

Quarterly Energy Dynamics Q2 2021 Observations

Electricity Market & Power System Insights
Presented to WA Electricity Consultative Forum
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Executive Summary

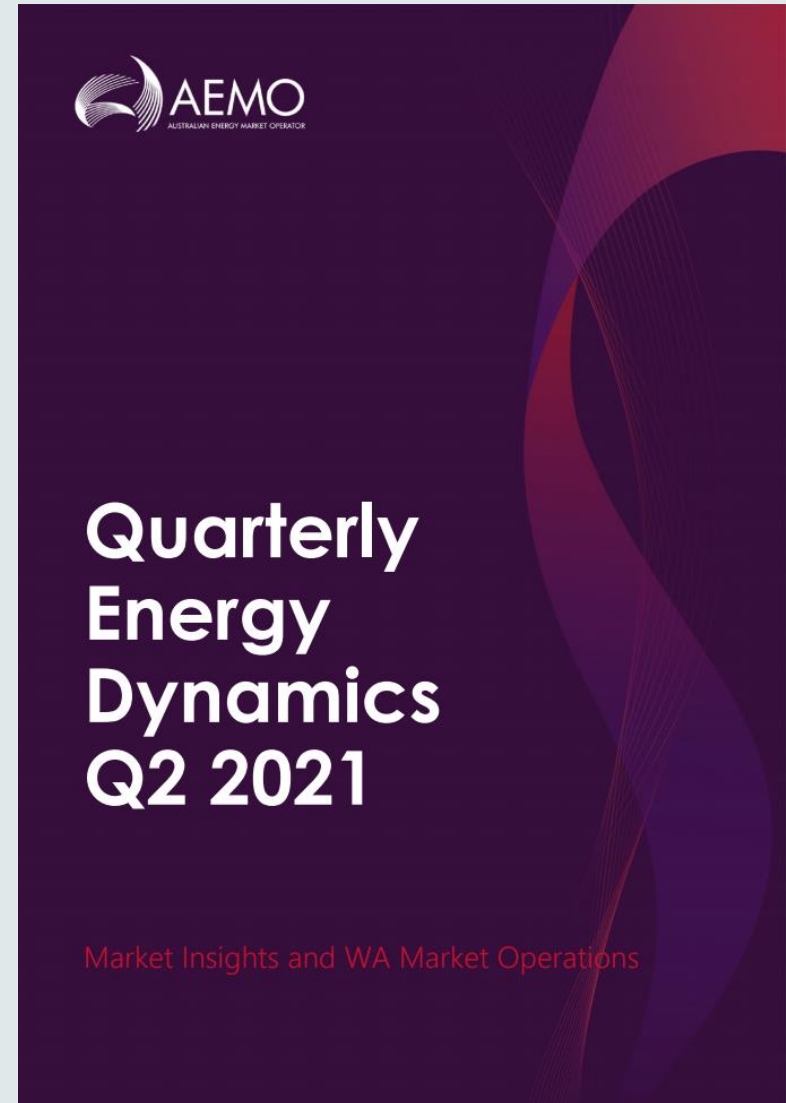
The Q2 2021 QED Report will be published around 22nd July

Q2 2021 events:

- Cyclone Seroja resulted in the islanding of North Country and affected ~600 MW of wind capacity due to Network outages

