Review of the customer compensation scheme

Decision

13 June 2017

Market Design

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1 Decision

1.1 The Electricity Authority (Authority) has decided to make no changes to the customer compensation scheme (CCS) at this time.

1.2 The Authority will consider adding a new project to its 2017/18 work programme to:

(a) address issues in the way the CCS is triggered and how it treats customer switching

(b) assess the following possible refinements suggested in submissions:

(i) calculating the minimum weekly amount (MWA) of the default compensation scheme annually

(ii) ending official conservation campaigns (OCCs) only if hydro storage levels recover for a minimum period of time

(iii) whether campaigns only for the South Island are still necessary given the HVDC capacity has been upgraded since the CCS began

(c) incorporate its current work investigating options to bring 'type 2' retailers into the scheme.

1.3 The Authority confirms it will conduct a full post-implementation review of the CCS if it is used.

2 Background

2.1 On 18 October 2016 the Authority published a review of the CCS for consultation.[1] The review examined ten possible options to strengthen a retailer's incentive to hedge. The review was driven by concerns at that time around security of supply during future dry years. Nine of those options involved changing the core design of the CCS. The Authority considered changing which customers receive compensation during OCCs, how to pay that compensation, and which parties must pay it. The tenth option examined the current discrepancy where customers of 'type 2' retailers are not qualifying customers, contrary to the policy intent of the CCS.[2]

2.2 The Authority has concluded it should not pursue any of the first nine options to change the core design of the CCS. The Authority has started an initial investigation into ways to bring 'type 2' retailers into the scheme.

2.3 This paper sets out the Authority's decision not to modify the CCS and gives reasons for that decision.

2.4 Section 8 describes a separate proposed Code amendment that would require retailers to provide certification of their compliance rather than a statutory declaration.

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1 http://www.ea.govt.nz/development/work-programme/risk-management/review-of-the-customer-compensation-scheme-ccs/consultation/

2 See Option 10 of the October 2016 review.

3 Why the Authority made this decision

The Authority consulted on possible ways to strengthen retailer incentives to hedge

3.1 The Authority found no reason to change the core design of the CCS to strengthen retailers' incentives to hedge. Submitters did not provide new information to change that conclusion. On that basis, the Authority has decided not to modify the CCS at this time.

3.2 However, several submitters criticised the review for focusing on strengthening incentives, and not fully considering whether the CCS should be removed. The Authority recognises the limited scope of its review. This reflects heightened concern over dry year risk that led it to begin the review in early 2016—stronger retailer hedging would help reduce the risk of energy shortage in dry years. The Authority considered arguments for removing the CCS but has decided it remains an important element of the security of supply framework.[3]

The Authority considers the CCS continues to support an efficient security of supply

3.3 All participants are collectively responsible for security of supply. Experience has shown that retailers can abuse conservation campaigns as a free hedge, socialising the costs of energy shortage onto consumers as a whole. The Authority is not persuaded that market conditions have evolved to the point where this risk would not arise without the CCS.

3.4 As explained in the consultation paper, the CCS is necessarily blunt. The Authority recognises it is an imperfect instrument. All retailers subject to the CCS must compensate their qualifying customers, no matter what steps those retailers have taken to hedge their dry year risk. Retailers must pay their customers no matter how much electricity those customers use during an OCC. The Authority recognises this may disadvantage some retailers if they take no further action, while other retailers may gamble on their competitors' support for dry year security.

3.5 However, fully-hedged retailers whose customers save electricity during an OCC stand to gain through hedge payouts as they buy less from the spot market. Alternatively, retailers that are exposed to high spot prices (ie, not fully hedged) stand to gain from both reduced purchases and lower spot prices during an OCC. Retailers therefore have clear additional incentives to encourage their customers to use less electricity, offsetting the cost of compensation payments.[4]

3.6 The Authority considers the incentives created by the CCS are necessary and still appropriate in ensuring an efficient security of supply.

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[3] See *The security of supply framework* information paper the Authority released with its October 2016 review of the CCS, available at http://www.ea.govt.nz/development/work-programme/risk-management/review-of-the-customer-compensation-scheme-ccs/consultation/#c16203.

[4] Retailers that fully pass the spot price through to their customers have different incentives, discussed from paragraph 4.27.

3.7 The Authority recognises the broad range of comments from submitters raises questions on the future of the CCS in a rapidly changing electricity system. The Authority is keenly aware that these changes, across all aspects of the industry, challenge the way the market is regulated. The Authority carefully monitors these changes and continually looks for barriers that do not accord with its statutory objective. The Authority:

(a) will consider adding a new project to its 2017/18 work programme to investigate the improvements to the CCS and OCCs, as detailed in section 6

(b) confirms it will conduct a full post-implementation review of the CCS if it is used

(c) will review the CCS again if it finds evidence the CCS is no longer in the long-term benefit of New Zealand consumers.

