

12 December 2019

Forming Expectations for Price Formation: An international perspective

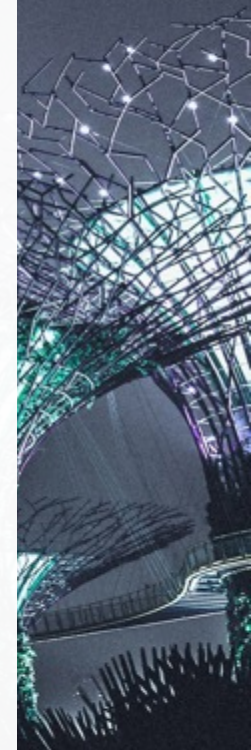
Harvard Electricity Policy Group

Tucson, Arizona

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19 November 2019

Unicorns and Zero-Marginal Cost Markets

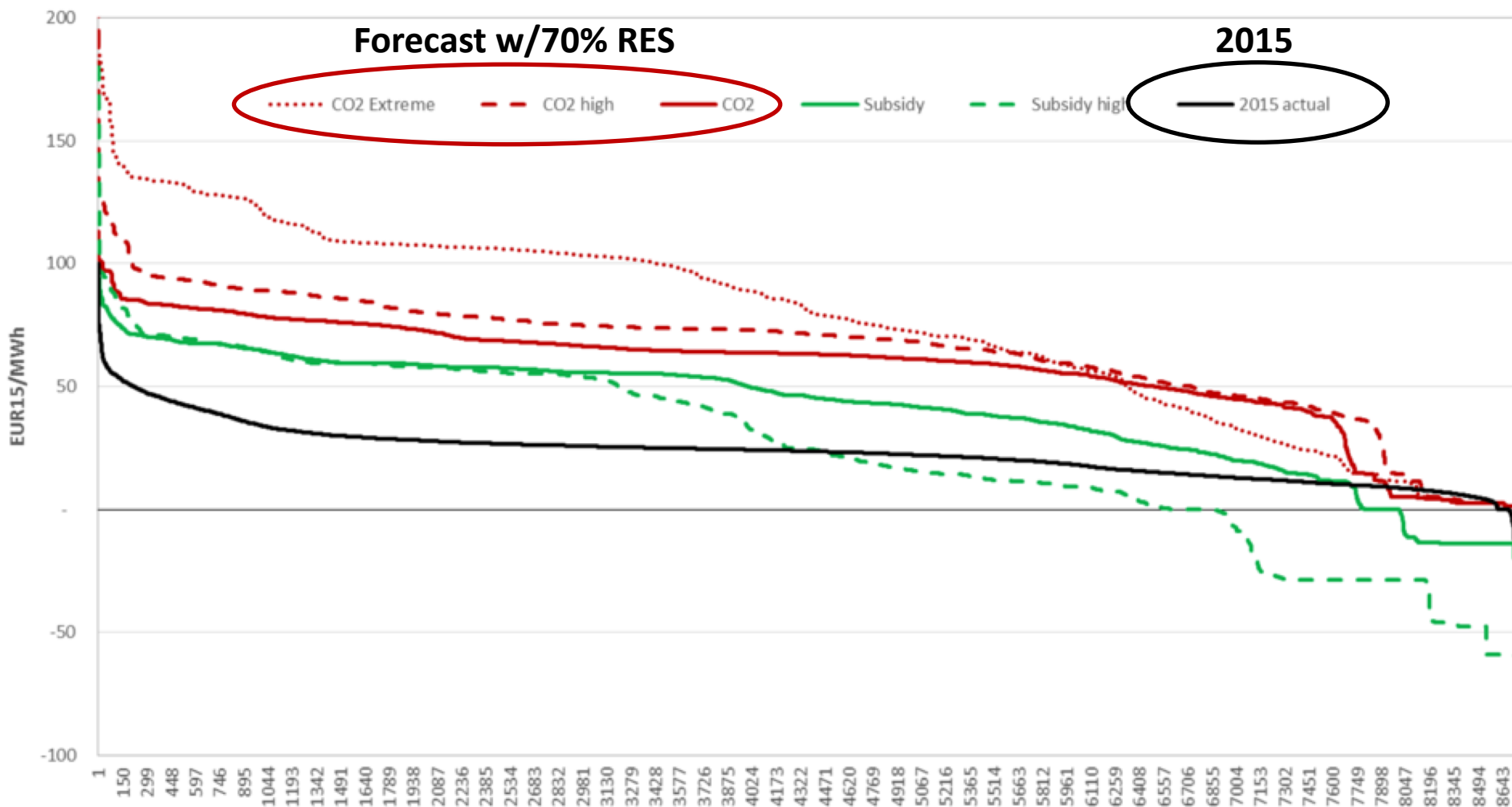
Future Electricity Markets Summit
Sydney, Australia

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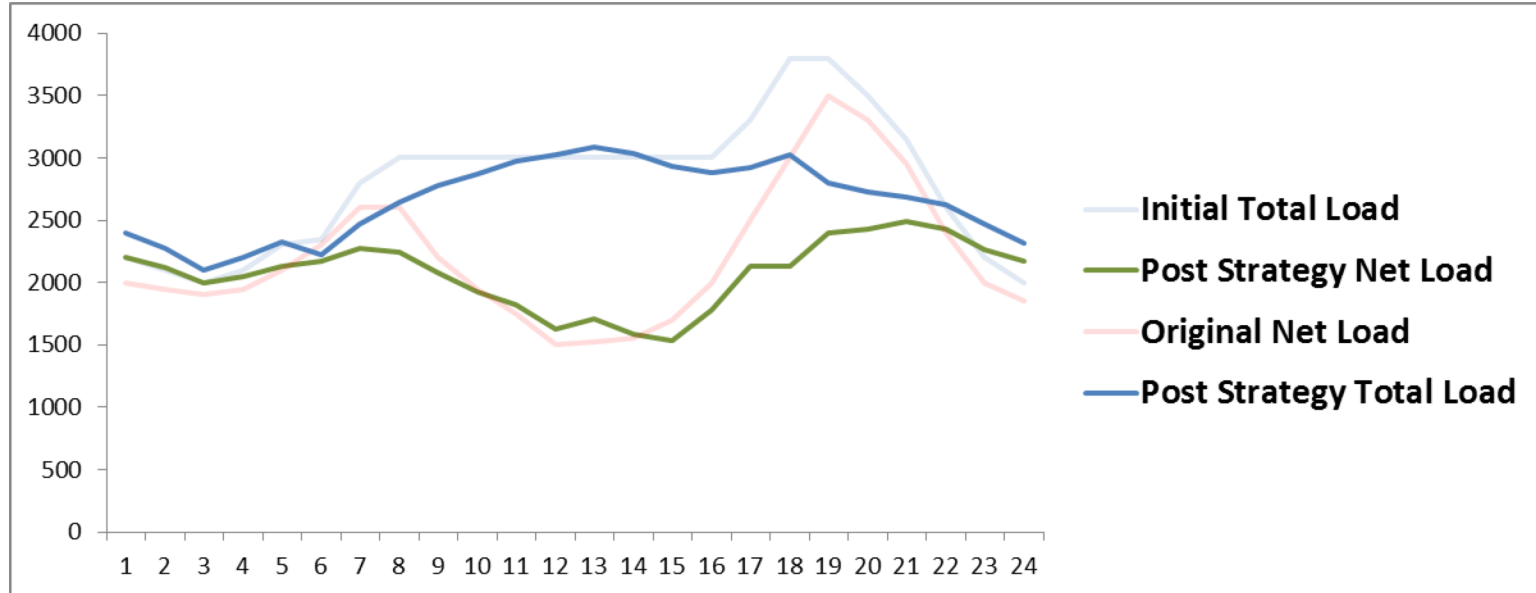
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A 70% RES market where surplus is retired, prices are right & consumers are empowered...