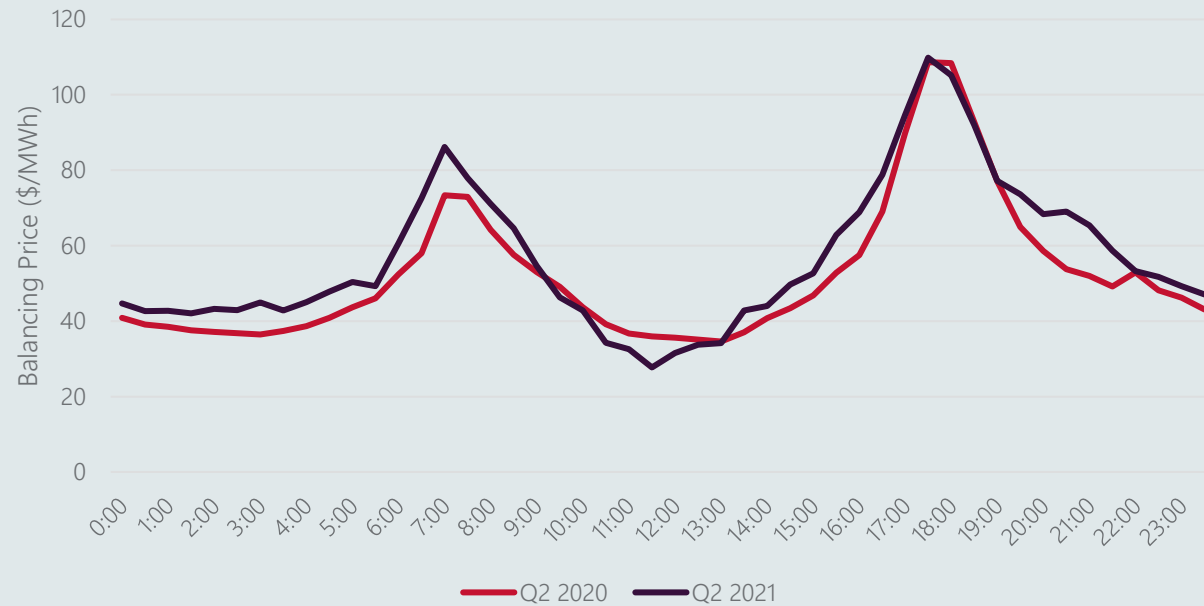
Trends and insights:

- WEM greenhouse emission decreasing since 2016
- Scheduled Generators have been decreasing minimum generation levels in order to operate more flexibly
- Decrease in gas production in WA offset by increase in storage facility exports



Balancing Price and Operational Demand

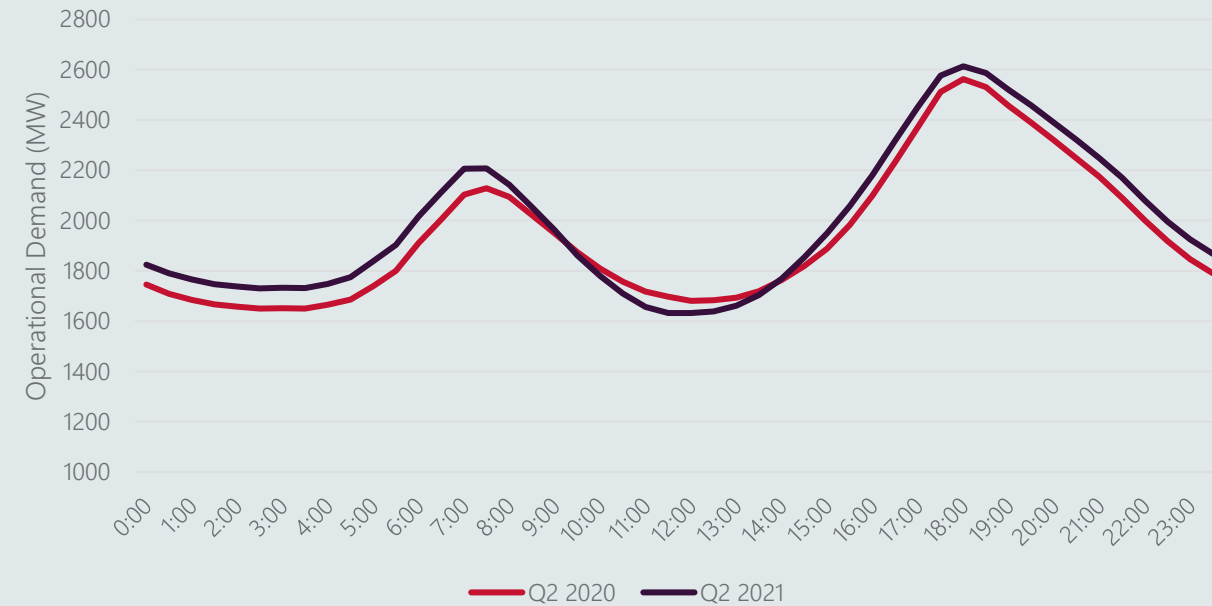
Change in Balancing Price



Q2 2021 Balancing Price* up by \$4.51/MWh compared to Q2 2020.

*Based on data up to Trading Day 15th June

Change in Operational Demand



Q2 2021 Operational Demand* up by 52 MW (2.7%) compared to Q2 2020. Continued trend of lower daytime demand and higher evening peak and nighttime demand.