4 Matters the Authority considered in making this decision

4.1 Parties that made submissions are listed in Table 1.

4.2 All submissions and a summary of submissions can be found on the Authority's website at http://www.ea.govt.nz/development/work-programme/risk-management/review-of-the-customer-compensation-scheme-ccs/consultation/.

Table 1: List of submitters

Submitter	Category
Consumer NZ	General consumer body
Contact Energy Limited	Electricity generator and retailer
Ecotricity Limited	Electricity retailer
Flick Energy Limited	Electricity retailer
Meridian Energy Limited	Electricity generator and retailer
Major Electricity Users' Group (MEUG)	Representative consumer group
Nova Energy Limited	Electricity generator and retailer
Pioneer Energy Limited	Electricity (embedded) generator and retailer
Pulse Energy Alliance LLP	Electricity retailer
Trustpower Limited	Electricity generator and retailer
Utilities Disputes Limited	Independent industry complaints body

4.3 The sections below expand on the Authority's view of the CCS and why it remains necessary. Many submitters challenged the continued existence of the CCS and its role in ensuring an efficient security of supply. Rather than respond to each criticism

individually, the Authority has chosen to explain its view to address the broad themes of those criticisms.

Conservation campaigns are necessary because most consumers have no reason to use less electricity when supply becomes tight

4.4 The need to intervene when the risk of energy shortage becomes too great during a dry year strongly relates to how motivated consumers are to respond to spot prices. While spot-pricing for mass-market consumers is expanding, the vast majority today remain on fixed price, variable volume (FPVV) tariffs. These customers have no reason to change their electricity use as spot prices rise and fall. Demand response schemes that would reward mass-market FPVV customers for using less electricity are still in their infancy. This is why OCCs are necessary: most mass-market consumers have no incentive to use less electricity when supply tightens in a severe dry year, so they must be asked to save voluntarily.

4.5 The scale of response to price signals should rise as the number of consumers exposed to spot prices grows over time. But FPVV tariffs are likely to remain a common and suitable choice for many consumers—innovations that encourage these consumers to change their electricity use in other ways will then support and reinforce direct response to prices. This greater degree of total demand response could eventually mean we avoid OCCs in all but the most severe circumstances. Growth of emerging technologies, such as local generation coupled with battery storage, could further strengthen this trend.

The CCS helps ensure conservation campaigns are not a low cost way for retailers to manage their risk

4.6 OCCs and the CCS work together to give retailers greater incentive to hedge their dry year risk. Retailers naturally have commercial incentives to hedge their spot price exposure, as many submitters stated. However, the 2001, 2003, and 2008 conservation campaigns showed that some retailers had not taken adequate steps to hedge the risk that energy shortage will occur in a dry year.

4.7 Codifying the OCC trigger at the 10% hydro risk curve (HRC) threshold has two key effects:

(a) Retailers cannot (easily) lobby for OCCs earlier. This limits the chance they can abuse OCCs as a way to manage their dry year risk.

(b) The 10% HRC threshold creates a significant incentive to increase hedging instead. Retailers will wish to avoid the high spot prices likely to develop as controlled hydro storage approaches this level.

4.8 However, once controlled storage reaches, say, the 8% HRC, retailers might prefer it falls to the 10% threshold and triggers an OCC.[5] This is because—in the absence of the CCS—OCCs can lower retailers' costs in two ways:

(a) they buy less from the spot market if their customers use less electricity (quantity)

(b) spot prices will fall as all consumers collectively reduce their electricity use (price).

4.9 Retailers with FPVV customers that are not fully hedged benefit from lower spot prices, even if their customers do not save electricity during an OCC. They benefit further

[5] OCCs end once controlled hydro storage recovers to the 8% HRC under clause 9.23 of the Code.

through buying smaller quantities at the lower spot price if their customers do save. However, retailers that are fully-hedged are likely to be indifferent to lower spot prices, because they only pay the fixed hedge strike price. These retailers instead benefit from buying smaller quantities in the spot market if their customers do save electricity: they are able to keep some of the payout from hedge contracts as the purchased quantity falls below the hedged quantity (see paragraph 4.21). These benefits are a windfall gain to retailers extracted from their customers during OCCs.

4.10 Paying compensation instead redistributes these windfall gains from retailers to their qualifying customers. This makes OCCs less attractive, and gives all retailers good reason to carefully hedge their dry year risk. Hedging helps minimise the chance an OCC is needed, avoiding paying compensation, and minimise the cost of that compensation if one is called.

