

Production and Development Review for Australia - 2020

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Agenda

A Regional Perspective of 2020

Australia in 2020 – an Introduction

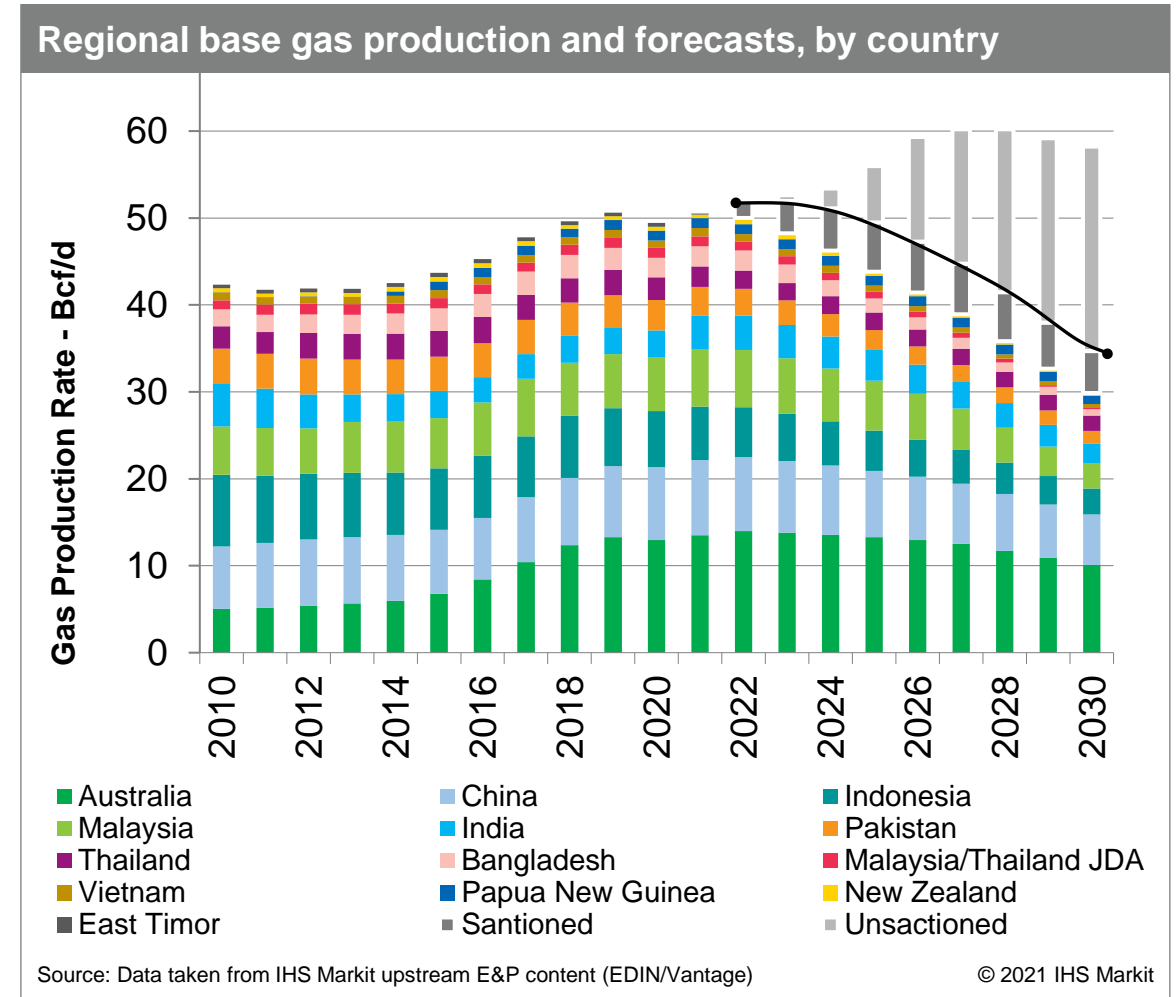
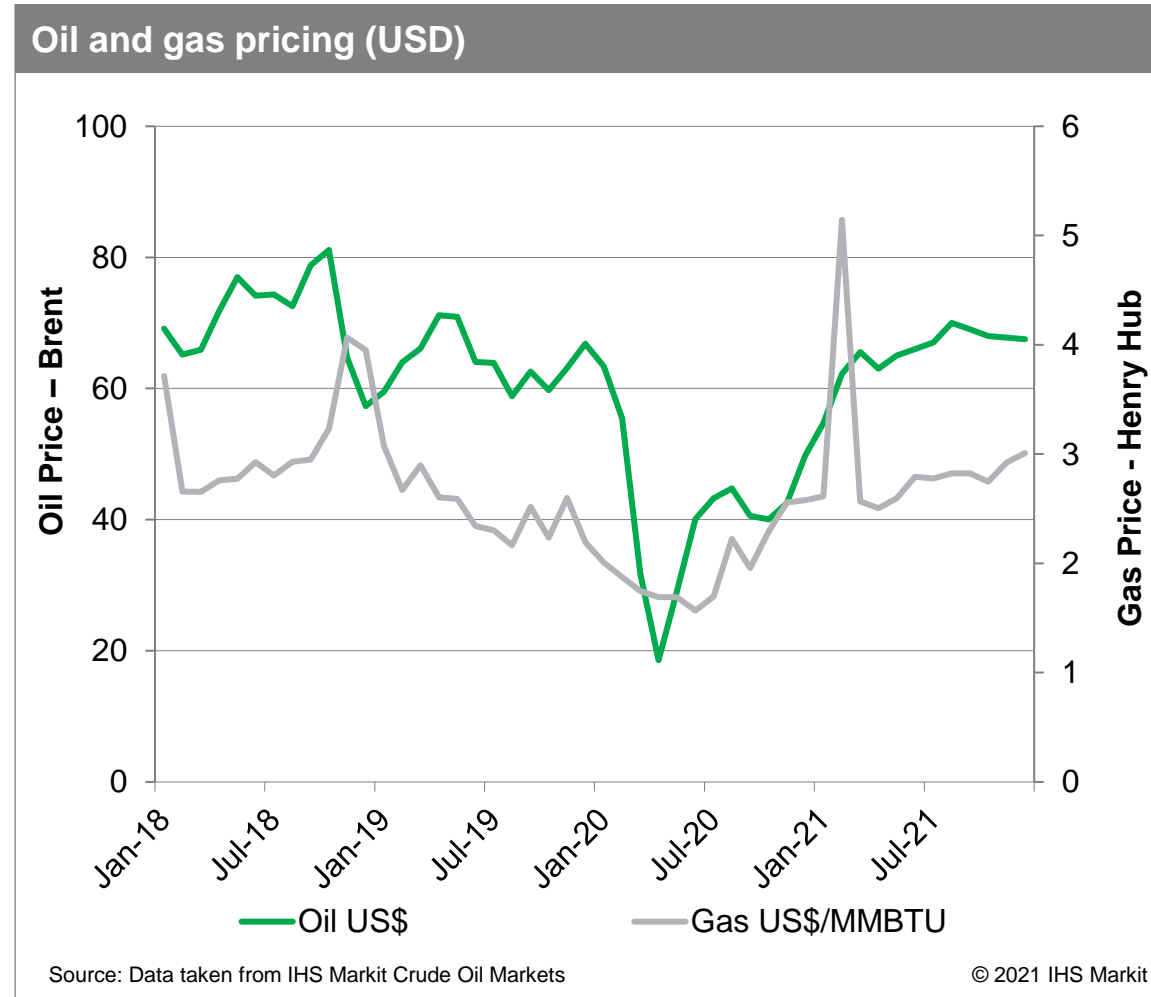
Production Discussion

