

Operational Forecasting

Covid-19 Briefing 6th April 2020

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Operational Forecasting

- 5-minute and 30-minute resolution demand forecasts
 - For dispatch (5-minutes ahead)
 - For pre-dispatch (30-minute resolution up to 40 hours ahead)
 - For STPASA (30-minute resolution, 7 days ahead) for outage assessment and planning
- Wind Farm Forecasts
- Roof-top Solar & Solar Farm Forecasts
- Forecast Uncertainty Measure
 - BBN Network of 1 billion data points (forecasts)
 - Zero to 72 hours ahead

Operational Forecasting

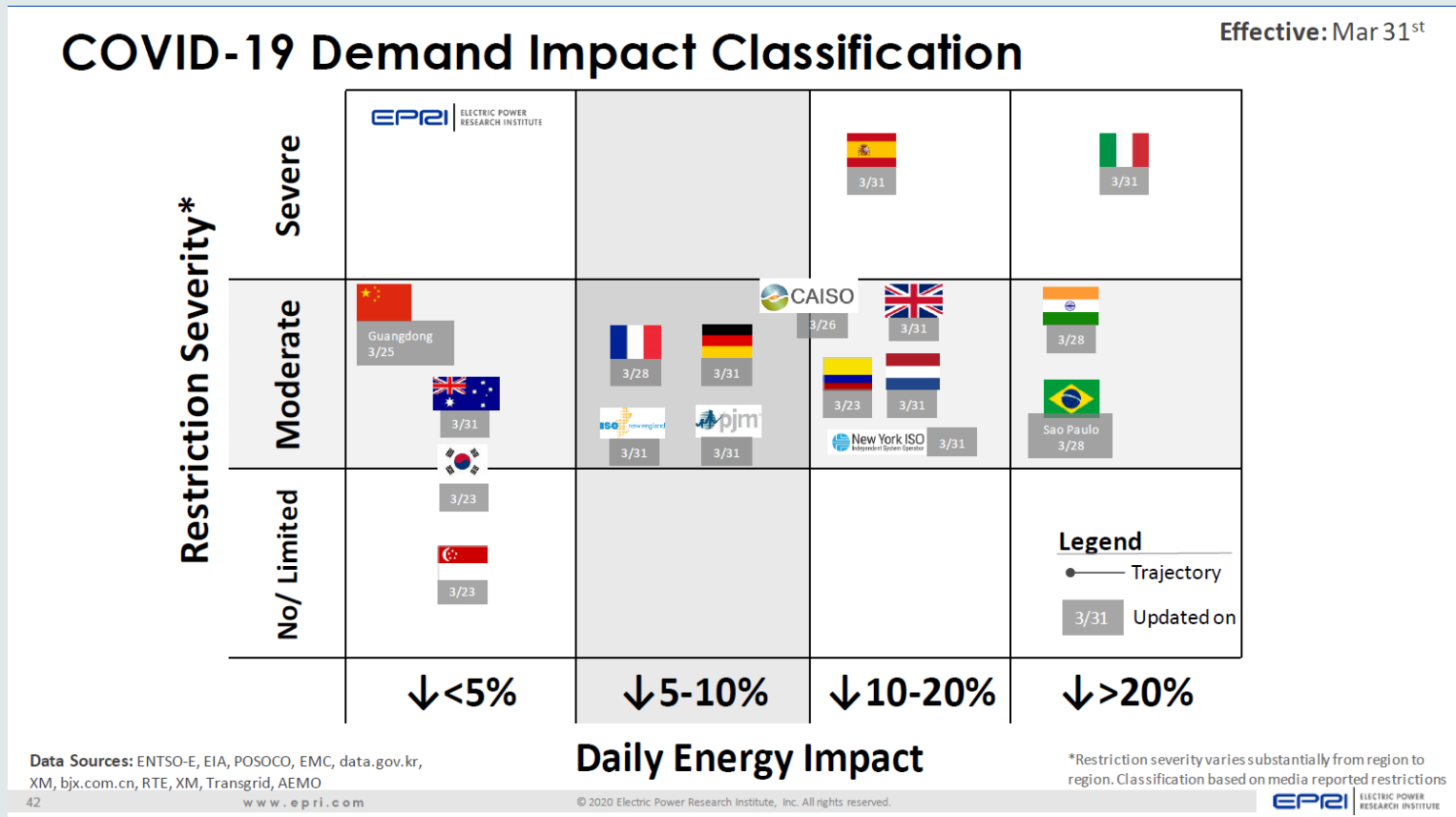
- International engagement
- Actions to date
- Observed Covid-19 impacts
- Easter weekend weather and demand outlook