Hedging supports generation and demand response resources that might not exist without it

4.11 Security of supply is the collective responsibility of all participants. Generators—and those retailers that own generation—contribute to that security by prudently managing their fuel, including water stored in hydro lakes. Retailers contribute mainly through hedging their spot price exposure with parties that control generation.

4.12 But hedges are not limited to existing resources. Through hedging, retailers help underwrite investment in new generation and demand response resources. This helps support the resources needed to withstand low hydro lake inflows during dry years. Critically, those resources might not exist without these forward contracts if they cannot earn enough revenue in normal (wetter) years to recover their costs.[6]

4.13 The Authority does not accept the claim that only parties that control generation determine security of supply. Retailers are not passive entities that cannot influence supply. Small, 'pure' retailers may make a small contribution to security of supply through hedging, proportional to their size, but that contribution is important and necessary. As more pure retailers enter the market or gain market share, their collective contribution to security of supply through hedging will grow.

4.14 The CCS therefore promotes security of supply by giving retailers greater incentive to hedge their spot price risk. Above all, the CCS encourages retailers to help manage the risk of energy shortage in future dry years.

The minimum weekly amount reflects the high prices expected before an OCC begins

4.15 Pulse Energy claimed the MWA of the default compensation scheme is a penalty. They claim this is because the $600/MWh spot price used to calculate it is much greater than prices seen in previous conservation campaigns. Pulse Energy stated that 'average spot prices during "shortages" where conservation has been requested have generally been between $150 and $250/MWh'.

4.16 This description of the MWA is incorrect for two reasons:

(a) The relevant spot price is the one prevailing *before* conservation begins. This is the price retailers will avoid once an OCC starts to reduce demand and therefore lower the spot price. Maximum weekly average prices at Benmore in the lead-up to

[6] More detail is given in *The security of supply framework* information paper.

the 2001, 2003, and 2008 campaigns approached $350/MWh, $250/MWh, and $450/MWh respectively.

(b) Conservation campaigns in 2001, 2003, and 2008 were triggered when hydro storage had not fallen as far as the 10% HRC. This means energy shortage risk will be greater when OCCs trigger now than when campaigns were called in the past. Spot prices at the 10% HRC are therefore expected to be higher.

4.17 The Authority recently updated its estimated spot price for a scenario representing illustrative dry year conditions. The Authority estimated the spot price at Benmore, assuming controlled storage reaches the 10% HRC threshold at 30 June 2016. Estimated weekly average prices will be around $558/MWh to $565/MWh.[7] This price range is substantially greater than was seen before conservation campaigns in the past.

Compensation is not a penalty, but it can be a cost

4.18 The MWA is designed to be approximately cost-neutral to retailers, based on average estimated rates of consumption, electricity saved, and the value of those savings to retailers. Cost-neutral means compensation is roughly the same value as the benefit the retailer would obtain from lower spot prices and any reduced purchases during an OCC. However, in practice retailers may face different costs and benefits—these variables could differ from the averages used to calculate the MWA. Compensation is then likely to be a net cost to some retailers but a net benefit to others. The broad assumptions needed to estimate the MWA make this inevitable.

4.19 However, retailers should not expect compensation to be benign if they have not taken steps to manage their dry year risk. Paying compensation redistributes the windfall gain retailers would otherwise enjoy from OCCs, as explained in paragraph 4.10. In fact, retailers might be indifferent to paying compensation if they knew in advance it was strictly cost-neutral. In turn, if retailers were indifferent to paying compensation, their incentive to take actions to avoid an OCC would weaken. The potential for compensation to cost retailers is therefore an important reason it creates an incentive to hedge.

4.20 A cost is not a penalty. A retailer's individual circumstances affect how valuable conservation campaigns are to them, offsetting the cost of compensation. Most importantly, a fully-hedged retailer can cover their compensation payments through hedge payouts if their customers save electricity, as noted in paragraph 4.9.

4.21 A simple numerical example illustrates this point in Figure 1:

(a) A fully-hedged retailer has expected total sales quantity of Q MWh. To manage the risk of high spot prices if a security of supply event occurs, that retailer should consider buying a hedge quantity H equal to Q. Assume the retailer buys a forward contract with a strike price of $70/MWh for a quantity H equal to Q.

(b) Then assume a serious dry year occurs and spot prices rise to $600/MWh. The retailer therefore pays $600/MWh to the clearing manager for physical electricity, but the forward contract pays out the difference between the forward contract strike price and the spot price; ie, $(600−70)/MWh.

