



AEMO Summer Readiness 2020-21

25 November 2020

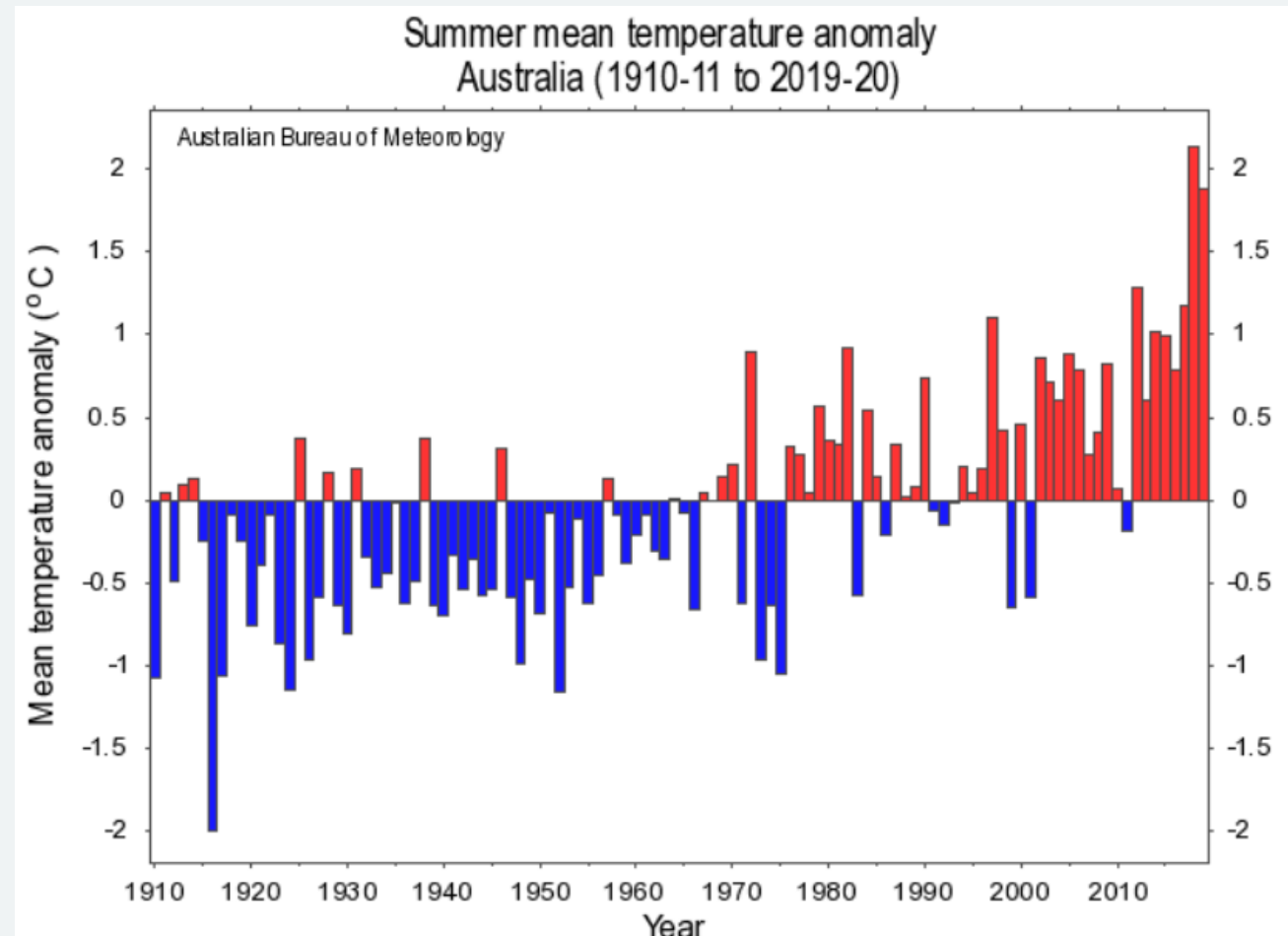
John Deere

Weather last summer – the new norm

- Maximum and minimum temperatures second warmest on record

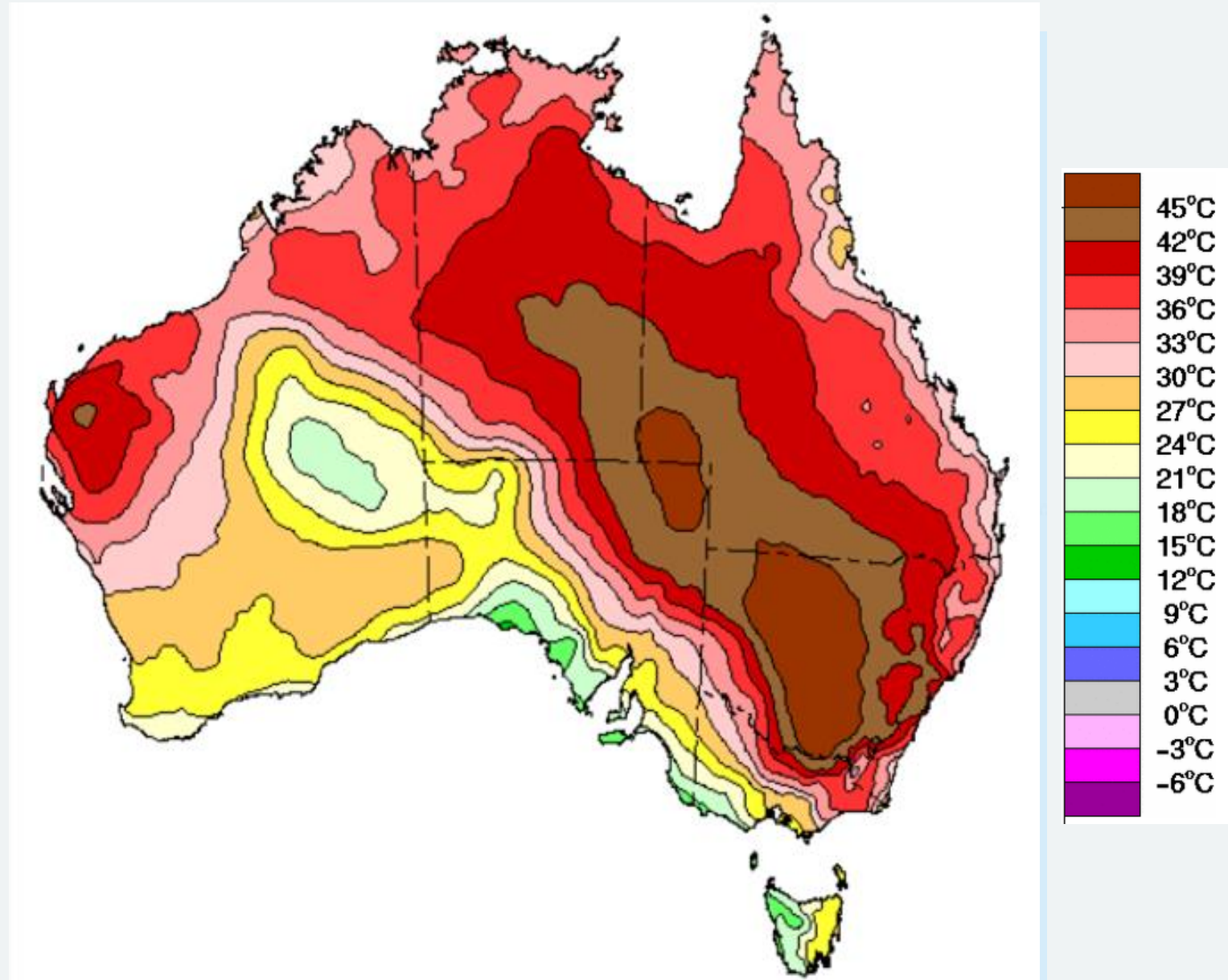
2019/20 was the second hottest on record with December 2019 being warmest December on record for Australia

- Two consecutive days in December set records for Australia's hottest day with 41.9°C setting new record on 18 Dec.
- December accumulated Forest Fire Danger Index values highest on record across most of Australia



4 January 2020

- Conditions
 - Major bushfires across NSW and Victoria
 - 47 degrees in Bankstown, Sydney
- Power System Impacts
 - Multiple transmission line trips
 - Regional separation
 - RERT used



Weather outlook

- Overall normal to below normal maximums with above average minimums.
- Prolonged heat events are a higher risk in SA & VIC, though less extreme than recent years.
- Humidity levels higher across much of Australia.
- Normal bushfire potential, with increased grass fire risk

WEATHER IMPACT

LIKELIHOOD (COMPARED TO MOST YEARS)