Good pricing can teach the duck to fly

- Pre-Strategy, without Solar/Wind: 73% LF
- Pre-Strategy, with Solar/Wind: 63% LF
- Post-Strategy, with Solar/Wind: 83% LF
- Maximum Hourly Ramp: 340 MW vs. 550 MW

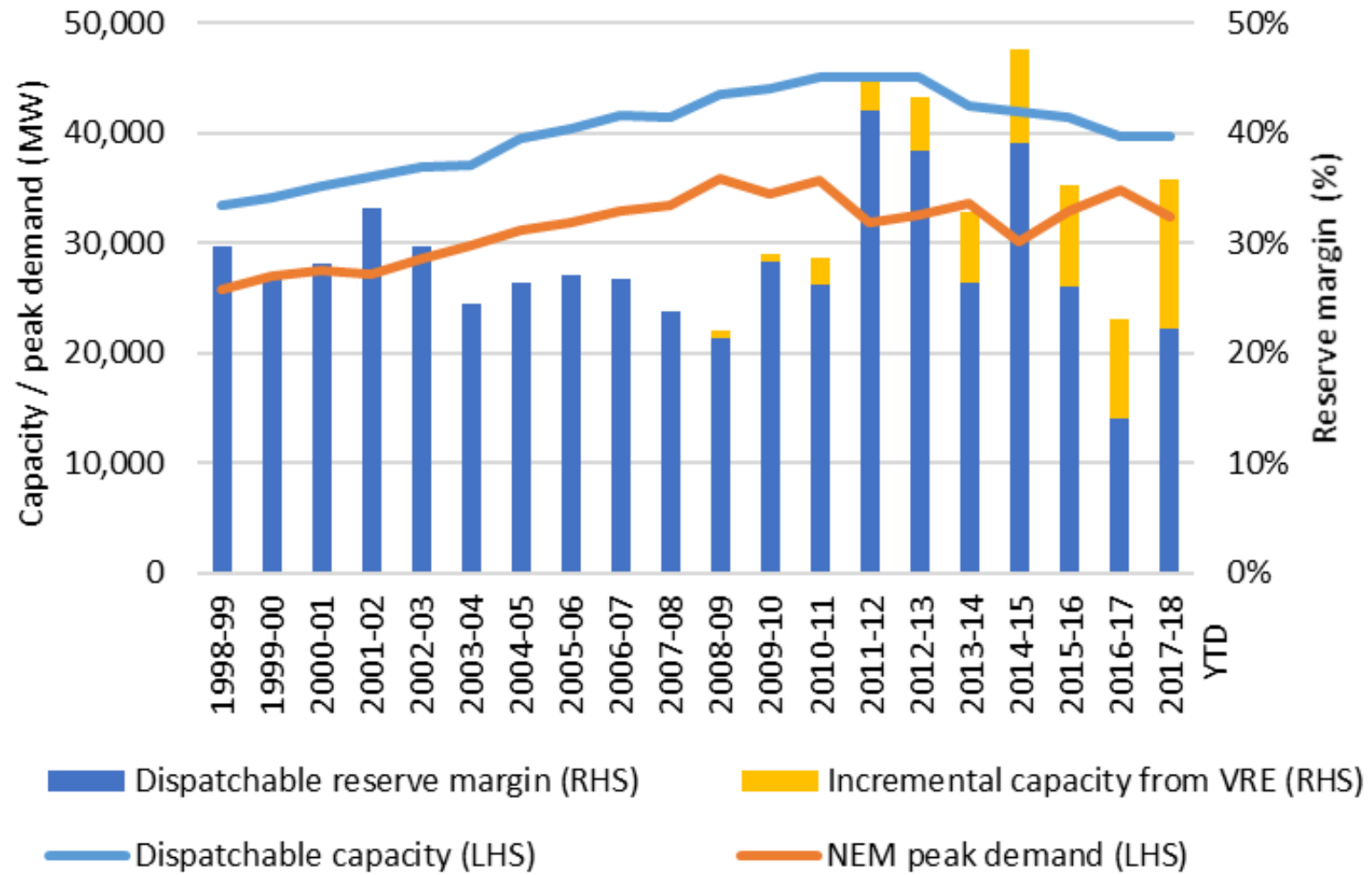


1

Australia NEM

It's possible to have too little intervention

Cap margins stable under the “pure” EOM



...but there's trouble in paradise

Financial Review, 5 August 2017:

Australian households pay highest power prices in world

News.com.au, 1 April 2019:

Federal election 2019: The energy policies of Labor and the Coalition

Both major parties have revealed their plans for bringing electricity prices down and keeping the lights on. This is what they are promising.

