



23/05/2019

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

Via electronic lodgement

To John,

**Discussion Paper: National Electricity Amendment (Short Term Forward Market) Rule 2019**

Thank you for this opportunity to provide feedback on the proposed Short Term Forward Market (STFM).

As well as contracted transmission and distribution assets, Mondo also owns and maintains the Ballarat Battery Energy Storage System (BESS), deploys DER and provides platform based DER services, including the aggregation of DER into community mini-grids. Mondo strongly supports a renewable energy future and initiatives that allow the National Electricity Market (NEM) to better integrate renewable energy. Within this context, the proposed STFM provides a promising mechanism which has the potential to reveal more information on short term supply, facilitate increased Demand Response (DR) and better integrate short duration storage devices — such as batteries — into the market.

We believe there is a strong case for establishing a STFM, based on the use cases presented. We note that in addition to the use cases presented there are further use cases which also warrant exploration, including the scheduling of charging and discharging by BESS.

Mondo's responses to selected questions are provided below.

**International Experience**

As noted in the discussion document, the Reliability Frameworks Review (RFR) has recommended that a European style ahead market would be more appropriate for application within the NEM, rather than an

**Bright future.**

American style ahead market. European ahead and intraday markets such as those offered by Nord Pool and EPEX Spot, have now been operating successfully for some time and it would be useful to better understand:

- Their product offerings and the liquidity of those offerings
- Their ownership and governance
- Their evolution over time including the participation of automated traders
- The relationship and relative importance of ahead markets (such as a STFM) compared to intraday markets and pre-dispatch bidding on physical markets
- Their experience with different market styles.

Anecdotally, there does appear to have been a progression to greater levels of automated and continuous trading. It would be prudent to ensure that any STFM design (including IT infrastructure and software) is able to scale and adapt to meet anticipated changes.

### **Current risk management for intermittent renewable generators and peaking generation**

Mondo does not currently own, operate or otherwise have spot market exposure to Variable Renewable Energy generation (VRE) or gas generation. Consequently, we have not made any substantive comments on this issue. However, as a provider of contracted connection assets, we note that a STFM would provide our customers (generators) with a useful means to de-risk exposure in the event of a planned outage of connection assets that temporarily reduces a generator's availability.

We also note that where VRE output is already contracted, for example through a market PPA or a proxy-revenue swap the natural trading party on the STFM would be the off-taker, rather than the Generator. The off-taker need not be a Participant on the NEM.

### **Demand response benefits**

A STFM would provide a mechanism for Retailers or Aggregators to lock-in their Demand Response (DR) benefits and therefore de-risk their offers to customers for DR.

To gain maximum benefit from the STFM, an Aggregator would estimate the volume of DR they might provide at different times of the target day. This may be customer specific and may include various DR strategies. For example, a complete factory close-down or the charge and dispatch of aggregated behind-the-meter batteries. After checking STFM prices, the Aggregator could value each of the actions and then issue instructions to DER and make unconditional offers to customers.

To facilitate this type of transaction, the STFM may identify products at the trading interval level. This would allow DR related trading on the STFM to be tailored to the shape of DR available, for example the anticipated shape of an individual customer's load. However, we do note that transaction costs may increase with higher resolution products. Additionally, EPEX Spot (<http://www.epexspot.com/en/>) appears to only offer ahead products down to a 3 hour resolution, although intraday products are offered down to 15 mins.

## **Interactions between a STFM and wholesale demand response mechanism**

If a Wholesale Demand Response (WDR) rule change allows DR Aggregators to directly procure and sell DR (independent of a Retailer), then it will be important to align the two mechanisms.

Key design considerations include:

- The timing of any administered baseline estimate under a WDR mechanism. Ideally, baselines are available early enough to inform Aggregator trading on the STFM, and
- Settlement timing should be aligned between the WDR and STFM to avoid cash flow risks.

## **Application of STFM to Battery Scheduling**

Battery Energy Storage Systems' (BESS) charging and discharging decisions are not only affected by current spot price but also the anticipated spot prices over the next few hours. This is different to traditional generation, and results from the short duration of battery discharge (relative to other generation types).