(c) Then assume the security of supply situation becomes more serious and an OCC is called. Aggregate demand falls as consumers respond to the OCC, lowering the spot price to $400/MWh. Assume the retailer's sales fall as its customers use less

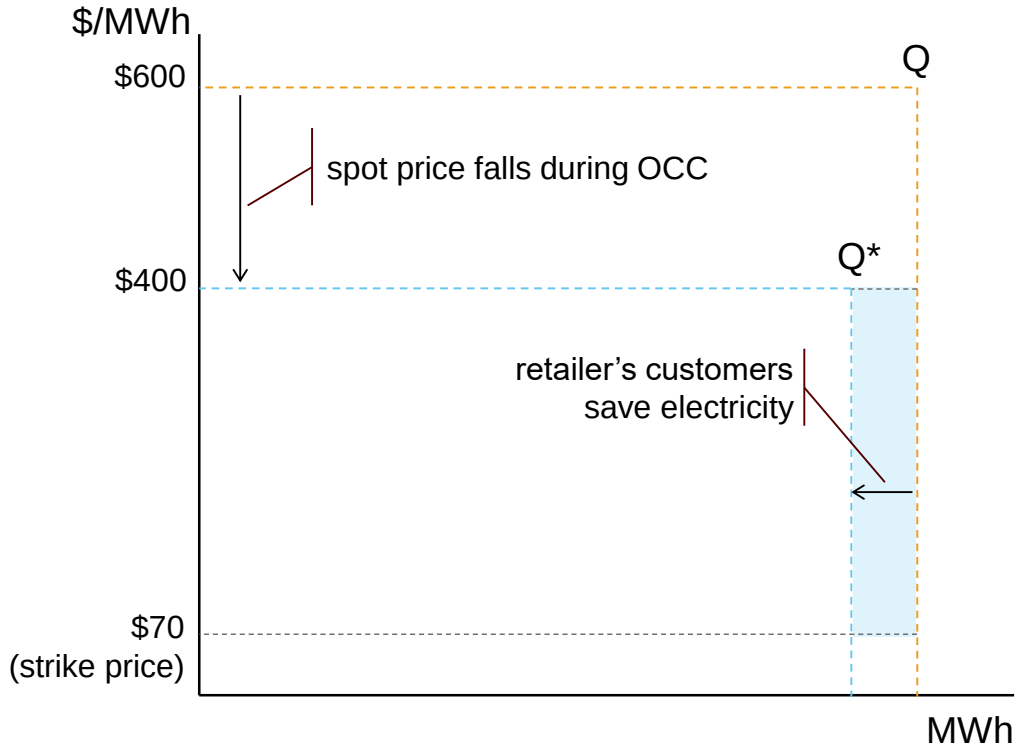
[7] The range given is two standard deviations symmetrical about the mean.

electricity in response to the call for voluntary savings—its new total quantity, *Q**, *is now less than Q*.

(d) As *Q** is less than *Q* but *H* remains equal to *Q*, the retailer is able to keep some of the payout from the forward contract (paid on *H*). That is, the retailer must cover the cost of buying *Q** from the clearing manager at $400/MWh, but the forward contract payout is enough to cover the larger quantity *Q* (at the strike price of $70/MWh).

The revenue now available to the retailer is therefore the amount (*H* – *Q**) × $(400 – 70)/MWh, shown as the light blue shaded area in Figure 1. This revenue may be enough to cover compensation payments under the CCS.

Figure 1: Additional revenue for a fully-hedged retailer where its customers save at the average rate



Source: Electricity Authority

4.22 Compensation payments can therefore be hedged. Importantly, the revenue available increases as the retailer's customers save—or will not exist if they do not save. All retailers therefore have a clear incentive to encourage their customers to use less electricity during an OCC. Retailers that are not fully hedged benefit both from buying less electricity and from lower spot prices. Retailers that are fully hedged benefit from hedge contract payouts. In all cases, the benefit to retailers increases the more their customers save.

4.23 The Authority also notes its October 2016 review examined alternative designs that would have 'sharpened' the CCS. These would have allowed retailers to lower the cost of compensation by, for example, setting compensation payments according to their net

hedge position, or only pay customers for demonstrated reductions in their electricity use. None of these options are likely to work—they risk creating perverse incentives or making OCCs less effective, undermining, not supporting, security of supply. Submitters agreed with that conclusion and did not suggest alternatives (other than abandoning the CCS entirely).

4.24 Finally, the Authority stresses that conservation campaigns exist to avert a major shortfall in electricity supply in very dry years. They are not intended to save retailers from the financial distress of high spot prices.

