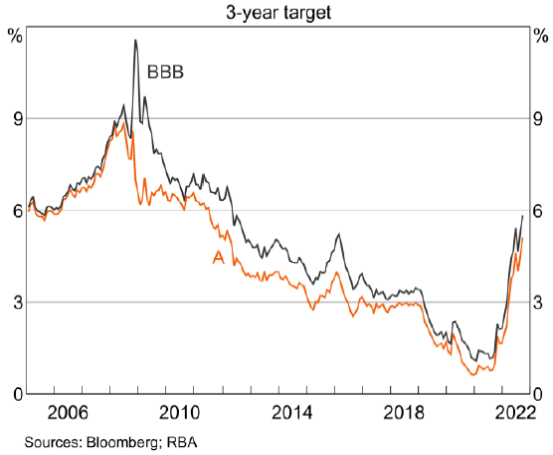
- *Increasing retail costs*: Retail costs are expected to rise in the context of higher consumer bills and greater cost of living pressures more broadly. This includes the cost of unpaid debt, and the cost of meeting higher demand on customer service channels.

[39] However, even *if* the DMO fully accounts for the quantum of capital, it also needs to account for the cost of capital in the current context of high inflation and rising interest rates.

[40] Chart 6 below, illustrates the recent increase in the cost of debt capital as proxied by three-year bond yields on Australian A-rated and BBB-rated non-financial corporates, noting retailers like Origin Energy and AGL are BBB-rated. This increase in retailers' cost of debt has been compounded by the increase in the amount of debt retailers have had to borrow in recent times to cover non-payment of customer bills and to meet the increased ASX margin requirements, potential OTC collateral requirements and AEMO prudential requirements.

Chart 6: Australian non-financial corporate bond yields[30]

[29] AEMC, 'Advice on best practice retail price methodology – Final Report', 27 September 2013, pg. 68.
[30] RBA, Interest Rate Charts, https://www.rba.gov.au/chart-pack/interest-rates.html, accessed 28 November 2022.



[41] Chart 6 also illustrates that a downgrading in credit rating, even between two investment-grade ratings, results in an increase in the cost of capital. If the current market conditions and resulting costs to retailers result in downgrades to sub-BBB ratings (i.e., sub-investment grade), this can be expected to further increase the cost of debt capital.

[42] A further consideration is if cost of capital becomes untenable for retailers, then they may choose to take on more merchant risk (i.e. increase their net spot position) which can lead to greater risk of failure in market if the wholesale markets swing against them.

[43] It is therefore important the retail allowance be set with reference to the increase in the cost of debt (and equity) capital, consistent with the concept of the retail allowance reflecting adequate compensation to retailers for bearing risk – with this risk now greater than was the case previously (e.g. under DMO 4). This would then enable the retail allowance to continue to reflect the objective of allowing retailers to recover their efficient costs.

Volume and shape risk

[44] Volume risk is the risk that forecast volumes (and therefore hedge purchases) do not match actual customer demand. This risk is inherent as projections of future electricity demand are never completely accurate and usually rely on forecast sales, assumptions about average load of households, and assumptions around switching. This in turn creates a risk of retailers being over- or under-hedged – that is, the volumes settled under retailers' hedge contracts are not the same as their customer loads (i.e. the volumes settled in the spot market). Notably, retailers can bear losses if forecast volumes are too low (in which case they may be exposed to high prices on the spot market) or if volumes are too high (where the retailer may have over-purchased hedges and may be required to sell back at a lower price).

[45] 'Shape' refers to the need to hedge demand on a five minute-by-five minute basis, as per the intervals over which settlement occurs in the NEM's spot market. The same volume of electricity over a period of day can have different shapes (i.e. different levels of demand in each interval across the day). As such, retailers need to hedge according to the shape of their customer portfolio. This means they can be over- or under-hedged at various times of the day if the shape of their contract book differs from the shape of their actual customer loads, exposing them to potential extreme spot prices in any specific five-minute interval.

[46] Volume and shape risk is difficult to manage and comes down to a retailer's risk management policy and forecast for variability against the contracts they have with customers. Some retailers

may choose to take on more merchant risk and increase their spot position to manage volume and shape volatility, which can further increase risk of failure in market.

