Review of the customer compensation scheme

Summary of submissions

13 March 2017

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1 Introduction

1.1 The Electricity Authority (Authority) published a consultation paper *Review of the customer compensation scheme* (consultation paper) on 18 October 2016. The consultation paper is available on the Authority's website.[1]

1.2 The Authority sought feedback on the issues examined in the paper and on the basis of the conclusion that no change to the customer compensation scheme (CCS) is currently warranted.

1.3 The CCS helps to manage the risk that a dry year could lead to energy shortage conditions. Under the CCS, retailers must pay compensation to their customers during an official conservation campaign (OCC). Importantly, the CCS arrangements also codify the role of the system operator in controlling OCCs, triggered once controlled storage in hydro lakes falls to levels that indicate an OCC is needed to avoid energy shortage. Alongside other mechanisms such as scarcity pricing and the stress test regime, the CCS forms part of the broader security of supply framework.[2]

1.4 The consultation paper provided:

(a) background about the project including the recent developments in the market that led the Authority to review the CCS to ensure it remains fit for purpose

(b) assessment of options to modify the CCS and the Authority's conclusion not to change the existing CCS design including assessment of options to modify the CCS.

1.5 The Authority sought responses from submitters to the following questions:

Q1. Do you agree that the objectives of the CCS remain valid and contribute to an efficient security of supply?

Q2. Do you agree with the Authority's conclusion that we should not modify the CCS at this time? If you disagree, please explain your reasoning in terms consistent with the Authority's statutory objective in section 15 of the Electricity Industry Act 2010.

Q3. Are there ways in which the CCS hinders new forms of retail pricing or demand response schemes that could otherwise promote the Authority's statutory objective?

Q4. Have we considered all plausible options to increase the retailer incentive to hedge?

Q5. Are there any other material factors that might affect our assessment of the options to modify the CCS?

Q6. Do you agree with our assessment of the options to modify the CCS? If not, why not?

1.6 The consultation period ran from 18 October 2016 to 6 December 2016.

1.7 This paper summarises the feedback received from stakeholders in response to the questions and other material presented in the consultation paper.

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1 http://www.ea.govt.nz/development/work-programme/risk-management/review-of-the-customer-compensation-scheme-ccs/consultation/#c16203

2 See *The 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.

2 Submissions received

2.1 The Authority received submissions from the 11 parties listed in Table 1 in response to our consultation paper.

Table 1: List of submitters

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

Source: Electricity Authority

2.2 The submitters' responses are further examined in the following sections of this paper:

- Brief summary of the submitters' responses to the consultation paper questions – see section 3.
- Criticism of the CCS raised by submitters – see section 4.
- Suggestions for improvements – see section 5.
- Full submitters' comments on the consultation paper issues – see Appendix A.

3 Summary of submitters' responses to the questions posed in our consultation paper

Q1 & Q2 – On the role of the CCS and our conclusion we should not modify it

3.1 Those that support: Consumer NZ (suggests changes to strengthen), Meridian Energy.

3.2 Those that support with some reservation: Contact Energy (suggests improvements), MEUG (supports but suggests considering phasing out).

3.3 Those critical of the CCS but do not explicitly argue it should be removed: Flick Electric (not appropriate for changing market),[3] Nova Energy (accepts the approach taken, argues the scheme should be reviewed more often).

3.4 Those opposed to the CCS and argue it should be removed: Ecotricity, Pioneer Energy, Pulse Energy, Trustpower (though agreed the objectives may be valid).

3.5 Utilities Disputes stated simply that it has not received any complaints on the CCS.

Q3 – On whether the CCS hinders new forms of retail pricing or demand response

3.6 Submitters generally supportive of the CCS did not identify particular aspects that hinder innovation in this regard:

(a) Consumer NZ also advocated more regular reviews of the CCS qualifying criteria to account for evolving demand response schemes and emerging technologies

(b) Contact Energy referred to its suggestion for improvements

(c) Meridian Energy.

3.7 Some submitters critical of the CCS reiterated or expanded on their criticisms in general form (collected in section 4):

(a) Flick Electric

(b) Pulse Energy suggested the CCS would not hinder new forms of retail pricing or demand response schemes, but that customers could be paid twice during an OCC

(c) Trustpower stated the CCS hinders retailers in general, rather than hindering new forms of retail pricing or demand response in particular.

3.8 Other submitters critical of the CCS commented on potential hindrances in particular:

(a) Ecotricity and Pioneer Energy contested the assumption that spot-exposed customers will reduce demand as prices rise, and argued retailers may be unaware a customer has contracted with third parties for demand response

(b) Nova Energy argued the demand reduction of OCCs is likely to dampen incentives for retailers to develop general demand response schemes for fixed-price, variable-volume (FPVV) customers (risk paying for savings during an OCC that would happen anyway).

[3] Notably, under its current business model Flick Electric is not actually subject to CCS obligations, as its customers do not qualify for compensation.

Q4 – On whether we considered all options to increase retailer incentives to hedge

3.9 No submitter offered additional options to increase the retailer incentive to hedge.

3.10 Submitters generally supportive of the CCS agreed we had considered all plausible options:

(a) Contact Energy emphasised that the objective should be an incentive for retailers to 'hedge appropriately for the level of risk they face'

(b) Meridian Energy.

3.11 Nova Energy agreed we had considered all plausible options. They noted that hedging can never cover all possible risks, and agreed that the options exploring retailer net exposure are not likely to be useful.

3.12 MEUG stated they do not regard the question as relevant. This is because they do not consider the CCS provides incentives to hedge beyond mitigating retailer lobbying for conservation campaigns. MEUG suggested there is no evidence that this risk of lobbying has increased since 2011, and if anything has reduced. MUEG stated they believe hedge markets could be more competitive, and support the Authority's ongoing work to improve them and the products offered.

3.13 Submitters critical of the CCS reiterated or expanded on their criticisms (collected in section 4), but without directly addressing the question:

(a) Ecotricity

(b) Flick Electric encouraged the Authority to continue developing hedge markets for the benefit of all parties, especially those that do not control generation

(c) Pioneer Energy

(d) Pulse Energy

(e) Trustpower stated incentives are adequate without the CCS.

Q5 – On whether there are other material factors that would have affected our assessment

3.14 Submitters generally supportive of the CCS indicated no other material factors exist:

(a) Contact Energy

(b) Meridian Energy.

3.15 Nova Energy indicated its earlier responses addressed this question.

3.16 Submitters critical of the CCS reiterated or again expanded on their criticisms (collected in section 4):

(a) Ecotricity

(b) Flick Electric

(c) Pioneer Energy

(d) Pulse Energy

(e) Trustpower stated the Authority should consider removing the CCS.

Q6 – On our assessment of the options to increase retailer incentives to hedge

3.17 Submitters again generally reiterated their positions on the CCS without providing specific additional information. Those supportive agreed with our assessment of the options canvassed:

(a) Contact Energy referred to its suggestion for improvements

(b) Meridian Energy.

3.18 Nova Energy agreed with our assessment, but referred to criticisms given in earlier responses.

3.19 Submitters generally critical of the CCS did not agree with our assessment and tended to restate their opposition:

(a) Ecotricity

(b) Flick Electric suggested the Authority has not adequately accounted for the ongoing changes in the industry

(c) Pioneer Energy

(d) Pulse Energy did not comment on the question but instead stated their position that the CCS should be removed

(e) Trustpower.

4 Criticisms of the CCS raised by submitters

4.1 Many of the most detailed responses were given by submitters that strongly criticised the CCS. As indicated above, these criticisms were not necessarily answers to the specific questions asked, but instead set out arguments against the mechanism itself. We have therefore collected these criticisms in summary form in the subsections below.

4.2 Note that the list of submitters raising each point is given in alphabetical order.

The review assumed retailer incentives to hedge should be strengthened, without considering removing the CCS entirely

4.3 Raised by: MEUG, Trustpower.

4.4 Claim: The review presupposed the CCS should remain and was only concerned with strengthening retailer incentives to hedge. The review should also have considered whether the CCS should be removed or phased out, beyond initially revisiting its objectives.

The CCS objectives are not (or no longer) valid

4.5 Raised by: Ecotricity, Flick Electric, Pioneer Energy, Pulse Energy.

4.6 Claim: The substantial changes to the industry since the CCS was introduced mean the objectives may no longer hold. In particular, limiting incentives for lobbying is ‘not a reasonable regulatory objective’ (Flick Electric) or ‘not a strong rationale for efficient Code provisions’ (Ecotricity, Pioneer Energy). Further, any obligation that could cause small retailers to fail during tight market conditions is not durable (Ecotricity, Pioneer Energy).

The CCS was necessary when introduced, but circumstances have changed and it should be wound down

4.7 Raised by: MEUG.

4.8 Claim: The risks of lobbying and campaign fatigue have abated since the CCS was introduced. The scheme should therefore be wound down.

4.9 Additional: The scheme can be wound down while still also addressing coverage problems (type 2 retailers).

The review assumed retailers are vertically integrated or is biased toward those that are

4.10 Raised by: Flick Electric, Pulse Energy.

4.11 Claim: The Authority has only considered the CCS from the perspective of traditional vertically integrated gentailers. This ignores that pure retailers can only affect security of supply over time by forward contracting—as a financial derivative there is no guarantee this contract will be underwritten with physical assets. Further, it is primarily long gentailers that set prices for these hedge contracts; ie, a pure retailer's competitors.

Pure retailers can only obtain hedges to support dry year security from their gentailer competitors

4.12 Raised by: Ecotricity, Flick Electric, Pioneer Energy, Pulse Energy.

4.13 Claim: Pure retailers, especially new entrants, cannot affect security of supply because they don't own generation assets. The risk of energy shortage—and hence triggering the CCS—is largely driven by how well generators manage their fuel, both hydro and thermal. The bulk of generation is owned by a limited number of gentailers, who have clear incentive to cover their own retail exposure as a priority (ie, reduce available hedges as contracted retail sales rise relative to generation capacity). This limited competition in the energy and reserve markets affects fuel management, including hydro storage, which can lead to increasing spot prices. While in theory new entrant retailers should hedge with gentailers to manage energy supplies to avoid OCCs, experience in practice indicates hedge contracts are unlikely to be available far enough in advance at a fair price. This is compounded by the potential for the risk of OCCs to vary substantially within a single quarter (ie, how close controlled storage is to the 10% HRC). Long retailers will also have to compete with any hydro gentailers that find themselves short to secure hedges from the few gentailers with thermal capacity.

