



12 October 2012

Mr John Pierce  
Chairman  
Australian Energy Market Commission  
PO Box A2449  
Sydney South NSW 1235

Submitted online: [www.aemc.gov.au](http://www.aemc.gov.au)

Dear Mr Pierce

**EPR0022 - Power of Choice Review (DSP III) - Draft Report**

Origin Energy (Origin) appreciates the opportunity to respond to the Australian Energy Market Commission's (AEMC's) Draft Report: *Power of choice - giving consumers options in the way they use electricity*.

Overall, we support the majority of the proposals set out in the Draft Report. We support promoting competitive markets and contestability where robust analysis demonstrates it is efficient to do so. We encourage frameworks that can empower consumers to make more informed decisions about their energy consumption.

However, Origin is concerned about the significant expectations being placed on the outcome of this Review and whether the draft recommendations can actually deliver the proposed benefits. Currently, a number of the key recommendations are not supported by a strong analytical case and there is insufficient time before the final report is due for the AEMC to undertake the necessary assessments. We, therefore, encourage the AEMC to provide Australian energy ministers with realistic expectations about what its proposed reforms could actually deliver and ensure appropriate consultation going forward to assess properly the costs, benefits and consequences of these reforms.

In the attached submission, we provide further comments on the overall recommendations set out in the Draft Report as well as specific responses to the report's consultation questions.

We would welcome the opportunity to discuss and clarify our positions further with the AEMC. In the first instance, please contact Hannah Heath (Manager, Wholesale Regulatory Policy) on (02) 9503 5500 or [hannah.heath@originenergy.com.au](mailto:hannah.heath@originenergy.com.au).

Yours sincerely,

A handwritten signature in blue ink, appearing to read "Phil Moody".

Phil Moody  
Group Manager - Energy Market Regulatory Development  
Energy Risk Management



***Australian Energy Market Commission's  
Power of Choice Review (DSP III)***

***Draft Report***

**Submission of Origin Energy**

**October 2012**

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# 1. Executive summary

## 1.1 Introduction

Origin Energy (Origin) welcomes the opportunity to respond to the Australian Energy Market Commission's draft report: *Power of choice - giving consumers options in the way they use electricity* (your reference: EPR0022). As an energy retailer with over four million customers, a strong presence in the solar market and a partnership with Nissan to be the company's preferred Electro Mobility Operator, Origin is well established to provide an informed response to this review.

Origin is a principal supporter of empowering customers to make informed choices about their energy consumption. We actively develop products that support demand side participation (DSP). For example, in the Victorian market, we recently launched an energy portal to our Victorian smart metered consumers which shows near real-time information on usage. The portal allows consumers to see their consumption per hour or per day, and to compare their consumption patterns with others and their own historical use. An important aspect of the portal (and other devices that make use of smart metered data for consumer information purposes) is that it takes the surprise out of quarterly bills, giving consumers greater control of their bills by informing them about the cost of consumption and how they are tracking against budget and savings goals.

## 1.2 Overview of Origin's position on draft recommendations

Overall, Origin supports the majority of the proposals set out AEMC's Draft Report. We support promoting competitive markets and introducing contestability where robust analysis demonstrates it is efficient to do so. We agree with the AEMC's focus to support DSP enabling technology and the accompanying policies and processes, such as the roll out of smart meters to consumers to enable them to respond to time sensitive price signals. We encourage the AEMC's activity to develop a consumer education and engagement strategy to ensure customers can understand what these changes mean and what options are available to them; this is a crucial part of the Power of Choice Review's work program. In addition to this, appropriate policies and controls to ensure customers continue to expect at least the current level of consumer protection are also necessary.

However, we are concerned about the significant expectations that are now being placed on the outcomes of this review. The AEMC is proposing some significant market changes, but at this stage of the Review, a number of the AEMC's key recommendations are not supported by strong analytical rigor. We are concerned that these recommendations set unrealistic expectations of what benefits are actually possible; for such material and complex changes, qualitative analysis is not sufficient to underwrite firm recommendations of reform. Progressing these recommendations in absence of robust analysis and with incomplete assessments introduces unnecessary uncertainty and risk for both existing and future participants in the National Electricity Market (NEM). This is not in the long term interests of consumers.

Assessing and actively considering the operational and longer term investment implications of reforms is a necessary and critical aspect of the AEMC's role in undertaking market reviews. The National Electricity Objective (NEO) specifically refers to promoting "efficient investment in, and efficient operation and use of, electricity services" to deliver efficient outcomes that are in the long term interests of consumers. It is, in particular, the operational and investment aspects of the AEMC's draft recommendations that require evaluation and assessment to determine whether or not the overall proposals are able to deliver net market benefits.

### *Significant implementation and operational costs associated with proposed multiple FRMP model*

While not specifically discussed in the Power of Choice review, some of the recommendations in this draft report rely on the implementation of the AEMC's proposed model to allow for multiple financially responsible market participants (FRMP) at a single connection point (set out in the *AEMC Draft Advice Energy Market Arrangements for Electric and Natural Gas Vehicles (EV Draft Advice)*). The proposed demand response mechanism discussed below is an example, though this draft report does not make that connection clear.

As outlined in our submission to the EV Draft Advice<sup>1</sup>, Origin's analysis explains that the changes required to support this model will be comprehensive and will likely involve significant cost. In particular, we estimate the system and process costs to manage settlements and billing between parties could go into the tens, if not hundreds of millions of dollars across the market. Before progressing with such a significant change, it is important for the AEMC to undertake a robust cost benefit assessment on the different options available, which should include the options already available to interested parties. This assessment also needs to consider any unintended consequences with respect to promoting a level playing field for all market participants.

Given the short time available for the AEMC to prepare its final advice on EVs and its final report on the Power of Choice, we consider the AEMC needs to include in its recommendations caveats that acknowledge the significant operational costs and complexities associated with this proposal.

### *Demand response mechanism introduces market distortions and increases market risk*

Origin does not support the introduction of the demand response mechanism in the NEM. We consider it distorts the underlying market signals in an energy only market with billions of dollars of sunk investment. This can result in inefficient decision-making by existing and prospective participants in both the short and longer term. Accurate price signals are necessary to inform efficient decision-making by generators, retailers, consumers and new investors. This mechanism skews those market signals.