*Based on data up to Trading Day 17th June

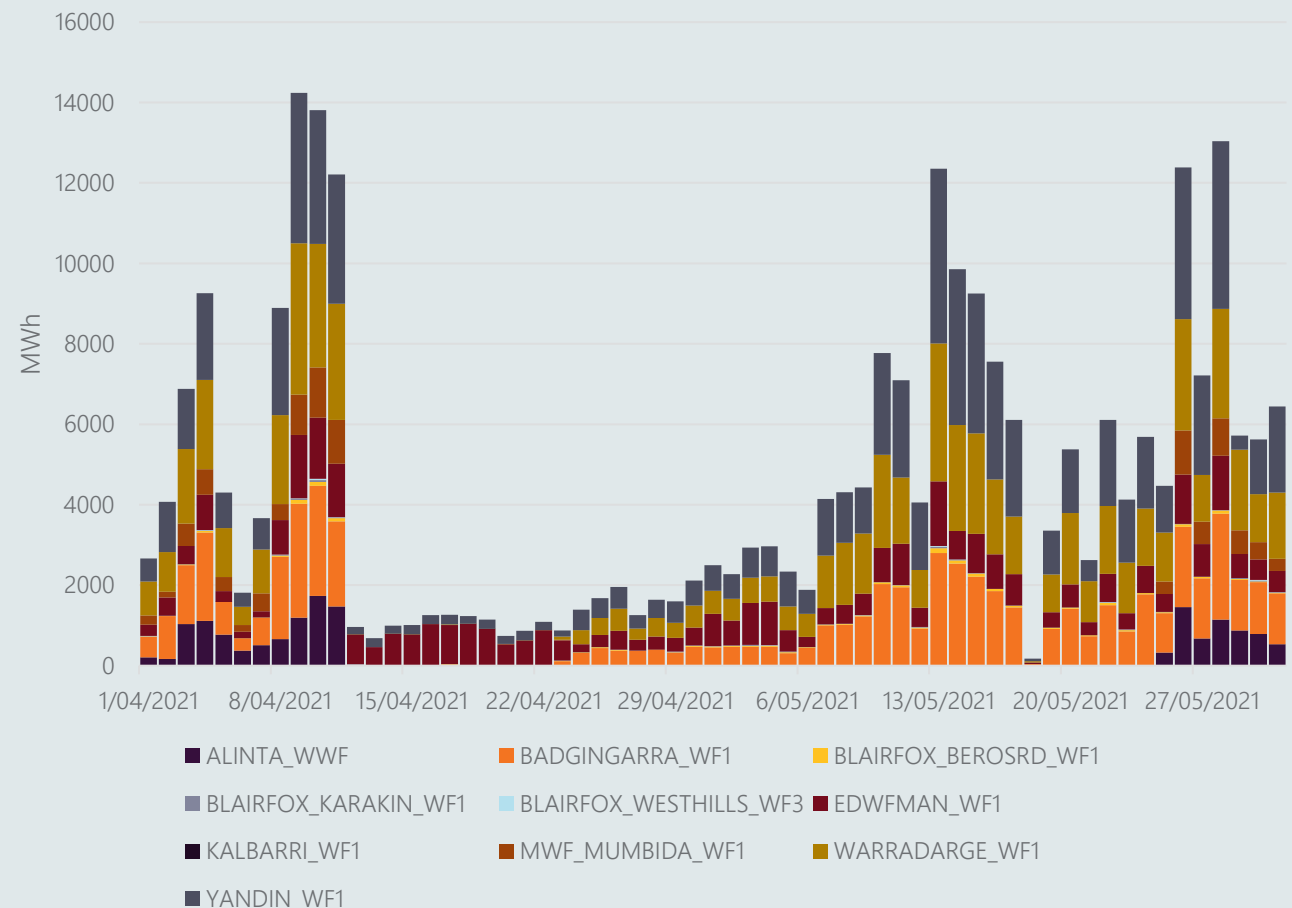
North Country Wind Facility SCADA

Cyclone Seroja made landfall on 11/04/2021 resulting in the outage of several Transmission lines. This resulted in the extended islanding of the North Country region of the SWIS from 14/04/2021 to 21/04/2021.