Hedge products are limited or unavailable, and hedge market liquidity is poor

4.14 Raised by: Ecotricity, Pioneer Energy.

4.15 Claim: New entrant retailers must manage their spot price exposure by relying on the ASX hedge market and bilateral contracts they are able to negotiate. While it had been improving, the hedge market has stagnated and liquidity has recently declined: volumes traded on the ASX tend to be low, and small traded volumes affect the settlement price; it is difficult to obtain hedges at a fair price before the start of the relevant quarter. Further, the substantial annual variability in controlled hydro storage warrants a greater level of futures contracting relative to physical demand than is currently evident. As a result, small pure retailers face a difficult challenge in seeking to manage their spot price risk.

Compensation payments cannot be hedged or insured against

4.16 Raised by: Ecotricity, Pioneer Energy, Pulse Energy.

4.17 Claim: The compensation payments required under the CCS cannot themselves be hedged or insured against by liable pure retailers.[4] In part, this is because the obligation is contingent on external circumstances (controlled hydro storage) and not an outcome of the spot market itself. Even if its customers save electricity, a retailer avoids the cost of buying from the spot market but has no additional cash flow to pay compensation. In contrast, gentailers are able to manage their generation or retail portfolios to manage the risk of CCS payments. Compounding this, retailers will also be exposed to rising spot prices and associated prudential requirements in the lead-up to an OCC, while gentailers enjoy higher revenues from the spot market. The risks represented by the CCS are therefore asymmetric between pure retailers and their gentailer competitors.

4.18 Additional: Because compensation payments themselves cannot be hedged, the CCS gives no incentive for retailers to hedge (Pulse Energy). Further, the payout from hedge contracts actually decline as conservation campaigns work to reduce the spot price. Pulse Energy claim:

> Whilst this may suggest that a retailer has no incentive to compensate customers for reducing demand (as the pay-off declines), this is a different issue to whether a retailer has sufficient incentive to support security of supply through time.

Retailers must pay compensation regardless of how well they have hedged their spot price exposure

4.19 Raised by: Flick Electric, Nova Energy, Pulse Energy, Trustpower.

4.20 Claim: The bluntness of the mechanism is not an advantage; it does not discriminate between retailers that have prudently hedged their spot price exposure and those that have not. This bluntness then encourages rather than discourages free-riding behaviour. Smaller retail participants are unfairly and unjustifiably affected, especially those that do not control generation. These parties may not survive an OCC (some may default on compensation payments) and the CCS is therefore counter to the statutory objective.

4.21 Additional: The policy options assessed in the review to discriminate among retailers using their hedge position are ‘not clearly workable in practice’ (Trustpower).

Spot retailers or their spot-exposed customers are ‘free-riding’ on the risk management of other retailers

4.22 Raised by: Pulse Energy.

4.23 Claim: Spot retailers don’t have to pay compensation and therefore they don’t hedge and are hence not supporting security of supply. This exclusion is inconsistent with the Authority’s assertion that forward contracting is fundamental to ensuring security of supply.

[4] Pioneer states this applies both for CfDs and ASX futures products, as well as an (energy shortage) cap.

Spot-exposed customers may choose (or try) to switch retailer rather than reduce demand

4.24 Raised by: Ecotricity, Pioneer Energy.

4.25 Claim: It is only an assumption that spot-exposed customers will react to high prices by reducing their demand. They may instead switch retailer to find relief through an FPVV plan during tight supply conditions.

The CCS payment obligation is punitive

4.26 Raised by: Ecotricity, Pioneer Energy, Pulse Energy.

4.27 Claim: The compensation obligation acts as a penalty and increases the risk profile of new entrant retailers. The spot price assumed by the MWA (the value of savings term) appears to have been set at a penalty level. Pulse Energy claimed that 'If the Authority was subject to the Unfair Contracts provisions of the Fair Trading Act, the CCS would undoubtedly be determined to be a penalty' (footnote 3), and that average spot prices 'during "shortages" where conservation has been requested have generally been between $150 and $250/MWh'. Compensation payments at the default MWA could 'wipe out' small new entrant retailers during an OCC (Ecotricity, Pioneer Energy).

The administrative burden of the CCS is a barrier to retailer entry

4.28 Raised by: Trustpower.

4.29 Claim: The need to administer and track CCS obligations is cumbersome and acts as a barrier to retailer entry. This effect applies despite the fact the retailer segment has expanded since the CCS was introduced; ie, that expansion might have been greater without the CCS.

The CCS is a barrier to competition and favours incumbent gentailers

4.30 Raised by: Ecotricity, Flick Electric, Pioneer Energy.

4.31 Claim: All retailers must pay compensation whatever their hedge position, but incumbent gentailers are able to spread these costs over retailers who do not manage generation. The CCS will disproportionately affect smaller participants without large market share or vertical integration.

Customers are compensated regardless of any demonstrated savings

4.32 Raised by: Contact Energy, Ecotricity, Pioneer Energy, Pulse Energy, Trustpower.

4.33 Claim: Consumers will be paid compensation regardless of whether they actually save electricity. This payment would act to reduce the price of electricity and therefore, perversely, enables customers to buy *more* rather than conserve.

Paying compensation is inconsistent with other security of supply mechanisms

4.34 Raised by: Trustpower.

4.35 Claim: Customers are not compensated if they experience rolling outages, if scarcity pricing is invoked (emergency load shedding), or for any other supply interruption. It is therefore inconsistent to pay compensation for conservation under the CCS.

OCCs and the CCS are not needed if the rest of the market is working properly

4.36 Raised by: Ecotricity, Flick Electric, Pioneer Energy.

4.37 Claim: OCCs should not be needed if regulatory arrangements ensure participants appropriately manage their risk. Generators in particular have a commercial driver to properly manage their fuel; retailers have commercial incentive to ensure reliable supply to their customers. The stress test regime further means that purchasers' fiduciary duty to manage risk appropriately should avoid OCCs. Therefore, with appropriate market arrangements in place, including in particular an effective and liquid hedge market, the CCS intervention is unnecessary.

4.38 Additional: The market successfully navigated record low inflows since 2010, demonstrating that the CCS is not needed.

4.39 Alternative: The CCS is a stick used by the Authority when energy shortage occurs (Flick Electric); the CCS is the 'ambulance at the bottom of the cliff', relied on in place of well-functioning spot and hedge markets (Ecotricity, Pioneer Energy).

The CCS itself is superfluous given the codified OCC trigger

4.40 Raised by: Trustpower.

4.41 Claim: Retailers already have sufficient commercial incentives to hedge and available options to do so. Prices in the spot and hedge markets in the lead-up to an OCC will be an adequate signal for short retailers. The 10% HRC trigger, supported by the published results of the stress test regime, makes lobbying irrelevant.

Pressure for demand response programmes will come from the growing number of spot-exposed consumers, not retailers

4.42 Raised by: Nova Energy

4.43 Claim: More and more consumers are becoming exposed to the spot price. It is therefore these spot-exposed customers that will increasingly agitate for demand response programmes in the face of high prices (in dry years), rather than retailers themselves. The CCS is therefore not needed as it only targets retailers.

The stress test regime does not account for CCS payments

4.44 Raised by: Ecotricity, Pioneer Energy.

4.45 Claim: The security of supply framework is inconsistent because the stress test regime does not consider the impact of paying compensation under the CCS.

5 Suggestions for improvements

5.1 Other suggestions for improvements not captured above are listed by submitter below.

5.2 Consumer NZ:

(a) The electricity market is changing too quickly for the MWA to be reviewed only every three years. As an example, significant take up of electric vehicles could substantially affect the electricity consumption term. The MWA could become inadequate if not updated often enough to account for such changes. It should be reviewed more often, or some mechanism added that would trigger a review if conditions change.

(b) The MWA doesn't account for when consumption occurs; eg, charging electric vehicles overnight, when spot prices are likely to be lower.

(c) The threshold of 3000 kWh minimum consumption over the previous year could exclude customers who have been away, despite them making substantial conservation efforts during the actual OCC.

5.3 Contact Energy:

(a) Fund additional generation in high-loss locations (such as West Coast of SI, or Northland). This would be paid by 'allocating a portion of the funds received from retailers towards more targeted efforts'.[5]

(b) Increase advertising to consumers during OCC (to increase the level of actual savings).

(c) Require controlled storage to remain at the 8% HRC for a certain duration before OCCs end (to further encourage consumers to conserve).

(d) Consider whether it is still appropriate for low South Island storage to trigger (South Island) OCCs, given increased HVDC capacity.

5.4 Ecotricity:

(a) The Authority should focus on the market power of long generators to manage their book, supporting embedded generation (including solar, wind, and storage), and availability of hedge products as dry conditions develop.

5.5 MEUG:

(a) The effectiveness of the CCS itself should be reviewed after the first OCC.

5.6 Nova Energy:

(a) As conditions in the market continue to change—such as take-up of emerging technologies or spot-exposed retail tariffs—the CCS design will need to be reviewed more often to ensure it does not inappropriately discriminate or hinder innovation.

(b) Traders should not have to compensate customers that join after an OCC has begun. The current obligation acts as a disincentive to accept new FPVV customers, or to require long-term contracts if they do so. This is more likely to occur now than seen in previous conservation campaigns. Waiting for an OCC to see what happens in this regard is not adequate.

5.7 Pioneer Energy:

(a) The Authority should focus on the market power of long generators to manage their book and availability of hedge products as dry conditions develop.

5.8 Pulse Energy:

(a) Consider a levy on all participants to create a collective fund using an actuarial approach, if the Authority believes supply security is inadequate without intervention.