The impact of short duration is especially apparent during extreme weather events (for example, heatwaves) where high prices may be forecast throughout the day, but the actual prices are uncertain. Assuming the BESS has charged overnight, the operator must decide when to discharge (or what price to bid). In this situation, the operator must decide in each trading interval whether to discharge and receive the current spot price, or wait for a potentially higher price but risk missing all high prices. Even in a well-functioning spot market, risk aversity will tend to bias operators to discharge earlier in the day even though capacity shortfalls are moving to later periods of the day.

A STFM, with appropriate product resolution would resolve this issue by allowing operators to lock-in high prices for later periods, thereby de-risking a late discharge strategy.

To unlock BESS scheduling benefits, trading products should be defined at the trading interval level. Ideally, trading would be available at least 2 days prior to the event and throughout the day (intraday trading) to allow re-scheduling.

## **Application of STFM to coordination of DER**

There is a growing recognition of the need to coordinate the behaviour of DER such as the charging of electric vehicles. Similar to the BESS example above, a STFM provides a coordination mechanism for DER. Additionally, this reveals information to the Market regarding the availability of assets that is otherwise not available, as DER are not registered market participants.

## **Operation of the STFM**

We note that there are a variety of options for the ownership and governance of the STFM including operation by:

- AEMO
- A private company (e.g. the ASX or an existing overseas ahead market provider)
- A new government owned company
- A private company with mixed government and private ownership

The selection of an ownership and operational model should carefully consider a range of factors including:

- **Platform development cost:** Existing platforms may be adapted to provide the STFM, and thereby keep build costs low. AEMOs Trayport platform, the ASX energy futures exchange or an existing overseas ahead market platform may be useful in this respect
- **Interactions with other markets:** Interactions with other energy markets including the ASX futures exchange, gas markets and the spot market should be considered. Key consideration would include potential transaction cost savings relating to settlements and prudentials, common users, and the relationship between products in other markets and the STFM
- **User focused:** As a voluntary market the STFM will need to focus on its customers, the market user base. A user-focused STFM may include user friendly features such as access for automated trading and STFM products tailored to the risk management needs of the users
- **Adaptable:** Overseas experience suggests market evolution is likely, including the introduction of intraday and continuous markets. The STFM should be set up for ongoing change
- **Self-funding:** Once established the STFM should not impose costs on other market customers.

### **Participation in the STFM**

Given a STFM, with no requirement for physical generation, there does not appear to be any practical advantage in limiting participation. Indeed, allowing a greater variety of parties to participate in the STFM would increase liquidity. Additionally, the natural buyers and sellers of STFM products are likely to be parties with spot market exposures, including any party holding an existing forward contract, and end customers with spot pass through retail supply contracts.<sup>1</sup>

We also note that weather forecasts are becoming increasingly important as weather now affects supply as well as demand. While many Market Participants procure weather forecasts and would incorporate these in STFM bids, weather forecasters might also participate in the STFM directly. This may provide a more acute market signal of weather driven supply and demand issues.

### **Need for an Australian Financial Services Licence**

At the user level, the need for an AFSL could present an impediment. However, we understand that financial regulatory oversight may be needed to protect the interests of users and the STFM in the long-term.

### **Assessment Framework**

We believe that there is a very clear case for the STFM, however the scope, design and governance of the market will need to be worked through. With regard to these items we highlight the need for a forward looking approach that allows for the STFM to grow and adapt.

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<sup>1</sup> Including both exchange traded and OTC contracts

Please feel free to contact Daniel Brass, our Market Insights Lead, ([daniel.brass@mondo.com.au](mailto:daniel.brass@mondo.com.au), ph:04 88135557) if you have any questions in relation to this submission.

Regards,

A handwritten signature in black ink that reads "Margarida Pimentel". The signature is written in a cursive style with a large initial 'M'.

Margarida Pimentel

**Manager Policy and Insights**