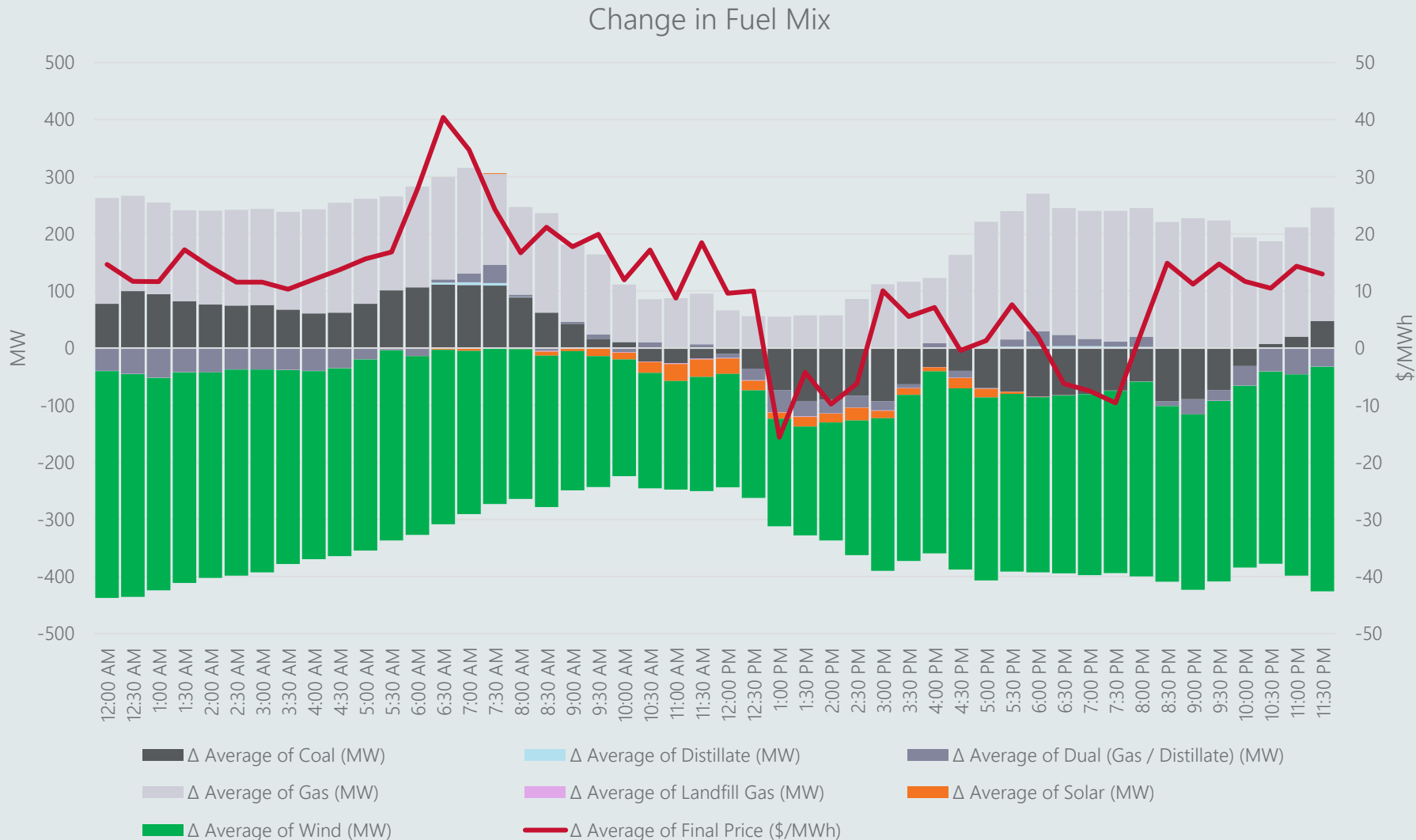
More than 600 MW of NSG Capacity was affected by Cyclone Seroja

MUNGARRA_GT1, MUNGARRA_GT3, and TESLA_GER Facilities were used to maintain system security in the North Country

Sum of North Country Wind Generation (MWh) by Facility



Change in Fuel Mix and Balancing Price due to Cyclone Seroja



Significant reduction in wind generation across every interval primarily due to cyclone