Please note all demands quoted in this presentation are Operational Demands

International Engagement

- Working closely with Itron – provider of our Demand Forecasting Software: Metrix
- Insights from our international forecast suppliers e.g. Tesla Forecasting, Amperon and others
- Actively sharing experiences with international ISOs e.g. CAISO and ISO-NE
- Engaging with our industry and association networks e.g. EPRI

International Engagement



Many thanks to EPRI for allowing us to share this slide

Actions to Date

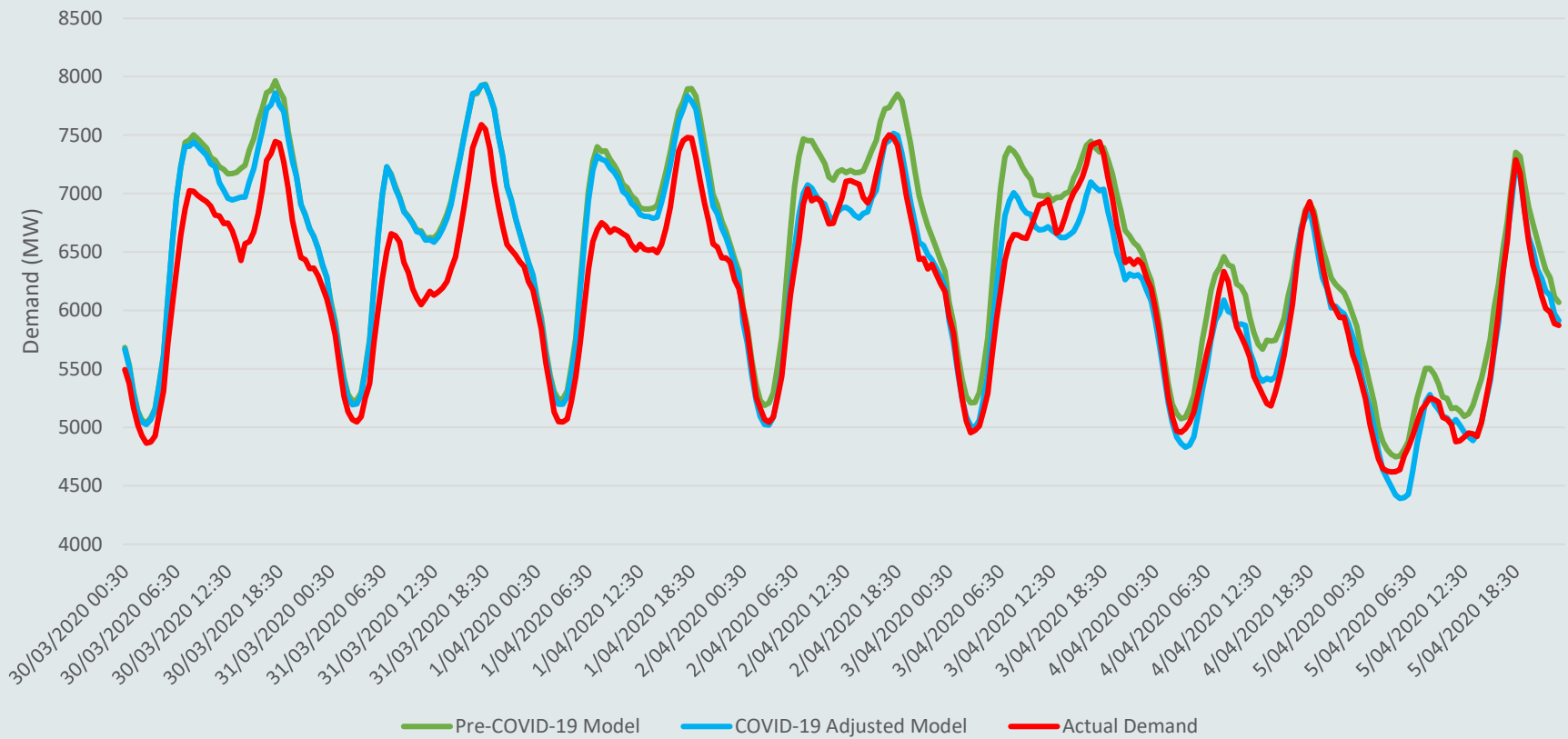
- Initially tuned the half-hourly back-calibration in all models
- Implemented manual forecast adjustments where required
- Designed and implemented a **Pandemic Variable**
- Created a pre-Covid dummy model to assess impacts
- Engaged with major industrial loads to ensure we have best intelligence
- Working with Forecasting colleagues to enhance situational awareness for the industrial sector