[5] It is not clear which funds this statement referred to. Retailers are required to pay their qualifying customers, not the Authority or any other party.

Appendix A Comments received in submissions

General comments

Submitter	Submitter's comments
Consumer NZ	Consumer NZ strongly supports the retention of the customer compensation scheme (CCS). We agree its objectives remain valid and its design remains generally fit for purpose. However, we think the Authority should consider some changes to the CCS. These changes are outlined below in responses to selected questions in the consultation paper.
Contact Energy	Contact is generally supportive of the customer compensation scheme (**CCS**) in that it provides an incentive to manage dry year risk to prevent an official conservation campaign (**OCC**). This in turn drives additional demand for hedging and/or generation investment to limit the likelihood that an OCC is triggered. We also make a number of suggestions for possible improvements below. We are mindful that consumers get paid regardless of any behavioural change on their part. This provides a weak incentive for consumers to actually change consumption patterns, and reduce their electricity use. It would be useful to investigate other options for more efficiency measures to encourage consumers to actually reduce consumption if/ when an OCC is triggered, rather than providing a signal to generators alone. Possible options could include: a) Support/ fund additional generation in areas where losses are significant (for example, on the West Coast of the South Island and/or Northland); and/ or b) Additional advertising during an OCC to increase awareness of the issue, and the likelihood of actually reducing consumer consumption. Finally, we would also encourage the Authority to consider whether the trigger points and mechanisms under which an OCC is managed are robust. This may include, for example, whether it is appropriate to: a) Refine the CCS as the understanding of the role of emerging technology in building system resilience develops; b) Require the hydro risk curve to remain at 8% for a certain time period before the OCC is ended to bolster the incentive for consumers to conserve; and c) Trigger an OCC as a result of low hydro storage levels in the South Island when, given the upgrade to the HVDC, an OCC may more appropriately be triggered based on national storage levels.
Ecotricity	Ecotricity agrees it is timely to review these arrangements which were put in place in 2010 during a time of high political

Submitter	Submitter's comments
	interest in the sector following a dry period; change of government and as a direct outcome of a Ministerial Review. There has been substantial change in the industry since then – particularly the growth in the number of new entrant retailers. Ecotricity is a new entrant into the electricity retail sector providing New Zealand's only carboNZero Certified Electricity using strict United Nations Product Specifications. We are 49% owned by Pioneer Energy who are also a majority owner in Pulse Energy. As you know there are 25+ new entrant retailers with about 9% of all ICPs. Most, if not all, of these new entrant retailers are naturally long retail (ie, have no or minimal direct investment in generation) and rely on the five largest gentailers – their competitors – to secure future certainty about electricity supply to sell to their customers, whether through the spot market, bilateral contracts or the ASX hedge market. Ecotricity is concerned about the potential impact of the, as yet untested, customer compensation scheme on long retailers.
Ecotricity	**Ecotricity does not support retention of the customer compensation scheme**, or any of the other alternatives analysed n the consultation paper. In our view this scheme is an unnecessary ambulance at the bottom of the cliff. The Authority should be purely focused on ensuring the regulatory arrangements strongly incentivise management of fuel so that a conservation campaign is never triggered. Overall, we also consider the Authority's current discussion around DPGG to be contrary to not only security of supply by marginalising embedded generation, but also marginalising new competition arising from new renewable technology. Ecotricity's submission below notes three key issues: • the CCS creates an additional competitive disadvantage between pure play retailers and vertically integrated gentailers; • the CCS risks are unhedgeable and uninsurable which is not consistent with statutory objective of efficient operation of the electricity market; and • both these issues are compounded by low liquidity in the ASX market and concentrated hydro and thermal storage. In our view the Authority should be focused on the: • market power of long generators to manage fuel for their own 'book',

Submitter	Submitter's comments
	• adopting and supporting embedded generation including wind, solar and batteries; and • availability of risk management contracts as a 'dry period' situation develops. Well-functioning markets which would have the following attributes: • A pure retailer or generator faces the same risks as a vertically integrated entity – that is, vertical integration is not a competitive advantage; • Trades can be completed on the wholesale or hedge markets at a reasonable volume at any time without impacting the settlement price; • Liquidity in hedge markets reflects the high variability in available fuel (eg, within 8 months hydro storage had increased by 3 times from a low in February 2011); • A low HHI index for the market of energy reserves. Our comments are included in the following responses to the Authority's questions. Ecotricity supports the submissions made by Pulse Energy and Pioneer Energy.
Ecotricity	**Conclusion** We note that since 2010 the sector has successfully worked through periods of record low inflows with limited impact on prices or publicity. It is probably difficult to attribute this success to particular components of the security of supply regime. This may partly reflect the higher energy and capacity margin in the system and / or that generators have a commercial driver to manage their fuel. The stress test regime requires boards to understand the consequences of a dry period on their company. With this information their fiduciary duty should avoid any need for a conservation campaign. The incentives to manage the future supply of electricity must be targeted at the parties that are best able to influence the outcome. In our view, this does not include new entrant retailers without generation assets. The current arrangements place undue asymmetric risk on long retailers. Ecotricity recommends the compensation scheme be discontinued. As discussed above, Ecotricity's view is that this 'ambulance at the bottom of the cliff' is unnecessary if the Authority has the confidence that the appropriate arrangements are in place in the wholesale market, such as a liquid hedge market. We query why, after six years, the market has not progressed sufficiently to make redundant an interventionist policy that cannot be insured against and threatens small players.

Submitter	Submitter's comments
Meridian Energy	Meridian supports the Authority's overall conclusion to retain the existing Customer Compensation Scheme (CCS). We consider the current CCS meets the design principles of being simple, blunt and easily communicated.
MEUG	The Customer Compensation Scheme (CCS) is an important design feature for security and reliability of New Zealand's electricity market. All consumers including all members of MEUG benefit from a well-designed CCS. MEUG members mainly take supply from category 3 or higher metering installations and therefore would not receive the CCS prescribed Minimum Weekly Amount (MWA) of $10.50 per installation control point (ICP) when the CCS is triggered.[fn2: The MWA is paid irrespective of savings at an ICP, refer consultation footnote 26, p13. There are other requirements for receiving the MWA other than having a category 1 or 2 meter as explained in paragraph 2.7 of the consultation paper, ie have used at least 3,000 kWh over the last year and final price not referenced to spot prices.]
MEUG	All MEUG members have and will benefit from the CCS mitigating the incentive on retailers to lobby for conservation campaigns as a "free option" and mitigating the risk of "campaign fatigue" when conservation campaigns are called for.[fn3: Ibid pii summarises these two related problems.] The value of mitigating the "free option" is to change retailer behaviour resulting in beneficial changes to the operation of hydro-storage and the hedge market, and the latter in turn helps underwrite new generation investments.[fn4: Ibid, paragraphs 2.1 and 2.2, p3] This review, 5 ½ years after the CCS was included in the Code, is welcome.[fn5: Ibid, paragraph 2.5, p3.]
MEUG	It is inevitable given the high percentage of hydro-generation in New Zealand, lake reservoirs are small, weather patterns are unpredictable and changeable, and unexpected unplanned loss of non-hydro power stations or critical transmission assets that in a future year the CCS will be triggered. No matter how well prepared we are in advance, including periodic reviews such as this, the CCS may not work as intended and a post-event review will be needed. That should not be seen as a failure of the CCS but rather part of continuously improving the regime just as the EA propose to consult next year on whether the CCS obligations should be extended to type 2 retailers.[fn6: Ibid, piii.] The main policy challenge is to decide whether and how to either tune-up or tune-down or even exit from the existing design of the CCS if the risk of the "free option" and "campaign fatigue" has changed from the state of the sector when CCS was introduced in 2010-11.
Nova Energy	Nova has never been convinced that the scheme is necessary in its current form, and notes that given the number of electricity consumers now exposed to volatility in the electricity spot price, the pressure for a demand response programme in response to high spot prices may in fact come from consumers rather than retailers. Given the scheme is likely to remain, Nova favours the pragmatic approach taken to set values. Also; given the changing nature of the retail market, Nova suggests the scheme will need to be reviewed more frequently in future.

Submitter	Submitter's comments
Nova Energy	Nova agrees with reviewing how the CCS can be applied to type 2 retailers.
Pioneer Energy	Pioneer agrees it is timely to review these arrangements which were put in place in 2010 during a time of high political interest in the sector following a dry period; change of government and as a direct outcome of a Ministerial Review. There has been substantial change in the industry since then – particularly the growth in the number of new entrant retailers. Pioneer is a new entrant into the electricity retail sector – we have historically been a pure generator with all our generation assets embedded within local networks. Pioneer also has an equity investment in two retailers, Pulse Energy and new entrant Ecotricity, who are pure retailers (with no generation assets). As you know there are 25+ new entrant retailers with about 9% of all ICPs. Most, if not all, of these new entrant retailers are naturally long retail (ie, have no or minimal direct investment in generation) and rely on the five largest gentailers – their competitors – to secure future certainty about electricity supply to sell to their customers, whether through the spot market, bilateral contracts or the ASX hedge market. Pioneer is concerned about the potential impact of the, as yet untested, customer compensation scheme on long retailers.
Pioneer Energy	**Pioneer does not support retention of the customer compensation scheme**, or any of the other alternatives analysed n the consultation paper. In our view this scheme is an unnecessary ambulance at the bottom of the cliff. The Authority should be purely focused on ensuring the regulatory arrangements strongly incentivise management of fuel so that a conservation campaign is never triggered. Pioneer's submission below notes three key issues: • the CCS creates a competitive disadvantage between pure play retailers and vertically integrated gentailers; • the CCS risks are unhedgeable and uninsurable which is not consistent with statutory objective of efficient operation of the electricity market; and • both these issues are compounded by low liquidity in the financial market and concentrated hydro and thermal storage. In our view the Authority should be focused on the: • market power of long generators to manage fuel for their own 'book', and • availability of risk management contracts as a 'dry period' situation develops. Well-functioning markets which would have the following attributes:

Submitter	Submitter's comments
	• A pure retailer or generator faces the same risks as a vertically integrated entity – that is, vertical integration is not a competitive advantage; • Trades can be completed on the wholesale or hedge markets at a reasonable volume at any time without impacting the settlement price; • Liquidity in hedge markets reflects the high variability in available fuel (eg, within 8 months hydro storage had increased by 3 times from a low in February 2011); • A low HHI index for the market of energy reserves. Our comments are included in the following responses to the Authority's questions. Pioneer supports the submissions made by Pulse Energy and Ecotricity.
Pioneer Energy	**Conclusion** We note that since 2010 the sector has successfully worked through periods of record low inflows with limited impact on prices or publicity. It is probably difficult to attribute this success to particular components of the security of supply regime. This may partly reflect the higher energy and capacity margin in the system and / or that generators have a commercial driver to manage their fuel. The stress test regime requires boards to understand the consequences of a dry period on their company. With this information their fiduciary duty should avoid any need for a conservation campaign. The incentives to manage the future supply of electricity must be targeted at the parties that are best able to influence the outcome. In our view, this does not include new entrant retailers without generation assets. The current arrangements place undue asymmetric risk on long retailers. Pioneer recommends the compensation scheme be discontinued. As discussed above, Pioneer's view is that this 'ambulance at the bottom of the cliff' is unnecessary if the Authority has the confidence that the appropriate arrangements are in place in the wholesale market, such as a liquid hedge market. We query why, after six years, the market has not progressed sufficiently to make redundant an interventionist policy that cannot be insured against and threatens small players.
Pulse Energy	Although the Authority has initiated the review based on the heightened concern about security of supply, it has viewed the CCS from a traditional vertically integrated perspective and based on false assumptions about neutrality of CCS costs and the incentives the CCS creates.
Pulse Energy	In addition, in seeking to integrate innovative mass market retailer offerings, such as spot price products the Authority has

Submitter	Submitter's comments
	highlighted inconsistencies in its basis for the scheme. For example, the Authority asserts that forward contracting is a key instrument for ensuring secure supply, but has then sought to exclude retailers who by very definition don't forward contract.
Pulse Energy	Pulse does not support the retention of the customer compensation scheme or any of the alternatives.
Pulse Energy	If the Authority believes that additional measures are required to ensure security or provide non-market incentives for customer compensation, due to the market not supplying a level of security that the Authority considers appropriate, then the Authority would be better to consider a fund based approach, where all participants are levied to establish an actuarial or probability centred CCS.
Pulse Energy	The Authority's current scheme is penalty based, un-hedgeable, uninsurable and likely to encourage free-riding. The current CCS scheme and the Authority's thinking ignores the fact that security of supply is primarily determined by those market participants with physical assets and generation fuel storage; none of the shortages since the market started have been driven by a sudden excess of consumption, rather shortages of fuel (inflows). Penalising retailers via the CCS for breaches of security is not even a blunt instrument (as described the Authority), but entirely inappropriate and contrary to normal approaches to risk allocation and management.
Trustpower	**Case for continuation of the CCS has not been demonstrated** 2.1 Trustpower disagrees with the Authority's conclusion on this matter. We are not convinced that the Authority has demonstrated the case for retaining the CCS in its current form. We consider that the CCS is administratively cumbersome, may be superfluous, and may in fact work against the Authority's statutory objectives. 2.2 In particular, our view is that the CCS may be : (a) Superfluous. The other elements of the security of supply framework (eg, scarcity pricing and the stress test regime) may be appropriate and sufficient, without the need for a CCS. Spot and hedge prices in the lead up to an energy shortage can be expected to give adequate signals and incentives to "short" retailers. The codification of the explicit storage trigger for an Official Conservation Campaign, along with the routinely published results of the stress test regime, should make lobbying for an OCC irrelevant; (b) Too Blunt. The CCS is too a blunt an instrument. It applies to well-hedged and to unhedged retailers indiscriminately, and the policy options to separate these categories of retailer are not clearly workable in practice; (c) Poorly Designed. The CCS suffers from poor incentive design from the customers' viewpoint. It makes payments to customers enabling them to buy more electricity. In effect, this makes electricity cheaper for them during OCCs,

Submitter	Submitter's comments
	which is the reverse of the correct price signal; (d) Inconsistent. The CCS is an inconsistent element of the security of supply framework, in that there is no customer compensation paid under scarcity pricing, for rolling blackouts, or for any other supply interruption; (e) A Barrier to Entry. The CCS introduces administrative inefficiencies into retail operations. Calculating eligibilities and entitlements, introducing alternative non-default schemes, as well as actually paying the credit, are all barriers to entry, undermining competition. The fact that there has been an increase in retail competition since its introduction does not mean that the CCS did not limit that increase; and (f) Outdated. The CCS was part of a wide range of measures at the time it was introduced following the Ministerial Review of 2009-10, but, given other, related measures introduced subsequently (particularly the stress tests and OCC threshold), now represents redundant complexity. 2.3 Taken together, we believe these problems have the potential to undermine competition and efficiency in the electricity market, and also that the CCS most likely does little if anything to enhance security of supply beyond the other measures already in place.
Utilities Disputes	Utilities Disputes has not received any complaints or queries regarding the customer compensation scheme.

Q1. Do you agree that the objectives of the CCS remain valid and contribute to an efficient security of supply?

Submitter	Submitter's comments
Consumer NZ	Yes – we agree the CCS's three objectives remain valid. In particular, we support the scheme's intent to avoid a recurrence of the issues observed during conservation campaigns in 2001, 2003 and 2008. Of particular concern is the incentive for retailers to lobby for an official conservation campaign (OCC) to limit their exposure to high spot prices during dry years. In addition, growing public fatigue with campaigns has been seen, to the point where the 2008 campaign had little to no effect. We think the CCS is a useful response to these issues and remains an essential tool to promote the reliable supply of electricity for the long-term benefit of consumers.
Consumer NZ	We also share concerns that recent market developments could heighten risks to the security of supply, including the withdrawal of a number of thermal and dual-fuel generation units, combined with uncertainty around demand growth, particularly the future of the New Zealand Aluminum Smelter (NZAS) at Tiwai Point. In our view, this adds to the importance of retaining the CCS as a way of rewarding consumers for conservation efforts if and when demand outstrips supply.
Consumer NZ	Emerging technologies such as electric vehicles, solar PV and battery-storage may also increase, soften or time-shift future demand, further emphasising the need for the CCS as an important tool to safeguard security of supply. That said, we believe the CCS may require modification so as not to unfairly penalise/reward early-adopters of emerging technologies.
Contact Energy	Yes.
Ecotricity	No. Ecotricity submits the objectives of the CCS do not remain valid or contribute to an efficient supply of electricity. Embedded generation and storage technology are here to stay, in many cases will be cheaper options, plus they will contribute to security of supply. The paper lists two objectives of the scheme: • **To reduce lobbying:** reducing the likelihood of lobbying government is not a strong rationale for efficient Code provisions. In addition, a Code provision can not be considered to be durable if it has a strong likelihood of wiping out the financial viability of small new entrant long retailers.

Submitter	Submitter's comments
	• **To incentivise retailers to hedge:** Retailers are incentivised to hedge to manage risk. The CCS is not insurable or 'hedgeable' – see Pulse Energy's submission. Our answer to questions 4 and 5 discuss empirical information about the difficulty of hedging. While a payment of $10.50 per week might encourage some consumers to reduce electricity consumption, consumers are not being compelled to reduce demand and they may decide to double dip, that is maintain their usual electricity usage and receive a payment. This is untested. At the same time as continuing with this impost on small long retailers, the Authority is proposing other changes to the Code that will reduce security of supply – namely the proposal to remove the Distributed Generation Pricing Principles in Part 6.4 of the Code. Removing Part 6.4 has a consequence of increasing the likelihood that a conservation campaign will be necessary.
Flick Electric	Flick notes that the current regulatory arrangements relating to security of supply were designed following the severe hydrology of 2008. There have been numerous industry changes since this time. Given all of the industry changes Flick submit that the objectives of the CCS should - at the very least - be refreshed. In particular, limiting incentives for lobbying (on any issue) does not appear to be a reasonable regulatory objective. An OCC would arise when one (or a combination) of the following risks eventuate: A. Environmental risks external to electricity industry (hydrological risk and the risk of natural disasters damaging assets); B. Risks internal to the electricity industry (risks associated with the management of fuel and assists by generators, or the management of transmission / distribution assets). In terms of the risks above – those external risks are obviously not able to be managed by any party. With respect to the CCS the ability to manage security of supply obviously falls on the generation part of the gentailers businesses. Gentailers are also able to rely on the natural hedge of their vertical integration (compared to other parties who do not enjoy this benefit). The CCS applies equally irrespective of whether a party has any ability to control the risk(s) that lead to the OOC. In terms of security of supply Flick would encourage the Authority to focus on the performance of the market - not refining the sticks used for when the risk eventuates.