Development Discussion

Forecasts

A Regional Perspective for the Year 2020

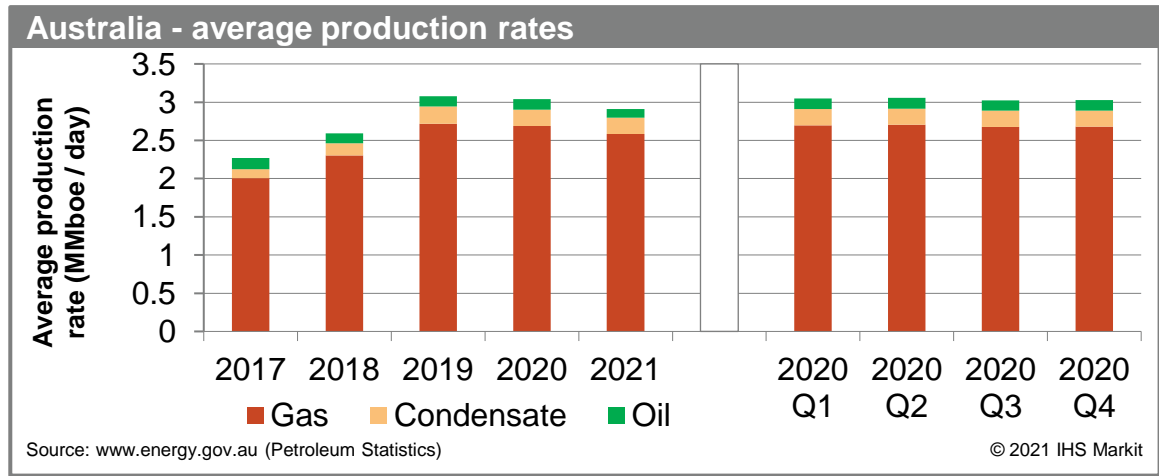
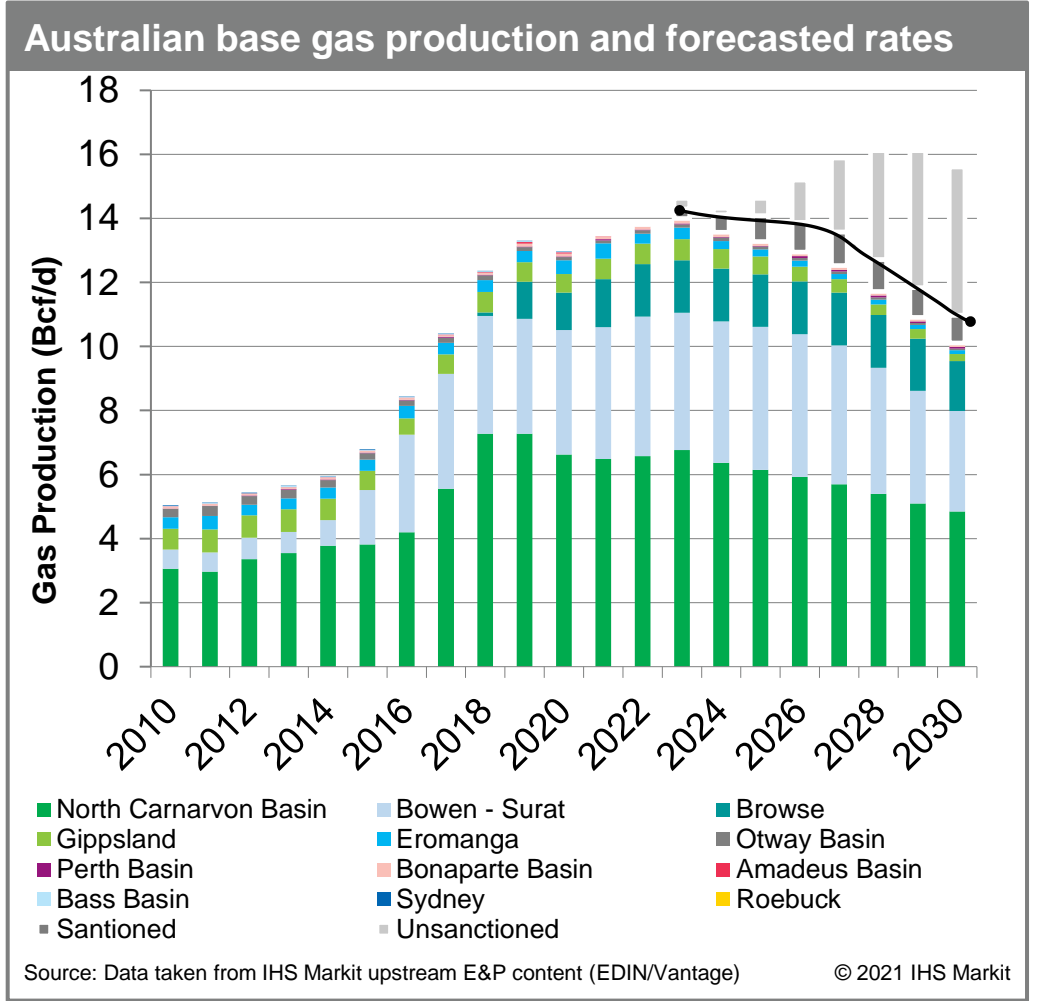
Reduced commodity pricing caused significant suspension in sanctioning for major developments – bringing the regional, existing and sanctioned based gas supply decline to around 2023.



