Demand Side Participation (DSP) consultations

DSP Forecast Methodology
DSP Information Guidelines

27 September 2023

Forecasting Reference Group Meeting

Purpose and agenda

The purpose of this presentation is to *inform* the FRG about the two parallel consultations it is running regarding the Demand Side Participation (DSP) forecast methodology and DSP Information (DSPI) Guidelines.

- Today's Agenda includes:
  - Consultation timeline
  - DSP definition
  - Summary of key issues explored in each consultation paper
  - Next steps

Timing	Relevant item	Responsible
1 Sep 23	Consultation papers published	AEMO
Today	**FRG presentation and discussion**	**AEMO, FRG**
28 Sep 23	Consumer/advocates verbal submission	Consumers
29 Sep 23	First stage submissions due	Stakeholders
27 Oct 2023	Draft determination and draft reports published & stage 2 consultation begins	AEMO
24 Nov 2023	Stage 2 consultation submissions close	Stakeholders
15 Dec 2023	Final determination and final reports published	AEMO

DSP consultations timeline

Consultation papers Published
1 Sep 2023

Stage 1 submissions close
29 Sep 2023

Draft documents and determination Published
27 Oct 2023

Stage 2 submissions close
24 Nov 2023

Final documents and determination Published
15 Dec 2023

Stage 1 consultation | **Development of draft documents** | **Stage 2 consultation** | **Development of final documents**

Forecasting Reference Group meeting
27 Sep 2023
2-4pm AEST
Register here

Consumer Advocates verbal submission session
28 Sep 2023
11:30am-12:30pm AEST
Register here

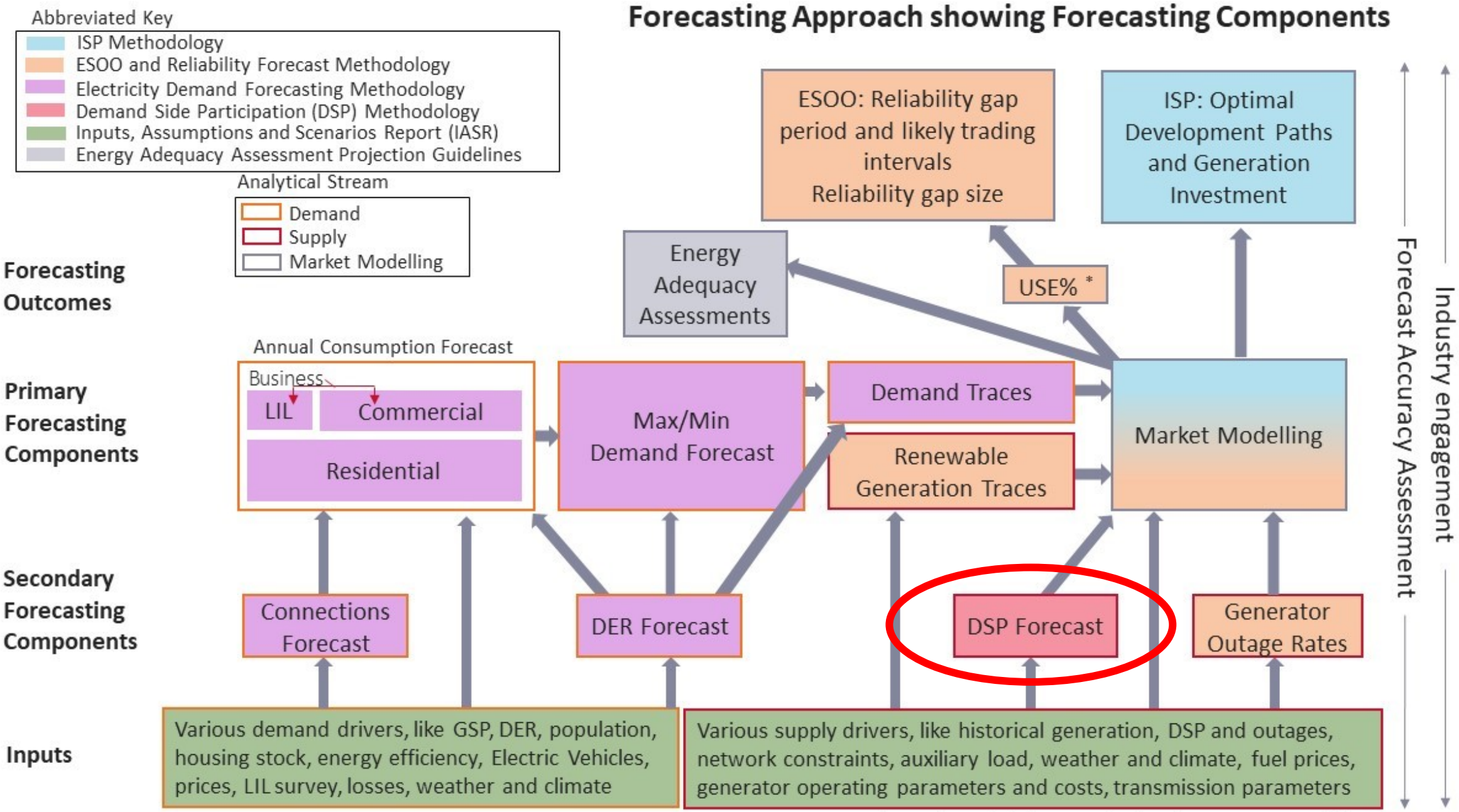
Consumer Advocates verbal submission session
Nov 2023