Observed Impacts

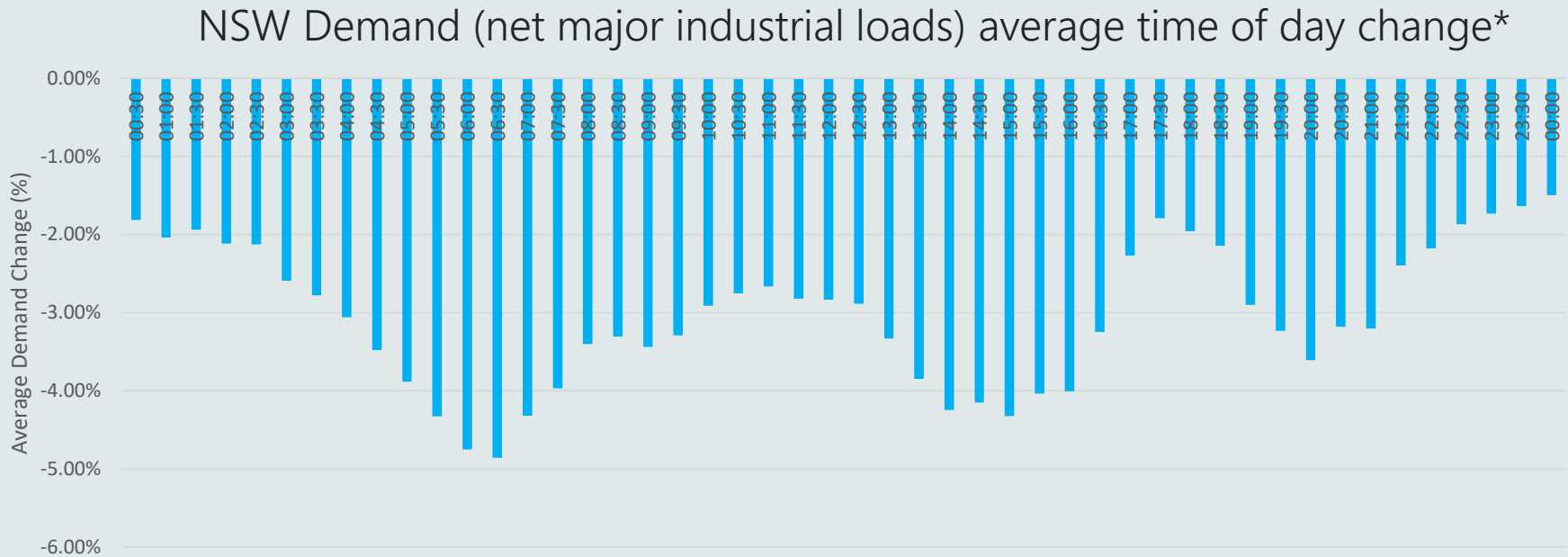
- All regions we are seeing later morning peaks. We assume this is due to reduced commute times.
- **NSW** loads have seen a sustained reduction to approximately 5% at morning peak.
- **Southern QLD** similarly observing reductions to approximately 4% during the day.
- No notable impact observed in overall energy consumption in SA, VIC and TAS to date