Increase in gas generation across every interval

Increase in coal generation overnight and in the morning

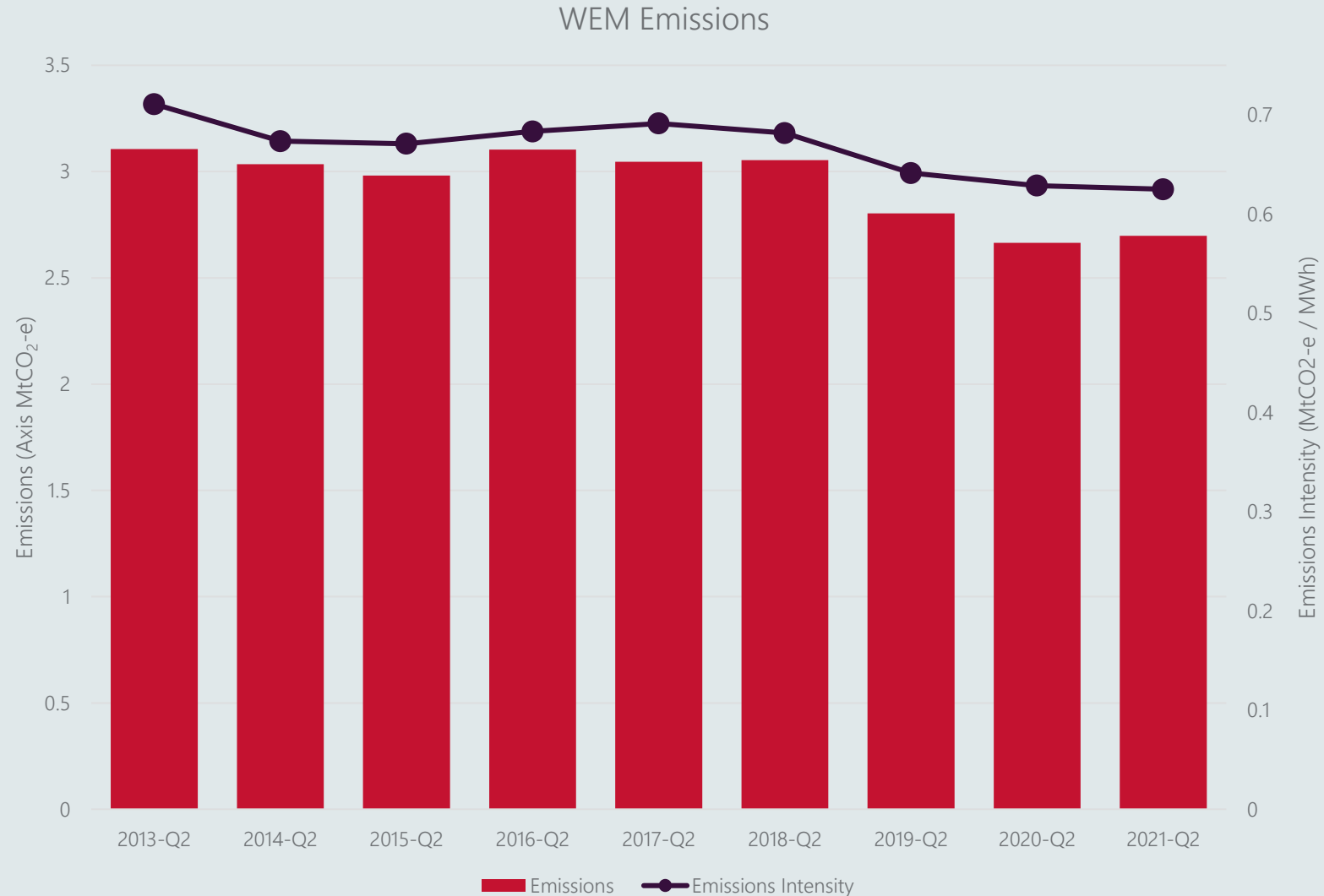
WEM Emissions

Q2 WEM emissions decreasing since 2016, emissions intensity decreasing since 2017

*Generation based on sent out Facility SCADA. Facility Emissions Intensity from most recent CER data (FY19/20) based on total generation.