Australia – An Introduction to the Year 2020

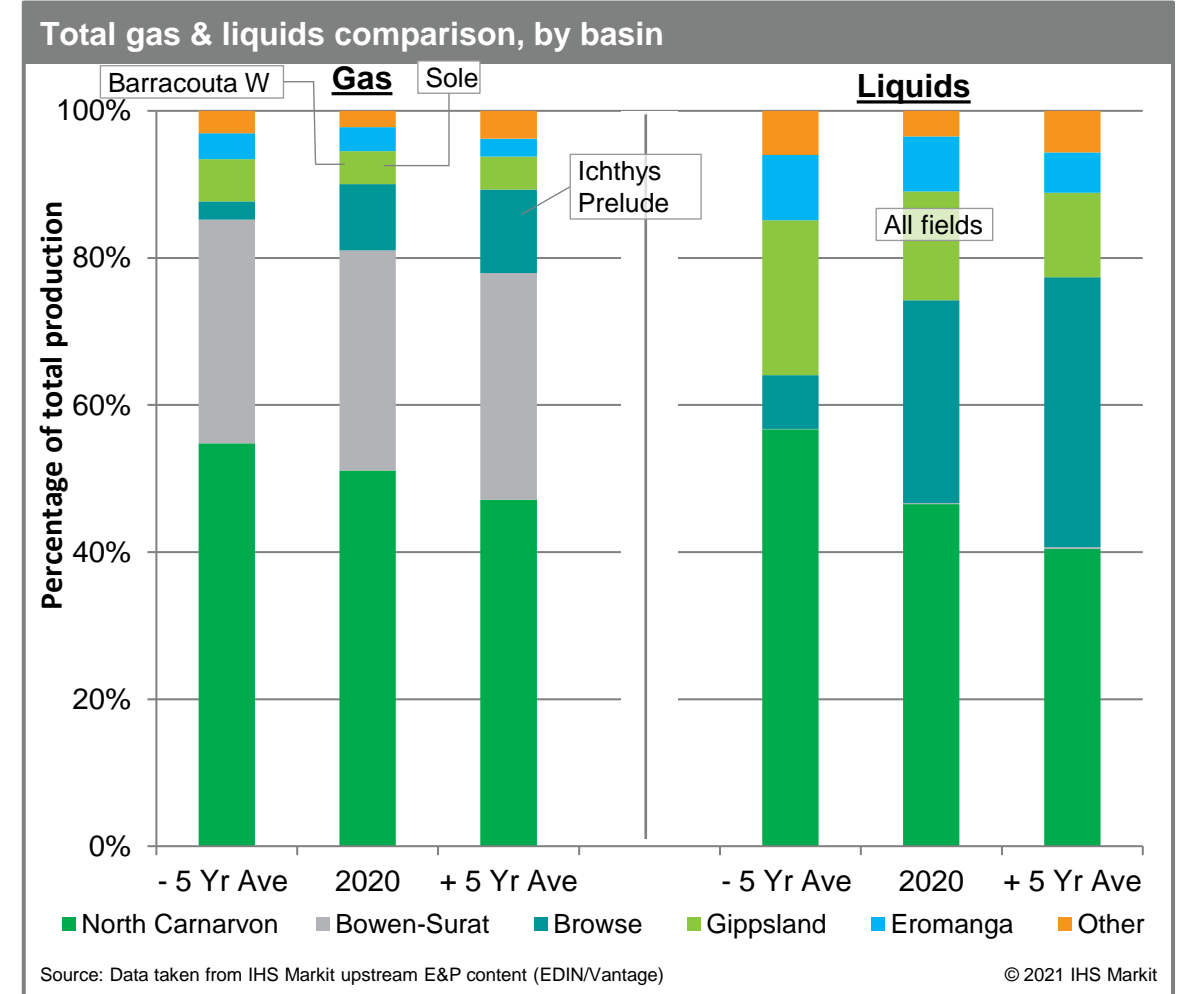
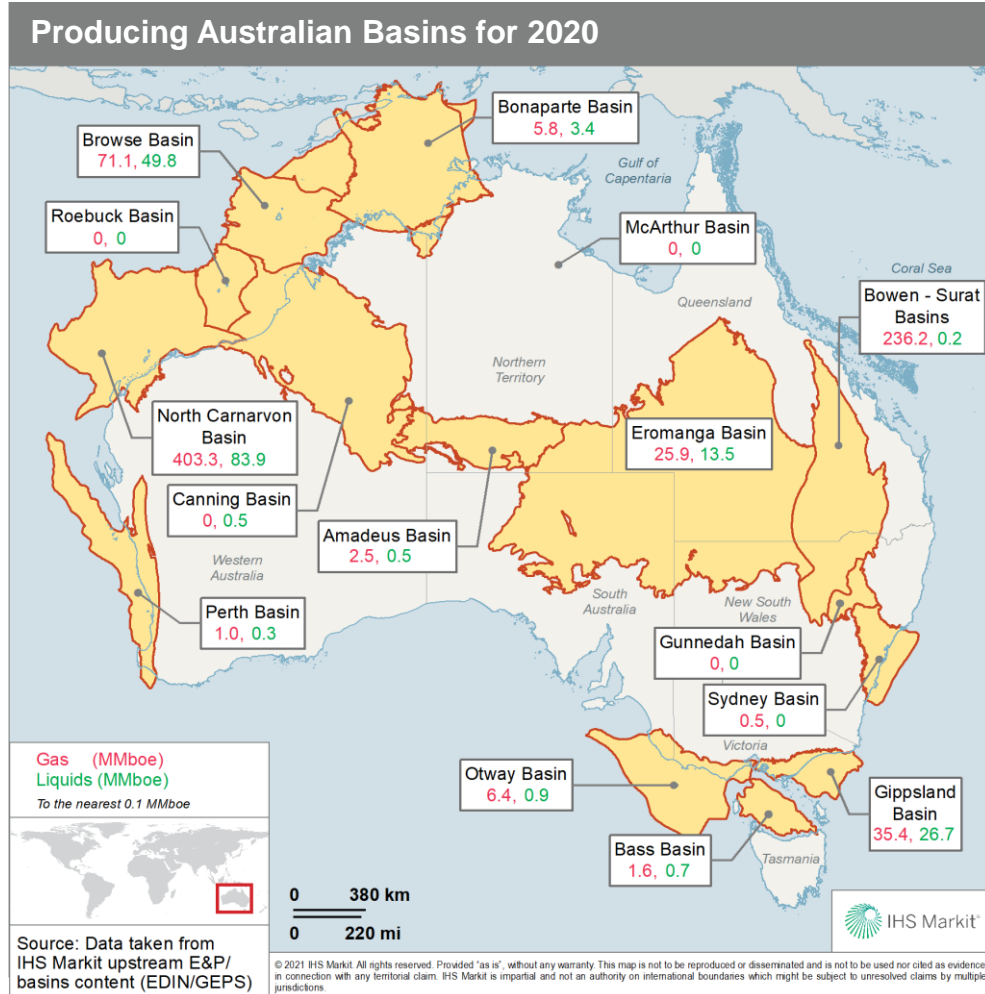
As with global responses, effects from the 2020 downturn were immediately reflected in the upstream Australian hydrocarbon industry.