Observed Impacts

NSW Demand (net major industrial loads) 30th March to 5th April



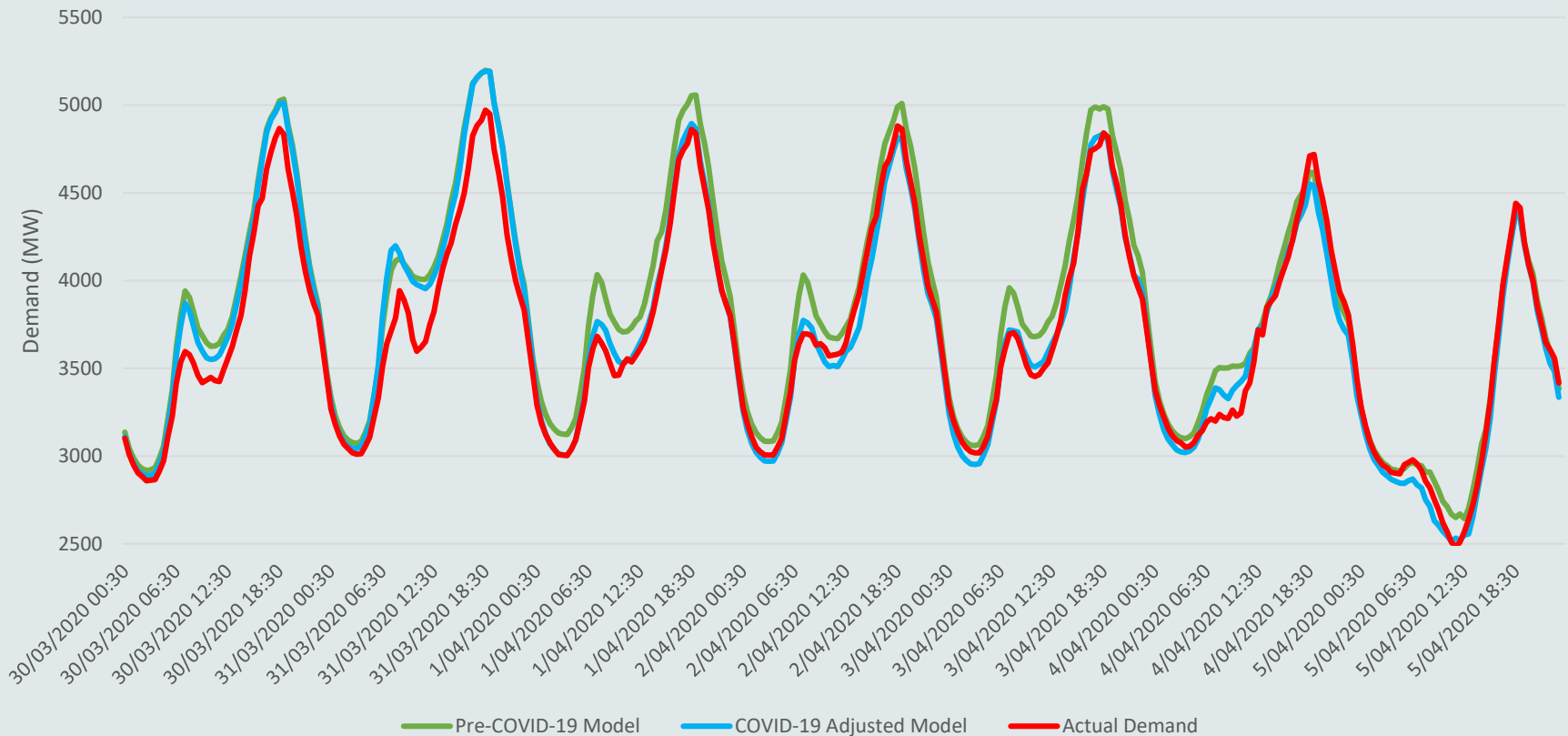
Observed Impacts



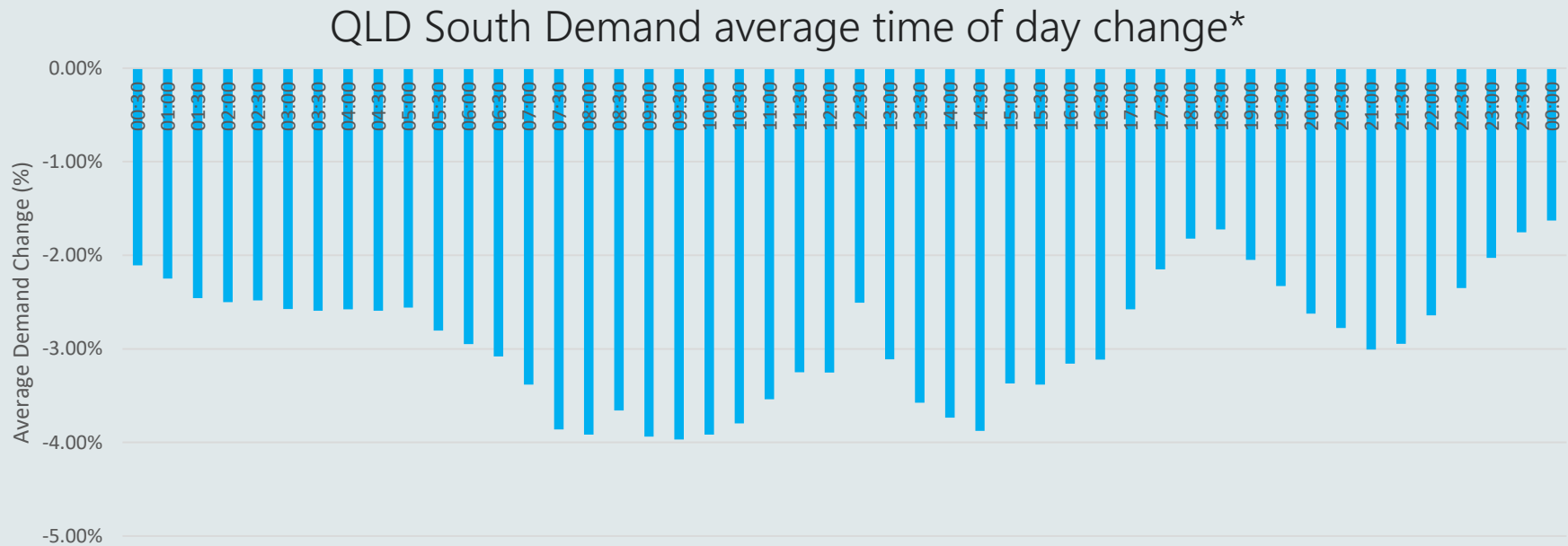
*Negative indicates reduction in load

Observed Impacts

QLD South Demand 30th March to 5th April