We also consider there are also broader implications for market efficiency, which we do not believe the AEMC has considered adequately at this stage. For example, the AEMC's assumption that the retailer is neutral or kept "whole" under this proposal is not accurate. The AEMC's analysis to date has focused on the demand response interval (DR interval) in isolation. Participant risk profiles change under this proposal as a result of what happens both within and outside that DR interval. As such, a robust assessment of this mechanism needs to consider how this affects overall market efficiency. In addition, Origin considers the AEMC has significantly overestimated the prospective quantum of available demand response that could be delivered by the proposed mechanism.

We, therefore, recommend that the AEMC taper its support for this mechanism until it has sufficient time to undertake this important analysis.

### *The AEMC should address community expectations about essential services*

The *Power of choice* draft report acknowledges the essential service nature of electricity both explicitly<sup>2</sup> and implicitly through its acceptance that vulnerable consumers may require special treatment in the development of cost-reflective tariffs. We note that the AEMC has also stated that NECF should apply in some form to service providers selling electricity, and that the AER will decide how bundled services are treated. While we support the general direction of these views, we consider further work is required to confirm the nature of the existing essential service and associated consumer expectations.

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<sup>1</sup> Origin (2012) *Submission Response - EMO0022 Australian Energy Market Commission Draft Advice Energy Market Arrangements for Electric and Natural Gas Vehicles Approach Paper*, October.

<sup>2</sup> See page 85, Australian Energy Market Commission (2012a) *Power of choice - giving consumers options in the way they use electricity, draft report*, reference: EPR0022, September, Sydney.

In our view, the essential service environment of household energy is a key aspect of the discussion about new energy services; this is not a debate about purely technology and new solutions, there is an existing customer base receiving an essential service that must be at the heart of regulatory changes that affect the mass market. At the very least, the provision of new energy services should not compromise existing essential service delivery, and we hope that further changes to the market could also complement existing service provision. To do otherwise is to create significant consumer confusion and serious regulatory and policy issues for the future.

Origin considers this issue is substantive enough to warrant its own consultation. The objective of this work would be to clarify and establish an efficient framework that ensures all parties providing energy services - particularly those that possess the key elements of essential service delivery, such as billing and potentially disconnection of electricity for the premises as a whole or for a specific load - are subject to the appropriate consumer protection provisions. This includes a review of the National Energy Consumer Framework (NECF) coverage for DSP energy services. We encourage the AEMC to commence the work as soon as possible.

### **1.3 Final recommendations to Government need to set realistic expectations**

The AEMC's recommendations to the Standing Council on Energy and Resources (SCER) need to set realistic expectations about what its proposed reforms could deliver. The NEM and its supporting markets are complex. There are no simple solutions. In an environment where there is increasing media and political pressure on consumer energy bills, it is important that the consequences of implementation and ongoing operations are appropriately considered when developing and proposing changes to the market.

In finalising its recommendations to SCER, Origin asks the AEMC to:

- manage expectations to ensure the community is realistic in understanding the role DSP can play in our energy system;
- assess properly the costs and benefits of the proposed changes and ensure due consideration is given to the consequences of changes, including the allocation of risk and the ability of those parties to manage it effectively;
- seek to remove regulatory burden, rather than imposing new distortions on the market;
- have regard to the decisions taken by existing investors; and
- ensure changes are fit for purpose in Australia's energy market structure, and consistent with the policy decisions taken in designing and developing the market, which includes the consumer protection framework.

### **1.4 Responses to draft report questions**

Section 2 of our submission provides specific responses to the AEMC's draft report consultation questions.

## 2. Responses to specific questions raised

### 2.1 Facilitating consumer access to electricity consumption information

#### 2.1.1 *Forms of data and timeframes for delivery*

**Question 1: What should be the minimum standard form and structure of energy and metering data supplied to consumers (or their agents)? Should these arrangements differentiate between consumer sectors (ie industrial/ commercial and residential)**

The AEMC has recommended changes to the NER to clarify the requirements for a retailer to respond to a consumer's request for access to their energy and metering data, as well as new provisions in the NER and NECF that require a retailer to provide residential and small businesses consumers with information about their electricity consumption load profile. AEMO will also publish market information on representative consumer sector load profiles.

Origin considers a standard form should not be as prescriptive as described on page 26 of the draft report. Peak, shoulder and off peak periods may differ according to customer type, location, appliance use and most importantly, tariff structure. There are standard file formats available at the moment in use in the market (NEM12/13). As a starting point, these should be used as the basis of providing consumption data.

We do not believe that business customers above a certain size (e.g. 40MWh per annum) should be covered by any regulatory requirements with respect to energy consumption data format and provisioning.

#### 2.1.2 *Fees payable by a consumer (or agent)*

**Question 2. When do you think it is appropriate for a retailer (or responsible party) to charge a fee for supplying energy and metering data to consumers or their agents?**

The provision of data to customers comes at some cost and certain requests should attract a fee; for example, fulfilling repeated or complex format requests for metering data. This is consistent with existing state-based consumer protection regulation where event-based fees are applicable in certain circumstances.<sup>3</sup>

Origin expects demand for (interval) consumption data to grow substantially. Accordingly, the relatively low costs that retailers face today to provide consumption data are expected to also increase, particularly with an increase in third party requests.. The perception that the provision of consumption data is a low cost activity for retailers at present is due to the fact that only a small number of requests are made (particularly in relation to small customers) at present. If there is a material change in the number and scope of such requests, cost recovery through fees or another mechanism is necessary.

#### 2.1.3 *Transfer of energy and metering data to authorised consumer agents*

The AEMC has proposed changes to Chapter 7.7 (a) of the NER that enable agents, acting on behalf of consumers, to access consumers' energy and metering data directly from a retailer. This would include requirements for a retailer to provide customers' energy and metering data to an authorised customer's agent (third party), following the provision of explicit informed consent.