[47] Economic conditions and associated market events also create increased volume and shape risk for retailers. As evidenced recently, some retailers can see an unexpected influx of customers and volume demand in the event of another retailer failure. Retailers may make net losses on these newly acquired customers if the load of the acquired customers causes the retailer to exceed hedged volumes, resulting in the need to buy electricity at inflated wholesale prices. This risk is particularly pertinent for Origin and other Tier 1 retailers that are often default providers for retailer of last resort (RoLR) events.

Debt risk

[48] Debt risk is the risk of retailers incurring greater than expected amounts of customer non-repayment of their debts, where the expected amount of non-repayment is termed 'bad and doubtful debts'. DMO 4 estimated the bad and doubtful debts (BDD) expense as a weighted per-customer cost based on the three publicly-listed retailers that reported provisions for BDD expenses during FY2020-21; DMO 5 proposes to apply the same approach but for FY2021-22.

[49] This approach will likely underestimate actual BDD expenses in the current environment. As wholesale costs drive retail price increases, BDD are also likely to rise. The relationship between price and BDD is not linear – debts tend to rise at a faster rate than energy price increases as more customers fall into more debt, especially where we also see a broader cost of living spike due to rising inflation and higher interest rates.

[50] The AER highlighted the risk of increased customer debt in its latest retail market report, suggesting retailers will experience higher bad debt expenditure and a decrease in cash inflows from customers.[31] The AER further noted that they anticipate higher energy prices in combination with customer debt will impact a retailer's cash position and may increase the risk of retail failure, leading to customer disruption and a potential decrease in the number of market offers available to customers.[32]

[51] Rising debt levels also places an operational impost on retailers. The UK experience has demonstrated that distressed customers will call energy retailers who will then provide them with information about accessing (non-energy) concession schemes to support them with general cost of living pressures. Once again, the calculation of retail costs using historical data does not account for this outcome and it must therefore be considered as part of the retail allowance.

Risk from other DMO components

[52] In practice, the retail allowance component of the DMO acts as a safety net for retailers. It provides a margin for retailers which can be used to absorb some additional costs as they arise due to inconsistencies between the DMO and actual costs faced by retailers through the year. This is particularly important given the risk other DMO cost stack components may underestimate actual costs faced by some or all retailers – an inevitable risk given the retailer pool is diverse, and market dynamics and costs cannot be fully anticipated over the 12-month review cycle of the DMO. While not necessarily endorsing the approach, it is notable that in August 2022 the UK changed its Energy Price Cap review cycles to quarterly (rather than half-yearly) to provide greater opportunity for addressing variability.

[31] AER, 'Annual retail markets report 2021-22', November 2022, pg. 7.
[32] Ibid.

[53] While in most periods of time the risk of the DMO underestimating actual retailer costs may be balanced against the risk of overestimating actual costs, the current situation suggests a high likelihood of the former. This has increased the need for the safety net as a function of the increase in wholesale electricity spot prices and price volatility to ensure retailers continue to be adequately compensated for their associated risks.

[54] Examples of where these underestimations could occur are noted below.

- *Estimation of the cost of hedging*: The costs of hedging may increase as wholesale and futures price dynamics impact market participation and potentially liquidity of some products. In 2022, we have seen clearing participants leaving the market and reducing their appetite for new clients – a further reduction in clearing options may translate to higher hedging costs in the future, if liquidity of products reduces or retailers are forced to trade in different products. A shift in the medium of trading or products used for hedging could have material impacts on the cost of hedging that are not accounted for in the DMO.

  Even if well hedged for forecast load, a significant RoLR event could see a large increase in load for another retailer, and subsequent unhedged spot price exposure with the requirement to source additional hedging products in the short term.

- *Estimation of cost to serve*: Cost to serve is a part of the retail costs and is calculated by taking a backward look at the costs for each retailer using data submitted to the Australian Competition and Consumer Commission (ACCC). It is recognised there is variability in retailers operating costs to be covered in the retailer allowance. With increased market volatility the variability in cost to serve and the risk of escalation of these costs is significant and should be taken into consideration in setting the retailer allowance.

  As noted above, call volumes typically rise with changes in market (e.g. new regulatory changes, market volatility), with high bills during winter or during price rises, and with customers having difficulty paying. With ongoing market volatility and a likely price increase with DMO 5, inbound call volumes will continue to ebb with events in market. The retailer allowance needs to take into consideration the variability of cost to serve.

