2021 FRG Presentation Draft Demand Side Participation (DSP) forecasts

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Background and Purpose

- The purpose of today's presentation is to share and discuss the draft 2021 DSP forecast, which is a key input of the 2021 Electricity Statement of Opportunities (ESOO).

- Today's agenda includes:
  - DSP components and methodology
  - Analysis of submissions
  - Price driven forecasts
  - Wholesale Demand Response (WDR), Reliability and Emergency Reserve Trader (RERT) and DSP reliability response
  - Discussion

Timing	DSP Forecasts	Responsible
June 2020	Last time this topic was discussed at FRG	AEMO
Summer 2020-21	Implementation of revised DSP Information Guidelines	AEMO
March 2020	Data submission period	AEMO
Today	**Discussion on 2021 submissions and forecasts**	**AEMO**
July 2021	ESOO Released	AEMO

DSP components and methodology

DSP consists of:

- Price response
- WDR, as a new form of Price Response this year
- Reliability response, where

$$\textit{Reliability response} = \left.\begin{array}{l}\textit{market response (>\$7,500/MWh)} + \\ \textit{network event response} + \\ \textit{other adjustments}\end{array}\right\}$$

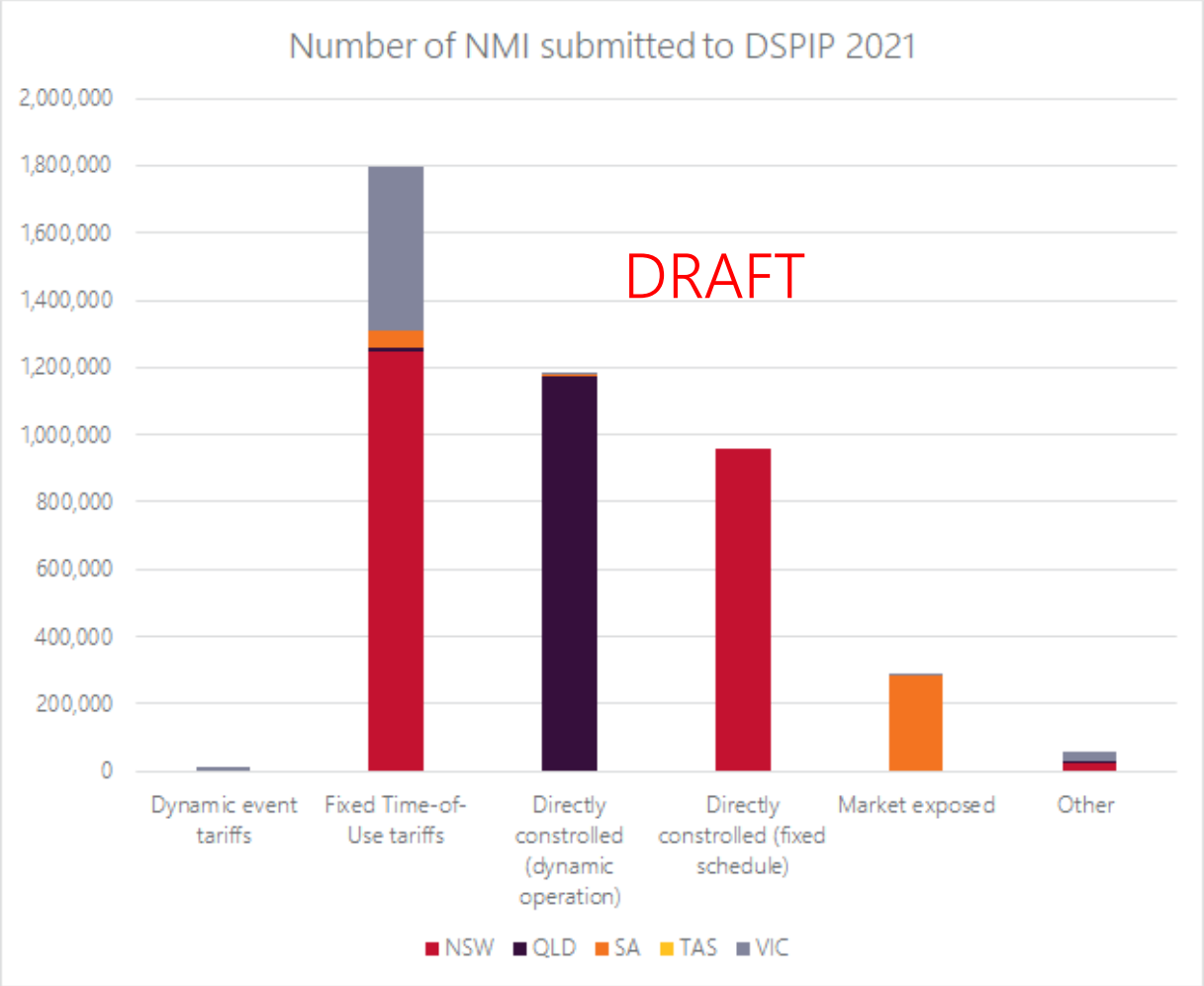
As per DSP methodology

The key input into the DSP forecast process is the annual reporting by all participants during April each year.