Bushfire activity

▲ **Normal bushfire potential**



Heatwave

▲ **Increased chance for SA & VIC (Less extreme)**



Widespread flooding

▲ **Increased chance**



Severe storms

▼ **Normal-to-below**



Drought

▼ **Less likely**



Strong Wind Events

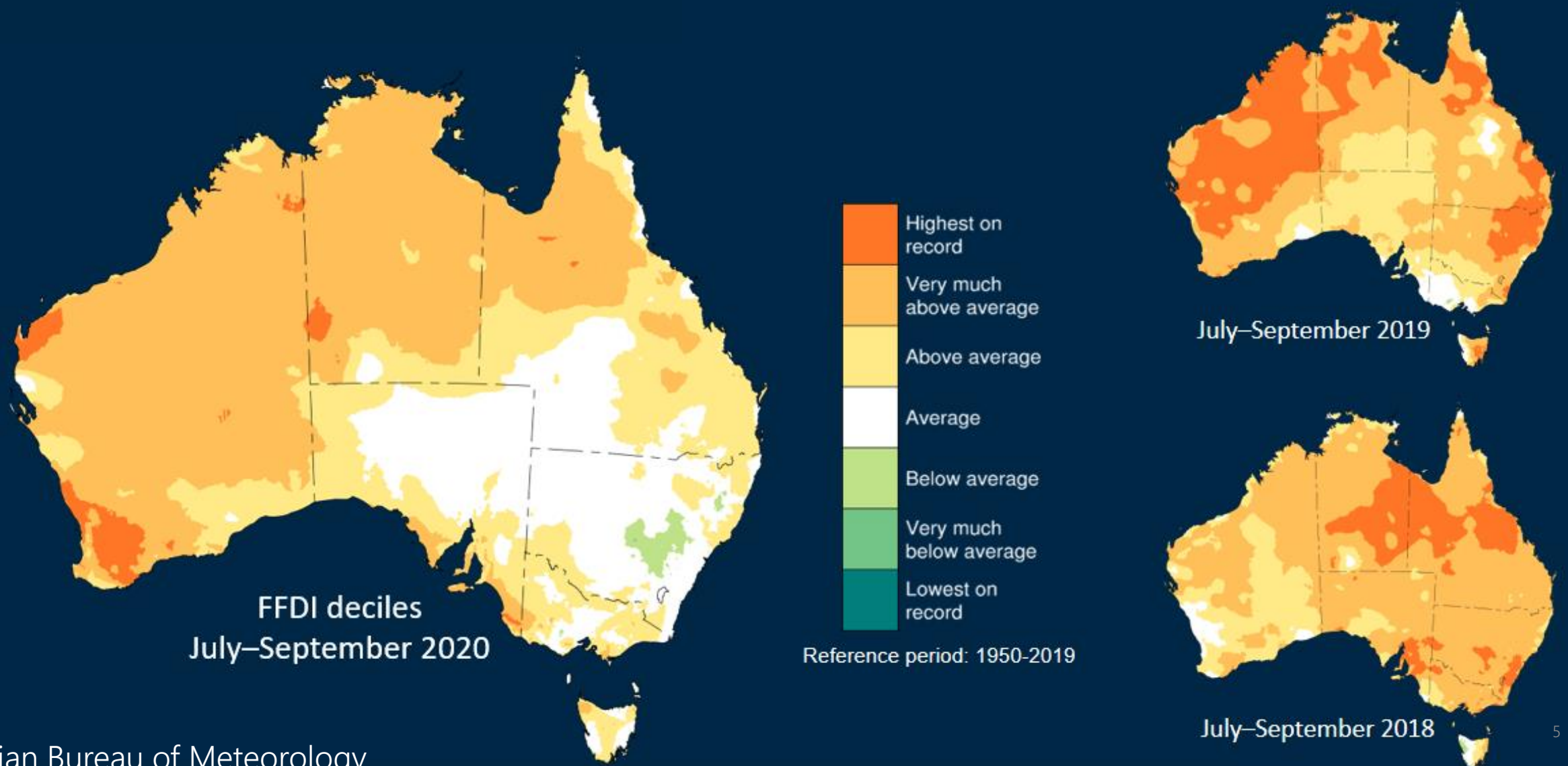
▼ **Reduced Risk**



Tropical cyclones

▲ **Increased**

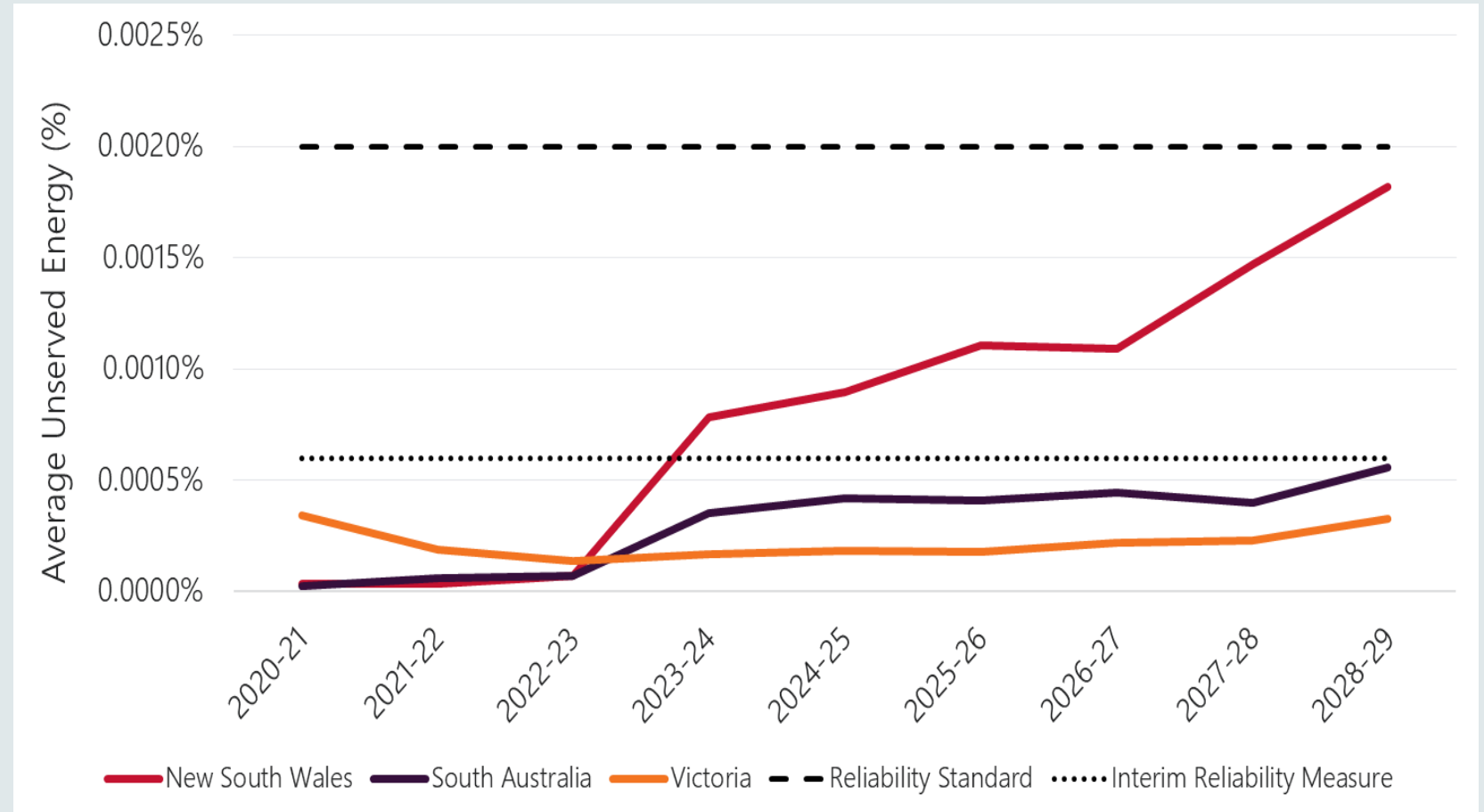
Forest Fire Danger Index (FFDI)