The AEMC's rationale for this proposed change is that third parties seeking data directly from the retailer have been required to forward a letter of authority from the consumer. These are currently portrayed as "cumbersome arrangements" that "limit the ability of

<sup>3</sup> For example, see clause 27.2 of the Victorian Energy Retail Code. It is important to note that such provisions were introduced when interval and complex data sets were uncommon among customers covered by the Code, rather, requests were relatively infrequent and involved the provision of four accumulation reads at most over a 12 month period.

consumers to engage third parties and may well be responsible for less than efficient market outcomes”.

Origin does not support the proposal that a customer’s data should be passed to any third party claiming consent without appropriate evidence. In particular, we question how the proposal could work in practice without a clear or agreed regulatory structure for third parties and given the strong obligations and liability attached to retailers. In this context, we believe it is reasonable for a third party stating that they are acting on behalf of the customer and requiring data to provide reasonable evidence of customer consent.

Retailers have complex regulated contracts with their customers and also have privacy obligations under the National Privacy Principles (NPPs) that provide for reasonable collection, use and disclosure of the customer’s data. Retailers that do not keep data secure run significant legal, regulatory and reputational risk. The privacy and NECF regulations require retailers to obtain consent (in effect explicit informed consent) to disclose customer data or use for purposes outside what would be a reasonable default consumer expectation.

Similarly, the third party requesting the information should be subject to the same requirements as the retailer; they should not be exempt from NECF or the NPPs. Given this, we would like clarity around “explicit informed consent” in the AEMC’s proposal? In particular:

- how is the nature of the consent examined or audited if the third party remains outside the market and the Privacy Act?
- If the retailer itself is disallowed from relying on authorisation from the customer, what recourse is left for a retailer and customer in the event of data misuse or security risk?

The AEMC has suggested that customer transfers between retailers can occur without a customer forwarding a letter of authority to the original/previous retailer, and this provides a precedent for more automated data transfer. However, we suggest the two are not direct comparisons. In particular, the parties in a transfer situation are registered market participants who also hold retail licences.

#### *2.1.4 Market information to develop DSP products and services*

***Question 3. Do you agree that general market information should be published on consumer segment load profiles to inform the development of DSP products and services to consumers?***

The AEMC has proposed that changes be made to the NER to require AEMO to publish market information on representative consumer sector load profiles.

While more information can improve market transparency, it is important for the AEMC to consider whether the proposed benefits outweigh the cost of providing this information when there are already options to develop consumption profiles today. There will be a cost associated with developing the initial segment-specific load profiles, which will depend on the level of complexity and granularity provided. One of the challenges is in defining the segments, which will vary over time, by geographic location, demographics, appliance use and so on.

If the AEMC decides to proceed with this recommendation, we encourage the AEMC to investigate appropriate cost recovery options that best meet the user or beneficiary pays principles.

***Question 4. Is AEMO the appropriate body to publish such information, or should each DNSP be required to provide such information particularly where data will be at the feeder level where accumulation meters are installed?***

Should the need for general market information be required and justified, AEMO would be the appropriate body to publish it. Where accumulation meters are installed, it is difficult

to see the benefits that may arise, since the data is averaged across different consumer classes with varying characteristics. The commercial value of accumulation data to any market participant is likely to be questionable. Furthermore, if users of the profiles are not existing market participants, these parties are not contributing to the system costs required to publish this data.

## 2.2 Engaging with consumers to provide DSP products and services

**Question 5. What specific criteria could be used to determine whether elements of the NECF (ie marketing code) apply to third parties providing DSP energy services to consumers? That is, beyond Australian Consumer Law?**

The AEMC states that it is important that to clarify the NECF to make clear what arrangements apply to third parties providing “DSP energy services”. To address this, the AEMC proposes that the NECF or the AER guidelines on exemptions include criteria that outlines the circumstances where accreditation (or exemptions) of parties is required, the relevant provisions of the NECF to apply and the relevant enforcement and monitoring provisions.

Origin supports this concept and we re-iterate our view previously put to the AEMC, whereby we believe that “sale of electricity” (or energy more broadly) is no longer an adequate test of whether retail licensing or authorisation is required. A concept of “energy services” must be employed.

As per our previous submission, we believe that third party (and distributor) service offerings should be assessed on certain criteria. In the following circumstances, we consider that some form of retail licence or NECF authorisation is required:

1. The third party/distributor has access to a customer’s consumption information.
2. The product or service is marketed in competition with other services, and specific information needs to be provided at the point of sale to ensure informed consent.
3. The consumer receives ongoing service under contract.
4. Supply to the property/appliance can be controlled or disconnected, including by charging technology.
5. The consumer is billed or compensated directly from the service provider.

These are the characteristics of energy supply that formed the need for the jurisdictional retail energy codes and rules, which will eventually transition to NECF. To avoid doubt, this means that distributors also would not be able to undertake these activities without such an authorisation. Lesser forms of NECF obligation could occur where a service provider does not disconnect, or does not have access to consumer information. This may be where an exemption is required instead.

We also consider that other parties providing services that meet these criteria should also be subject to the NPPs; currently there is an exemption for smaller service providers, but this is not appropriate where businesses manage consumers’ meter data.

**Question 6. What requirements should be in place for these third parties? For example, what should be the form of authorisations/accreditations?**

This question is not simple to address. As previously raised, we consider this issue is substantive enough to warrant a separate consultation, which we encourage the AEMC to commence as soon as possible. The criteria above reflect the core reasons why the NECF and its underlying state precedents exist - these were the characteristics of the essential service provision that required more than the basic fair trading (and now Australian Consumer Law) obligations already in place.

This last point highlights the still unanswered issue that requires resolution prior to considering the engagement of unauthorised or lesser authorised parties in the essential services environment. The question to address is:

What is an essential service? Which part of a household's electricity load is the 'essential' part and which is merely incidental?

There can be no meaningful assessment of required minimum standards without investigating this issue.

The consideration of the above issues will take the consultations to date on minimum standards to a new level of complexity, and, as such, will be challenging. What "is essential" will vary from consumer to consumer and the issue is likely to be extremely political in any event. However, this discussion is a consequence of proposals to split household load between different service providers with varying levels of consumer obligations. Addressing what is and is not essential from a community perspective is fundamental for the development of any regulatory regime for DSP service providers and therefore warrants a clearer set of policy deliberations than has been completed to date.