DSP resources reflect historical policies and initiatives, 10% YoY growth in reported DSP NMIs

Submission year	Count of all unique submitted NMI (million)
2020	3.3
2021	3.6

- Following consultation, AEMO changed the categories of DSP this year. The categories now:
  - Reflect types of control and signalling used, instead of categorising by the type of organisation running the program
  - Exclude Connections with Energy Storage, which is already captured in the DER Register
  - Reclassify the "large programs > 1 MW " category into its relevant technology
- Historical policies and initiatives drove controlled load and ToU tariffs, whereas the newer remaining categories are more suited to the dynamic nature of renewable energy supply



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For forecasting purposes, AEMO forecast DSP not already considered elsewhere in AEMO forecasts

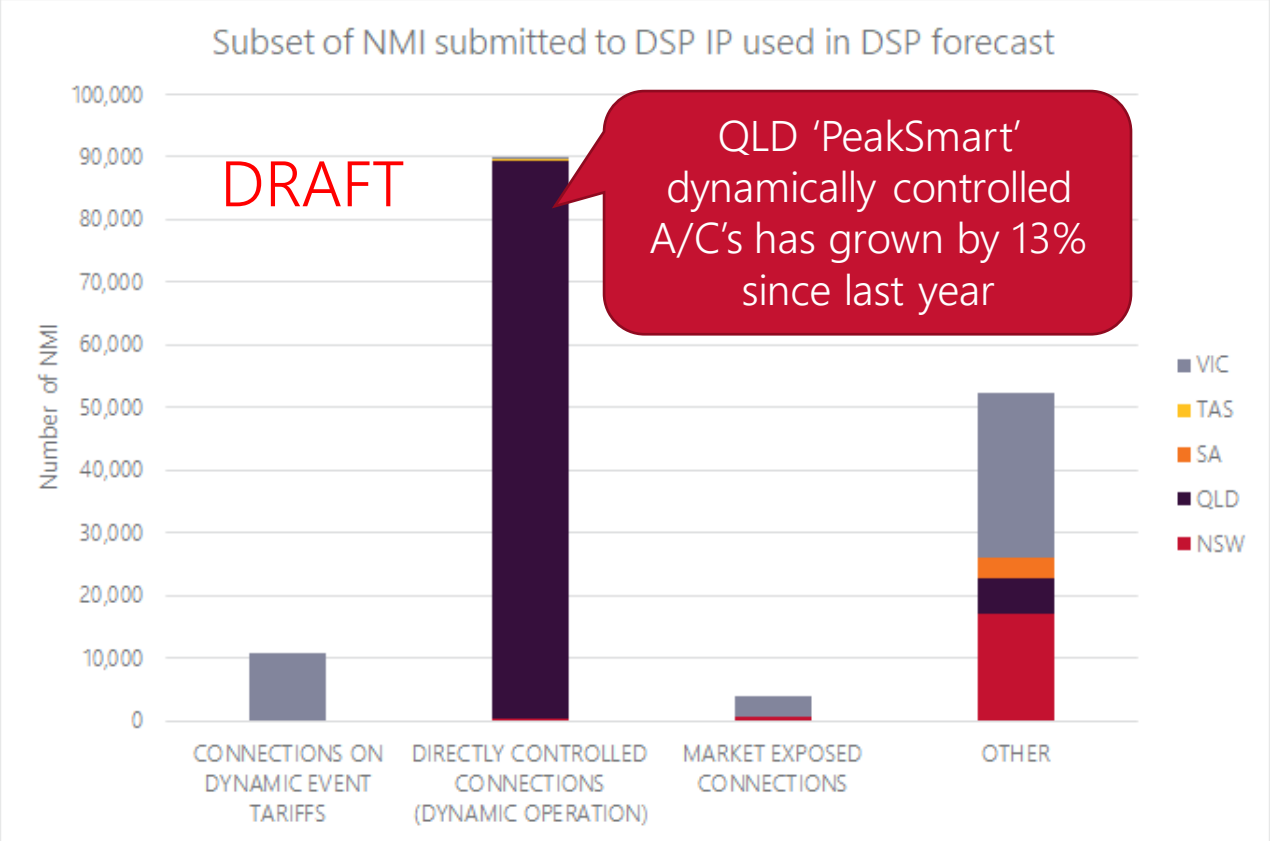
1. A NMI is excluded from DSP if it is contracted to RERT

Otherwise...