Reach out to energy.forecasting@aemo.com.au

Introduction

What is DSP and where does it fit in?

Forecasting Approach showing Forecasting Components



See AEMO's Forecasting Approach

What is included in DSP in this context?

AEMO models a wide range of demand flexibility. There is a risk of double counting, so AEMO's modelling is designed to minimise the risk of doing so by only including demand flexibility once in the most appropriate category.

Figure 67 Flexible demand sources included in AEMO's DSP forecast

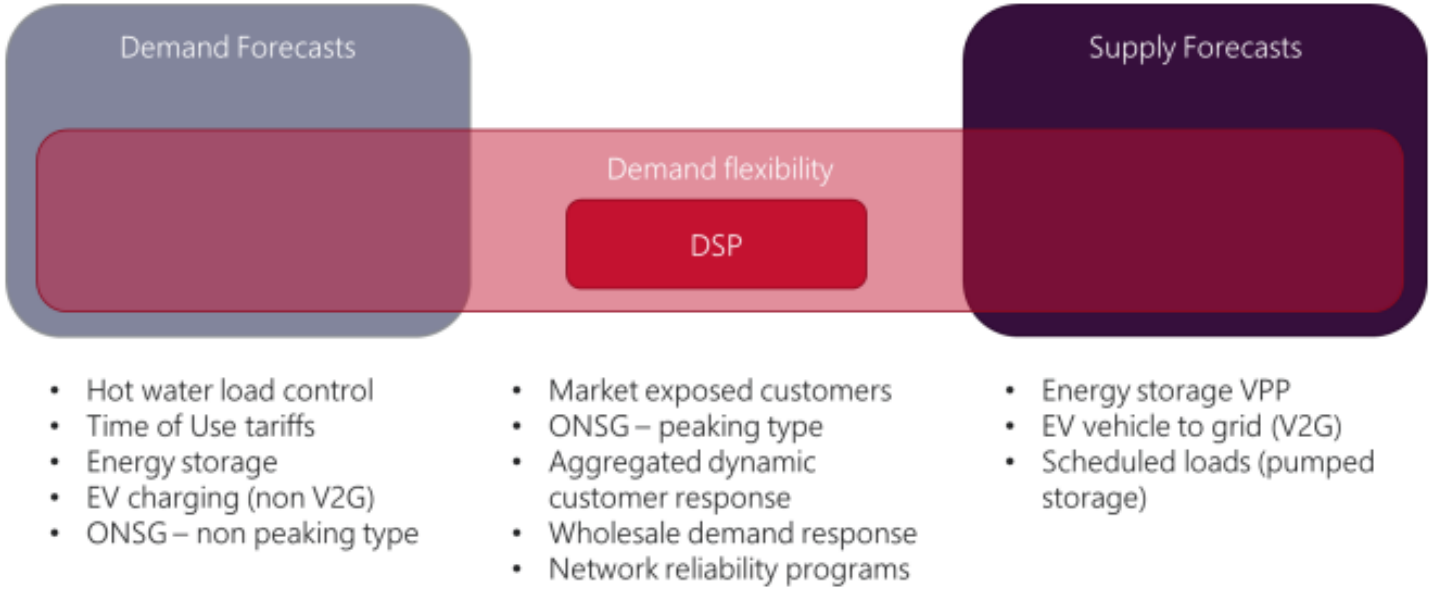


Figure from: https://aemo.com.au/-/media/files/electricity/nem/planning_and_forecasting/nem_esoo/2022/2022-electricity-statement-of-opportunities.pdf

What is included in DSP in this context?