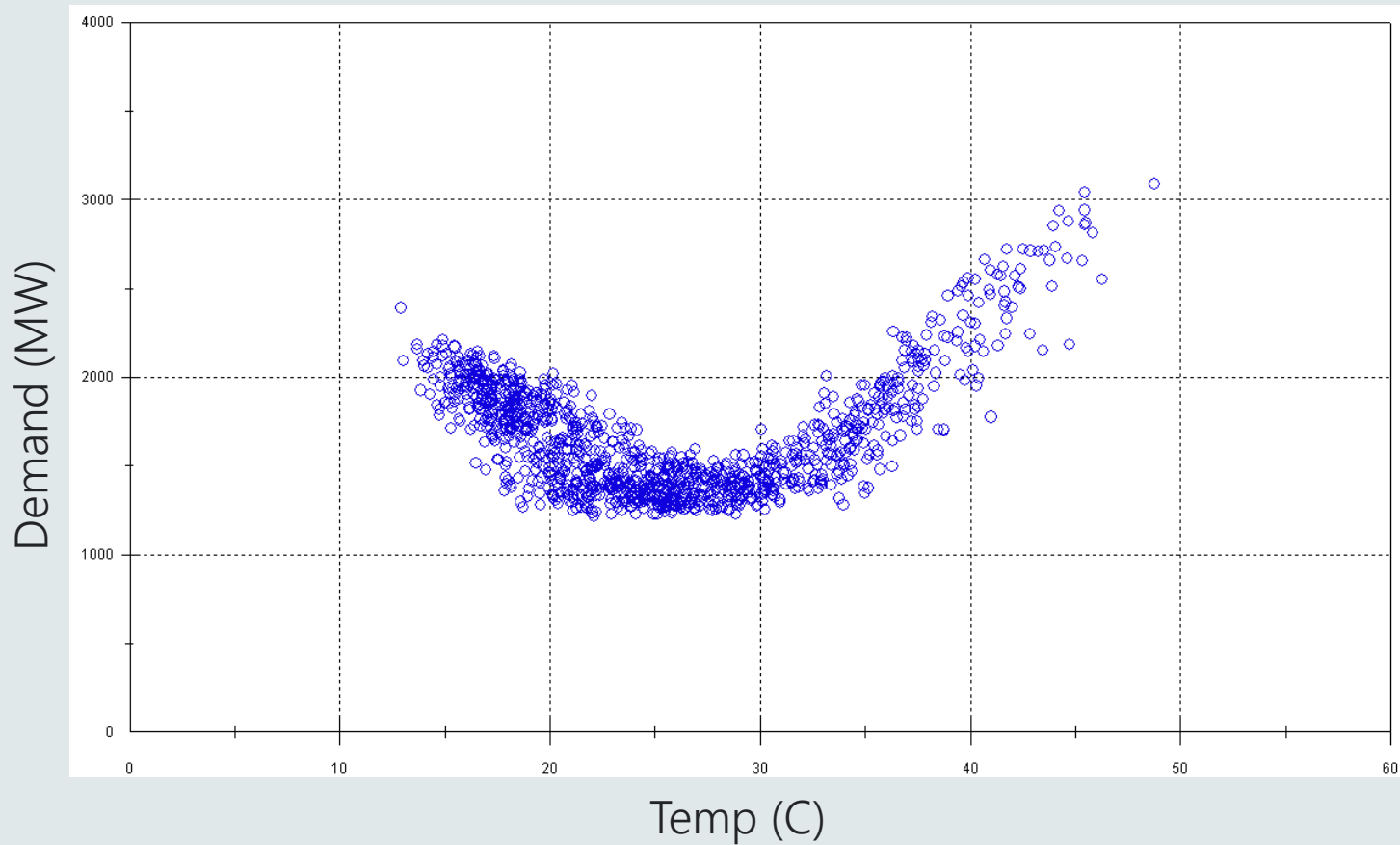
Observed Impacts



*Negative indicates reduction in load

Easter Weekend

SA (net industrial loads) Peak Demand vs Max Apparent Temperature

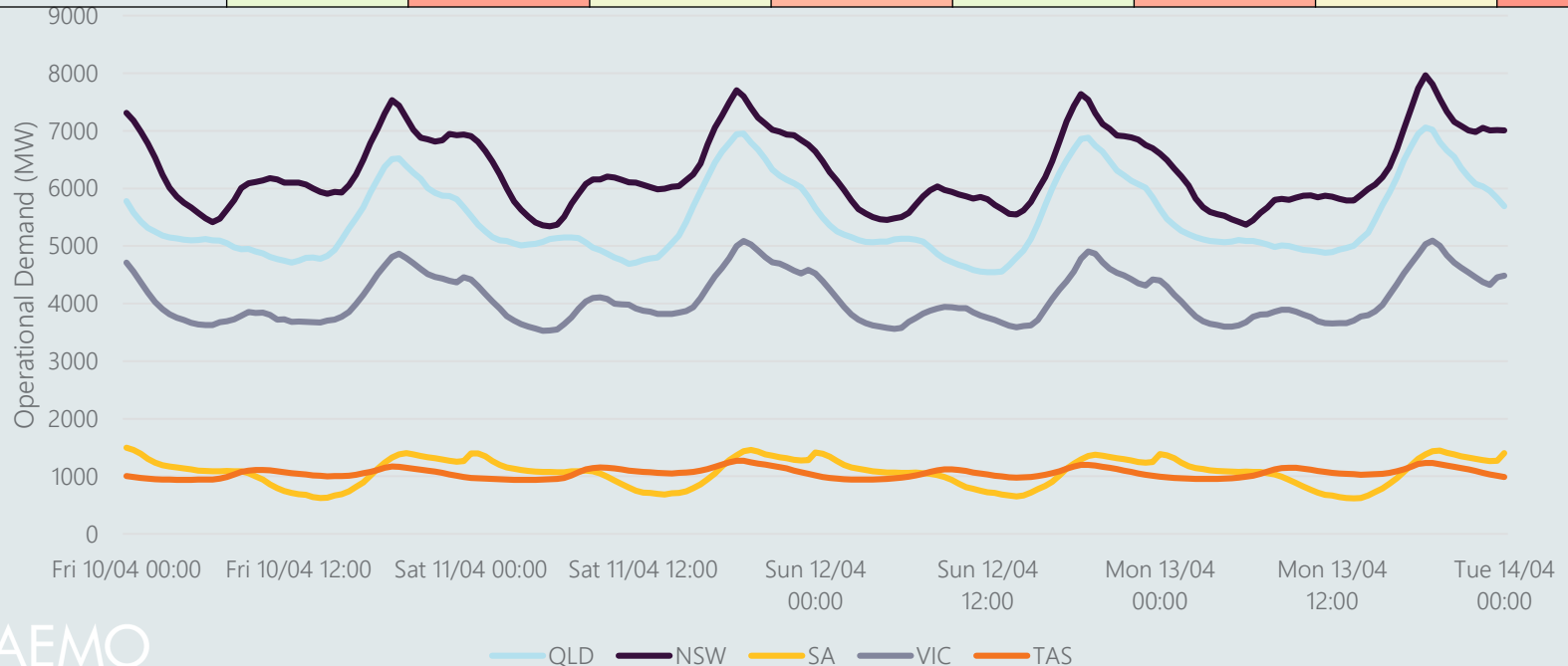


Easter Weekend Weather Outlook