Submitter	Submitter's comments
Meridian Energy	Yes.
MEUG	Conceptually the "free option" and "campaign fatigue" risks will always be a potential if not a real risk in the New Zealand electricity market given the high percentage of hydro-generation and overall market design. But that does not mean the risks remain static over time. The risks for the next few years may differ from the risks when the CCS was introduced in 2011 and if so the design of the CCS should be tailored accordingly.
MEUG	We look forward to the consultation paper early next year on whether CCS obligations should be extended to type 2 retailers and the investigation into the potential anomaly whereby CCS are triggered also by capacity shortage not just energy shortage situations.[fn8: The latter is discussed in paragraphs 4.26 and 4.27, p14.]
Nova Energy	To the extent that the CCS encourages Traders to minimise their risk of having a net exposure to high spot prices, the CCS remains valid, although we note that the scheme is very blunt in that all retailers are caught regardless of the level of wholesale exposure – something that Nova is not convinced is the right approach. Thankfully, the scheme and the theory behind it, has never been put to the test.
Pioneer Energy	Pioneer submits the objectives of the CCS do not remain valid or contribute to an efficient supply of electricity. The paper lists two objectives of the scheme: • To reduce lobbying: reducing the likelihood of lobbying government is not a strong rationale for efficient Code provisions. In addition, a Code provision can not be considered to be durable if it has a strong likelihood of wiping out the financial viability of small new entrant long retailers. • To incentivise retailers to hedge: Retailers are incentivised to hedge to manage risk. The CCS is not insurable or 'hedgeable' – see Pulse Energy's submission. Our answer to questions 4 and 5 discuss empirical information about the difficulty of hedging. While a payment of $10.50 per week might encourage some consumers to reduce electricity consumption, consumers are not being compelled to reduce demand and they may decide to double dip, that is maintain their usual electricity usage and receive a payment. This is untested. At the same time as continuing with this impost on small long retailers, the Authority is proposing other changes to the Code that will reduce security of supply – namely the proposal to remove the Distributed Generation Pricing Principles in Part 6.4 of the Code. Removing Part 6.4 has a consequence of increasing the likelihood that a conservation

Submitter	Submitter's comments
	campaign will be necessary.
Pulse Energy	No. Please see our response to Q5.
Pulse Energy	While a customer compensation scheme has admirable economic objectives, the design of the current scheme is such that it operates as a contingent penalty with an indiscriminate incidence.
Pulse Energy	The CCS scheme is an extremely inefficient mechanism, whose objective is clearly stated by the EA to prevent lobbying (2.12 (a)) and to alleviate 'campaign fatigue' (2.12(b)). The scheme provides payments to consumers, not compensation as no demand response is required, and is designed to penalise retailers irrespective of their contribution to the cause.
Trustpower	Arguably, the objectives of the CCS remain valid in the context of the Security of Supply Framework [fn1]. However, the CCS as a mechanism for achieving those objectives is not supported. [fn1: Refer http://www.ea.govt.nz/dmsdocument/21364]

Q2. Do you agree with the Authority's conclusion that we should not modify the CCS at this time? If you disagree, please explain your reasoning in terms consistent with the Authority's statutory objective in section 15 of the Electricity Industry Act 2010.

Submitter	Submitter's comments
Consumer NZ	We believe the current design of the CCS is largely fit-for-purpose. However, there are three areas where its design could be improved to ensure it continues to support the Authority's statutory objective in a rapidly-changing market. 1) **We are concerned a default minimum weekly amount (MWA) of $10.50 is currently, or may soon be insufficient, and the current triennial review period is too long.** While we agree in principle that compensation should be cost-neutral to the retailer and thus reflect as accurately as possible the value of a customer's electricity-saving efforts, we are concerned the current three-yearly review of the MWA is unsuited to New Zealand's rapidly-changing electricity market.

Submitter	Submitter's comments
	Section 3.1 of the consultation paper raises concerns demand could outstrip supply due to decommissioning of thermal and dual-fuel generation, and doubts over the future of the NZAS at Tiwai Point could lead to uncertainty over new capacity investment. Section 3.3 also highlights concerns over unpredictable demand growth/reduction from the uptake of electric vehicles, solar PV and battery storage. All the above developments could rapidly alter the electricity market in a short time. For example, the sudden emergence of more affordable electric vehicles (EVs) through the entry of a large-scale supplier to our market and/or greater EV support from government would be likely to suddenly increase the electricity consumption (EC) factor in the MWA calculation. If this occurred in mid-2017, it would take three years for the MWA to be revised based on the current triennial review period. We think the Authority should review the MWA annually or otherwise add a mechanism to engage a special review if market conditions suggest it is no longer set at an efficient level.
Consumer NZ	2) **There is potential for the CCS to unfairly penalise/reward early-adopters of emerging technology.** The methodology used to determine the MWA takes into account the average pre-OCC consumption of each customer in winter. However, if a customer purchases an EV shortly before an OCC is enacted, and endeavors to charge this EV mostly at night, it's unlikely they will be rewarded for any conservation efforts despite the fact that while their consumption has increased, it's occurring at a time (overnight) when spot prices are low so the retailer still enjoys the benefits of any conservation efforts during peak periods. This is neither efficient nor does it promote industry operation to the long-term benefit of consumers. One option could be to integrate time-of-use data from advanced metering infrastructure (AMI) to allow the CCS to place a higher value on conservation during peak periods, though we acknowledge this may be difficult to implement in practice. Similarly, consumers who invested in a grid-tied solar photovoltaic (PV) system shortly before an OCC may be unfairly rewarded for lower consumption even though their peak usage remains the same. However, we think this issue is likely to be better addressed through changes to distribution pricing arrangements.
Consumer NZ	3) **The CCS's cut-off energy consumption level of 3000kWh over the preceding 12 months may risk unfairly penalizing some consumers.** For example, homeowners who have been overseas, in medical care, or for any other reason haven't been occupying their homes full-time over the preceding year could appear to have increased their consumption during an OCC. Therefore, they would be ineligible for compensation, even if they were to make significant conservation efforts. We believe there should be some mechanism for

Submitter	Submitter's comments
	households in this situation to apply to have their consumption during earlier years used as the benchmark to ensure they're rewarded for their conservation efforts.
Contact Energy	While the objectives of the CCS remain valid, the way these are achieved could be more efficient in reducing the cost to all New Zealanders. The $10.50 per ICP per week payments made to consumers during an OCC are made regardless of power savings and therefore provide little incentive to conserve power. The EA could significantly reduce the impact of an OCC by allocating a portion of the funds received from retailers towards more targeted efforts. For example generation sets could be placed in locations where line losses are high such as the West Coast of the South Island, or Northland. While an individual retailer may not have sufficient incentive to cover this cost alone the benefit to New Zealanders as a whole may significantly outweigh the costs, particularly if the alternative risks rolling blackouts.
Ecotricity	Ecotricity submits that the CCS should be discontinued. The Authority's statutory objective is *"To promote competition in, reliable supply by, and the efficient operation of, the electricity industry for the long-term benefit of consumers."* The CCS does not promote competition – in fact it places non-vertically integrated retailers at a competitive disadvantage to the incumbent vertically integrated oligopoly.
Ecotricity	The Electricity Authority has publicised that payment of $10.50 a week over a six week conservation campaign would cost the entire industry $130 million. Based on market share of ICPs this represents a cost of $10.4 million for all the retailers excluding the five largest. In our view this payment has the potential to wipe out one or more new entrant retailers. The $10.50 per week payment substantially exceeds the gross margin for the vast majority of customers, let alone the overheads of running the business for a long retailer in start-up mode. The CCS does not promote reliable supply by the electricity industry. Industry participants already have strong commercial incentives to ensure they have access to reliable supply of electricity for their consumers. The scheme is the ambulance at the bottom of the cliff. An efficient and effective wholesale and hedge market has considerably more value to participants than relying on the CCS to ensure reliable supply. The CCS does not promote the efficient operation of the electricity industry. The CCS is a financial impost on all participants when only some have the ability to control or influence triggering that impost – that is, managing hydro fuel

Submitter	Submitter's comments
	to avoid triggering a conservation campaign. The CCS is anti-competitive as it favours the incumbent vertically integrated gentailers as their proportion of the cost of the scheme is lessened by spreading the cost over long retailers who have no role in triggering the impost. The asymmetric risk of the CCS scheme is discussed in more detail in answer to question 4.
Flick Electric	The CCS would have a disproportionate impact on smaller players – those that do not enjoy a large market share and vertical integration. So in this sense the CCS runs counter to the statutory objective.
Meridian Energy	Yes. Meridian supports the design principles of making the CCS simple, blunt and easily communicated, and considers that the current CCS design meets these principles.
MEUG	MEUG suggests the prospective "free option" and "campaign fatigue" risks today are less than they were when the CCS was first introduced and accordingly the focus of the review should be on how to slowly exit or wind back from the 2011 CCS settings. Alongside that focus any tidy-up aspects such as ensuring equitable coverage such as considering application to secondary networks as proposed in the consultation paper are valid aspects for review. The various options considered in the consultation paper tend to assume as stringent or even more stringent CCS is required rather than considering how to de-tune the regime. As noted above MEUG suggest the review would have been better focussed on considering how to un-wind from the current level of intervention.
Nova Energy	Yes. However we suggest the EA considers reviewing the scheme's validity more regularly in future due to the growth in the market of tariffs linked to spot prices – which may lead to pressure for demand reductions and price caps during low hydro conditions coming from consumers rather than retailers.
Nova Energy	Importantly, Nova suggests that the default scheme should not require Traders to pay CCS to consumers that switch in after the OCC period commences. When there is an official conservation campaign (OCC) in place, the CCS regime creates a disincentive for FPVV-type retailers to accept new customers. Under the CCS, an acquiring retailer is currently required to pay the CCS benefit to newly acquired customers in addition to offering reasonable tariffs, which are likely below prevailing spot market prices. The Consultation Paper notes that retailers did not generally close their books to new customers during the high spot prices experienced in 2008; but market dynamics have changed significantly since then. It is in fact quite likely that under an OCC, consumers seeking to switch will only be offered long-term FPVV contracts or spot based prices during an OCC. Without that, the retailer may find that they cannot recover both the cost of CCS benefit and negative

Submitter	Submitter's comments
	margins in the short run without significantly increasing their prices. Nova therefore proposes that for those customers switching in to a retailer once the OCC is invoked should not qualify for the CCS; just as consumers paying spot should not receive the CCS. Of course that does not stop retailers from offering such benefits to gain new consumers if they choose to do so – they just should not be required to do so. It is not adequate to simply monitor the availability of competitive retail offerings and respond to any potential shortcomings at such time an OCC begins; as at that stage critical decisions around hedge or generation cover, pricing etc. have already been made (ref: O8.22(c)(i)). Reserving generation capacity or holding a security margin through hedging has a significant long term cost and Traders should not be penalised once circumstances arise that enable a recovery of those costs. In terms of the Authority's objectives, it is critical that consumers have the option available to switch to new FPVV contracts at reasonable prices should they wish to do so, even when spot prices are high. If the Trader factors in the cost of the CCS payments into its pricing during an OCC, then those consumers may be at a disadvantage over the full term of their contract.
Pioneer Energy	Pioneer submits that the CCS should be discontinued. The Authority's statutory objective is *"To promote competition in, reliable supply by, and the efficient operation of, the electricity industry for the long-term benefit of consumers."* The CCS does not promote competition – in fact it places non-vertically integrated retailers at a competitive disadvantage to the incumbent vertically integrated oligopoly.
Pioneer Energy	The Electricity Authority has publicised that payment of $10.50 a week over a six week conservation campaign would cost the entire industry $130 million. Based on market share of ICPs this represents a cost of $10.4 million for all the retailers excluding the five largest. In our view this payment has the potential to wipe out one or more new entrant retailers. The $10.50 per week payment exceeds the gross margin for the vast majority of customers, let alone the overheads of running the business for a long retailer in start-up mode. The CCS does not promote reliable supply by the electricity industry. Industry participants already have strong commercial incentives to ensure they have access to reliable supply of electricity for their consumers. The recent announcements about the closure of two units at Huntly and then an agreement to keep these units running is a strong example of commercial incentives at play.