ABC News, 14 July 2019:

Electricity prices on the rise despite reregulation of the market

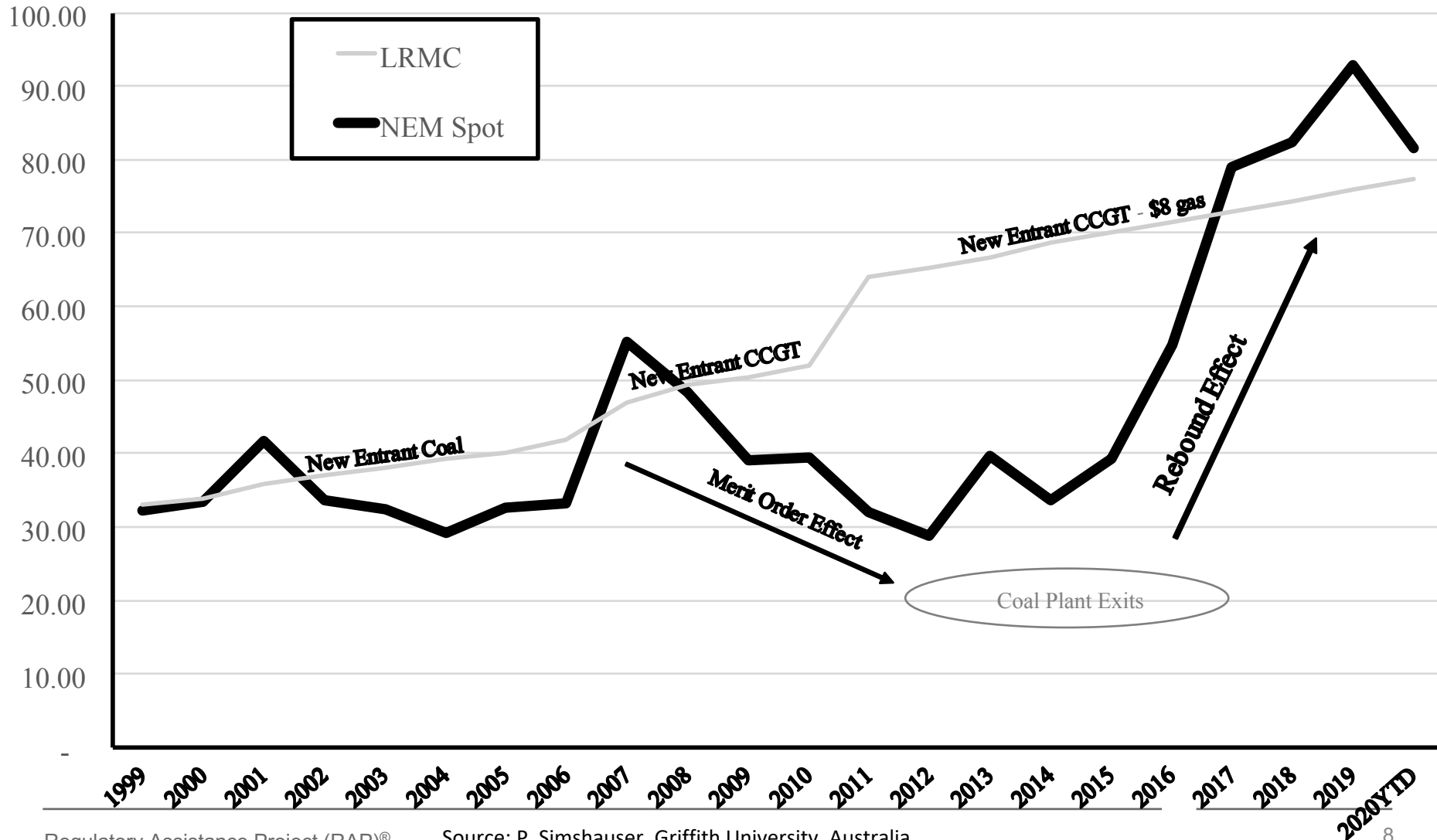
By business reporter [Stephen Letts](#)
Updated 14 Jul 2019, 4:51pm

The Federal Government's tentative steps towards reregulating the retail energy market have seen power prices rise and competitive pressure between rival suppliers ease.

Less than a month into the new regime, the view of investment bank analysts is consumers will not notice much of a difference and recent price resets show **the big generator/retailers (gentailers) still hold the whip hand in the marketplace.**

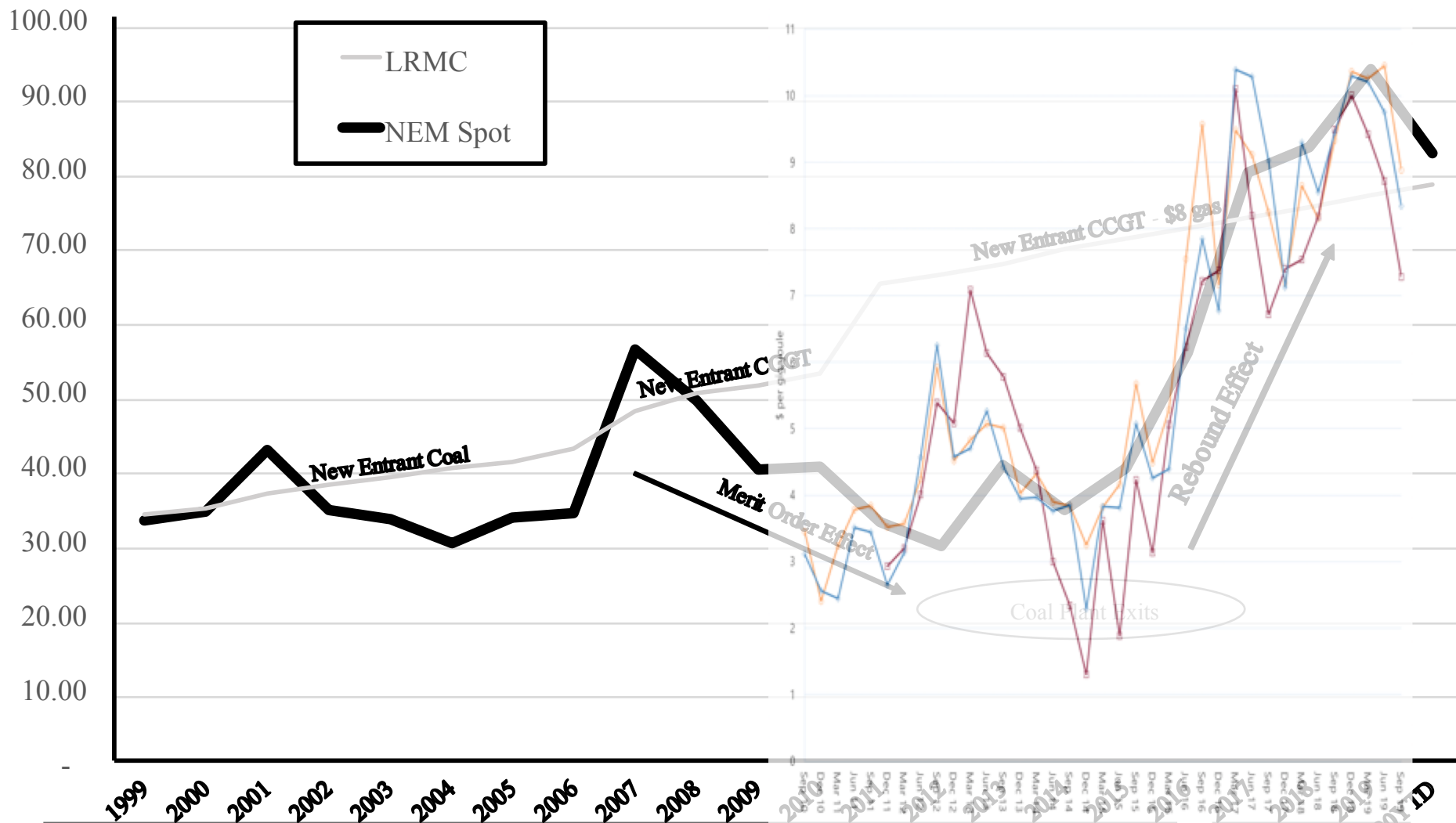
Spot prices with bid-based scarcity pricing