Not using the CCS is not evidence it is unnecessary

4.25 It is a fallacy to suggest the CCS is not needed because it has never been used. This confuses causes and effects. To use an analogy, it is like suggesting vaccinations are no longer needed because few people are falling ill. Both overlook the likelihood that taking preventive actions is an important reason why the threat has not occurred. Although, unlike the vaccine analogy, OCCs will still happen in some future dry years even with the CCS in place. An effective CCS is one that is rarely used.[8]

4.26 The Authority considers the CCS has been and continues to be an important influence on market behaviour in this preventive role. Removing the CCS could encourage a return to the behaviours that led to abuse of conservation campaigns in the past.

Spot retailers have a different relationship with security of supply

4.27 Customers fully exposed to the spot price should not be compensated, as detailed in the October 2016 consultation paper. These customers benefit directly if they use less electricity during conservation campaigns—there is nothing to compensate for. In fact, paying compensation would weaken the signal to use less electricity by effectively lowering the price these customers pay.

4.28 But this means the CCS does not give spot retailers an incentive to hedge dry year risk.[9] More precisely, spot retailers have no direct price risk to hedge against, and no compensation payments they wish to avoid. It might therefore appear that spot retailers—and their customers—benefit from other retailers' hedging but do not contribute to dry year security of supply themselves.

4.29 However, customers exposed to the spot price are inherently also exposed to dry year risk. Unlike customers of FPVV retailers, spot-exposed customers face the high spot prices likely to develop as controlled storage falls toward the 10% HRC. Those high prices in turn give an incentive to use less electricity. In this way, spot-exposed customers pay the cost of tight supply at the time a dry year happens. Their response to those prices also helps reduce the risk an OCC will be needed.

4.30 At the same time, some spot-exposed customers may be willing to simply pay the high spot prices without significantly changing their behaviour. These payments in turn give suppliers of generation and (other) demand response the revenue they need to build or hold resources they may not use often.

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8 The cost-benefit analysis of the first CCS consultation in 2010 modelled a reduced frequency of conservation campaigns in a range between one every eight years and one every ten years.

9 The October 2016 consultation paper defines 'spot retailers' as those that buy and on-sell electricity to consumers at the spot price.

4.31 Customers of spot retailers therefore contribute to dry year security of supply in a fundamentally different manner to FPVV retailers.

4.32 Importantly, spot retailers themselves have other reasons to directly support dry year security of supply because:

(a) their customers may attempt to switch to FPVV retailers during long periods of high prices in dry years, even if OCCs are not triggered

(b) they could offer insurance products as a feature, to ease any concern their customers have over being exposed to spot prices (ie, a form of hedge).

4.33 The cap products to be introduced on the ASX electricity futures exchange in the 2017 calendar year should facilitate this behaviour.[10] This forward contracting will allow customers that want to buy insurance reveal their wish to do so.

4.34 Nonetheless, spot retailers and their customers have a complex and less certain relationship with dry year security of supply. The Authority will carefully monitor these dynamics as more customers become directly exposed to spot prices. The Authority may make changes to the CCS in the future if it considers there is evidence of weaker dry year security driven by the exemption from compensation payments for these customers.

Retailers that own generation may have commercial advantages

4.35 Ecotricity and Pioneer Energy claimed that vertical integration between retailers and generators should not give a competitive advantage in a well-functioning market. They argued that vertically-integrated retailers—commonly known as gentailers—manage their fuel to cover their own retail sales as a priority, limiting the hedge contracts available to pure retailers.

4.36 Owning generation is valuable for retailers because it reduces the price risk of their retail sales. This is an efficient economic tension between the cost of building and running generation, and the risks of buying and selling at spot prices. Gentailers can have commercial advantages over pure retailers. But importantly, owning generation has inherent risks itself, from the need to recover capital costs to fuel risk to the potential for equipment to fail at critical times.

4.37 The financial hedge market is an important alternative to a physical generation hedge, and helps underwrite investment in new generation assets. Pure retailers may opt to invest in generation directly if they regard this as cheaper than the risk of high spot prices. The Authority is always interested in identifying and removing barriers for new generation to enter the market. Retailers can also work with their customers to encourage demand response.

The CCS is not likely to discourage demand response schemes

4.38 The Authority asked in the October 2016 consultation paper if the CCS could be hindering new forms of retail pricing or demand response schemes (Question 3). The main concern raised by submitters was that customers could be paid twice for any demand response during an OCC:

(a) A retailer could develop a paid demand response scheme. However, their customers must still be paid compensation during an OCC, as well as directly for

[10] See the discussion beginning paragraph 5.9 for more detail.

any actual demand response. It does not appear likely many customers would take up any 'additional compensation scheme' designed to account for this.[11]

(b) A retailer may not know its customers have contracted with an external demand response provider. The retailer must still pay compensation even if their customers change their demand under that external contract.

4.39 In both cases, retailers pay their customers to use less electricity even though those customers are already paid to do that through the demand response scheme. Customers capture this windfall gain.