- CAPEX cuts with coincident travel restrictions reducing operator abilities to undertake planned work commitments.
- Major new oil and gas supply projects deferred.
- ‘Care and Maintenance’ mode maintained production through the year whilst reducing risks.
- Without new project sanctioning, base gas production remains stable until ~2023. FID deferrals means a delay in addressing the forecasted decline from 2024 to keep facilities near capacity and to supply the domestic markets.



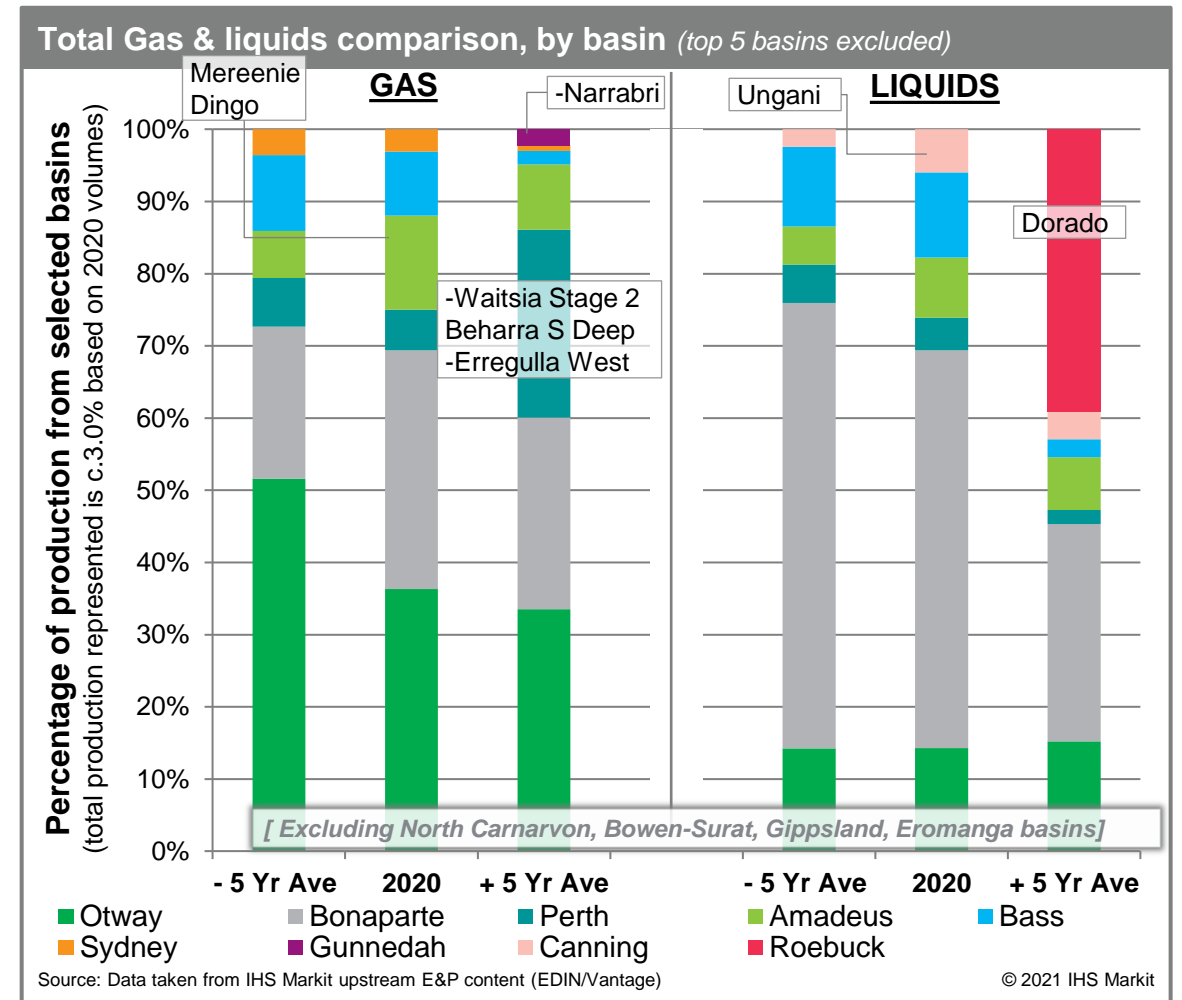
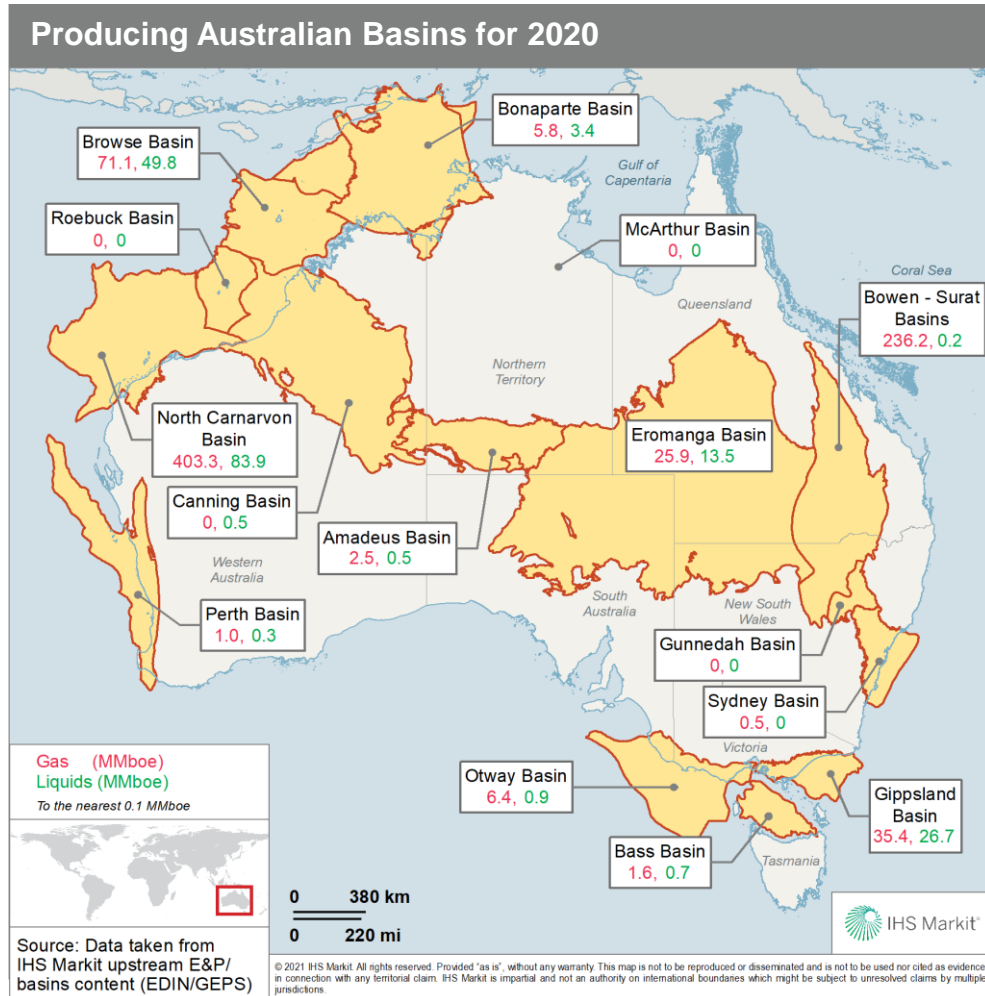
Production Comparison, by Basin

The historic and recent dominant basins continued to perform in 2020 for both gas and oil production. Little change is expected over the 5-year look-ahead.