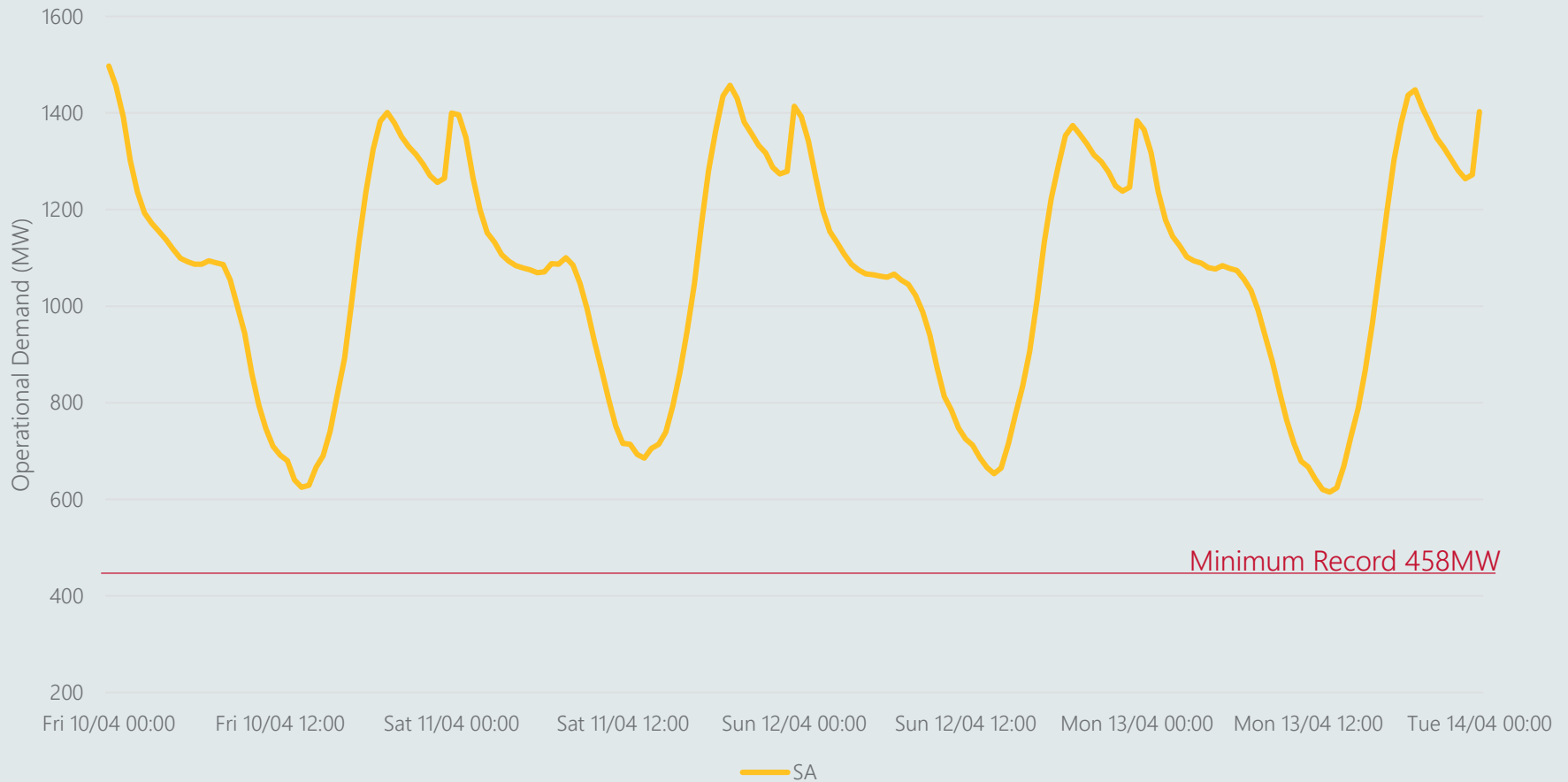
- High uncertainty remains for the Easter weekend weather due to the location of a cold front, currently expected to clip south-eastern Australia late Friday into Saturday
 - If the front is further south, clearer conditions are possible which would reduce VIC and SA daytime loads due to increased rooftop-PV
 - Currently the front expected to impact VIC, SA and TAS from Friday evening
 - Some thunderstorms and severe weather warnings are possible
 - Minimum demands are forecast to be lowest on Friday and Monday