4.40 The Authority recognises it would not be efficient to pay customers twice for the same underlying demand response. However, the Authority does not consider this risk discourages retailers or other providers from developing demand response schemes:

(a) Retailers risk paying their customers twice only if an OCC occurs. This will be rare. Further, retailers could increase the chance their customers do save by engaging with them through well-developed demand response schemes, minimising the cost of compensation.

(b) Demand response schemes could help reduce the chance an OCC is needed, by encouraging customers to save electricity earlier. Retailers can then be confident they are paying for behaviour they value.

4.41 These factors should therefore encourage rather than discourage retailers from investing in demand response schemes.

4.42 Finally, submitters did not suggest any way to account for demand response schemes, other than abandoning the CCS.

The CCS is consistent with the security of supply framework

4.43 Ecotricity and Pioneer Energy argued the security of supply framework is inconsistent because the stress test regime does not account for compensation payments.

4.44 The energy shortage scenario of the stress test regime reflects 'national drought' conditions, but it explicitly does not include OCCs.[12] That is, the scenario is where hydro lake levels are falling but have not reached the 10% HRC threshold to trigger a conservation campaign. CCS payments are therefore not relevant to the stress test.

4.45 Trustpower argued the CCS is inconsistent because customers receive no compensation for any other supply interruption, like rolling outages or emergency load shedding.

4.46 These other interruptions occur for emergencies that are not reasonably avoidable. For example, the system operator may have to use emergency load shedding and then rolling outages to manage an unexpectedly large loss of generation or transmission capacity In contrast, energy shortage driven by falling hydro storage lake levels develop over time. Customers are compensated for their sustained and voluntary effort during these prolonged emergencies.

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11 Clause 9.26 of the Code allows retailers to offer additional compensation schemes that their customers can choose to adopt voluntarily.

12 http://www.ea.govt.nz/operations/wholesale/spot-pricing/stress-tests/scenarios/

5 Further enhancing the hedge market is a priority

5.1 Ecotricity, Flick Electric, MEUG, Pioneer Energy, and Pulse Energy all raised concerns with the availability of hedge products in the hedge market. In summary, the main arguments were that:

(a) hedge contracts are not available far enough ahead of a dry year for a 'fair price'

(b) retailers can primarily only obtain hedges to support dry year security from their gentailer competitors

(c) the hedge market has low liquidity (low volumes traded on the ASX, and small trade volumes affect the settlement price).

5.2 The Authority considers the hedge market is working effectively. As for any market, further evolution is possible and the Authority is actively pursuing areas for improvement.

5.3 The development of active trading of electricity derivatives on the ASX has been key to the hedge market's effectiveness in recent years. Four gentailers are committed to making volumes of quarterly and monthly baseload futures available to buy and sell every business day, within a five per cent price-spread. The quarterly baseload products are available out three full calendar years.

5.4 This market-making activity not only supports access to hedge products over the three-plus-year horizon, but provides transparency around price expectations. This helps to establish a negotiating point for over-the-counter trading. It also helps to signal expectations of any impending dry periods.

5.5 Further, this market-making activity has supported participation by other traders, including proprietary traders whose participation supports both product availability and price efficiency. The Authority notes around 33% of average monthly sales on the ASX for January through April 2017 were made by parties other than generators, and none of these were market makers. That is, made by parties other than Contact, Genesis, Mercury, and Meridian.

5.6 Participants' risk management opportunities have also improved with the development of the market for financial transmission rights (FTRs), making it easier to manage locational price risk.

5.7 As a result of the development of trading on the ASX and FTRs:

(a) Anecdotal reports from participants, and the past results of the Hedge Market Survey, suggest competitiveness in the hedge market has improved.

(b) Both spot and futures prices increased to reflect the record-low hydro inflows in 2012, but did not reach very high levels. This suggests the market's collective approach to fuel management has improved (supported by the incentives created by introducing the CCS in 2011).

(c) New retailers have entered the market, and existing participants have expanded their retail presence. New entrant retailers have told the Authority their decision to enter was greatly influenced by their perception of increasing opportunity for successful competitive retailing in the market. Key to achieving this has been the availability of suitable risk management products, and the ability to use the forward price curve when negotiating over-the counter contracts.

5.8 The Authority recognises some limitations to the hedge market remain, and that retailers' margins can be sensitive to small changes in hedge prices, given the degree of retail competition in the market. However, parties wanting to build a hedge portfolio of ASX products should be able to work around these limitations. For example, they may need to build their hedge profile slowly, rather than expect to be able to trade large volumes without impacting the price.