Production Comparison, by Basin

The minor contributing basins showed comparative movement in 2020 and new basin production is expected over the next 5-years.



Production - Conventional

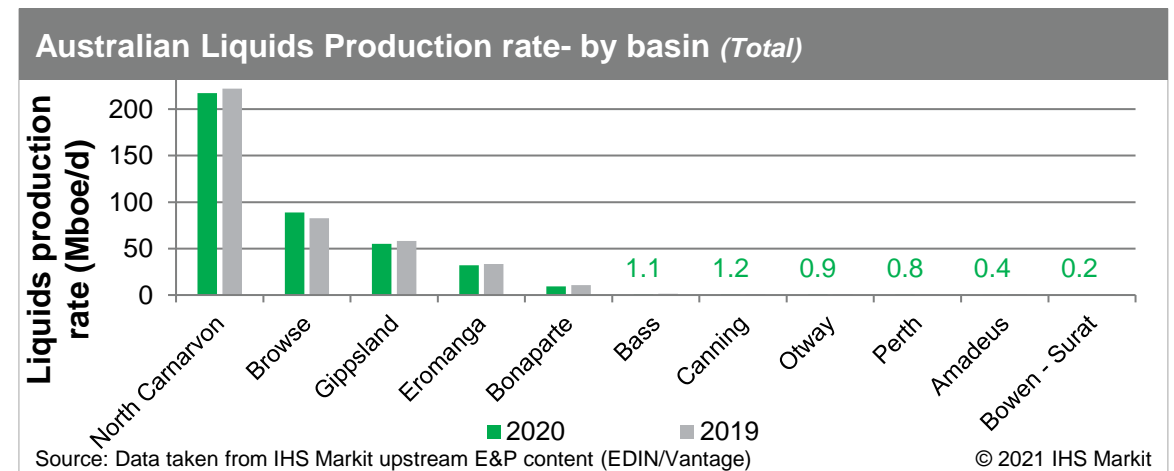
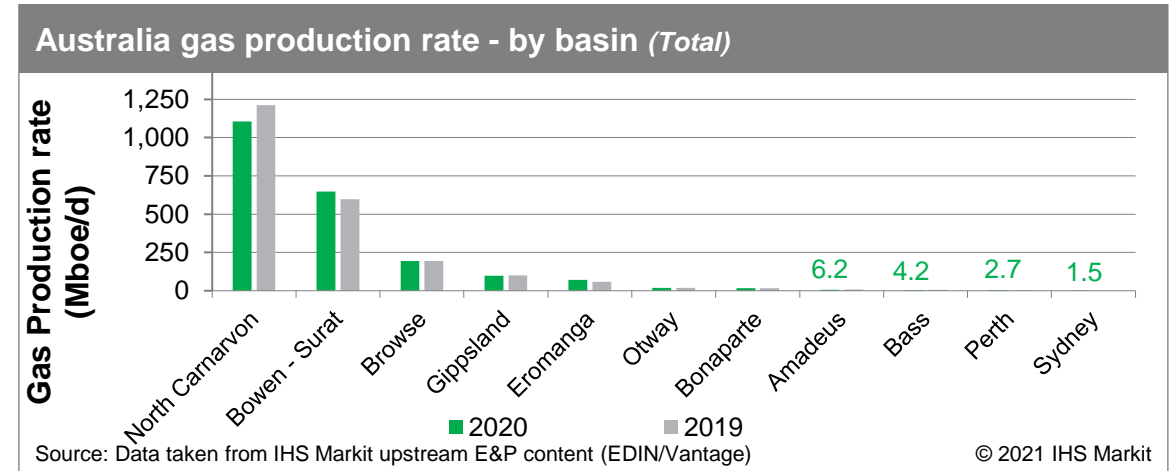
Despite challenges faced over 2020, gas and oil production remained on trend with expectations.

Successes -

- Outputs volumes were only marginally down on 2019 levels - showcasing the resilience of Australian LNG exports and domestic gas/liquids supply.
- Basin-level production increases.
- Sustained oil production seen from the Canning Basin.
- Five new fields onstream during 2020.
- LNG outputs remained stable across most mature projects.

Challenges -

- Technical issues at LNG facilities in the Browse and North Carnarvon basins, restricting LNG and condensate production growth.
- Adverse weather conditions saw temporary shutdowns in the Perth Basin and North West Shelf.
- Continued oil production decline.
- Reserve replacement heavily affected by exploration restrictions.