***Question 7. Do you agree that existing rules and guidelines should be amended to clearly outline the circumstances when distribution businesses are able to directly contract with residential and small consumers to deliver DSP network management services/programs?***

Origin agrees that the existing rules and guidelines should be amended to outline clearly the circumstances when distribution businesses are able to directly contract with residential and small consumers to deliver DSP network management services/programmes.

Where the AER has approved DSP network management services as regulated network support services, we agree that network business should seek to engage with a retailer or third party to offer those services to consumers. Network business should be able to offer DSP network services directly to consumers only where the market has not delivered an outcome. (However, it is appropriate to ask whether this is the best and most efficient approach.)

Retailers have had preliminary discussions with electricity distributors and they have been amenable to this approach.

## **2.3 Enabling technologies for DSP**

### *2.3.1 Functional Specification of meters in the NER*

***Question 7. Should the minimum functionality specification for meters be limited to only those functions required to record interval consumption and have remote communication? Alternatively, should the minimum functionality include some, or all, of the additional functions specified in the SMI Minimum Functionality Specification?***

The AEMC has recommended that a new minimum functionality specification be included into the NER for all future new meters installed for residential and small businesses consumers. That specification should include interval read capability and remote communications.

In the case of a non-mandatory deployment of advanced meters, minimum service levels and functionalities should satisfy type 4 metering requirements. If vendors and metering providers intend to exceed this minimum (for example, by adopting the SMI Minimum Functionality Specification), then they should be free to do so. A large number of functions set out in the SMI specification are available from meter vendors today. As such, Origin would expect that most, if not all functionalities set out in the SMI specification would be available in a non-mandate deployment of advanced meters.

### *2.3.2 Arrangements to support commercial investment in metering technology*

The AEMC has recommended a contestable metering model, where metering services are open to competition and can be provided to residential and small business consumers by any approved metering service provider.

**Question 8. Does the separation of the provision of metering services from retail energy contracts remove the need for meter churn when a consumer changes retailer? Does this cause any unforeseen difficulties or create any material risk? Are there any alternative approaches to reducing the need for meter churn?**

It is unlikely that a meter would churn (particularly in the small customer market) on a change of retailer, irrespective of whether metering services are included in the retail contract or not. Typically, meter services are currently covered by prescribed processes under the NER and various state distribution codes and regulations. In the context of the Australian market, there does not appear to be evidence that suggests meter churn would be routine when a customer changed retailer.

We are unclear about the AEMC's recommendation to separate metering services from retail energy contracts. While Origin supports the unbundling of metering related costs from use of system charges, we do not consider it necessary to require a retailer to separately charge for such services (e.g. outside of the energy bill to a customer). A retailer or Responsible Person may choose (and the customer may accept) an approach that includes either: (1) separately billing and contracts for advanced meter services; or (2) including these in the customer's invoice for energy. Since the service provider would effectively be leasing the meter and invoicing the retailer for the operational costs, we expected these charges would be applied to the incoming retailer if the customer were to change supplier.

**Question 9. Are there sufficient potential metering services providers to facilitate a contestable roll out of AMI? Does the proposed model mitigate all the material risks of a contestable roll out? If not, should a monopoly roll out be adopted?**

Origin believes there is an effective market for the contestable provision of advanced meters. If the commercial case for undertaking a roll out on a competitive basis exists, existing entrants and new providers will be drawn into the market. There are a number of active metering providers and meter data providers in the market at present, some independent and some participating as the non-regulated arms of distribution businesses.

In terms of the model proposed by the AEMC, Origin considers that most of its features are accommodated by the NER today. We support the principles in the proposed model, noting that customers, while not having to replace meters on a change of retailer, could change their installation if they chose to and the benefits justified such an outcome.

A monopoly roll out could be adopted where the benefits exceed the cost and a relevant jurisdiction chose to pursue this policy. The costs of such an approach include the loss of competitive market tension and innovation in the provision of advanced meter services and the loss of flexibility for a period of time while the distributor recovers its investment. Other risks include negative customer reaction to any mandate and the difficulty service seekers may find in negotiating improved service levels and functionality. The benefits of such an approach may include certainty with respect to the location and pace of any deployment.

**Question 10. What should the exit fee when a consumer upgrades its meter from one provided by the local distribution business? Is the proposed fixed 30% of the cost of a replaced meter appropriate?**

Given the age of existing type 6 (accumulation) meter stock, the proposed figure seems reasonable. The definition of what constitutes a replacement meter is important however, given that a distributor may justifiably argue that a replacement asset would be a manually read interval meter. Depending on the distribution network in question, 30 per cent may be material and would likely exceed the scrap value of the *in situ* accumulation meter.

**Question 11. Does the option of a government mandating an AMI roll out within its jurisdiction act as a strong disincentive to a commercial roll out? Should the ability for these governments to mandate an AMI roll out be removed from the NEL?**

A government mandate will almost certainly eliminate the business case for a commercial roll out. To the extent that economies of scale are present, a mandate would discourage alternative providers, with the possible exception of sites that are uneconomic or of no interest to distributors, along with Greenfield sites by exception.

Origin would support the principle of removing the right for jurisdictions to mandate roll outs of advanced metering. This would limit piecemeal outcomes and may facilitate national consistency. Retailers, who generally have a national focus, must deal with the present situation of managing customers with AMI (in Victoria) and with a mix of manually read interval meters and accumulation meters (for electricity) elsewhere in the NEM. A further state-based deployment would likely result in differences from the Victorian roll out that would amplify this inconsistency and increase costs for consumers.