Spot Price
(\$/MWh)



Wholesale pricing with gas price overlay

Spot Price
(\$/MWh)



2

The UK's GB Market

The best of intentions, thwarted by intervention

Reserve scarcity pricing (Nov 2015)

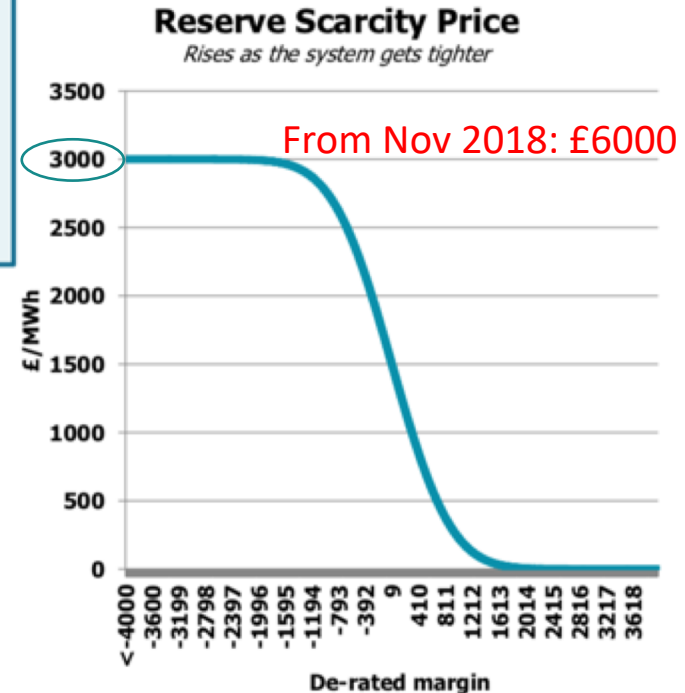
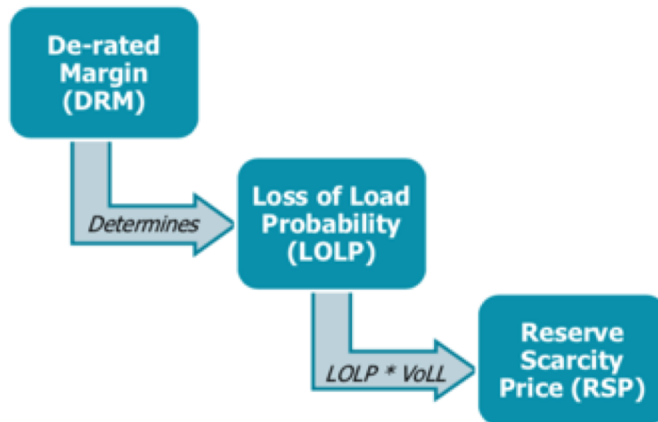
Re-pricing STOR actions (2): Setting the Reserve Scarcity Price

Why?

- The **Reserve Scarcity Price** is designed to reflect system scarcity
- It is used to re-price STOR actions when it exceeds their original price

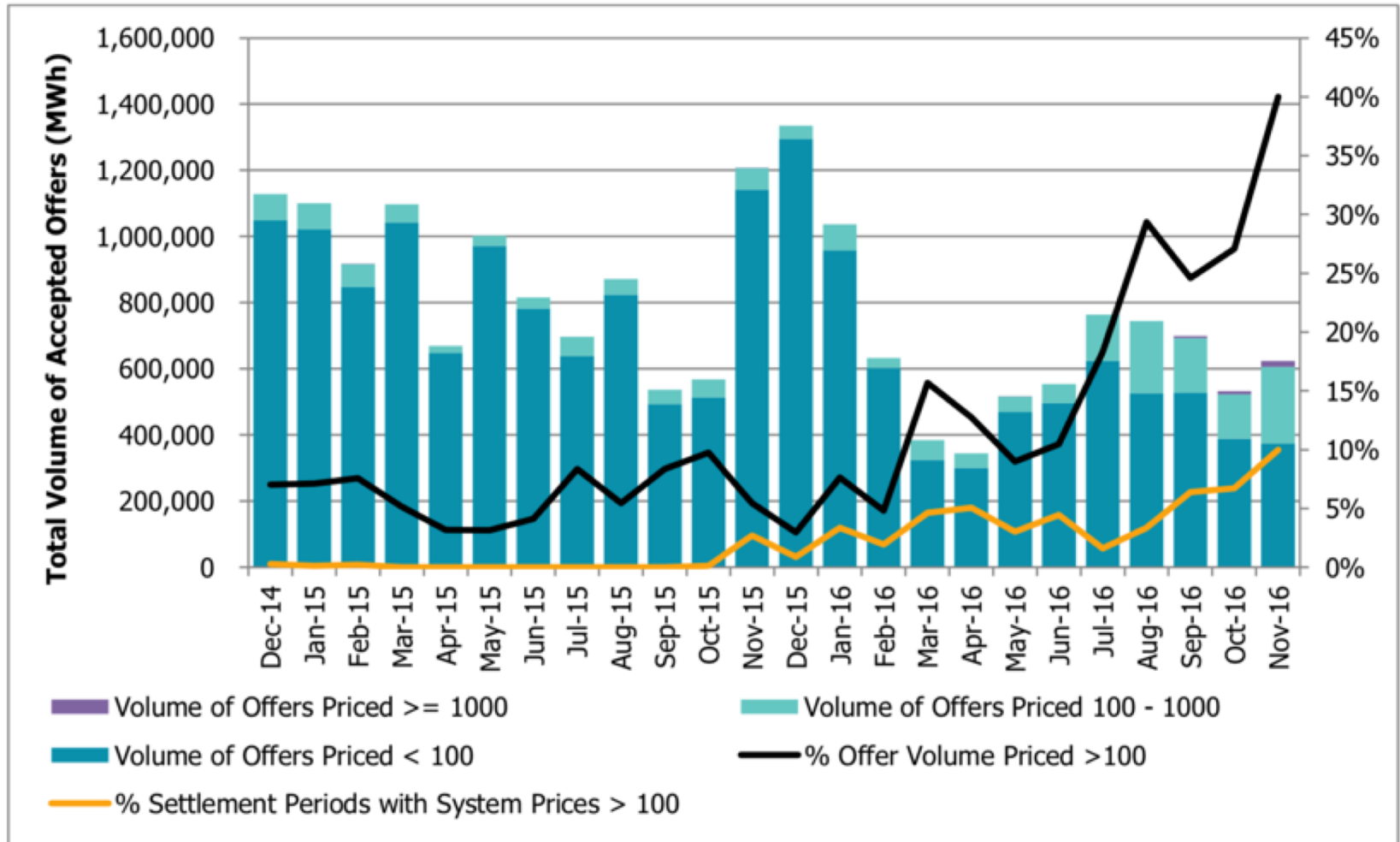
How?