Production – Unconventional

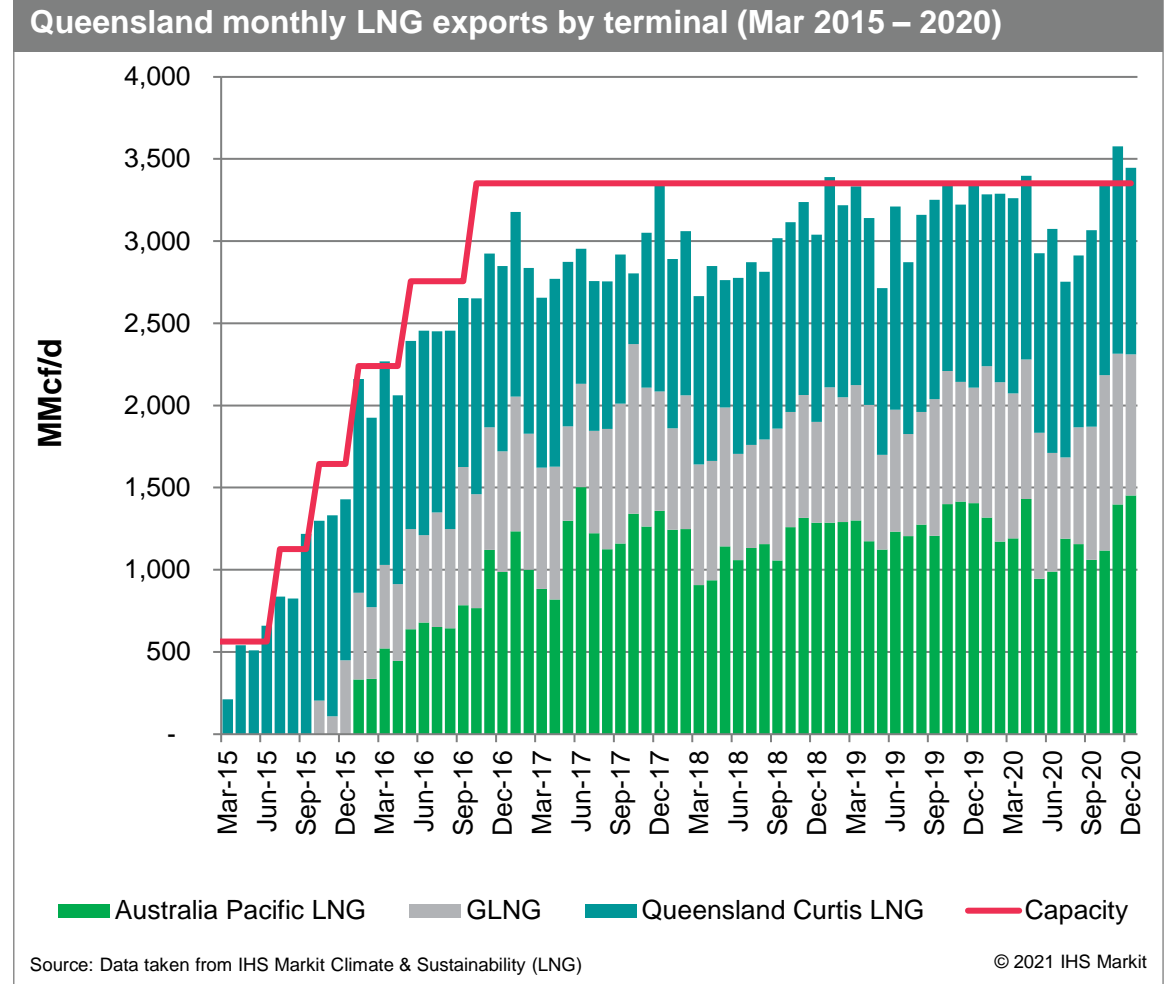
Over-estimation of coal-bed methane resources in Queensland [Bowen-Surat basins] contributed to under-utilization of the east coast LNG export terminals. Recent Queensland acreage bidding rounds offered potential in the Permian plays, CBM plays, shale plays and conventional gas to focus developments on domestic supply.

Production -

- Bowen-Surat basins continued to take the lead for commercial, unconventional production throughout 2020.
- **APLNG** – 4% higher at end year-2020 compared to the previous year - reflecting improved field performance, well availability and facility reliability [9.1 MMt LNG].
- **QCLNG** – year-on-year production increases since 2017 [8.7 MMt LNG].
- **GLNG** – Continuous growth from Roma and Arcadia coupled with reliable production [6.5 MMt LNG].
- First domestic gas objectives applied to an awarded permit in 2017 from the Queensland Acreage Release.

Challenges -

- Replacement reserves remain low for 2020/21 which could lead to a reliance on 3rd party gas.
- Planned LNG train shutdown deferred due to the impacts of COVID-19.



Development Overview

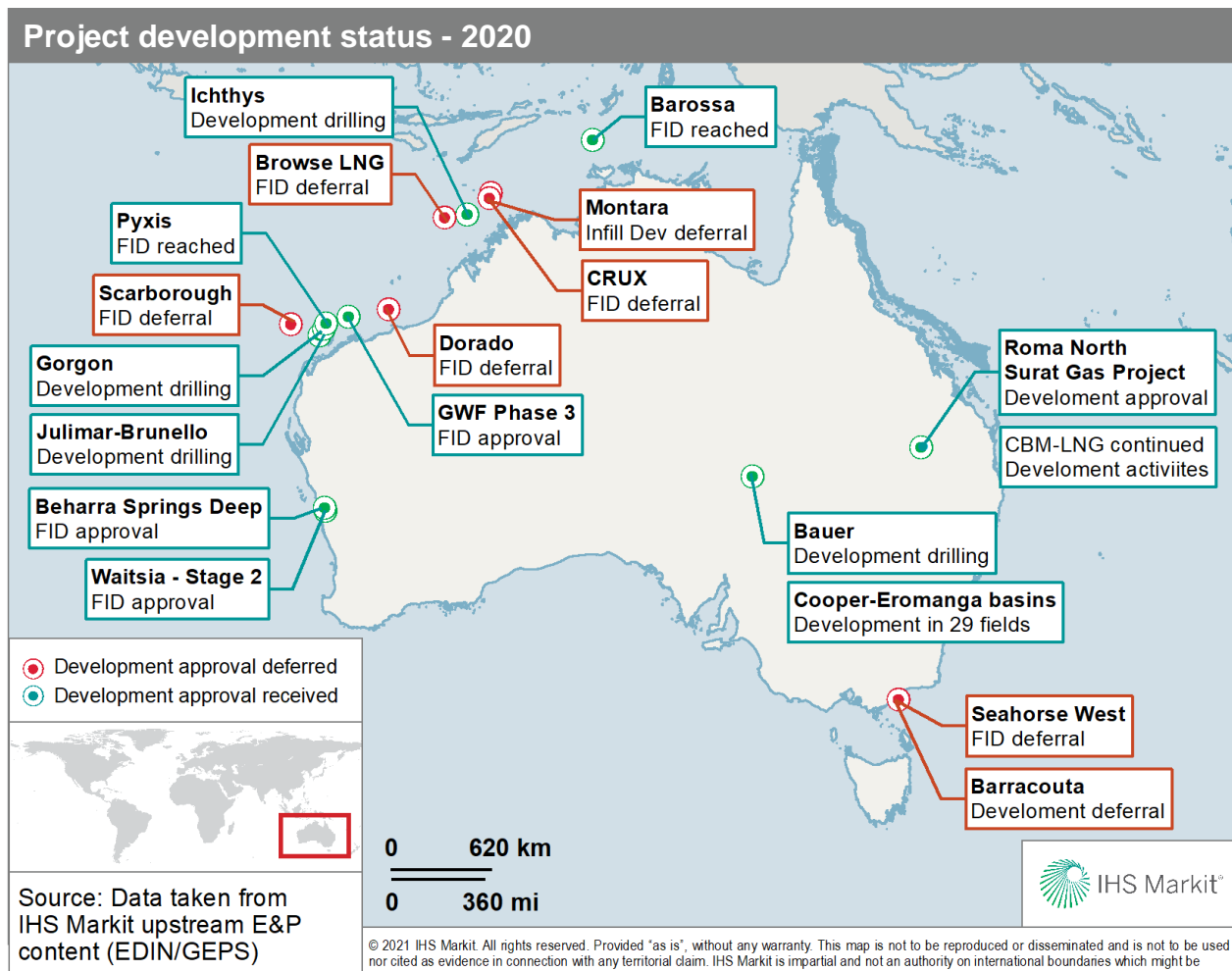
Multiple high profile projects faced development delays in 2020, but critically, without cancellations.