## 2.4 Demand side participation in wholesale electricity and ancillary services markets

### 2.4.1 Demand response mechanism

**Question 12. Participation in the wholesale market:**

**(a) Do stakeholders agree that the proposed demand response mechanism is likely to result in efficient consumption decisions by end-users? If not, are there any changes you recommend to the mechanism to facilitate this?**

**(b) On balance, is a new sub-category of market generator required for consumers providing a demand that enables aggregation? What types of issues should be considered when developing the registration process?**

Origin does not support the introduction of this demand response mechanism in the NEM. We consider it distorts the underlying market signals in an energy only market. This can result in inefficient decision-making by existing and prospective participants in both the short and longer term. Accurate price signals are necessary to inform efficient decision-making by generators, retailers, consumers and new investors. This mechanism skews those market signals.

We also consider there are broader implications for market efficiency, which we do not believe the AEMC has considered adequately to date. For example, the AEMC's assumption that the retailer is neutral or kept "whole" under this proposal is not accurate. The AEMC's analysis to date has focused on the demand response interval (DR interval) in isolation. Participant risk profiles change under this proposal as a result of what happens both within and outside that DR interval. As such, a robust assessment of this mechanism needs to consider how this affects overall market efficiency.

In addition, Origin considers the AEMC has significantly overestimated the prospective quantum of available demand response that could be delivered by the proposed mechanism. On balance, we do not consider this demand response proposal promotes the NEO. The reduction in overall market efficiency is likely to far outweigh any perceived benefit on the demand side.

We elaborate on these points below.

#### *Distortion of underlying market signals in an energy only market*

In an energy only market like the NEM, spot and contract pricing provide key signals for decisions made by market participants in both the short and longer term. In the short term, participants use the prevailing spot price as a signal for the underlying supply and demand balance. This informs generator energy offers and participant decisions to review and adjust contracting positions to manage changes in their market exposure. In the medium term, these price signals can inform decisions around generator plant maintenance and outages. In the longer term, investment decisions rely on signals that highlight the balance between supply and demand. Both contract and spot price trends provide important signals

that inform not only the timing of new generation investment but also the type, e.g. base load supply, intermediate, peak response. Participants - existing and prospective - need to have confidence in the robustness and accuracy of these key market signals.

Origin considers the proposed demand response mechanism erodes the robustness and accuracy of those price signals. The sections below elaborate on why this is the case. As a consequence, participants relying on these signals can make ill-informed decisions, which reduce the efficient operation of the NEM. On balance, consumption decisions are not going to become more efficient under this mechanism. These adverse outcomes are independent from the level of accuracy of the baseline calculation, though baseline inaccuracies are expected to exacerbate these inefficiencies (discussed below).

#### *Inefficient decision-making in the short term*

The proposed demand response mechanism changes the nature of risk for the customer's retailer. A retailer no longer hedges what it deems is the customer's load profile and therefore its spot exposure; rather the retailer is now committed to hedging against the determined baseline level. This is because the baseline represents the retailer's exposure to spot during a Demand Response Interval ("DR Interval"). There are a number of inefficiencies associated with this proposal.

First, by hedging to the baseline, the retailer is required to manage exposure to a level of demand that will not actually eventuate during a DR Interval; demand will be lower as a result of the demand response. The baseline now determines a retailer's market exposure rather than actual demand. Today, if a retailer contracts for demand response, it can factor in the risk of that response not happening when expected, and consequently, can assess what the consequential market exposure could be. By separating out the demand response and pre-determining a level of market exposure, the nature of market risk for a retailer changes. As a consequence, the retailer must hedge to a less efficient level than would otherwise be the case. This is the case irrespective of: (1) how certain or "firm" the demand response is; and (2) the accuracy of the baseline. Second, the proposal changes the risk profile of a retailer with a DR customer. For commercial and industrial customers, electricity is an input into their core products, e.g. producing widgets. To ensure a C&I customer can continue to meet its production targets, it is not likely to reduce its overall consumption; rather it is more likely to shift that consumption to another time. The DR mechanism introduces a disconnect between the retailer and the DR customer. The retailer has little visibility around the consequential load shifting, making it difficult to manage effectively the changing demand profile. This can have flow on effects for the underlying cost of supplying these customers more broadly. For example, retailers may need to contract more complicated over-the-counter contracts for "off-peak periods" to manage the variable demand patterns. These hedging costs are ultimately passed through to all consumers as the market impact is not limited to just DR customers.

Third, Origin disagrees with the AEMC's proposition that market hedging costs are likely to decrease under this proposal.<sup>4</sup> An increase in load shifting can actually give rise to more volatile prices outside the traditional peak periods. This can impact the hedging requirements not just for retailers of DR customers but for all retailers hedging market load. The design effectively requires retailers of DR customers therefore to contract for the same demand twice - once to cover the baseline demand and once to cover the shifted consumption.

Finally, the introduction of DR intervals is likely to impact the quality of price signals provided in pre-dispatch. In an energy only market, physical market players generators and retailers rely on pre-dispatch price and forecasting signals to inform decisions such as:

- market bids and offers;
- sourcing fuel for generation; and
- when to exercise different contract options.

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<sup>4</sup> Australian Energy Market Commission (2012a) *Power of choice - giving consumers options in the way they use electricity, draft report*, reference: EPR0022, September, Sydney, p. 63.

Under the proposed model, a retailer with a DR customer will end up with a disconnect between the physical market outcome and its actual market exposure. This distorts the value of pre-dispatch signals for all participants in the market. This is different from the outcome today when demand curtailment occurs; generators and retailers today settle in the market based on actual supply and demand not a calculated baseline level, which does not equal actual dispatch. This introduces an inefficiency in the market that does not exist today.

These short term implications are not considered in the AEMC's Draft Report. The AEMC focuses on the implications of the DR intervals in isolation of the consequential impacts for every other interval. We consider that these issues are real and have significant implications for the efficient operation of the NEM. It is important that in trying to facilitate greater demand participation the AEMC does not inadvertently reduce the effectiveness of the current market for all other market participants. In particular, we ask the AEMC to reconsider its position that retailers with DR customers are not affected by the proposal.

#### *Inefficient decision-making in the longer term*

Short-term market distortions have broader implications for longer term market decisions. In an energy-only market, the robustness of spot and contract market prices is critical to informing decisions around new investment - both timing and type. A consequence of the short-term issues raised above is a concerning disconnect between investment signals from the spot price compared to the contract price.