Submitter	Submitter's comments
	The scheme is the ambulance at the bottom of the cliff. An efficient and effective wholesale and hedge market has considerably more value to participants than relying on the CCS to ensure reliable supply. The CCS does not promote the efficient operation of the electricity industry. The CCS is a financial impost on all participants when only some have the ability to control or influence triggering that impost – that is, managing hydro fuel to avoid triggering a conservation campaign. The CCS is anti-competitive as it favours the incumbent vertically integrated gentailers as their proportion of the cost of the scheme is lessened by spreading the cost over long retailers who have no role in triggering the impost. The asymmetric risk of the CCS scheme is discussed in more detail in answer to question 4.
Pulse Energy	The imposition of a contingent claim on retailers, increases their overall risk profile. This is inconsistent with promoting competition as it increases the effective cost of entry.
Pulse Energy	Retailers are naturally incentivised to hedge their forward fixed price customer obligations (subject to risk appetite) if they are selling fixed prices. The forward hedging supports reliability of supply. The CCS payment obligation does not differentiate between parties that are supporting security of supply and those that are not. By imposing the CCS payment obligation on parties who are largely forward covered, the Authority is effectively double charging them.
Pulse Energy	Conversely, the Authority has determined that retailers offering spot priced electricity will not be subject to the CCS, even though these retailers and their customers are not supporting reliable supply. The basis for this decision is that because these customers are directly exposed to spot process they already have sufficient incentive to demand respond for short periods of time, yet the Authority considers retailers that have hedged to have insufficient incentive and has instead imposed a penalty. These two positions are not easily reconciled. Using the Authority's own perspective on how contracting improves security of supply, it is clear that spot customers are free-riding on the 'insurance' provided by other parties who do contract. If anything the CCS payment obligation should only be imposed on those retailers that have not significantly contributed to security by not contracting.
Pulse Energy	The Authority appears to be stuck in a vertically integrated mental model and consequently ignores that the only impact a retailer can have on security of supply through time is through forward contracting. Even this does not ensure physical supply, as financially settled derivative contracts do not have to be under written with physical assets, only capital.
Pulse	Retailers, other than the vertically integrated retailer/generators do not control physical generation asset dispatch, the

Submitter	Submitter's comments
Energy	management of fuel stocks (hydro, geothermal or fossil), plant availability or maintenance. Consequently, with the exception of the vertically integrated retailer/generators, retailers have no direct control over production decisions and risk, value, security trade-offs. To then penalise retailers through the CCS obligation for an outcome they have no physical control over appears to breach the fundamental approach to ensuring that those that can manage a risk, face the cost and benefits of doing so.
Pulse Energy	If security of supply is a collective good that is unlikely to be delivered through the sum of individual decisions, and at a level that the Authority considers to be appropriate, then a more efficient mechanism would be a collective fund. Under this concept an actuarial approach could be taken to accumulating a fund of sufficient size to make CCS payments at a level and for a duration the Authority considers appropriate.
Trustpower	No, Trustpower is not convinced that the Authority has demonstrated the case for retaining the CCS in its current form. Please refer paras 2.1 – 2.3 of our covering letter. We believe the CCS is likely to be limiting the competition and efficiency objectives by adding unnecessary complexity to retail operations, without a compensating benefit to reliability of supply.

Q3. Are there ways in which the CCS hinders new forms of retail pricing or demand response schemes that could otherwise promote the Authority's statutory objective?

Submitter	Submitter's comments
Consumer NZ	Not currently. We agree with the Authority's view that the CCS's design should be broad, but also neutral and not favour a particular retail product. We fully support the exemption for 100 percent spot-exposed tariffs. However, we believe regular reviews of CCS exemptions are essential to take into account new demand response schemes and emerging technologies.
Contact Energy	A more efficient CCS could in turn result in retailers carrying less dry year risk cover lowering their costs enabling them to pass savings on to consumers.
Ecotricity	The assumption that consumers on spot-price plans will reduce their demand as the spot price increases is untested. Many of these customers may (and can) switch at any time to another plan or retailer if they are unhappy with the price

Submitter	Submitter's comments
	they face. Retailers may be unaware that a consumer has contracted their load for demand response and this consumer would be paid twice if a conservation campaign is called and the retailer is required to pay them $10.50 per week.
Flick Electric	The electricity retail market is experiencing huge levels of change. New forms of retail pricing and demand response schemes will no doubt come from the large incumbent gentailers – as well as from new market entrants. Exposing new entrants to the risk of CCS - where they have no ability to control the security of supply risk - and are reliant on those that do - for hedging would seem to be a real risk for new entrants. It is possible that this risk would be enough to deter market entry.
Meridian Energy	Given the relative infrequency of the CCS being triggered, Meridian consider it is unlikely to be impeding new forms of retail pricing.
Nova Energy	To the extent that the OCC and CCS are expected to succeed in causing consumers to reduce their electricity demand, the incentive for Traders to introduce proprietary demand reduction incentive schemes is reduced, i.e. they will potentially be paying for savings that would have occurred as a result of the OCC in any place. As such, the existence of the OCC and CSS makes it less likely that Traders will put resources into developing measurement and reward systems for purpose of getting consumers on FPVV prices to reduce their demand.
Pioneer Energy	The assumption that consumers on spot-price plans will reduce their demand as the spot price increases is untested. Many of these customers may (and can) switch at any time to another plan or retailer if they are unhappy with the price they face. Retailers may be unaware that a consumer has contracted their load for demand response and this consumer would be paid twice if a conservation campaign is called and the retailer is required to pay them $10.50 per week.
Pulse Energy	The CCS scheme does not hinder development of retail pricing or demand response schemes as no action is required from a qualifying customer to receive the payment. As such a customer could technically sell their demand response twice.
Trustpower	Refer Item [question] 2 above. The CCS is likely to be hindering retail operations in general, rather than hindering

Submitter	Submitter's comments
	specific pricing or demand response schemes.

Q4. Have we considered all plausible options to increase the retailer incentive to hedge?

Submitter	Submitter's comments
Contact Energy	Simply increasing the retailer incentive to hedge should not be the goal of the CCS. Rather the goal should be to provide an incentive for retailers to hedge appropriately for the level of risk they face.
Ecotricity	It is impossible to manage the risk of having to pay this compensation – a long retailer can not purchase insurance to cover this risk, or a hedge contract. This contrasts with the vertically integrated long gentailer who will continue to manage its risk by managing its retail portfolio to match its expected generation (hydro gentailers) or managing its generation to match its retail portfolio (thermal gentailers). **Therefore the risks of this scheme are asymmetric.** In addition, prior to triggering a conservation campaign, and therefore this compensation, these small long retailers are likely to have been more exposed to higher wholesale prices that are uncapped over an indeterminate length of time as the 'dry period' situation. At the same time, the prudentials required for purchasing this electricity will increase. This developing situation will have a compounding negative impact on long retailers' cash flow. Meanwhile, vertically integrated gentailers benefit from higher generation revenue and an offset of generation against retail prudentials. Historic graphs show wholesale spot prices peak in first 3-5 months of the calendar year. Long retailers are paying these spot prices to supply demand when data from gentailers reveal that the average retail price is low, as well as demand volumes, and therefore retail revenue is low. The security of supply framework includes the stress testing regime. However, the stress testing regime does not ask reporting load participants to consider the impact of paying customer compensation on their cashflow. The two components of the framework therefore appear inconsistent. In our view, payment of this compensation has the potential to significantly change how they would report under the stress test regime, could break some retailers or at least significantly impact the bankability of these long retail businesses. We note that shareholders equity for retailers may, in large part, be goodwill – this is only 'callable' to cash if the asset is sold.

Submitter	Submitter's comments
Ecotricity	**Managing future risks** All retailers have commercial incentives to manage risk. Ecotricity is concerned about the availability and pricing of these risk management products. New entrant retailers face the same day-to-day prices to buy electricity from the clearing manager as other retailers. However, they do not have the inherent advantage of vertical integration that the five major retailers have to manage week to week, month to month etc exposure to volatile wholesale prices. The new entrant retailers rely on the ASX hedge market and their ability to negotiate and sign bilateral contracts to secure electricity at prices that are viable for the future operation of their business. A retailer is only protected from high wholesale prices during or leading up to a dry period situation if they have a perfect load weighted hedge – using contracts or generation. The hedge market more recently has stagnated and in the last few months gone into decline. In our view the ASX is substantially underperforming. There is substantial room for improvements to achieve a liquid market that offers fair pricing of risk. The ASX is not operating efficiently or fairly. The following two graphs [fig: open interest MW and settlement price for Baseload Futures Q1-16 at OTA and BEN] show that open interest increases as the traded quarter approaches and then plateaus. Ecotricity has grave concerns about the low volumes traded on the ASX and the fact that small volumes have a marked impact on the settlement price. This is demonstrated in the following two graphs for OTA and BEN trades for Q1 2016. We have discussed this with the Electricity Authority on a number of occasions, in particular relating to commercial tenders which frequently operate under the ASX. The data for the OTA ASX product demonstrates the difficulty of establishing a risk position prior to the start of the quarter. Historic spot price curves show that the risk of high spot prices is higher in the first quarter of a calendar year. However, for Q1 2016 91% of the trades were prior to the start of Q1 2016 but these trades represent only 59% of the total volume traded in this product from 30 March 2012 to 31 March 2016. [fig: traded MW and settlement price change for Baseload Futures Q1-16 at OTA and BEN] The ratio of financial traded volumes compared to physical volumes in a market is used as a measure of success. The Authority often refers to the PJM market. Comparing our ASX with Australia and PJM in the following graph shows we are far behind these markets.