- The SO calculates the **De-Rated Margin (DRM)** at **Gate Closure**
- For each DRM there is an associated **Loss of Load Probability (LoLP)**; between 0 and 1
- LoLP is multiplied by **Value of Lost Load (VoLL)** to determine the RSP



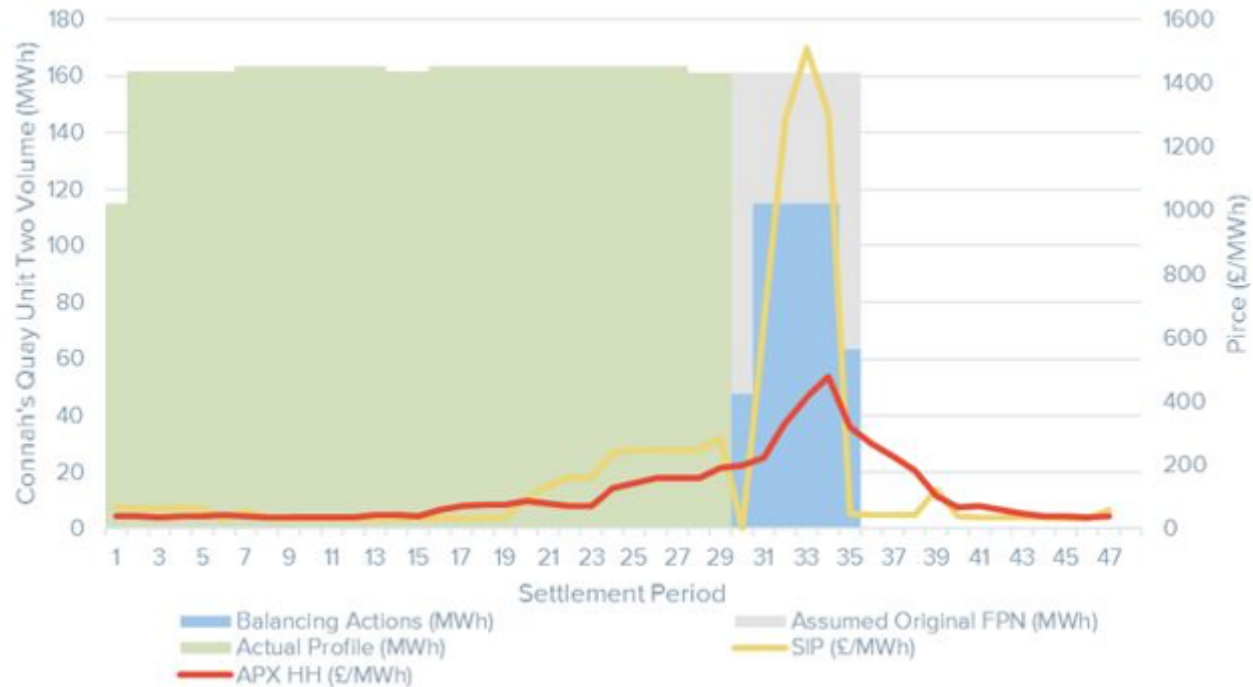
ELEXON

Cash-out reforms in action

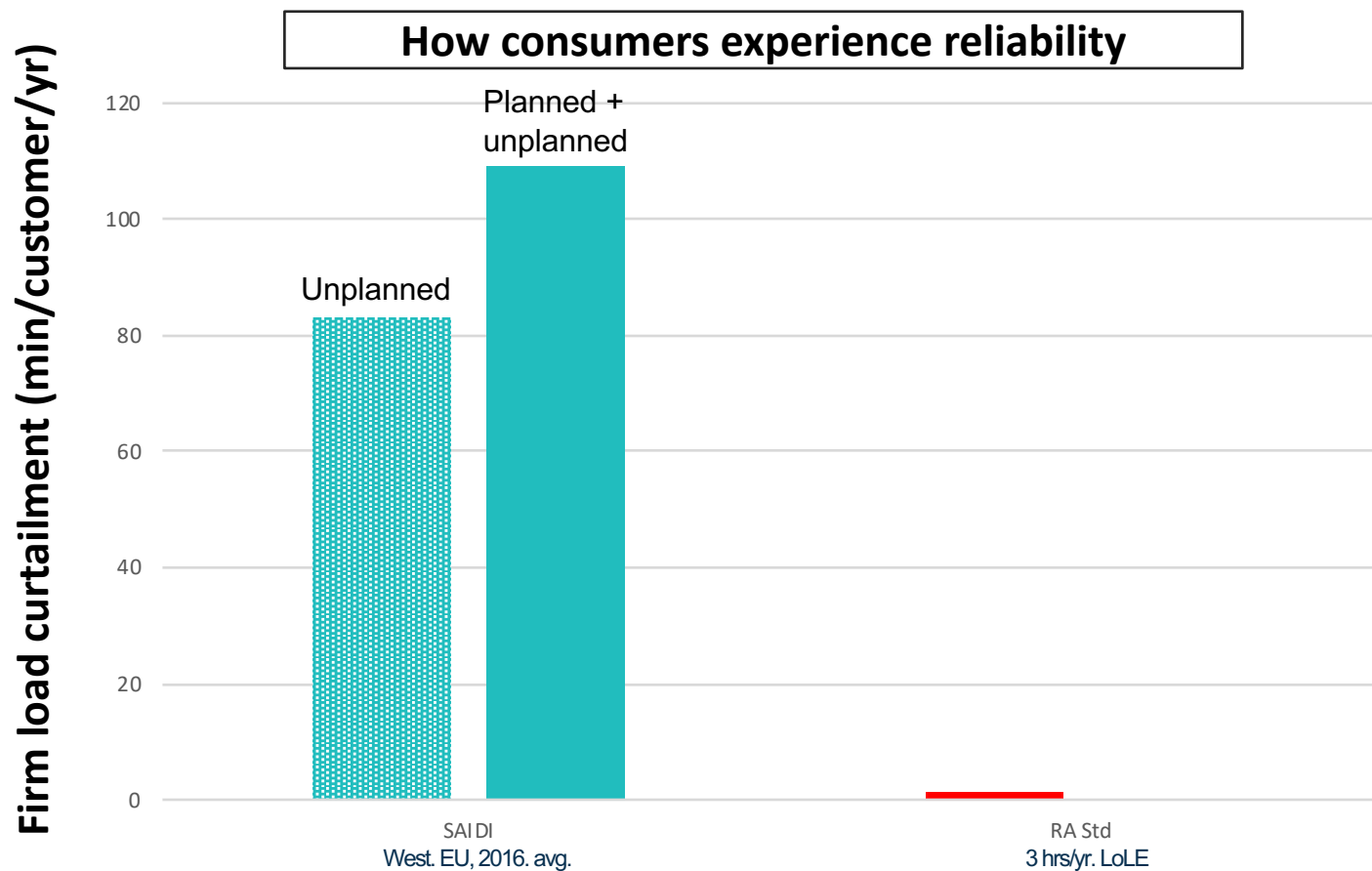


Cash-out reforms in action