As discussed above, if demand response were to occur at peak times, there could be consequential implications for spot price volatility in periods where demand response is not exercised. As a market indicator, this could signal a deferred need for new investment for a prospective investor. However, the strength of that signal is dependent on the consistency or "firmness" of the demand response. If the demand response is not consistent, then the market signal could suggest a need for more peak investment but that signal could be too weak to support an investment decision.

At the same time, the signals in the contract market could send a different message to those in the physical market. Given retailers with DR customers need to hedge to cover the baseline, their contracting requirements could continue to signal a need for new investment that contradicted the signal being provided in the underlying spot market. Traditionally, more volatile spot prices signal a tightening of supply and demand, which is also reflected in contract market demand and premiums. However, the uncertainty around the timing and firmness of any demand response could suggest that sometimes new capacity could be necessary while other times not. This places significant uncertainty around the return on any existing and new investment and possibly reliable supply to meet existing demand. Disconnecting the key linkages between the spot and contract markets can make it increasingly difficult for new entrants to determine the appropriate timing and type of prospective new investment.

A likely consequence from this uncertainty around investment return is a deferral in investment decisions. This would not be an efficient deferral decision, however. Rather, any prospective investment is likely to be smallest and cheapest generation plant that could be constructed and connected in the shortest amount of time. Over the longer term, this could translate into an inefficient mix of generation plant, leading to more expensive energy compared to that informed by the existing market signals. In other AEMC and AEMC Reliability Panel reviews, Origin has previously articulated the important role the contract market plays in informing efficient investment signals for generation.

It is important not to discount the importance of this issue in the presence of the current environment of slow growth in electricity demand. Efficient market investment is a longer term prospect and the NEM depends on robust price signals - both from the wholesale spot market and the contract market. It is crucial that any proposed policy changes do not detract from the integrity of those signals over the longer term.

## 2.4.2 The baseline consumption method

### **Question 13. Consumer baseline consumption:**

**(a) What factors should be taken into consideration when developing a baseline consumption method?**

**(b) Have we identified the correct three key principles for developing a baseline consumption method (data refresh, accuracy, metering)?**

**(c) Are there any substantial changes to metering and settlement arrangements required for this mechanism to be implemented? Can these issues be resolved through AEMO's consultation process and procedures or are broader amendments to the rules required?**

### *Customers value consumption differently*

Consumer demand is driven by a cross-section of internal and external factors. There are a range of consumer groups who all value reliable supply differently. These groups also have varying abilities to respond to market price signals. This depends on the flexibility of their business processes and their willingness to invest in infrastructure, technology and the time to monitor the electricity market on a regular basis. A number of customers have flexible pricing products that empower them to make efficient consumption decisions based on the clear price signals currently provided by the NEM. These customers make a determination on the current risk-return and make informed decisions accordingly. For customers who do not currently have an incentive of ability to respond flexibly, the demand response mechanism is unlikely to change that interest.

Primary consumption drivers for commercial and industrial customers come from external sources and influences. In offices, space conditioning (heating, cooling, ventilation) is estimated to account for around 30% of electricity use, with similar proportions also seen for water heating and lighting. Weather is a key driver for space conditioning demand. While methodologies to account for changes in weather are available, weather is not an easy factor to normalise.

Another key driver is production and output targets to manage inventory levels determined by broader economic conditions. Actual production targets are dependent on a number of external factors, like domestic and global demands, input prices, like steel, and other economic factors, like exchange rates and interest rates. The past few years have illustrated the significant impact international markets can have on domestic demand.

In addition, these customers already have strong commercial drivers to make their energy consumption more efficient. We have seen significant changes in lighting and heating technology and increases in solar PV installations and insulation. Office buildings also strive to be more energy efficient overall. For example, Origin's offices in Sydney and Melbourne have light sensors that turn on and off depending on the amount of ambient light available.

To stay internationally competitive, commercial and industrial businesses are also improving the efficiency of their production. This means they are looking to reduce the amount of energy required.

Many large commercial and industrial customers like the value that could be generated through demand response and already have access to products that access that value at low to no cost. Some actively manage their own consumption and exposure, which includes making decisions about consumption patterns informed by market prices. Others choose not to take up these products. It is therefore difficult to see the apparent market failure that is driving the need to introduce a demand response mechanism.

A more targeted way to help strengthen signals for customers is to promote a responsive energy pricing structure. This can enhance the price signals already available both inside and external to the energy market without introducing a broader market distortion that places at risk the overall integrity of the NEM.

### *Baseline calculations are always imperfect*

Baselines are always imperfect. They are designed to approximate the behaviour of consumers, which is influenced by a number of external factors whose relative weighing can change with little notice, as highlighted above.

The consequences of getting the baseline wrong exacerbate the inefficiencies discussed above.

- If the baseline is too high, retailers end up over hedging to manage their prospective wholesale market exposure. This artificially increases the demand for contracts, skewing the resulting market signals and increasing contracting costs. This unnecessarily increases the costs for both the DR customer (whose retailer contract need to adjust to reflect the higher risk management costs) and other market participants also sourcing contract cover. From a market perspective, setting the baseline too high also means the DR customer is “overcompensated” by the market for providing demand response - its response is overestimated because the benchmark reference is not correct.
- If the baseline is too low, the retailer is potentially exposed to the wholesale market price outside of DR intervals. If the baseline is too low, then the retailer may not be able to incorporate any increased risk management costs into its contract with the DR customer given that will be referenced to the baseline. The DR customer also has an increased exposure to the spot price during the DR intervals. If its actual consumption is higher than the baseline, then during a DR interval, the DR customer (or its third party aggregator) would need to purchase energy from the spot market to make up the difference. This introduces a new risk to the DR customer - which given consumption can be driven by a number of external factors - changes the nature of the commercial venture.

There is also a timing delay between calculating and updating the baseline and how that translates into a hedging portfolio response. Retailers are constantly reviewing their customer market demand, supply and demand conditions and market exposure. Developing flexible risk management portfolios allows retailers to tweak to respond to changing market conditions. The introduction of a baseline limits the responsiveness of retailers.