5.9 The Authority is continuing to identify opportunities to enhance the hedge market. The Authority confirms this is a priority and is committed to the multiple hedge market development projects on its work programme. The Authority's highest priority projects are:

(a) working with ASX to design and introduce cap products for both energy and capacity shortage, with the goal of achieving robust and frequent pricing over time

(b) considering whether participants can use ASX positions to offset their prudential security requirements for the spot market and FTRs.

5.10 Other Authority projects to enhance the hedge market include:

(a) further developing the market for FTRs

(b) investigating the potential benefit of developing standardised over-the-counter and intermediating contracts

(c) providing transparency on future ASX product developments.

5.11 The Authority intends to keep hedge market development work as a top priory within its work programme for 2017/18. In July 2015, the Wholesale Advisory Group (WAG) provided recommendations to the Authority on ways to improve the hedge market. Part of the Authority's hedge market development work will include further considering these recommendations.

6 The Authority will investigate improvements to the CCS and OCCs

6.1 The Authority will consider adding a new project to its 2017/18 work programme to examine possible improvements to the CCS and to the rules for conservation campaigns. This includes suggestions raised in submissions. The Authority will also incorporate its work to date on ways to bring 'type 2' retailers into the scheme. This consolidates all possible changes to the CCS into a single project. These items are detailed in the sections below.

6.2 The Authority will consult further on any proposed amendments to the Code.

Rolling outages alone can trigger the CCS

6.3 The October 2016 consultation paper noted that prolonged capacity shortages could trigger the CCS (p. 14). This can happen without any conservation campaign or any link to hydro storage levels. The Authority will consider removing this route to trigger the CCS.

Requiring the final retailer to pay all compensation may not be efficient

6.4 Under current arrangements, a retailer's qualifying customers are determined after an OCC has finished.[13] This means a retailer receiving a customer during an OCC must pay all compensation if they switch any time before an OCC ends. For example, if an OCC runs for six weeks and a customer switches from retailer A to retailer B after five weeks, retailer B must pay six weeks of compensation but retailer A pays none.

6.5 Nova Energy suggested retailers may therefore be unwilling to accept new customers during OCCs. Or they would only accept new customers with limits like insisting on spot price plans or long-term FPVV contracts.

6.6 The Authority agrees this rule may not be efficient. The Authority's response to submissions on its first consultation on the design of the CCS in November 2010 addressed this question.[14] The Authority noted then the consensus view was to assess compensation liability on a pre-set day. Based on industry feedback, the Authority decided the end of the conservation campaign was the most straightforward approach. The Authority is now concerned this could be an unwarranted burden to retailers that did accept new customers, or would hinder competition during an OCC. It would also allow spot-exposed customers to switch to FPVV retailers in a bid to gain unjustified compensation payments.

6.7 The Authority will examine more efficient ways to handle customer switching during an OCC. These may include changing the qualifying date, which retailers should pay compensation, or whether compensation should end once a customer switches.

It may be useful to calculate the MWA more often

6.8 Consumer NZ suggested reviewing the MWA more often to account for any rapid changes in average electricity consumption due to uptake of new technologies.

6.9 The Authority agrees that average consumption could change substantially over three years. While the Authority must be careful not to suggest an unwarranted degree of precision in the MWA, it will consider calculating the MWA annually. This could also allow the 'value of savings' term in the MWA to reflect spot prices estimated for each year's hydro risk curves.[15]

The criteria for OCCs could be refined

6.10 Contact Energy suggested two changes to the criteria for OCCs:

(a) Consider ending OCCs only once controlled hydro storage returns to the 8% HRC for a specified time period.

(b) Examine whether the upgraded HVDC capacity means it is still appropriate to allow South Island storage to trigger OCCs for the South Island only.

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13 Qualifying customers are determined 'at the end of the **qualifying date**' under clause 9.21(1) of the Code. Part 1 defines the qualifying date as the day after the last day of the OCC.

14 http://www.ea.govt.nz/dmsdocument/8794, p. 21.

15 Refer to the MWA methodology documented in Appendix A of the October 2016 consultation paper.

6.11 The Authority considers there are valid concerns driving these suggestions. The Authority's February 2014 advice to the Security and Reliability Council (SRC) assessment of security of supply risks commented on these concerns.[16] The Authority agrees:

(a) Current arrangements for ending OCCs mean they could be too short to ensure hydro storage has recovered, or could result in multiple OCCs over very short periods. This could confuse consumers and participants, undermining conservation efforts.

(b) Current arrangements for OCCs in the South Island:

(i) could be contentious and confusing, given upgraded HVDC capacity may allow enough southward energy transfer for electricity savings in the North Island to significantly improve hydro storage in the South Island

(ii) may not be flexible enough to allow for regional OCCs that target savings only where they will maximise hydro storage.