NEM Unserved Energy projections

2020 ES00

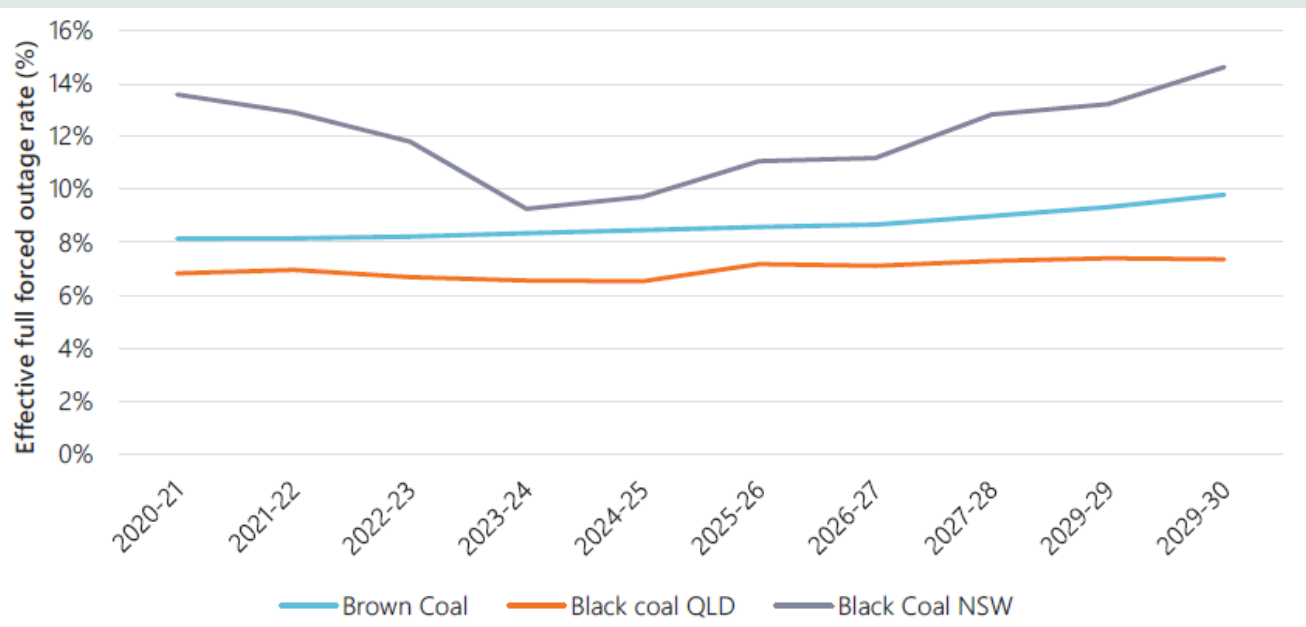
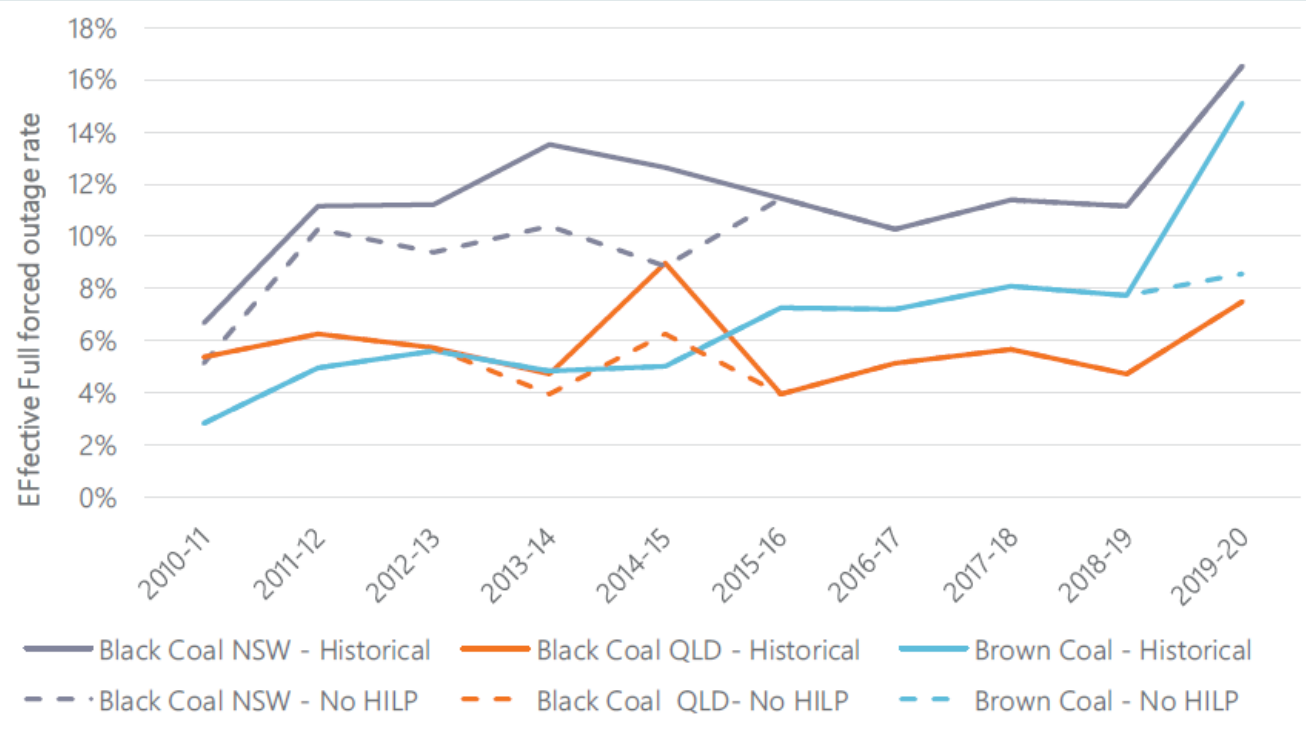
- Expected unserved energy forecast to be below standard for 2020-21
- Risk of load shedding remains if high demand and outages coincide



