MARKET DEVELOPMENT ADVISORY GROUP

MINUTES

Meeting number: 31

Venue: Electricity Authority Boardroom and via Zoom

Time and date: 10am, Thursday, 9 September 2021

Attendees

- Tony Baldwin (Chair)
- Dr Andrew Kerr
- Tony Oosten
- Rebecca Osborne
- Ann Whitfield
- Al Yates (left meeting at 11am, returned 11.15am)
- Paul Baker
- Fiona Wiseman
- Stu Innes
- Matthew Cleland (left meeting at 11.52am)
- Conrad Edwards (Observer, MBIE)
- Dr Ramu Naidoo (Observer, System Operator)

In attendance

- Dr James Tipping (Chief Strategy Officer, Electricity Authority)
- Alistair Dixon (Principal Advisor Market Policy, Electricity Authority)
- Dr Stephen Batstone (independent consultant)
- David Hunt (Concept Consulting, item 1)
- John Culy (Concept Consulting, item 1)
- Nevill Gluyas (Jarden, item 2)

The meeting opened at 10.03am

1. Discussion with Concept Consulting: Approach to modelling for problem definition

David Hunt and John Culy provided an overview of Concept's approach to modelling the market under 100% renewable electricity supply.

David noted that the key focus of the modelling was how spot price volatility could change over time, and the effect on spot price volatility of different assumptions around generation, consumer behaviour, etc. John described the overall approach to the modelling, which

started with the physics of supply and demand and the changes that will occur as the market moves to 100% renewables, and then looked at the impact on the economics with increasing electrification.

John noted that the modelling was estimating market/system conditions in 2035 and 2050, and these dates were the same as used for the Climate Change Commission's modelling. John also outlined the key assumptions proposed to be used for the modelling, including generation build costs (including rooftop solar) and retirement, battery investment and operation (including charging of EVs), and estimation of water values. John noted that the initial modelling would not include large-scale demand response, such as hydrogen electrolysis, that could respond for extended periods, nor large-scale pump hydro. Simulations were proposed for 85 weather years to provide a good range of hydro variability.

Members discussed the modelling proposal. It was suggested to run the model using current generation fleet for calibration purposes. John noted this was a useful suggestion, and would be undertaken subject to time and resource constraints. The Chair noted this suggestion would be worth pursuing. Members indicated that they were comfortable with the proposed approach to modelling. One member requested that the modelling output include sensitivity cases showing how volatility changes under different system assumptions. John indicated he would try to include this.

Action 31.1 – Secretariat to follow up with Concept regarding calibration suggestion..

Action 31.2 – Concept to endeavour to include the distribution of price volatility in the modelling output.

The meeting broke for 10 minutes.

2. Discussion with Nevill Gluyas (Jarden): The impact of 'lumpiness' on the transition to 100% renewables

The Chair introduced the discussion with Nevill Gluyas noting that, as well as seeking Nevill's advice on the impact of 'lumpiness' on the market – large scale decisions, such as entry or exit of major plant – it was also intended to draw on Nevill's own modelling as a point of reference for MDAG's modelling work and to involve Nevill in discussions about the contracts workstream.

Nevill introduced the discussion by saying he was considering whether there were economic problems from two possible sources:

> (1) large lumpy decisions that might be economically efficient but participants don't take – examples included the failure of investments to be made in response to low probability high impact events (which may suggest the contract market is not working) or where participants are not investing in response to correct price signals because it is not in their private interest; and
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> (2) large lumpy decisions that are inefficient – where the option value of waiting would result in the ex-post investment case to fail.

Members discussed the extent to which examples such as exit of thermal plant, exit of the Tiwai aluminium smelter, Onslow pump storage, green hydrogen and transmission investments, such as an additional HVDC cable, fit into the two categories of potential lumpiness problems. Members also discussed the scale of investments that should be considered 'lumpy'.

The group agreed that Nevill's proposed taxonomy was an appropriate starting point but that Nevill should consider the issue in more detail as relevant.

3. Reflections on stakeholder meetings to date

The group agreed to defer the discussion of stakeholder meetings until MDAG's October meeting.

Meeting Administration

The group agreed to publish minutes from meeting #30.

The group agreed to publish the presentation slides received.

The meeting ended at 12.30pm.