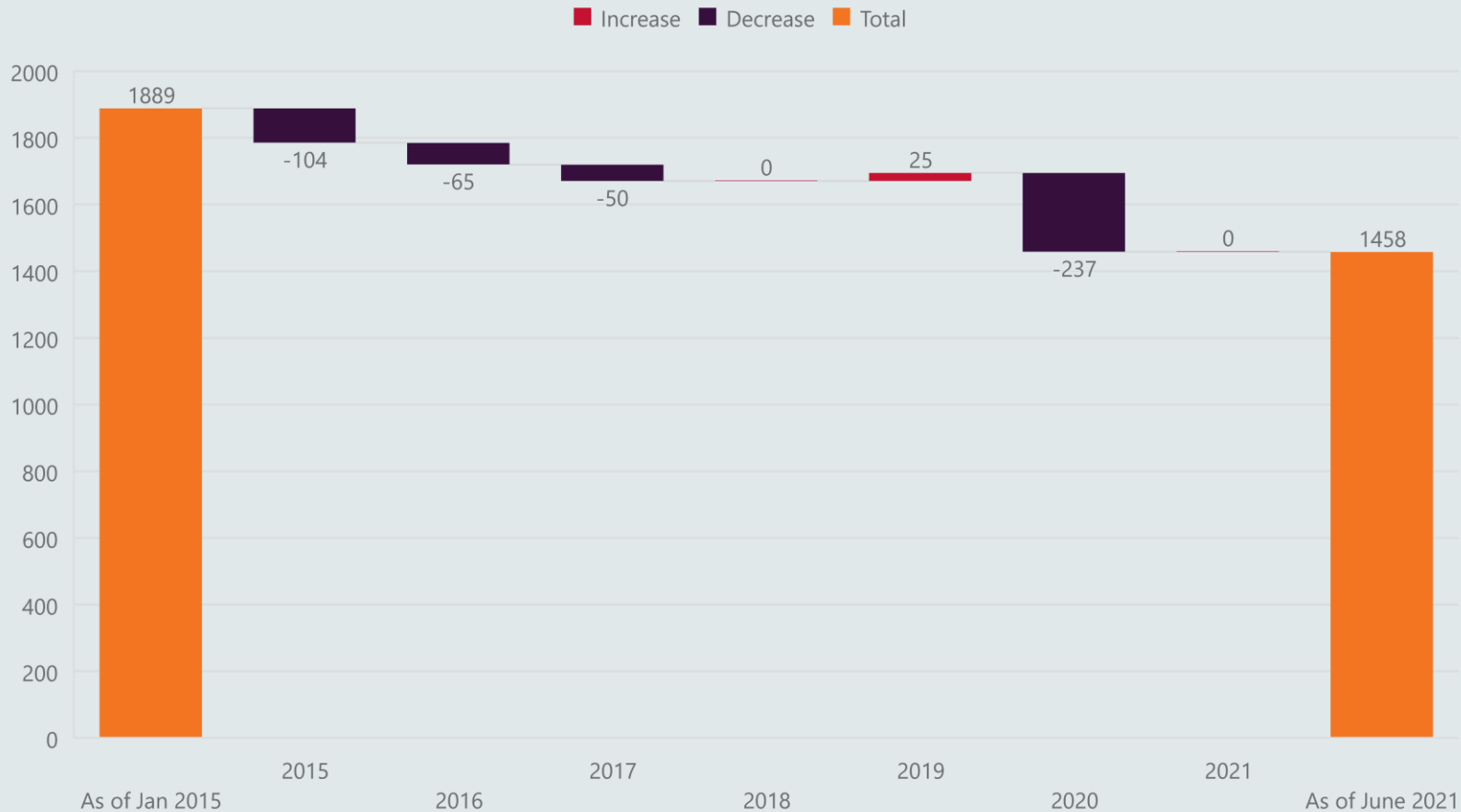
Q2 2021 grid wind and solar generation up by 160 MW (118%) since Q2 2016

* Data extrapolated for Q2 2021 based on 79/91 days data.