Development decision delays -

- Company strategies in 2020 aligned, deferring major project sanctioning.
- Decision making deferrals range for c.12 months to 36 months.
- Projects not cancelled.
- Deferred start-up timings could align with shifting LNG demands.

Development activities -

- Green field projects struggled to gain development approvals in 2020.
- Lack of development options within non-producing basins.



Developments for Conventional Assets

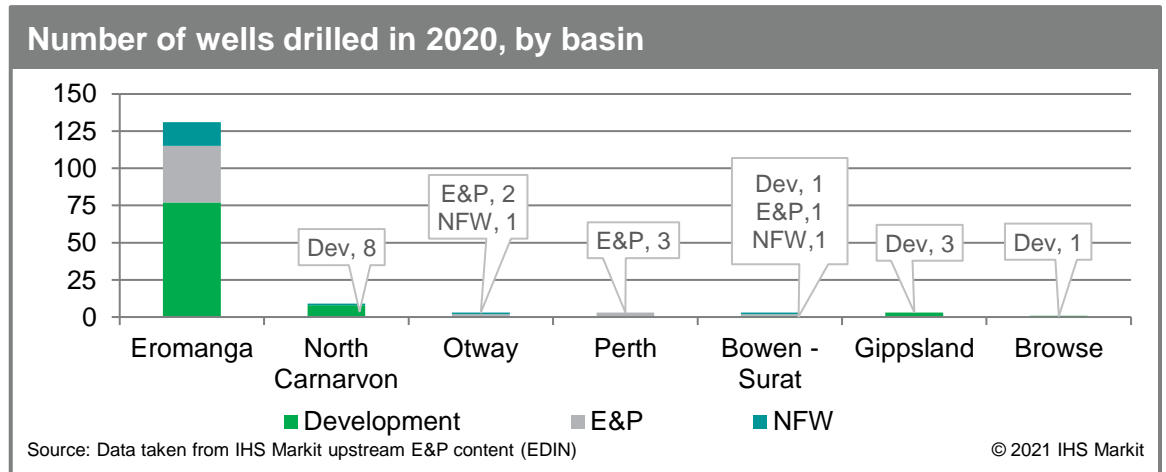
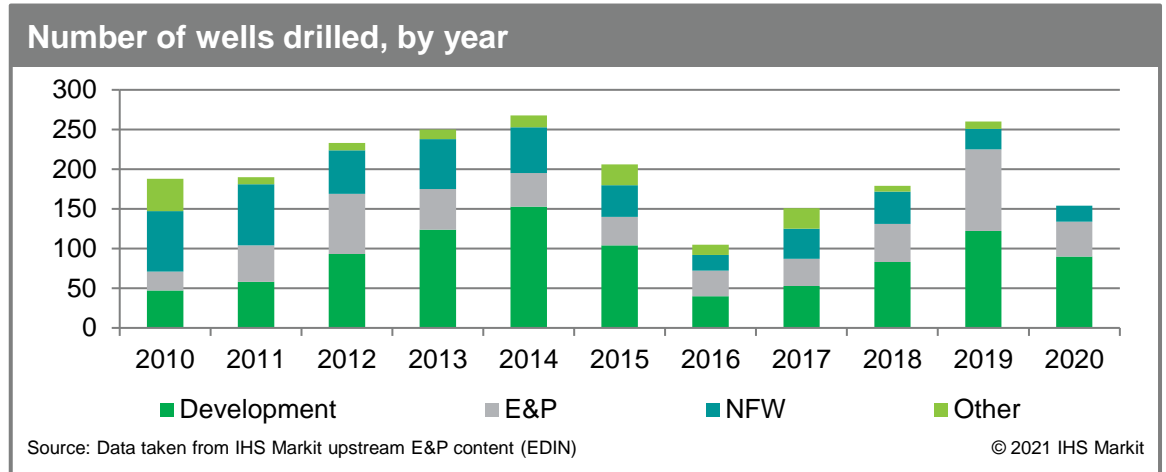
Outside of the Cooper-Eromanga basins, developments throughout 2020 were low, joining the struggles seen in exploration activity.

Successes -

- Cooper-Eromanga basins continued to realise rapid turnarounds from discovery to new field developments, plus multiple producing assets received development drilling to improve recovery.
- Multi-well 2019 programmes continued to target production increases and reliability in the North Carnarvon and Browse basins.
- Development delays provides additional time to revise planning and complete technical feasibility studies.

Challenges -

- FID deferrals for both new project developments and for mature project extensions.
- Limited oil developments in 2020.
- Non-producing basins are not yet positioned to see upcoming developments ahead of new production supplies.



Developments for Unconventional Assets

Development activity in support of CBM to LNG projects maintained reliable production. Smaller-scale, independent projects for domestic supply are gaining traction.

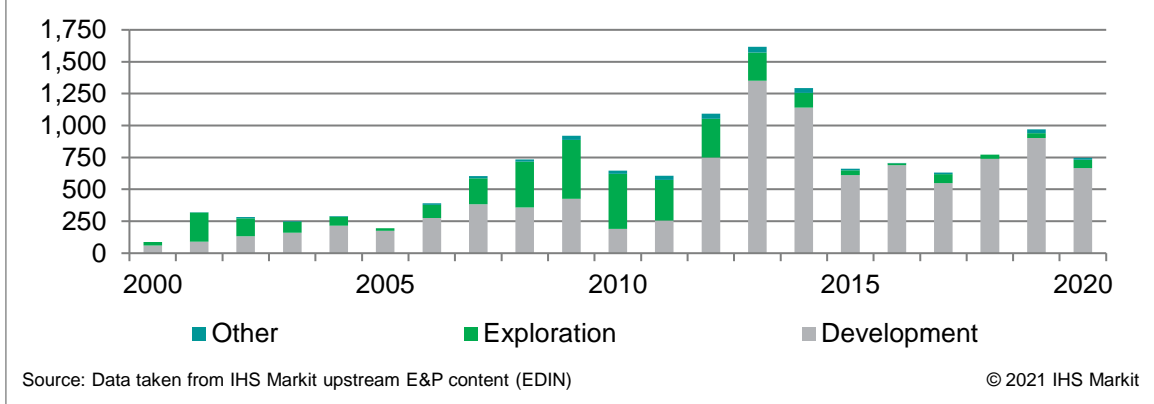
Successes -

- Improvements in well reliability and production meant development activities within the Bowen-Surat Basin was lower in 2020 than in 2019 yet production was maintained.
- Progress made in the Galilee Basin for the first CBM development.