It takes time to develop a baseline model. Changes to conditions that affect the model’s consumption assumptions would take time to reflect. Once updated, the revised baseline would then be provided to the retailer, who could then adjust its hedge portfolio. Given the variety of conditions that could influence consumption patterns, there is always going to be a lag between updating the baseline and the retailer’s ability to hedge accordingly.

The AEMC has identified a number of different principles and approaches to calculate a baseline. There is no standard baseline methodology, however. Each industry has a different consumption trend - which could even go to the individual user. The administrative impost of picking an appropriate baseline and the different commercial incentives between the retailer, prospective DR customer and any third party could make it very challenging to agree on a methodology.

A key difference between overseas electricity markets that use baselines and the NEM is the market exposure for participants if and when the baseline is wrong. The financial consequences for NEM participants are significantly greater compared to a market, like PJM, in the USA. PJM is a day-ahead market, with a market price cap of \$1,000/MWh compared to the NEM’s 5-minute energy-only market with a price cap of \$12,900/MWh.

### *Specific comments on proposed mechanism*

Should the AEMC find a way to reconcile the concerns raised above, there are a number of additional issues that require further consideration and resolution before the mechanism could progress. These include:

### *1. Clear and advanced notice for DR interval start and finish times*

There are a number of parties who require clear and advanced notification of the start and conclusion of a DR interval. These include: AEMO, the retailer of the DR customer and, if applicable, the DR aggregator. Notice is important for these parties for some key reasons.

AEMO needs to keep track of who is liable for what volumes and settlement amounts. During a DR interval, the exposure to the spot market changes for both the retailer and DR customer; the retailer is responsible for settlement based on the baseline volume while the DR customer (or aggregator) is responsible for settlement based on the “virtual generation” amount. Given the settlement amounts during high priced periods can be significant, clear guidelines and effective notice periods are critical for all parties involved to ensure effective risk management.

Retailers also require advanced notice to be able manage their market exposure. This is particularly relevant if the retailer needs to call on contract options or physical generation to cover this exposure. Notice for finish times or cancellations are critical to ensure the retailer is not inadvertently left exposed.

### *2. Allocation of settlement responsibility within a Settlement Period*

While the NEM is dispatched on a 5-minute basis (dispatch interval), settlement is on a 30-minute basis - average price of the preceding six 5-minute dispatch intervals (trading interval). If a DR interval commences in the middle of a trading interval, both the DR customer and retailer require clear guidelines on how the settlement liability will be allocated between them.

### *3. Prudential requirements for DR aggregator or DR customer*

To ensure consistent treatment with all other market participants, it is important that as a market participant, AEMO calculates a prudential requirement for a DR aggregator or DR customer. It is possible that during a DR interval the spot price for the trading interval could be negative or the actual metered consumption of the DR customer could exceed the baseline. In both of these cases, the DR aggregator or DR customer would be a debtor to the market rather than a creditor. Should the DR aggregator or DR customer default prior to settling any monies owed to the market, there is a risk of settlement shortfall for all other market participants. To maintain the integrity of the credit regime and promote equal treatment for market participants, AEMO’s credit limit methodology would need to incorporate an applied methodology for DR participation.

### *4. Inclusion of loss factors in settlement calculations for DR*

To maintain competitive neutrality between physical and “virtual” generators, Origin considers settlement needs to be on a consistent basis. This means incorporating loss factors into settlement calculations for DR aggregators or DR customers. Market settlement is based on energy delivered to the regional reference node. The same principle should apply for all generation types being settled the regional reference price.

## **2.5 Efficient and flexible pricing options**

### *2.5.1 Phasing in time varying pricing*

***Question 18. Do stakeholders agree with our approach for phasing in cost-reflective pricing? If not, how can the policy be improved to transition to cost-reflective pricing?***

***Question 19. Have we identified the main issues with transitioning to cost reflective pricing? If not, what other issues need to be considered?***

The AEMC has recommended that the transition to better price signals in the NEM should be phased gradually, with a focus only on introducing time varying prices for the network tariff component of consumer bills. Residential and small business customers should be

segmented into different consumption bands with time varying network tariffs applied in different ways. The AEMC has suggested that:

- large consumers (band 1) would receive a time varying network tariff with an interval meter;
- medium to large consumers (band 2) with an interval meter would transition to a time varying network tariff but with an option to choose a flat network tariff; and
- small to medium consumers (band 3) would remain on a flat network tariff but would be able to choose a retail offer which includes a time varying network tariff, if they so choose.

We agree with the principles employed by the AEMC to phase-in cost-reflective pricing, and particularly with the principle that retailers are free to decide how to incorporate the relevant network tariff into their retail offer. It is fundamental that governments do not enter into price regulation in retail flexible pricing; the risks to industry, consumers and governments themselves will be very high if this approach is taken.

Having said this, we believe that the AEMC's proposed bands approach is too complex and there will likely be a need to rationalise the segments. Current tariff structures are already complex, with around 30 Origin residential standing and 40 Origin business standing tariffs across Victoria, South Australia, Queensland and New South Wales. When we overlay the various market offers (discounts, vouchers, green offers), the number of tariff combinations is significant. To ensure cost-reflective pricing is effective and customers can understand the concept, it is critical to ensure that the proposition is simple, with limited time bands and customers being offered genuine alternatives.

Simplicity is also critical in ensuring minimal additional operational cost. Complex products generally lead to increased call volumes, and in turn, greater costs, which impact customer pricing and service (an increase of one call per billable account can have an operating cost impact of up to \$10 M).

Given this, we believe that there should only be two bands: one with mandatory time varying network tariffs and one with default flat network tariffs for a transitional period over which customers can choose to shift to a time varying product. After the transition period has passed, all consumers with smart meters will be on time varying network tariffs. In Origin's view, the focus should be on a market driven introduction of time varying pricing and policy to support this.

The AEMC has also recommended that consumers may benefit from retailers providing temporary bill protection, meaning that a consumer's bill on a time varying tariff could be no higher than it would have been otherwise under the applicable tariff. This is said to give consumers a chance to become familiar with the tariff and experiment with approaches to energy conservation and load shifting before being exposed to the risk of a bill increase. We do not support this recommendation, certainly not as a regulated offering.