Submitter	Submitter's comments
	[fig: hedge market volumes traded relative to physical volume, NZ ASX, Australia ASX, PJM] Variability in hydro fuel is substantial and warrants a higher level of futures contracting compared with physical demand than is currently evident or relative to other markets. Controlled storage went from 4,106GWh in February 2011 to 1,391GWh in October 2011[fn1: Source: Historical hydro risk curves on EMI website]. This range of over 3,700GWh is approximately 10% of total demand.
Flick Electric	Flick would encourage the Authority to continue to support the development of hedge markets. Especially for the benefit of parties who are not gentailers and who are therefore not able to balance their generation and retail exposure.
Meridian Energy	Yes.
MEUG	MEUG agrees current hedge markets are not as competitive as we would like them to be. Deepening participation in hedge markets and having products to better meet participant needs is an ongoing work-in-progress. The direction of change has been and is expected to be steady improvement with incremental changes across a number of dimensions.[fn7: For example new products such as caps and new FTR nodes through to more information and training and education programmes on the use of new risk management products.]
MEUG	We infer the assumption behind this question is that the existing CCS has failed to sufficiently incentivise parties to hedge. As noted above there are a range of initiatives underway to improve hedge markets. MEUG does not see the CCS having any role in increasing incentives for retailers to hedge other than in the special case of mitigating retailers seeking the "free option". There is no evidence the risk of lobbying for a conservation campaign for a "free option" has increased since 2011; rather the opposite given the experience in 2012. Accordingly MEUG suggests this question is not relevant.
Nova Energy	Yes. No hedging policy can possibly cover all risks as even the most reliable generation plant or transmission lines can fail. Requiring Traders to report on their expected net exposure is also unlikely to be useful, given changing dynamics over time.
Pioneer	It is impossible to manage the risk of having to pay this compensation – a long retailer can not purchase insurance to cover this risk, or a hedge contract. This contrasts with the vertically integrated long gentailer who will continue to

Submitter	Submitter's comments
Energy	manage its risk by managing its retail portfolio to match its expected generation (hydro gentailers) or managing its generation to match its retail portfolio (thermal gentailers). **Therefore the risks of this scheme are asymmetric.** In addition, prior to triggering a conservation campaign, and therefore this compensation, these small long retailers are likely to have been more exposed to higher wholesale prices that are uncapped over an indeterminate length of time as the 'dry period' situation. At the same time, the prudentials required for purchasing this electricity will increase. This developing situation will have a compounding negative impact on long retailers' cash flow. Meanwhile, vertically integrated gentailers benefit from higher generation revenue and an offset of generation against retail prudentials. Historic graphs show wholesale spot prices peak in first 3-5 months of the calendar year. Long retailers are paying these spot prices to supply demand when data from gentailers reveal that the average retail price is low, as well as demand volumes, and therefore retail revenue is low. The security of supply framework includes the stress testing regime. However, the stress testing regime does not ask reporting load participants to consider the impact of paying customer compensation on their cashflow. The two components of the framework therefore appear inconsistent. In our view, payment of this compensation has the potential to significantly change how they would report under the stress test regime, could break some retailers or at least significantly impact the bankability of these long retail businesses. We note that shareholders equity for retailers may, in large part, be goodwill – this is only 'callable' to cash if the asset is sold.
Pioneer Energy	**Managing future risks** All retailers have commercial incentives to manage risk. Pioneer is concerned about the availability and pricing of these risk management products. New entrant retailers face the same day-to-day prices to buy electricity from the clearing manager as other retailers. However, they do not have the inherent advantage of vertical integration that the five major retailers have to manage week to week, month to month etc exposure to volatile wholesale prices. The new entrant retailers rely on the ASX hedge market and their ability to negotiate and sign bilateral contracts to secure electricity at prices that are viable for the future operation of their business. A retailer is only protected from high wholesale prices during or leading up to a dry period situation if they have a perfect load weighted hedge – using contracts or generation. The hedge market improved but more recently has stagnated and in the last few months gone into decline. In our view there is room for further improvements to achieve a liquid market that offers fair pricing of risk. The following two graphs [fig: open interest MW and settlement price for Baseload Futures Q1-16 at OTA and BEN]

Submitter	Submitter's comments
	show that open interest increases as the traded quarter approaches and then plateaus. However, Pioneer has grave concerns about the low volumes traded on the ASX and the fact that small volumes have a marked impact on the settlement price. This is demonstrated in the following two graphs for OTA and BEN trades for Q1 2016. The data for the OTA ASX product demonstrates the difficulty of establishing a risk position prior to the start of the quarter. Historic spot price curves show that the risk of high spot prices is higher in the first quarter of a calendar year. However, for Q1 2016 91% of the trades were prior to the start of Q1 2016 but these trades represent only 59% of the total volume traded in this product from 30 March 2012 to 31 March 2016. [fig: traded MW and settlement price change for Baseload Futures Q1-16 at OTA and BEN] The ratio of financial traded volumes compared to physical volumes in a market is used as a measure of success. The Authority often refers to the PJM market. Comparing our ASX with Australia and PJM in the following graph shows we are far behind these markets. [fig: hedge market volumes traded relative to physical volume, NZ ASX, Australia ASX, PJM] Variability in hydro fuel is substantial and warrants a higher level of futures contracting compared with physical demand than is currently evident or relative to other markets. Controlled storage went from 4,106GWh in February 2011 to 1,391GWh in October 2011[fn1: Source: Historical hydro risk curves on EMI website]. This range of over 3,700GWh is approximately 10% of total demand.
Pulse Energy	The CCS in no way provides a retailer the incentive to hedge. This is because the scheme payments are un-hedgeable. As such, any incentives to hedge are a function of the capital and risk profile of participant and its natural exposure to spot prices and are unrelated to the CCS.
Pulse Energy	The Electricity Commissions own analysis in 2010 [fn1: Figure 4 page 25, Customer Compensation Schemes, Electricity Commission, 7 September 2010], illustrated in Figure 4 of that paper, that the spot price prior to the saving period is greater than the spot price during, due to the demand response. Consequently, the pay-off from any contracts (covering a short position) decline with demand response. Whilst this may suggest that a retailer has no incentive to compensate customers for reducing demand (as the pay-off declines), this is a different issue to whether a retailer has sufficient incentive to support security of supply through time.

Submitter	Submitter's comments
Trustpower	Retailer incentives to hedge, and the available options for doing so, supported by published stress test results, are considered adequate without the need for a CCS.

Q5. Are there any other material factors that might affect our assessment of the options above?

Submitter	Submitter's comments
Contact Energy	No.
Ecotricity	**Management of hydro storage** Hydro storage is directly managed by essentially three long generators who are vertically integrated. We acknowledge that the aggregate level of hydro storage can be influenced by the output from non-hydro generating plant – but this non-thermal capacity is also concentrated. In addition, the reserves market, which impacts spot prices, is dominated by three players. Ecotricity is very concerned about the lack of competition in the energy and reserves markets and how this can contribute to or exacerbate declining levels of fuel and increasing wholesale spot prices. From a theoretical perspective it might be expected that new entrant retailers would hedge with the vertically integrated generators to ensure storage is managed to avoid a conservation campaign. However, from practical experience it seems very unlikely that hedge contracts would be available in a timely manner and at an efficient price level for new entrant retailers to cover their commitments to their customers. For example, it is not possible to buy a hedge a year ahead at a fair price because there is a low correlation between Q2 and Q3 ASX prices and spot prices. We note that NZ has only about eight weeks of hydro storage. For example, the 1% hydro risk curve went from 61GWh on 1 December 2015 to 1,389GWh on 1 February 2016. Or, in 2012 controlled storage missed breaching the 1% risk curve by 6 weeks. This means that the risk of a dry period changes quickly, within a quarter. The risk of a conservation campaign changes from low risk to high risk during a quarter covered by a product to manage risk. This is also relevant for the stress test regime – when participants are asked to review their situation each quarter. The vertically integrated gentailers, making up 91% of the retail market, will and do manage their own risks and retail exposures first and foremost. This is discussed with reference to the following empirical data. The following graphs show that as a gentailer's contracted retail sales become a higher proportion of their generation

Submitter	Submitter's comments
	volumes the quantity of their net sales of CfD's decrease as a proportion of total generation. This might be intuitive as the gentailer only has a certain volume of generation but it demonstrates that the gentailer is purely focused on covering their retail book and the 'scarcity' of energy becomes someone else's problem. This leaves long retailers to negotiate with the few gentailers that have flexible thermal capacity in competition with hydro gentailers that might find themselves short. There is a clear correlation in the following three graphs that as contracted retail sales trend above the long term average the volume of generation sold in bilateral contracts trends down. [fig: contracted retail sales as % total generation relative to: net sell CfD position as % total generation, swaption and CfD sales as % total generation, sell side derivatives as % total generation] Further, the following graph shows there has been minimal, if any, growth in the quantity of bi-lateral contracts signed as a proportion of the gentailers' own generation over time. [fig: sales of bilateral derivatives]
Flick Electric	It is not clear whether the Authority has taken adequate account of the difference between those participants who are vertically integrated long gentailers – and those who are long retail. Particularly as it is the long gentailers who set prices for hedge contracts.
Meridian Energy	No.
Nova Energy	Covered above.
Pioneer Energy	**Management of fuel storage** Hydro storage is directly managed by essentially three long generators who are vertically integrated. We acknowledge that the aggregate level of hydro storage can be influenced by the output from non-hydro generating plant – but this non-thermal capacity is also concentrated. In addition, the reserves market, which impacts spot prices, is dominated by three players. Pioneer is concerned about the lack of competition in the energy and reserves markets and how this can contribute to or exacerbate declining levels of fuel and increasing wholesale spot prices. From a theoretical perspective it might be expected that new entrant retailers would hedge with the vertically