Easter Weekend Outlook

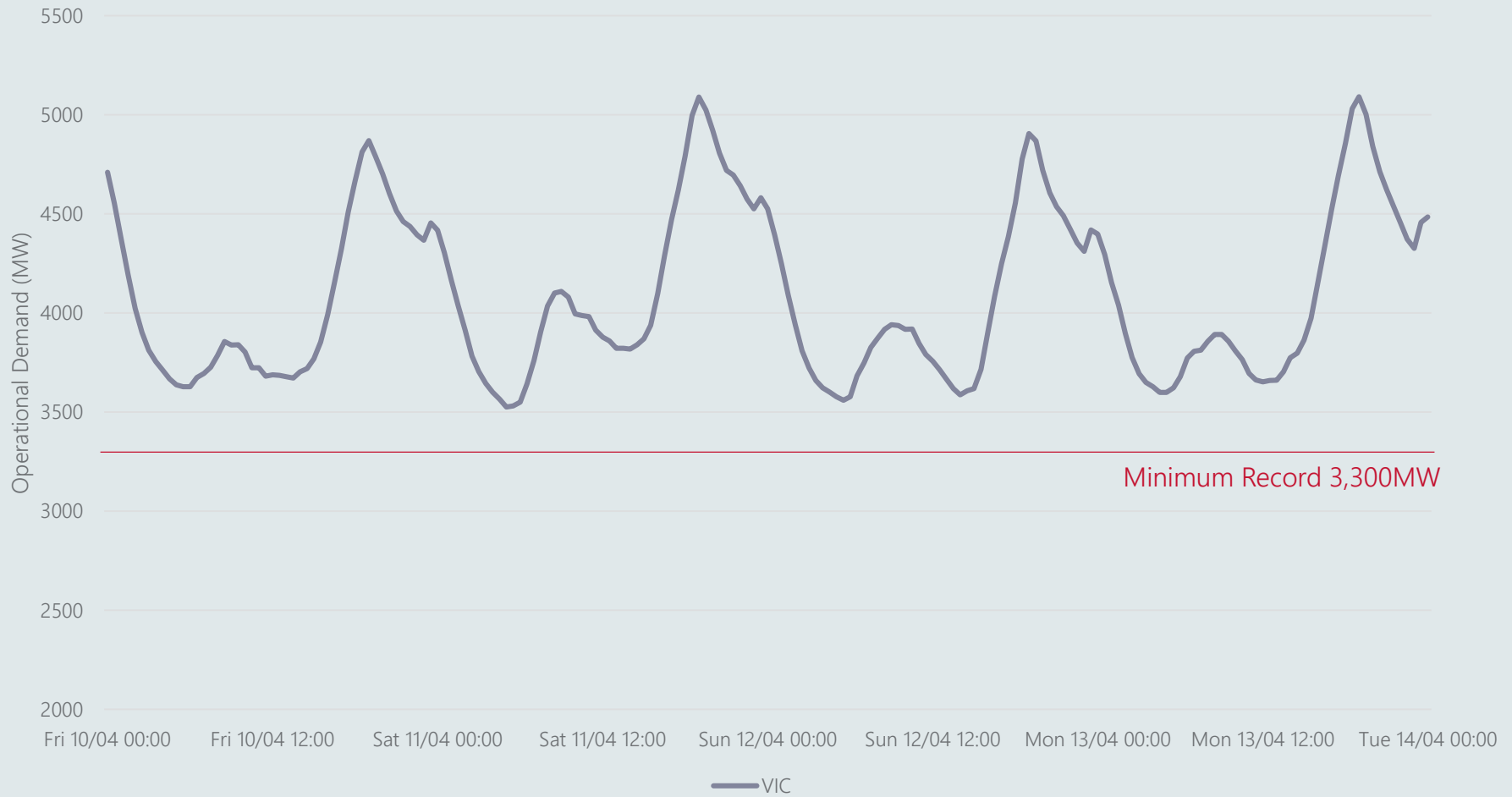
	Friday 10 April		Saturday 11 April		Sunday 12 April		Monday 13 April	
	Min	Max	Min	Max	Min	Max	Min	Max
QLD Demand Forecast	4,714	6,522	4,689	6,954	4,544	6,881	4,882	7,056
Archerfield	16	27	15	31	15	29	15	29
NSW Demand Forecast	5,413	7,534	5,344	7,705	5,455	7,640	5,369	7,962
Bankstown	12	26	15	26	12	22	12	24
VIC Demand Forecast	3,628	4,869	3,526	5,089	3,560	4,905	3,599	5,091
Melbourne Olympic Park	13	24	12	17	11	19	11	22
SA Demand Forecast	625	1,456	685	1,457	653	1,392	615	1,448
Adelaide (Kent Town)	13	24	14	22	13	23	15	25



SA Easter Weekend Demand Outlook



VIC Easter Weekend Demand Outlook



Questions?