Scheduled Generators increase flexibility

Change in Scheduled Generators' Minimum Dispatchable Generation

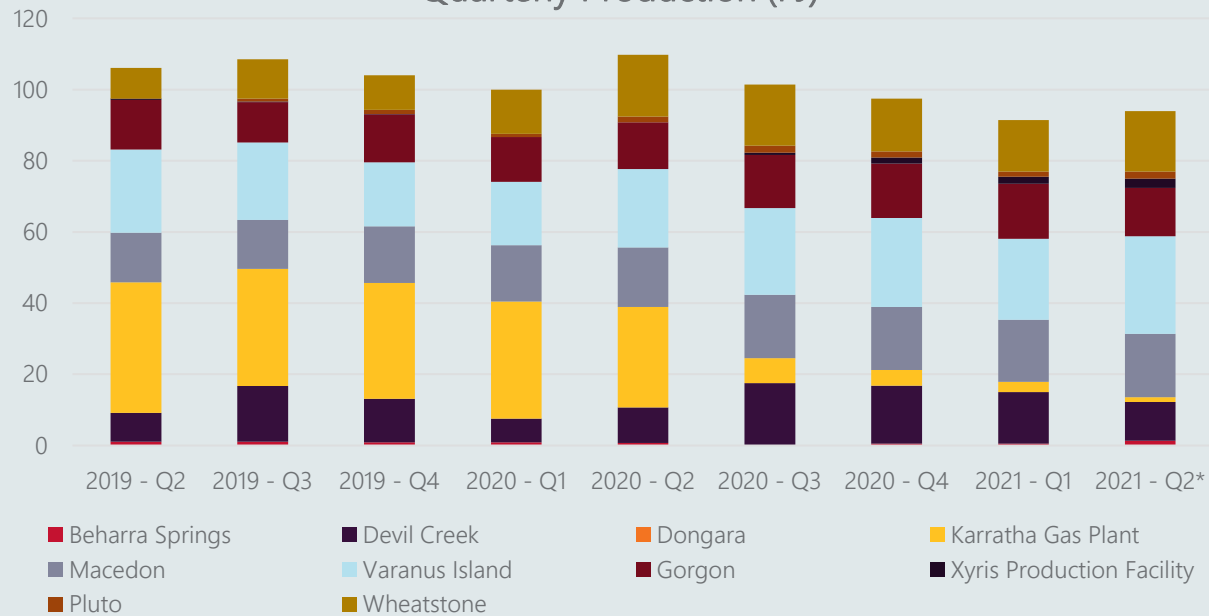


13 currently registered SG facilities have reduced their Minimum Dispatchable Generation since start of 2015

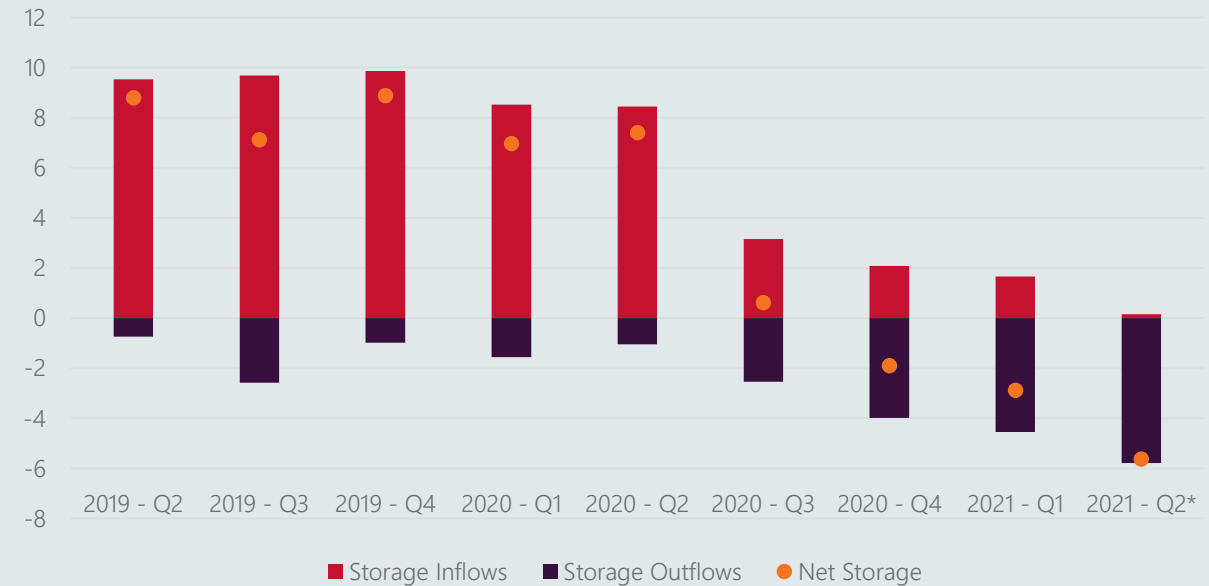
Total reduction in Minimum Dispatchable Generation since start of 2015 is **432 MW**

GBB Insights

Quarterly Production (PJ)



Quarterly Storage Flows (PJ)



Gas Production decreases from a peak in Q2 2020 to the lowest levels since 2017.

* Data extrapolated for Q2 2021 based on 76/91 days data.

The behaviour of Storage Facilities changed from net import to net export between Q2 .

* Data extrapolated for Q2 2021 based on 76/91 days data.

Questions?