NEM forced outage rates

Reliability of thermal generation fell to historical low in 2019-20

Trend continues into future years

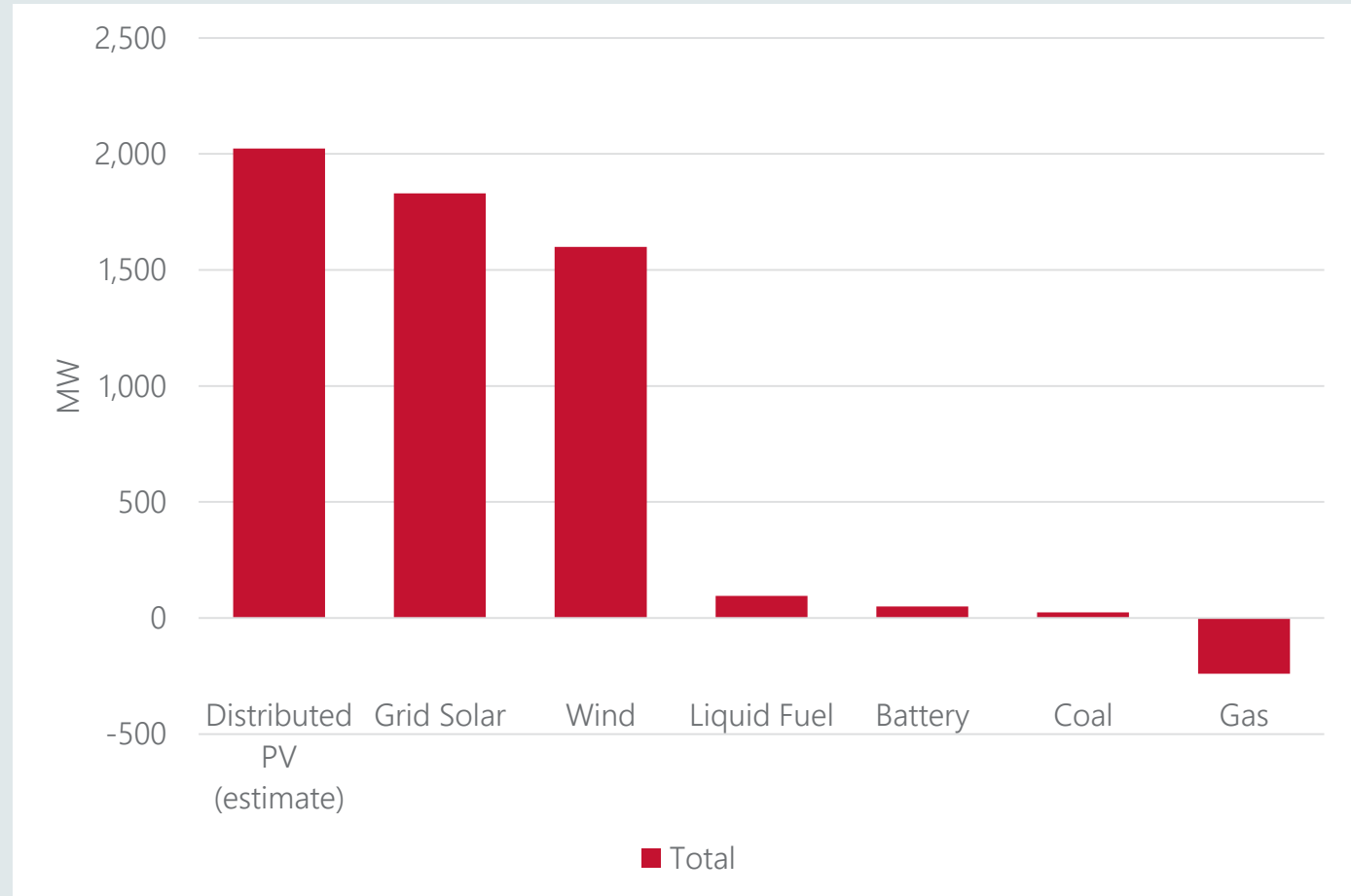


Supply/Demand changes since last year

New supply entering the market since last year

- The net new committed supply totals 5,400 MW (full capacity), comprising 3,400 MW VRE and 2,000 MW distributed PV
- As reported by project participants
- Available capacity of solar significantly reduced during evening peak

All NEM Regions have a 0-2% reduction in 10% POE forecast operational demand



RERT Strategy – Summer 2020/21

- AEMO does not forecast any Unserved Energy exceedance of the reliability standard or the interim reliability measure.
- Measures have been taken to mitigate any potential USE risks.

Supply and Demand

- AEMO's 2020 Electricity Statement of Opportunities (ESOO) does not forecast any Unserved Energy (USE) exceedance of the reliability standard.
- To mitigate any potential USE risks AEMO has conducted an EOI for the procurement of Short Notice RERT Reserve. Estimated reserve volumes to manage USE risks in the NEM:
 - Queensland – 25 MW
 - New South Wales – 881 MW
 - Victoria – 811 MW
 - South Australia – 201 MW
- Short Notice RERT (no availability costs) will be used to address the identified risk.
- AEMO will not enter into any agreements where the costs exceeds the value of customer reliability

Summer plan 2020-21

Lessons Learnt
driving
Improvements

1. Prepared resources
 - Generation availability, including Fuel
 - Transmission availability
 - Reliability Emergency Reserve Trader (RERT)
2. Operational improvements
 - Training
 - Processes
3. Contingency planning and Emergency Management
4. Communications and stakeholder engagement

Summer 2019-20

Lessons Learnt > Mitigations



Source: ABC

- Challenges contacting new intermittent generating units
 - Participants providing current contact details