6.12 The Authority will work closely with the system operator on any proposed changes to the criteria controlling OCCs.

7 The Authority's response to other suggested improvements

7.1 Some submitters suggested other improvements to OCCs or the CCS in more general form. The Authority's responses are below.

Consumer NZ

7.2 Consumer NZ suggested two possible changes to the MWA:

(a) Change the MWA methodology to account for the time when consumption occurs.

(b) Allow customers to apply to use an earlier year when assessing the 3000 kWh minimal annual consumption threshold.

The Authority's response

7.3 Conservation campaigns seek to reduce the *total amount* of electricity New Zealanders use over an extended period (probably many weeks). The concern is that fuel, including water in hydro lakes, may run so low the system operator has to forcibly disconnect load. Shifting consumption to other times of day does not materially address this risk of energy shortage. Charging electric vehicles overnight when spot prices are likely to be lower, using Consumer NZ's example, does not help—it still uses the same amount of electricity. Only charging the vehicle fewer times in total during the conservation campaign would help reduce the risk of energy shortage. This underscores the difference with capacity shortage, which happens when supply is not sufficient to meet the load in real time, making temporal shifts in consumption valuable.[17]

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16 See sections 3.5 and 3.6 in http://www.ea.govt.nz/dmsdocument/18108.

17 For further detail, see the Authority's security of supply framework information paper at http://www.ea.govt.nz/development/work-programme/risk-management/review-of-the-customer-compensation-scheme-ccs/consultation/#c16203.

7.4 The Authority considered the 3000 kWh annual consumption threshold during the original CCS consultations in 2010.[18] Submitters broadly supported this level: it limits the number of premises or devices that are unlikely to give any significant demand response (eg, baches, electric fences, pumps). Consumer NZ argues some customers may fall short of this threshold if they did not occupy their residence for the full year, even though they save energy during an OCC. Consumer NZ suggest customers should be able to apply to their retailer to use another baseline year. However, this will increase the cost of managing the scheme. Deciding how retailers should judge these applications or ensure only legitimate claims are honoured will be difficult. Any retailer can choose to compensate such customers anyway, or offer them additional compensation schemes, but the Authority does not consider it should be mandated.

Contact Energy

7.5 Contact Energy suggested using extra advertising during an OCC to encourage consumers to save electricity even though they will be paid no matter what.

The Authority's response

7.6 The Emergency Management Policy states the system operator will engage with the Authority when they begin preparing for an OCC.[19] Explaining the need for conservation and how compensation works will be core themes for campaign advertising. The ultimate goal of that advertising is to make the most effective campaign possible.

MEUG

7.7 MEUG suggested the Authority should review the CCS itself after any OCC, not just the MWA.

The Authority's response

7.8 The Code requires the Authority review the MWA after any official conservation campaign (clause 9.25(2)(b)(i)), but does not stipulate any review of the CCS as a whole. The Authority is greatly interested in how the CCS performs in practice, as stated in the consultation paper.[20] The Authority agrees with MEUG's suggestion and is committed to a formal post-implementation review of the CCS if it is used. The Authority will analyse in detail the behaviour of market participants and mass-market customers, and how well the conservation campaign addressed the risk of energy shortage.

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18 See pp. 10–11 of the Authority's first CCS consultation in September 2010 at http://www.ea.govt.nz/dmsdocument/8138, and pp. 10–12 of its response to submissions in November 2010 at http://www.ea.govt.nz/dmsdocument/8794.

19 The Emergency Management Policy is available at http://www.ea.govt.nz/dmsdocument/20804. Clause 4.2 states the system operator will engage with the Authority and service providers to begin preparing an OCC when controlled storage reaches the 1% HRC.

20 See discussion in Option 8 of the October 2016 consultation paper.

8 The Authority is considering requiring retailers provide certification instead of a statutory declaration

8.1 As part of its Code Review Programme 2016, the Authority consulted on proposed changes to several clauses in the Code that required participants to either certify or declare to the Authority that certain matters were true.[21] The proposed Code amendment would make it easier for participants to understand, and to comply with, their obligations.

8.2 The Authority proposed amending clause 9.29 so that a retailer provides certification of its compliance with the CCS, rather than a statutory declaration. This would make the process and requirement under clause 9.29 consistent with those under clause 13.236F (spot price risk disclosure statement).

8.3 The Authority is currently considering submissions on the proposed Code amendment and will soon make its decision. The Authority will publish its decision on its website at: https://www.ea.govt.nz/development/work-programme/operational-efficiencies/code-review-programme/.

[21] http://www.ea.govt.nz/development/work-programme/operational-efficiencies/code-review-programme/consultations/#c16208