- *Cost of system services*: An additional DMO component that introduces capital requirements and cashflow challenges for retailers is system service costs. The costs incurred by AEMO through the use of the reliability and emergency reserve trader (RERT), issuing of directions, implementation of a price cap, and drawing on ancillary services, are recoverable from mass market customers via the DMO. These costs can be high: payments arising from the June 2022 event total around $90 million, not including compensation for the administered price cap.[33]

  As noted in Section 1.6, while retailers can recover these costs via the DMO, this cost recovery is at a delay to when the costs are incurred, leaving retailers to wear the cashflow challenges of meeting the capital cost in the interim. This is a non-diversifiable (i.e. not able to be hedged) risk that falls to retailers.

- *Cost of Depreciation*: Depreciation costs can be significant and can vary between retailers. IT costs are associated with compliance and regulatory change or with innovation and digitisation to improve customer service. There have been a number of regulatory changes that required significant system investment by retailers across 2021-23, including Consumer

[33] Based on Origin Energy analysis of AEMO's 15 August 2022 Compensation Update, and August 2022 Reliability and Emergency Reserve Trader End of Financial Year 2021-22 report.

Data Right, Better Bills guidelines, five-minute-settlement and global settlements. Considering depreciation is assumed to be covered by the retailer allowance it is recommended the data points and testing around depreciation for DMO 5, where possible, are more robust than a review of two retailers' costs to assess the adequacy of the depreciation component. There needs to be enough headroom for depreciation costs, ensuring investment in regulatory change and innovation is not stifled.

2.2 Implications for retail market competition

[55] The retail allowance also acts as a safety net for the competitive retail market more broadly. As identified by the AER, embedding an appropriate retail allowance into the DMO is important for enabling retailers to offer a diversity of market offers at different price points, including at a discount to the DMO. As high wholesale prices push up electricity bills, there is a greater need for retailers to have the capacity to offer some retail contracts with lower prices especially to the financially vulnerable (an increasingly large cohort in the context of a global cost of living crunch). This is affirmed by the AER's statement that "*the purpose of facilitating competition in the retail market is to encourage retailers to innovate and compete for consumers through lower prices and offering better quality products and services*."[34]

[56] Without a sufficient allowance to create this headroom and enable lower-priced offerings, there is a real risk of consumers largely converging onto the DMO across all retailers, with subsequent higher-than-DMO increases in retail prices and bills for those customers previously on higher-discounted offers.

[57] One of the key intentions of the retail allowance is to ensure the DMO remains a 'fall back' price that is above most market offers, to encourage competition and consumer engagement. The intent is that retailers can offer discounts off the DMO and compete on price – ultimately leading to savings for consumers who switch to market offers and therefore an incentive for consumers to engage in the market.

[58] Retailers can only effectively compete when they have room to manage discounting, be creative in how they engage customers, and provide high quality services to attract customers.

[59] The number of retailer failures since DMO 4 and evidence of energy retailers requesting their own customers switch to another retailer indicates the DMO objectives are at risk. Competition and innovation will be further constrained if there is an insufficient buffer built into the retail allowance to:

- enable discounting below the DMO in an uncertain and volatile market to avoid convergence of offers to the DMO and degradation of service levels;
- provide a competitive market that is attractive to new players and reduces the risk of exits; and
- encourage investment in innovation such as digitisation of the customer experience and improved services and offerings, benefiting consumers.

<u>Reduced dispersion of market offers</u>

[60] There has been a significant reduction in discounts on the DMO and narrowing of market offers since DMO 4. High underlying costs have squeezed retail margins leading to smaller discounts

[34] AER, 'State of the Energy Market 2022', 29 September 2022, pg. 201.

and convergence of market offers toward the DMO. Historically, retail markets have enjoyed heavy discounting along with strong marketing and advertising. Retailers can offer high discounts if they have flexibility in their cost base; flexibility in their risk profile against forecast prices and volumes; and strong competitive advertising and marketing pressures from other retailers.

[61] Market volatility has limited flexibility in costs and risks, leading to a narrower corridor of market offers. Chart 7 compares the spread of offers observed by the AER at time of DMO 4 determination and offers currently in market. There are a number of retailers now offering tariffs at the level of the DMO (i.e. zero discount) compared with discounts levels of up to 34 percent pre-DMO 4. This is inconsistent with policy intent of the DMO, which is intended to provide a safety net for consumers against unjustifiably high prices, not the lowest price tariff in the market.