AEMO's demand forecasts project max/min demand in the absence of DSP, RERT and any unserved energy. Demand flexibility that is done daily regardless of external factors will be included in the demand though.

Figure 67 Flexible demand sources included in AEMO's DSP forecast

- Hot water load control
- Time of Use tariffs
- Energy storage
- EV charging (non V2G)
- ONSG – non peaking type

- Market exposed customer
- ONSG – peaking type
- Aggregated dynamic customer response
- Wholesale demand response
- Network reliability programs

- Energy storage VPP
- EV vehicle to grid (V2G)
- Scheduled loads (pumped storage)

Demand flexibility from consumer energy resources are optimised within the supply side. This enables consideration of the need for flexibility, given underlying supply and enables consideration of energy or other operational limits.

Demand flexibility that is used for (extreme) price spikes or reliability signals is modelled as DSP (basically, similar to a peaking generator)

DSP forecast methodology

Key areas for consultation

Key consultation topics for DSP forecast methodology (1/3)

- **Categorising DSP**
  - AEMO classifies DSP as ‘market (price) driven’ and ‘reliability driven’
- **Inclusions and exclusions**
  - E.g. Virtual Power Plants (VPP) and controlled hot water are excluded from DSP (and incorporated into forecasts elsewhere)
- **DSP forecasting cycle**
  - Submit is to be data by end of April, and is published with the ESOO
  - Related question in DSPI Guidelines: should the DSP portal remain open all year round?

Key consultation topics for DSP forecast methodology (2/3)

- **Current DSP**
  - Obtained from data in the DSPI portal
  - Three-year time series* for historical analysis
  - Calculation of a baseline demand, using one of several methods
  - Inclusion of Wholesale Demand Response
  - Proposing to reduce number of price trigger bands (recommendation from UoA's review of AEMO's Forecasting Accuracy Methodology)
  - Adopt 50th percentile of simulated responses at each price trigger
  - Add network response programs for reliability events
  - Duration of DSP not currently assessed – seeking feedback

* or longer if needed to ensure sufficient high price or reliability events to accurately estimate DSP

Key consultation topics for DSP forecast methodology (3/3)

- **Forecast DSP**
  - DSP forecast for ESOO based on the same commitment criteria as other ESOO supply-side assumptions (i.e. not factoring in non-committed yet anticipated growth)
  - Longer term DSP forecasts (for use in, say, the ISP) differs to the ESOO by growing DSP as a function of maximum demand (based on research undertaken by Forecasting team)
- **Validation of DSP**
  - Cross-check with participants (e.g. for wholesale demand response) and comparison to actual observations (both price response and during reliability events)
  - Assessment published annually in the FAR

DSP Information Guidelines

Key areas for consultation

Key consultation topics for DSP Information Guidelines (1/3)

- **Duration of DSP**
  - Have not historically collected data on how long DSP programs can be sustained for
  - If the future duration is expected to be different from the historic duration, this information may be useful
- **Declaration of future DSP**
  - Participants are asked to provide information on future DSP programs, but to date, very few participants have provided this
  - May be difficult to provide estimates for future DSP
  - A confidence rating may help to elicit more responses

Key consultation topics for DSP Information Guidelines (2/3)

- **Additional data**
  - Keen to know if DSPI sufficiently caters for “load-on” programs
  - Emerging types of DSP may require an expansion of AEMO’s current DSP categories:
    - Market exposed connections
    - Connections on fixed time-of-use tariffs
    - Connections on dynamic event tariffs
    - Directly controlled connections (fixed or dynamic operation)
    - Other
- **DSPI collection process**
  - Currently, the DSPI portal is open in April for submissions, although it may make sense to keep it open year-round
  - AEMO is interested in knowing more about the effort required to provide the information

Key consultation topics for DSP Information Guidelines (3/3)

- **Improving participants understanding of the process**
  - Would the provision of improved documentation, user guides, on-screen tips, etc., improve the participants experience when uploading data?
  - Could the understanding of the various DSP categories be improved to result in more consistency of reporting across participants?
  - AEMO is seeking to improve its review process, to uplift the quality and consistency of the data and associated analysis. Where this requires amendment to the submitted data, there could be more efficient ways of doing this than re-submitting through the portal.

Next steps

What is DSP and where does it fit in?

Recap: DSP consultations timeline

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