2. The NMI is included if it has one or more of:
- Curtailable load (major industrial)
- Network tariff is short-term and/or has events
- *ONSG peaking generation*

For clarity, the following factors do not impact a NMI's inclusion or exclusion from DSP as they are accounted for in either supply or demand forecasts:
- Energy storage
- Non-peaking ONSG
- Has daily/regular network controlled load
- Retail TOU tariff
- Is uncontracted on the RERT panel

Therefore, of the six categories on prior slide, ToU and the direct controls (fixed schedule) are catered for in the Demand Forecast. The remaining NMIs are used for the DSP Forecast:



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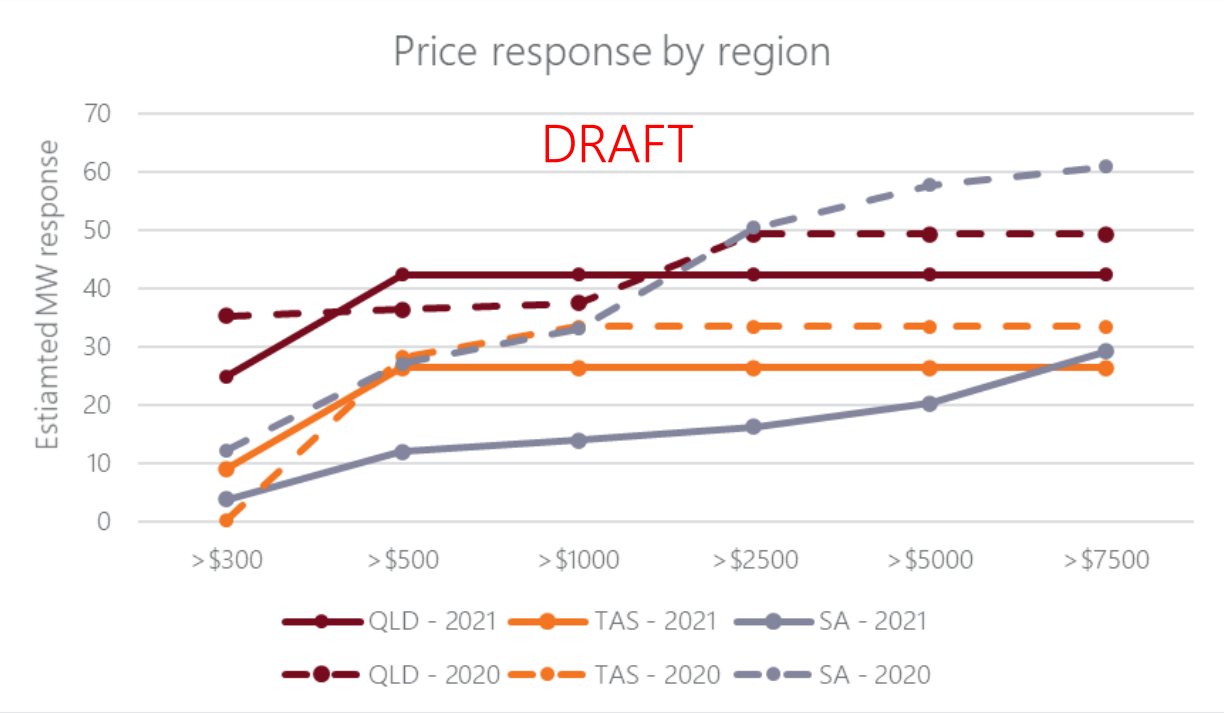
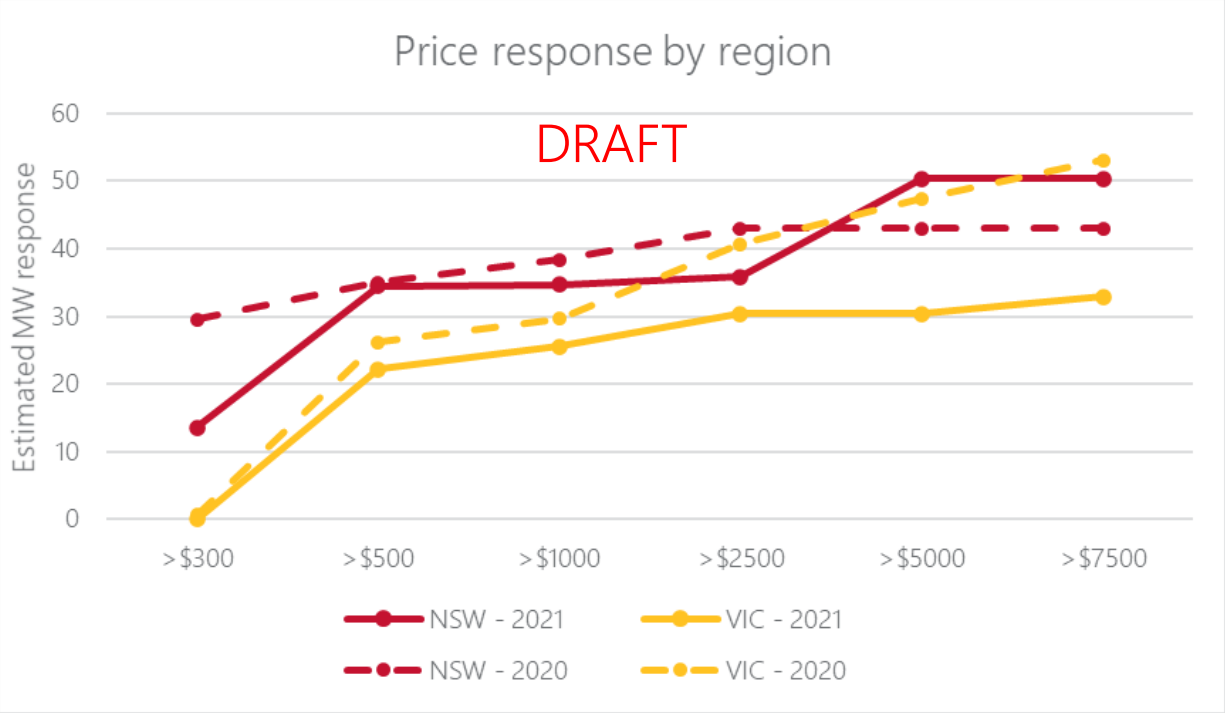
Regional capacity estimate volatility reflects dynamic participation levels