Chart 7: Spread of market offers at DMO 4 and November 2022 (% discount from DMO)[35]

[62] Some specific observations of current market offers and advertising online are:

- the offer spread in SA is particularly limited, with offers at the DMO level, or very low (e.g. 2%) discount; and
- there is evidence that margins on market offers are tight for smaller retailers who appear to be moving to a user-pays approach for some services. Disconnection, reconnection, dishonour fees, up front installation fees for smart meters among other fees are sometimes inflated, especially for smaller Tier 3 retailers.

[63] The trend of narrowing price dispersion is unlikely to change without sufficient retail allowance in DMO 5. Providing a sufficient retail allowance enables retailers to compete and innovate on price and service packages. Conversely, constraining retail margins compresses offers. The UK provides an example of the impact of tight margins and the collapse of retail competition in this respect (see Box 1 below)

Box 1: Case study of compression of competition in UK market

[35] Origin Energy analysis of market offer information.

The UK market has seen several interventions including a price cap and an energy price guarantee to provide consumers with some relief for current high energy prices.

The price cap, like the DMO, uses a cost build-up approach that includes retailer operating costs and wholesale cost allowances. The key difference is that – as the name suggests – the UK mechanism is a price cap that retailers cannot charge above (rather than a price guide, as in the DMO).

The low retailer margin of 1.6% included in the UK price cap has effectively suspended competition. Approximately 85 percent of consumers are on the price cap and switching has stopped to the point that each retailer is maintaining their current volume, hedging to the cap.

The situation brings about questions around the financial viability of retailers. Retailers are hedging to the cap, but the concern is that when the market goes into backwardation new entrants and growing retailers will be able to undercut the incumbent retailers. Consumers would then switch to new retailers and incumbents would be stuck with long positions and have to sell back at a loss.

The government is implementing changes to protect incumbent retailers in the event the market goes into backwardation. This includes regulations where growing retailers and new entrants need to compensate incumbent retailers for the difference in the hedge the incumbent retailer purchased for consumers and the current market. This intervention, although necessary to ensure financial stability of existing retailers, disincentivises growth from small retailers and market entry from new ones, and could constrain competition for the longer term. The UK government has recognised the distortive impacts of the policy and it is being considered on a six-monthly basis.

[64] A convergence of prices to the DMO and elimination of price differentiation creates disincentives for retailers to innovate and improve. Specifically, in a DMO priced market there may be a lack of engagement by consumers and a general apathy leading to low and stagnating service levels. There may also be limited incentive to innovate and invest, with depreciation costs unable to be recovered and capital raising difficult in the low margin business (discussed further below).

[65] Permitting the retail allowance to rise commensurate with underlying prices creates space for discounting and competition that helps keep prices low and improves service quality for consumers.

<u>Ensuring an attractive competitive market for retailers and new entrants for the benefit of consumers</u>

[66] While the above sections point to the need for sufficient retail allowance to enable effective competition, it is also useful to consider the role of this allowance in attracting more competitors into the retail market and retaining existing retailers. The AER noted in the DMO 4 final determination that "*the DMO must allow retailers to make a reasonable profit and enable competition and market engagement.*"[36]

[67] Energy retailing has slim margins and a high cost of capital that make it unattractive to enter – the ACCC reported that for 2020-21 (which was a relatively stable wholesale market period), retailers' average EBITDA margin was 3 percent.[37] These factors are compounded by the current context of an uncertain regulatory environment, unclear directions on government intervention (including price caps), and a volatile market where low liquidity and high prices are likely.

[68] Market conditions have driven several retailers exit in 2022, including:

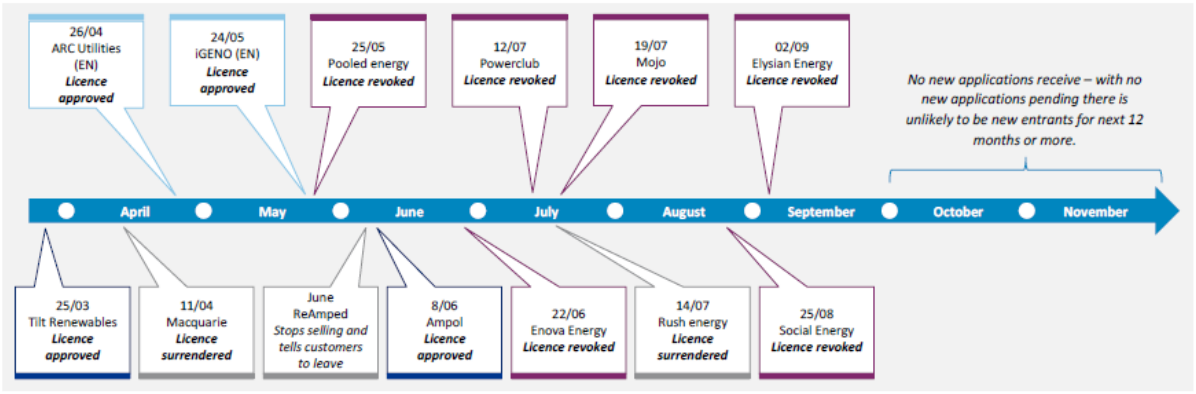
- six retailers that had their licence revoked;

[36] AER, 'Default market offer prices 2022-23 – Final Determination', 26 May 2022, pg. 1.
[37] ACCC, 'Inquiry into the National Electricity Market', November 2021 Report, pg. 10.

- two retailers that surrendered their licence;
- retailers, in particular Tier 3, that withdrew all offers in market and urged customers to go elsewhere (e.g., ReAmped, LPE, Discover Energy); and
- Telstra Energy appearing to have "paused" plans to operate as an energy retailer, only taking registered interest from potential customers but not offering in market

[69] The number of retailers entering the market has also dropped. Since March 2022 only two new retailers have entered the market, and it is not clear either are seeking to be active players – Ampol appears likely to be focused on electric vehicle charging and Tilt Renewables on renewable generation.[38] Two embedded network retailers have also entered the market. There have not been any new applications since June 2022, suggesting new entrants are unlikely for at least next 12 months. A timeline of retailer entries and exits is provided in Chart 8.

Chart 8: 2022 electricity retailer entries and exits



[70] A robust retail allowance – one that allows retailers to operate in the market, manage their costs, and make a profit – provides an investment signal for smaller and prospective new retailers to engage in the market. An appropriate retail allowance creates a more compelling opportunity to enter, compete and sustain a position in the market, and as discussed in Chapter 4, provides a buffer to help entrants mitigate against the inherent risks of participating in energy markets.

[71] Conversely, lowering the retail allowance further dilutes investment signals and could lead to more retailers potentially exiting certain regions and segments.

Facilitating investment in innovation

[72] Sufficient headroom is required in the retailer allowance to enable retailers to:

- invest in improving customer experience, in particular via new platforms, digital portals and improved online and call centre services; and
- invest in new products and propositions that will assist in enabling the transition to net zero, enabling customers to gain access to behind the meter energy solutions

[38] Origin analysis of AER public register of authorised retailer applications, https://www.aer.gov.au/retail-markets/authorisations/public-register-of-authorised-retailers-authorisation-applications, accessed 30 November 2022.

[73] This innovation will provide consumers with greater autonomy in how they engage with energy (something that is becoming more important with the rise of the ‘pro-sumer’) and will make energy easy and simple.

[74] A market that fosters innovation and pushes the boundaries of customer experience and outcomes is an important feature of a competitive market. The retailer allowance then needs to take into consideration the need for headroom for retailers to be able to innovate and develop these products.

[75] More broadly there needs to be consideration in terms of the attractiveness of the sector to investment from other organisations outside of energy retailing. For example, from software providers to build new energy specific platforms and to organisations looking at non-commodity offerings retailed through the energy sector. In the UK current returns don’t balance the risk that retailers face and, as such, capital flows are going elsewhere, putting at risk the broad investment in the energy sector and subsequent innovation. Although this is not specific to the retailer allowance it is a significant risk to the viability of energy retailers if the sector is not seen as attractive to investors and as such is a consideration for the DMO retailer allowance.

3. Other costs

3.1 Network costs

[76] It is critical that network costs are passed through to retailers in full. The change in the publication date of the final DMO decision has largely resolved timing issues that had previously occurred. Notwithstanding this, to the extent there is any misalignment, a cost true-up should apply.

3.2 Environmental costs

[77] Origin generally supports the current market-based approach to determining environmental costs.