Connah's Quay Unit Two Volumes Against System and Wholesale Prices on 17 May 2017

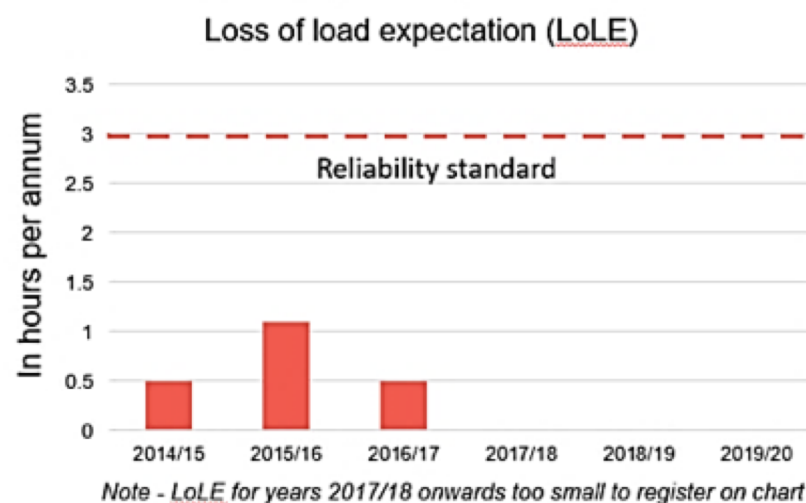
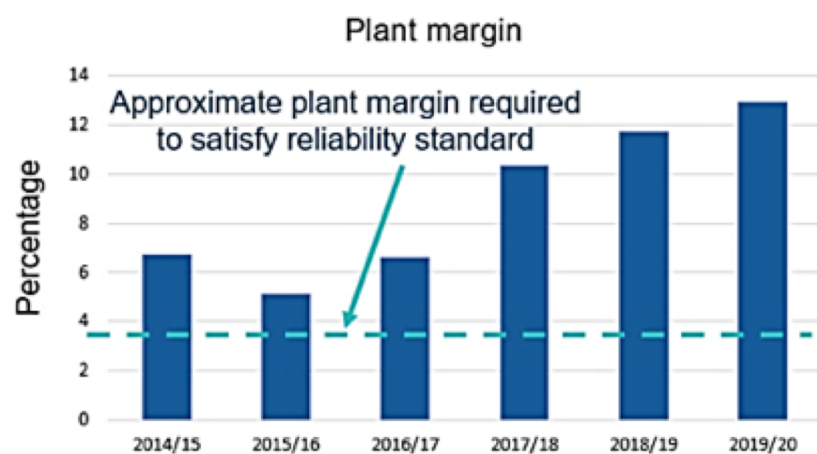


The usual RA “double standard”...



Source (SAIDI data): Council of European Energy Regulators, “Benchmarking Report 6.1 on Continuity of Electric and Gas Supply, Data Update 2015/2016” (26 July 2018).