Submitter	Submitter's comments
	integrated generators to ensure storage is managed to avoid a conservation campaign. However, from practical experience it seems very unlikely that hedge contracts would be available in a timely manner and at an efficient price level for new entrant retailers to cover their commitments to their customers. For example, it is not possible to buy a hedge a year ahead at a fair price because there is a low correlation between Q2 and Q3 ASX prices and spot prices. We note that NZ has only about eight weeks of hydro storage. For example, the 1% hydro risk curve went from 61GWh on 1 December 2015 to 1,389GWh on 1 February 2016. Or, in 2012 controlled storage missed breaching the 1% risk curve by 6 weeks. This means that the risk of a dry period changes quickly, within a quarter. The risk of a conservation campaign changes from low risk to high risk during a quarter covered by a product to manage risk. This is also relevant for the stress test regime – when participants are asked to review their situation each quarter. The vertically integrated gentailers, making up 91% of the retail market, will and do manage their own risks and retail exposures first and foremost. This is discussed with reference to the following empirical data. The following graphs show that as a gentailer's contracted retail sales become a higher proportion of their generation volumes the quantity of their net sales of CfD's decrease as a proportion of total generation. This might be intuitive as the gentailer only has a certain volume of generation but it demonstrates that the gentailer is purely focused on covering their retail book and the 'scarcity' of energy becomes someone else's problem. This leaves long retailers to negotiate with the few gentailers that have flexible thermal capacity in competition with hydro gentailers that might find themselves short. There is a clear correlation in the following three graphs that as contracted retail sales trend above the long term average the volume of generation sold in bilateral contracts trends down. [fig: contracted retail sales as % total generation relative to: net sell CfD position as % total generation, swaption and CfD sales as % total generation, sell side derivatives as % total generation] Further, the following graph shows there has been minimal, if any, growth in the quantity of bi-lateral contracts signed as a proportion of the gentailers' own generation over time. [fig: sales of bilateral derivatives]
Pulse Energy	The primary material factors that are absent in the EA analysis are: • It is not possible to hedge the contingent CCS payment obligations

Submitter	Submitter's comments
	• It is not possible to insure the contingent CCS payment obligations • There is no guarantee that the savings from customers (if any) will be of a value to retailers equal to the CCS payment and so the scheme is not cost neutral to retailers • Retailers other than vertically integrated retailer/generators with fuel storage, asset control and physical production control have no direct ability to influence security of supply. • It is unlikely a retailer can sustain a 'premium' in its prices to fund the contingent claim due to competition.
Pulse Energy	***Hedging the CCS Payment*** The EA has stated that one objective of the CCS is to improve the incentives on retailers to hedge and that retailers can support new investment in generation or demand response ((2.15(b)). A retailer that hedges its forward obligations needs to balance the risk of its overall portfolio (net exposure to prices) with its pricing obligations to consumers and its capital capabilities. For commercial reasons Pulse cannot discuss its policies relating to hedging, and will consequently highlight the issues at a conceptual level. In the case of hedging forward customer obligations (assuming a retailer selling fixed prices) a retailer needs to consider a range of variables: • Market retail prices • Forward contract prices • Expected volumes • Expected locations (for offtake and forward contracts) At a general level a (fixed price) retailer is 'short', that is it has a natural sales position from supplying customers at fixed prices and a spot position for the purchase of energy. These two positions can be hedged using forward contracts. The hedging itself will not be perfect due to volume, locational and forecast variances. The two positions do have offsetting cashflows; that is fixed price receipts from customer and variable price payments to the market. By purchasing forward contracts, the variable price market payments can be converted to fixed price obligations and a margin will be created between the two prices. The CCS payment obligation is a contingent obligation. That is, it is contingent on a sequence of events. The

Submitter	Submitter's comments
	sequence of events is specified within the Code. The consequence of the events occurring is also specified within the Code (the CCS payment). The EA as required by the Code has specified how the CCS payment is determined. The CCS is not a natural consequence/risk of the market, it has been added to the market risk profile in a deterministic manner.
Pulse Energy	As the payment obligation incurred by the Retailer under the CCS scheme has no offsetting revenue (or at the minimum some indeterminant cashflow due to customers reducing loads which maybe real or an opportunity cost benefit [fn2], noting that they have no obligation to conserve) and it is a contingent claim, it is extremely difficult to hedge. For example, if a retailer tried to use the forward markets to hedge the potential payment it would need to purchase forward contracts at a sufficient level to cover the expected liability. [fn2: For example, if a fixed retail price retailer has a marginal net spot price exposure and a customer saving reduces this, then the retailer has avoided a cost, but still has no additional cashflow to compensate the consumer. If the consumer reduces physical purchases below the retailer's forward contract position, then the retailer will have an 'excess' cashflow relative to the no reduction position. Whether this equals or exceeds the CCS payment depends on the resulting net position and the spot price relative to the contract price.]
Pulse Energy	As both the timing of the liability and the customer response is unknown, one strategy would be to always hold sufficient excess forward contracts to cover the contingent claim. However, the quantity of contracts to be held is dependent on three factors: • The number of qualifying customers • The duration of the CCS period • The expected payout from the contracts • The expected spot price during the CCS period If we assume that for normal hedging purposes a retailer has a forecast of expected customers over say a one year horizon, it is possible to determine the potential CCS payment for each week if the CCS was activated. This then defines the payment that is required from the excess forward contracts. The payoff of the forward contracts is however a function of the spot prices. Although the EA has set the CCS payment assuming a price delta of $500/MWh, this appears to have been set as a penalty value [fn3]. Average spot prices during 'shortages' where conservation has been requested, have generally been between $150 and $250/MWh. Consequently, the quantity of forward contracts required increases as the assumed CCS period spot prices decline, as

Submitter	Submitter's comments
	the CCS payment itself is fixed. [fn3: If the Authority was subject to the Unfair Contracts provisions of the Fair Trading Act, the CCS would undoubtedly be determined to be a penalty.]
Pulse Energy	The following graph illustrates this effect. [fig: MW forward contracts required] The graph assumes 10,000 qualifying ICPs, $80/MWh forward contract prices and the specified weekly CCS payment per ICP. The resulting hedge quantity function is not linear. • At the assumed forward price ($80/MWh), the hedge quantity is undefined (even though the graph shows a value) • As the spot price approaches $600/MWh the quantity falls • At less than the forward price the quantity is negative i.e. short contract position The graph illustrates that a CFD/ASX approach is unlikely to be effective as the quantity of forward contracts to be held is uncertain and due to the non-linear nature of the relationship, is extremely volatile with respect to spot prices. In addition to the above difficulties, holding excess forward contracts will on average have a cost equal to the effective premium that is embedded in the pricing. The overall effect is the excess forward contracting is ineffective and expensive. The above example uses a CFD/futures basis. Other hedging products are also possible such as caps, however they will also suffer from the same impact. For example, a $250/MWh cap will only yield sufficient revenue for the above example when the spot price is $300/MWh and if 12.5MW of caps are held. Like the CFD/ASX example, the quantity required varies with the expected spot price and strike price. If the spot price during CCS event is less than the Cap then the retailer achieves no hedge at all. This analysis has ignored the cost of the cap, which further limits its effectiveness.
Pulse Energy	**Insurance** While the contingent liability may seem insurable through traditional means, Pulse's enquiries suggest this is not the case.

Submitter	Submitter's comments
Pulse Energy	**Conclusion** It is clear from the above that this is an extremely blunt instrument (acknowledged by the Authority), that it is effectively impossible to hedge for a low probability event (not acknowledged by the Authority) and where the effect is to penalise parties irrespective of their contribution to the cause (not acknowledged by the Authority). Even if a participant has hedged prudently and is contributing to security of supply, it is still subject to the CCS payment requirements. This encourages rather than discourages free riding. The fact that the contingent claim cannot be hedged or insured and the market is competitive, means that participants are unlikely to be able to price this into consumer contracts. In addition, the CCS payment is multiples of the expected weekly gross margin from a qualifying customer so it is not easily absorbed. It is therefore highly likely that during an extended shortage event that some standalone retailers will default on the CCS payment at least, meaning that the EA's objectives are not met.
Trustpower	Yes. Please refer paras 2.1 – 2.3 of our covering letter. The option of discontinuing the CCS should be reconsidered.

Q6. Do you agree with our assessment of the options above? If not, why not?

Submitter	Submitter's comments
Contact Energy	Contact agrees with the assessment of options, however, as pointed out in Q2 and Q3, more work could be done to seek a more efficient outcome for New Zealand as a whole.
Ecotricity	Ecotricity does not agree with the Authority's assessment of the options. The Authority has not clearly thought about the option to discontinue the scheme using the same assessment criteria as the other options.
Flick Electric	It is not clear that the Authority has assessed the options in light of the many changes to the industry including the increased involvement of retail customers with the advent of new technology and retail offerings .
Meridian Energy	Yes. The Authority has reached sensible conclusions on each option.

Submitter	Submitter's comments
Nova Energy	Yes, excepting the points raised above.
Pioneer Energy	Pioneer does not agree with the Authority's assessment of the options. The Authority has not clearly thought about the option to discontinue the scheme using the same assessment criteria as the other options.
Pulse Energy	We have not provided comments on the options as the CCS scheme should be abandoned.
Trustpower	No. Please refer Item [question] 2 above.