FORECASTING PRICE RESPONSE – CURRENT CHALLENGES

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AGENDA

1. How we forecast prices and price response
2. Current challenge
3. How we are managing this challenge

HOW WE FORECAST PRICE RESPONSE

1. **See attached memo describing method**
2. **Estimating energy prices**
   - **Two steps:**
     - **Bottom-up estimation of supply-chain costs.**
     - **Top-down benchmarking and calibration using latest published price offers and assumed load profiles for key segments.**
3. **Estimating price response**

Structural response	Behavioural response
Installed capacity Rooftop PV	Consumption response –rooftop PV
Installed capacity Energy storage	Consumption response –energy storage
Energy efficiency	Consumption response –energy efficiency
Electric vehicles	Household price elasticity of demand
Gas to electric appliance switching	Business price elasticity of demand
Electricity generation and investment	

CURRENT CHALLENGE

Forecast uncertainty matters more than ever

- Very tight supply-demand balance next few years
- Increasing importance of short-term outlook

Size of energy price increases challenge long-term economic modelling appoaches.

- Current assumptions are based on data from smaller price changes.
- Size of demand impacts can move prices, mitigating some response.

Time profiling of price response is uncertain

- NGFR and NEFR are designed to capture long-term trends/dynamics, not short term.
- Contracts/competition/industrial plans not transparent to AEMO.

CURRENT CHALLENGE

What do we assume for the next 1-2 years when supply adequacy/system security may be a priority concern?

- Our models suggest large price increases can trigger significant reductions in demand and energy consumption.
- System security concerns warrant a conservative, risk-averse approach.

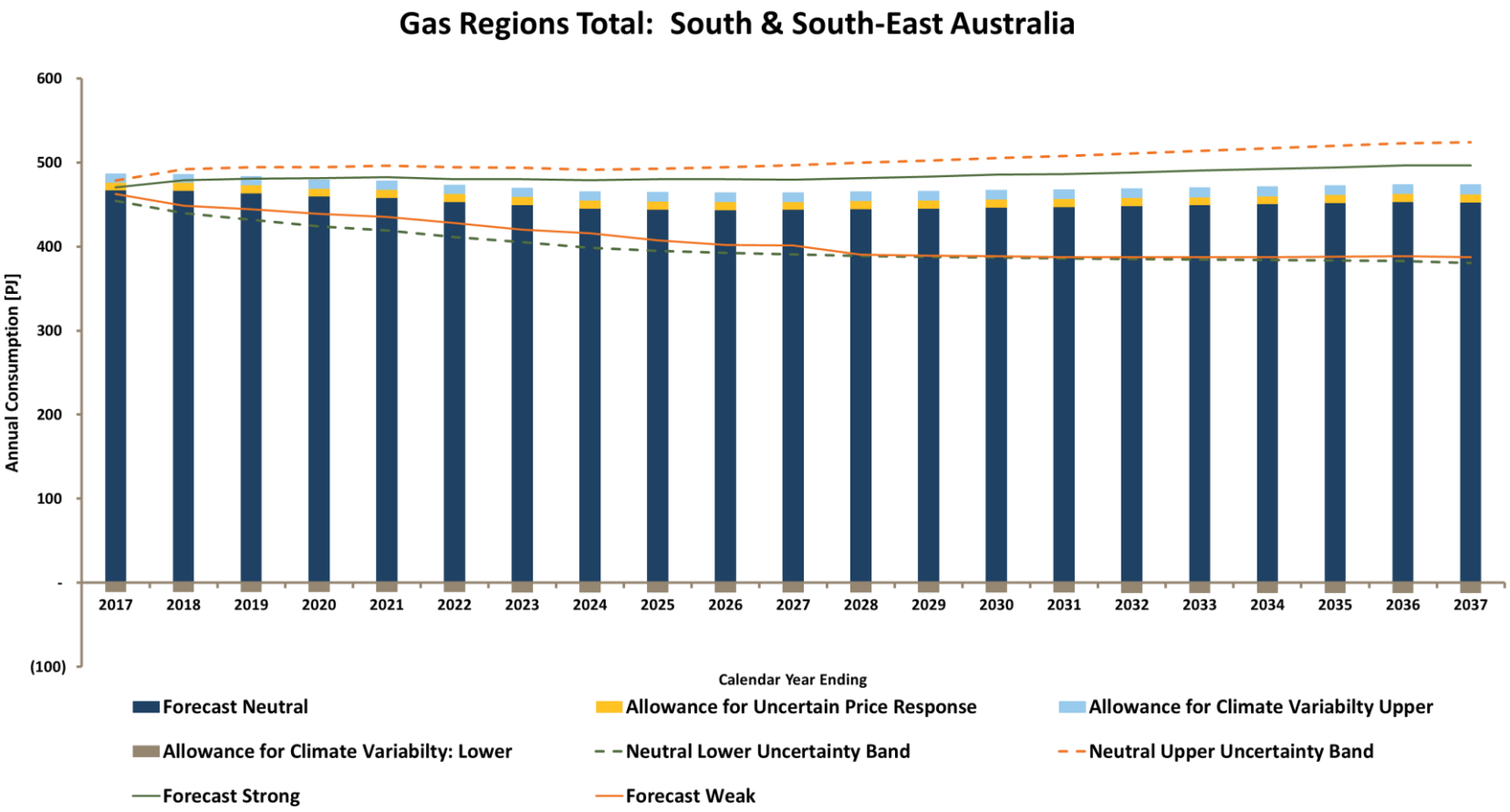
HOW WE ARE MANAGING THIS

1. **Price elasticities at low-end and in some cases below benchmarking range.**

2. **Smart meter analytics program planned for summer to enable improved "evidence-based" trend monitoring.**

3. **Discussions with federal government and ACCC on AEMO's methods of price and price response forecasting.**

4. **Adoption of "Uncertainty-Limits" to advise industry of AEMO's confidence in its forecasts.**
   1. Forecasts are bounded by an upper and lower uncertainty limit.
   2. Reflects an allowance for forecasting risk and uncertainty.
   3. Single-point forecasts are not considered reliable enough for system studies, so ESOO/GSOO/NTNDP style reports will now consider range forecasts.

HOW WE ARE MANAGING THIS

Example of uncertainty-bounded forecasts