- Difficulties operating South Australia as an island for extended period
 - Reviewed operational processes
- Unusual system configuration
 - Improved tools
- Impact of demand side response on supply

Summer 2019-20

Lessons Learnt

> Mitigations

- Impact of extreme conditions on wind/solar output
 - Discuss solutions with Participants
- Participant need for timely incident info
 - Review reporting processes
- Record maximum and minimum demands
 - Review voltage management strategy
- Forecasting challenges
 - Self-forecasting
 - Collaboration with weather forecasting industry
- Impact of ash and dust on network



Risks And Issues

Risks	Mitigations
Network and generation forced outages exceeding limits historically observed	RERT panel
Covid-19 may lead to longer than expected planned outages, and delays in returning unplanned outages	Coordination with Generators, TNSPs, Governments under ACCC Authorisation
Bushfires impacting fuel supplies (coal or gas production), generation or network assets (less impact than 2019-20)	Monitoring risk with asset owner advice
Increased storm and flooding likelihood, may impact fuel supplies and network infrastructure	Monitor coal generation and transmission availability
Unplanned high impact network outages coinciding with very low demand periods may result in NS wind or Rooftop PV generation disconnection	Contingency plans in place

Issues	Impact
Limit on SA to VIC transfer due to (SA) Para SVC outage	Constraint on Heywood interconnector
(VIC) Tower Restoration Work	Network limitations during outage

Cross-sector Engagement

Communication and
coordination
essential

- ACCC Coordination
 - QLD, VIC
 - Essential to mitigating COVID Impact and Risks
- Jurisdictional Engagement
 - Briefings
 - Exercises
 - Weekly NEMEMF Briefings from 5 Nov
- Emergency Management Services
 - Briefings to Critical Infrastructure Centre, regional forums
- Industry
 - Briefings to industry groups

Questions