Consistent estimates of capacity are seen in Queensland, Tasmania and New South Wales. Some differences in estimates are expected year-to-year, reflecting:

- dynamic participant submissions
- dynamic participant behaviour
- sources of estimation error

Capacity estimates in South Australia are lower than last year.

Capacity estimates in Victoria are somewhat lower than last year at higher price thresholds.

These differences are currently being investigated.

The complete DSP forecast now has an additional component: DSP from Wholesale Demand Response (WDR)

- Price responsive DSP is where a party opts to respond to prices from their own market exposure. In contrast, WDR is where (from October 2021) a party can sell their demand response capability in the wholesale market, either directly or through specialist aggregators*.
- As registration for Demand Response Service Providers (DRSP) starts from June 2021, minimal reporting occurred through the April DSP survey (4 MW).
- In addition, the WDR forecast assumes 50% of the historical responses from small and medium RERT providers (50th percentile) is a reasonable proxy of increased WDR participation.
- The assumption will be validated with select DRSPs in the coming month, ahead of finalisation.

* See https://www.aemc.gov.au/rule-changes/wholesale-demand-response-mechanism

Draft 2021 WDR forecast* (in MW)

Price trigger /MWh	NSW	South Australia	Victoria
>$300	9	1	6
>$500	15	1	39
>$1000	19	1	46
>$2500	30	4	59
>$5000	30	5	63
>$7500	30	8	63

*As no RERT has been used in Queensland and Tasmania in recent years, there is no estimated response for those regions

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Forecast increase in DSP in New South Wales and Victoria, driven by WDR, while South Australia drops

Draft 2021 Summer DSP (incl. WDR) reliability response

	Trigger	NSW	Queensland	South Australia*	Tasmania	Victoria
Draft 2021 forecast	>$300	23	25	5	9	6
	>$500	49	42	13	26	61
	>$1000	54	42	15	26	72
	>$2500	66	42	20	26	89
	>$5000	81	42	25	26	93
	>$7500	81	42	37	26	95
	Reliability	323	102	37	26	242
Final 2020 forecast	Reliability	285	102	61	33	200

*South Australia's forecast is still being reviewed, with the drop likely due to improved calculation of baseline consumption this year.

- Network Event Response resources are consistent with previous year, adjusted for growth in customers signed up and validated against recent event responses.
- Includes voluntary response from some large providers otherwise on RERT

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Next steps

- Complete review of draft DSP forecast for South Australia.
- Validate WDR estimates with select intending DRSPs.
- Finalise forecasts for use in ESOO representing existing and committed DSP.
- For ISP, project growth in DSP by scenario out to 2050 as per DSP methodology:
  - Consistent with scenarios definitions.
  - Reflect specific DSP policy targets, such as the New South Wales peak demand scheme.
  - Capture growth in a range of demand response initiatives, including WDR and dynamic tariffs, but exclude those considered directly in the forecast already (such as battery storage and EV charging).

To be published in the IASR

Stakeholder discussion

Do you think the estimated capacity values are reasonable?

Is the assumption for WDR impact appropriate?

Are there any others material risks to these DSP estimates that we have not taken into consideration?

What other considerations should we include in the future?