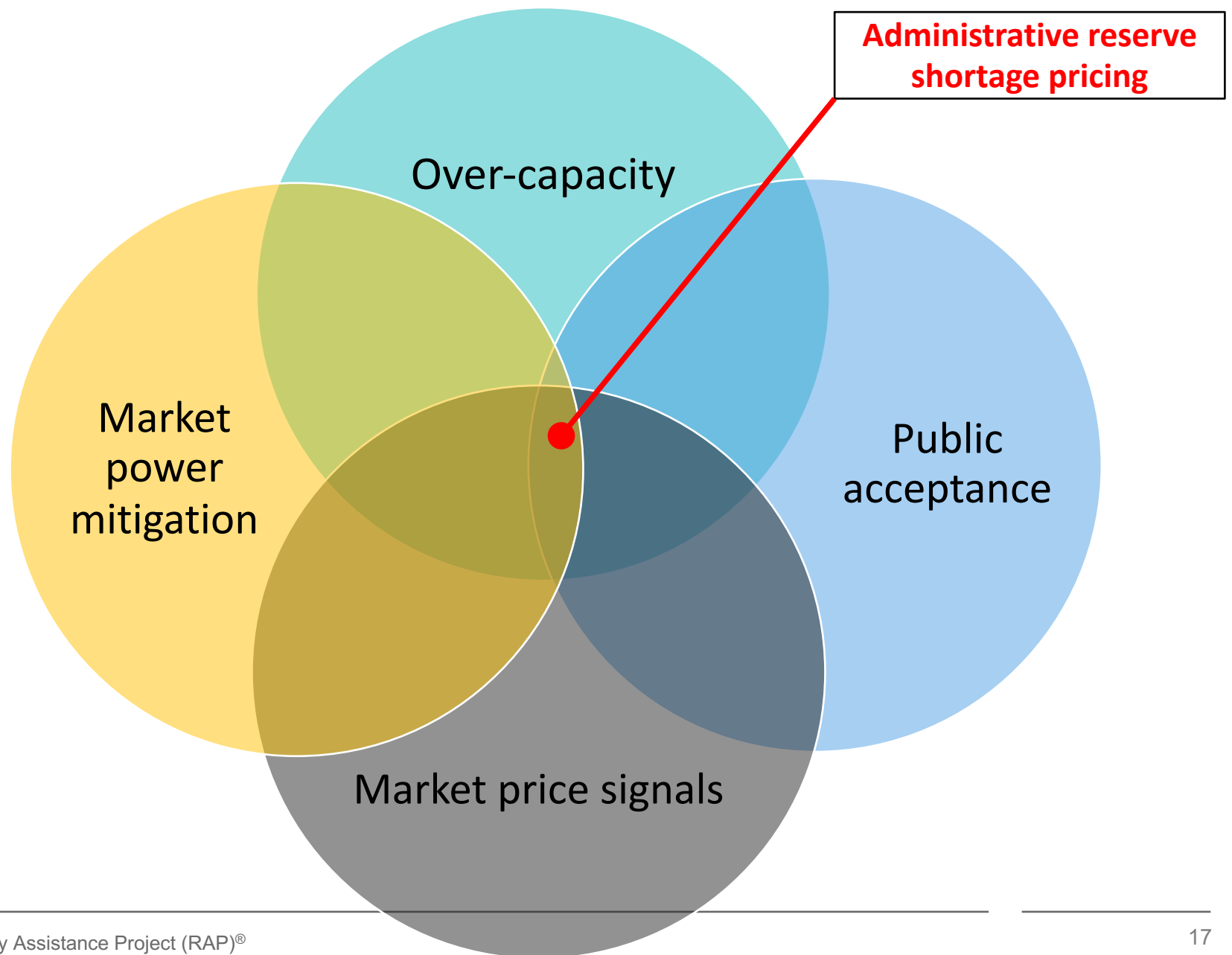
...and the familiar result



3

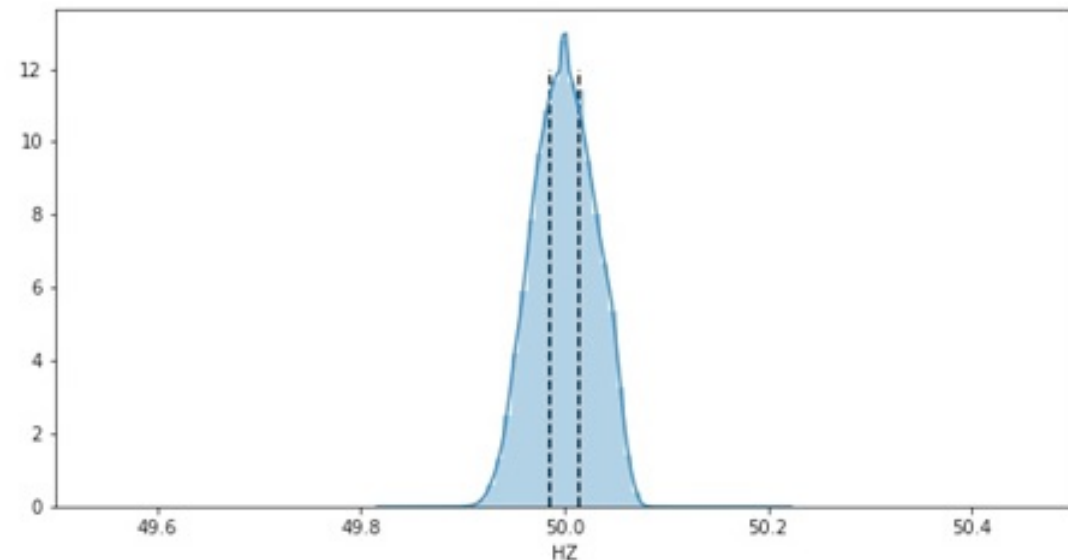
Conclusion

Successes and remaining challenges

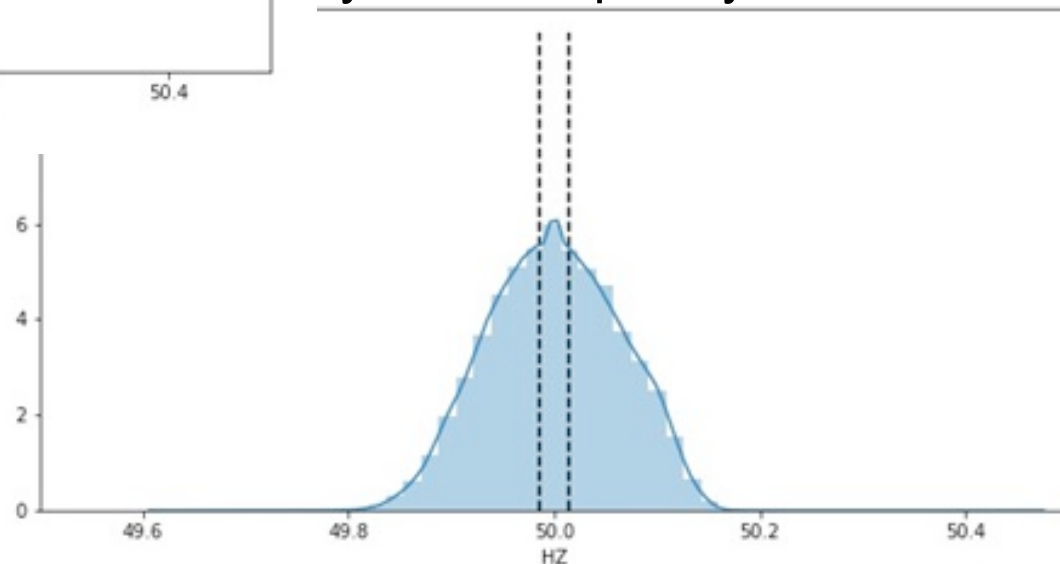


NEM: Missing capabilities, not capacity

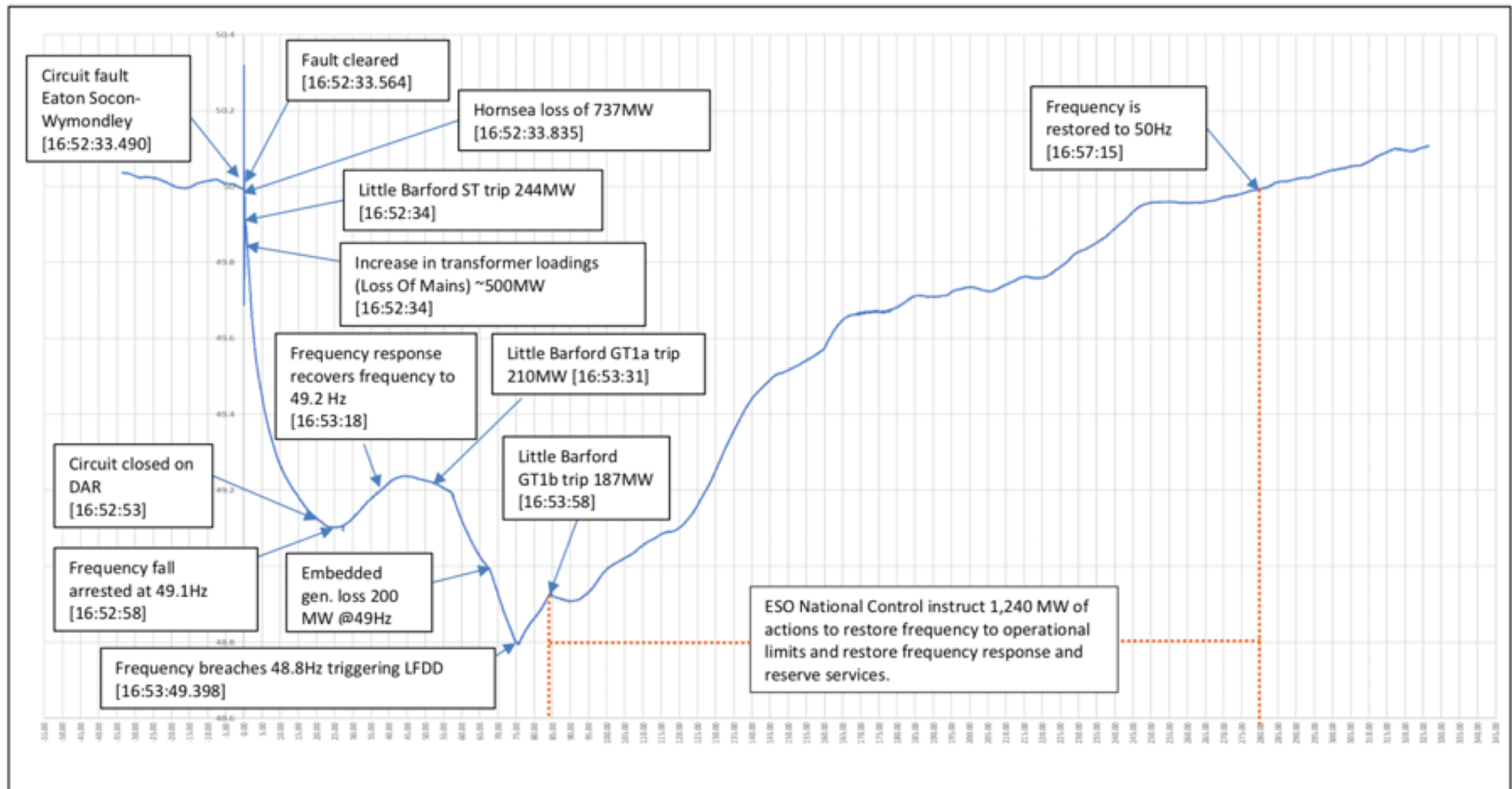
System Frequency 2005



System Frequency 2019



UK: 9 August loss-of-load event



About RAP