However, from a policy perspective, this proposal is just a form of price regulation, albeit a more specialised form of price regulation. Like price regulation, this concept embeds inefficiencies and cross-subsidisation and creates more risk for the retailer. The customer who stays on time varying tariffs to reap the benefits but not pay higher costs when required (noting this could happen on a seasonal basis) will not be incentivised to shift on to another offer or pay their own costs. The issue of how long is 'long enough' for a consumer to make an informed decision about whether there is net benefit is also challenging - in theory this should not be less than a year given seasonal variations in use, but this is also far too long for a retailer to bear the risk.

We also believe that the bill protection mechanism specified would create significant complexities and cost. For example, this will involve a requirement for further billing system configuration to facilitate and calculate a customer's usage across two separate retail price structures, and also account for associated potential network tariff elements. There will also be new reconciliation processes following a consumer asking for billing using a different tariff structure under the same contract.

Having said that, retailers may well introduce the price protection concept to their customers, if this makes sense at the time. This is the only way that Origin could support such an offer: as an unregulated market product offering.

Further, we strongly support the recommendation that governments review their energy concession schemes so that they are appropriately targeted.

**Question 20. How should consumption thresholds be determined?**

We note that the AEMC is likely to leave the decision about thresholds to jurisdictional governments. However, we believe that the AEMC can add significant policy value to jurisdictional assessments and we encourage the AEMC considering the issues further. For example, the AEMC could provide principles to promote a consistent approach across jurisdictions.

As noted above, Origin supports two bands only. The threshold question then becomes a matter of where to draw the line between customers on a mandatory time varying network tariff and customers on a default flat tariff for the transitional period.

There is an argument to keep all residential customers on the default flat tariff option, again noting that all will have moved to a time varying product after the transitional period. This would ensure that residential customers have the opportunity to take up market offers over time and when they are ready to do so. However, this needs to be traded off against achieving benefits sooner for DSP.

Origin's preferred threshold between the two bands is relatively high, say 30MWh per year or 40MWh per year, which means almost complete coverage of the residential market for default flat network tariffs. We believe that it is critical to give residential customers a choice from the outset and to have their default be the product they are more familiar with (that is, a flat retail tariff with an underlying flat network tariff). Market contracts can then be developed to help consumers move to flexible pricing on terms they can understand in their own time (within a transitional period). There is little point moving a high number of residential customers on to time varying pricing in a default sense as their sophistication and level of engagement will not be high, yet these are the consumer requirements that drive the acceptance of smart meters and the likelihood of any real DSP benefit. This applies even if the programme provides an ability to opt out of default time varying tariffs.

This means that the bulk of residential consumers with EV charging facilities will default to a flat tariff, which we understand is something the AEMC would like to avoid. However, if the threshold was reduced to have EV customers covered by default time varying pricing, the number will capture too many non-EV households. Electric vehicles are estimated to add up to another 3 MWh of load per year (at an average 15,000 km usage per year) to a customer's usage. With average household consumption projected to decline below 6 MWh per year moving forward to 2020, the threshold for mandatory (or default, if the three bands are maintained) time varying pricing would likely be significantly below 10 MWh per year, meaning that at least 40 per cent of residential customers would be on mandatory time varying network tariffs.

This issue requires more policy deliberation and we support the AEMC leading more targeted consultation with stakeholders. However, prescription is probably unlikely: the issue the AEMC is trying to solve is more related to government mandated smart meter rollouts than more targeted market-driven rollouts. We believe that a market-driven meter rollout will naturally resolve the issues as retailers will sell time varying products to consumers and those with relatively higher consumption (such as consumers with EVs) will naturally move to time varying products to take up off-peak rates for night charging.

**2.5.2 Strengthening arrangements for network tariffs**

**Question 21. We seek stakeholder comments on appropriate pricing principles for distribution businesses and the appropriate time period for stakeholder consultation on distribution network pricing proposals.**

Origin supports price caps rather than revenue caps because we believe the former create more effective incentives for efficient pricing. Under revenue caps distribution businesses face no incentive to cut back on investment in a market where consumption is falling, since they stand to recover all revenue regardless of market activity. We think that in this way price caps align networks more closely with the earnings drivers in energy retail businesses. Peak demand is the key driver of network spending and has continued to grow even while consumption has fallen, however we think demand and consumption will be re-coupled in the medium term.

Under current arrangements there is no opportunity for consultation on network prices and this severely restricts retailers' opportunities to pass on any innovative network pricing signals. In our view this is detrimental to consumer interests. We strongly support the rule change proposed by the New South Wales Independent Pricing and Regulatory Tribunal that aims to create an obligation to consult on network prices prior to their approval and consider this would represent a positive amendment to the network pricing process.

## 2.6 Distribution networks and distributed generation

### 2.6.1 Innovation Allowance

**Question 23. Should separate provisions for an innovation allowance be included into the rules? Given that the costs of the allowance would be borne by electricity consumers, is it more appropriate for such innovation to be funded through government programs?**

We think that any innovation allowance funded through customer prices should be limited in size, in light of existing pressure on customers from schemes funded through energy prices. It is more appropriate for funding of this nature to come from targeted government programmes.

### 2.6.2 Possible application to the transmission network business

**Question 24. Should the provisions for a demand management incentive scheme be included in the regulatory framework for transmission businesses?**

Origin notes that there already exist arrangements to encourage transmission businesses to manage demand through the Regulatory Test for Investment in transmission (RIT-T), for example in relation to the Heywood Interconnector, and we believe these to be largely adequate.

### 2.6.3 Network tariff structure influencing incentive to do DSP

**Question 25. What amendments are required to the current distribution pricing principles as set out in clause 6.18.4 of the national electricity rules?**

Origin believes the distribution pricing principles are largely ineffective in that they do not constrain or guide the setting of prices. We have outlined these concerns to the AEMC in our submission on the Australian Energy Regulator's rule change proposal on the economic regulation of networks. These shortcomings do not relate specifically to demand-side participation however we believe the prices will not encourage demand-side participation until these shortcomings are addressed.