The Regulatory Assistance Project (RAP)® is an independent, non-partisan, non-governmental organization dedicated to accelerating the transition to a clean, reliable, and efficient energy future.

Learn more about our work at raponline.org

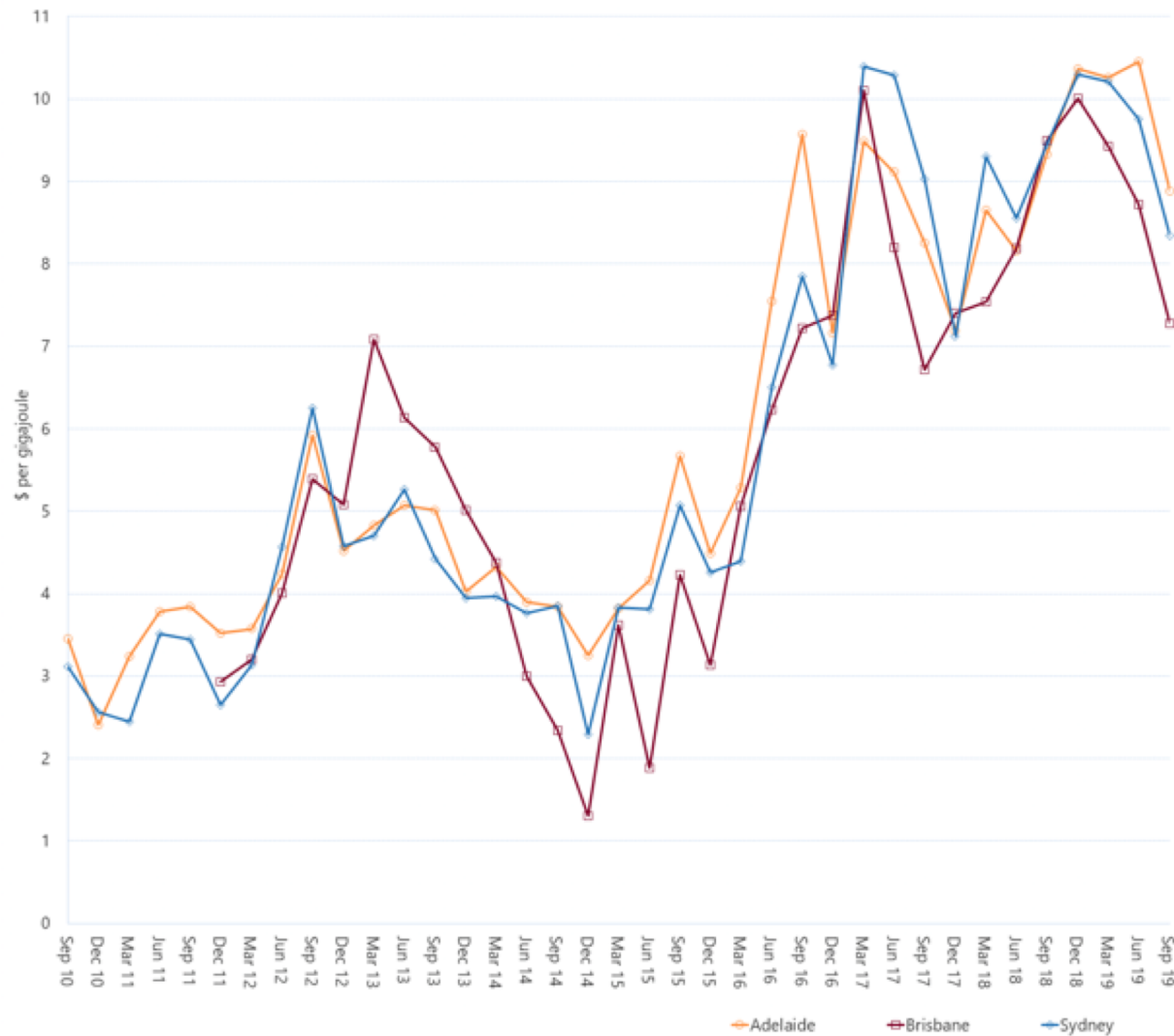


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AUS domestic natural gas prices



Source: AER; AEMO, Last updated: 18 Nov 2019 - 12:55 pm

NEM: No problem with Resource Adequacy