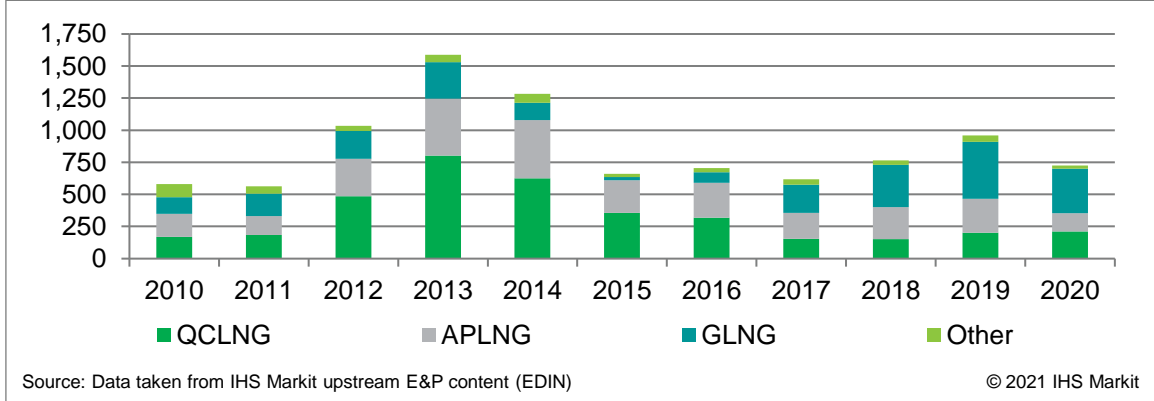
Challenges -

- Developments were restricted to the Bowen-Surat and Galilee basins. Near-term, this could change within the Canning, McArthur and Gunnedah basins.

CBM drilled in the Bowen-Surat Basin

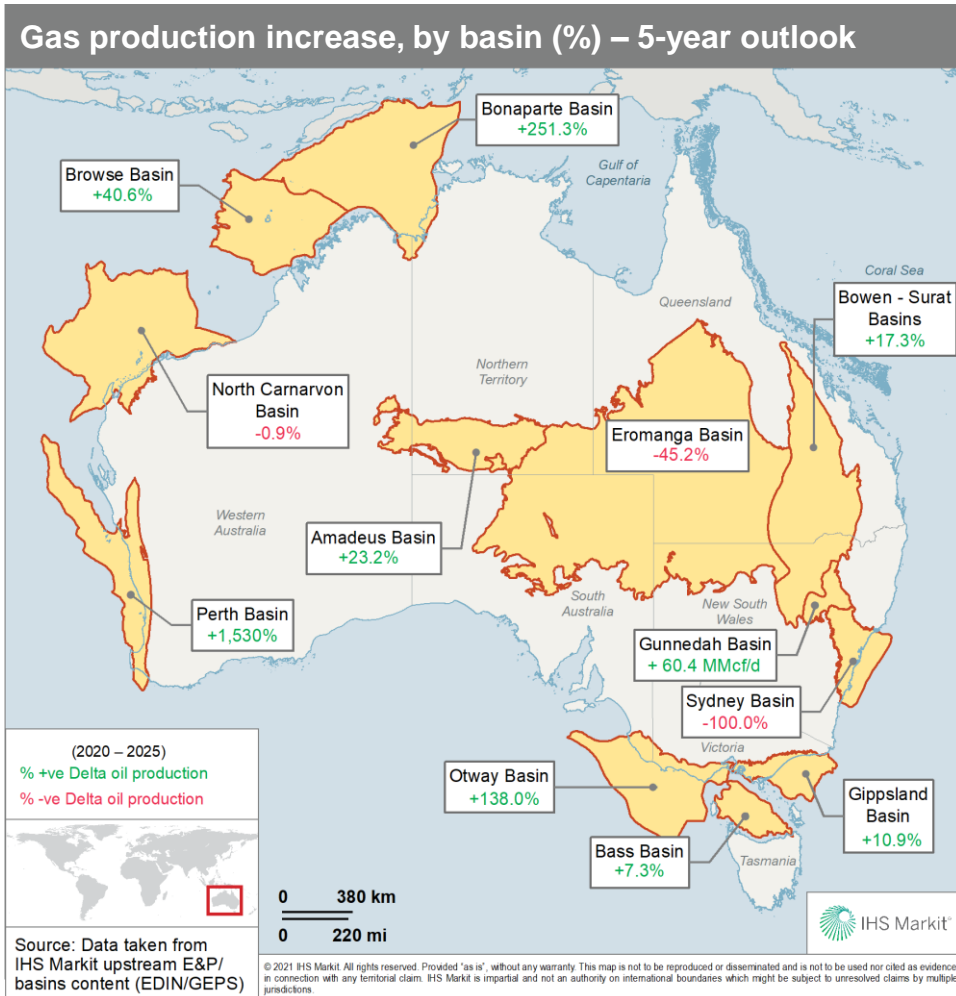


Total number of CBM wells drilled, by project (& associated partners)

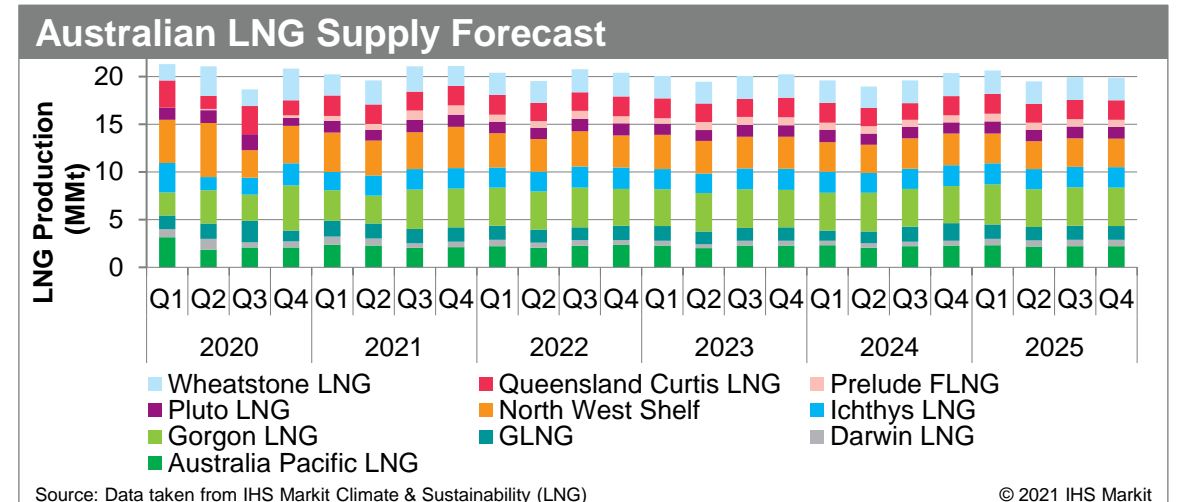


Gas Production Forecast by Basin & LNG Supply Forecast

New gas production for the domestic markets is set to be high over the next 5 years, compared to 2020 volumes

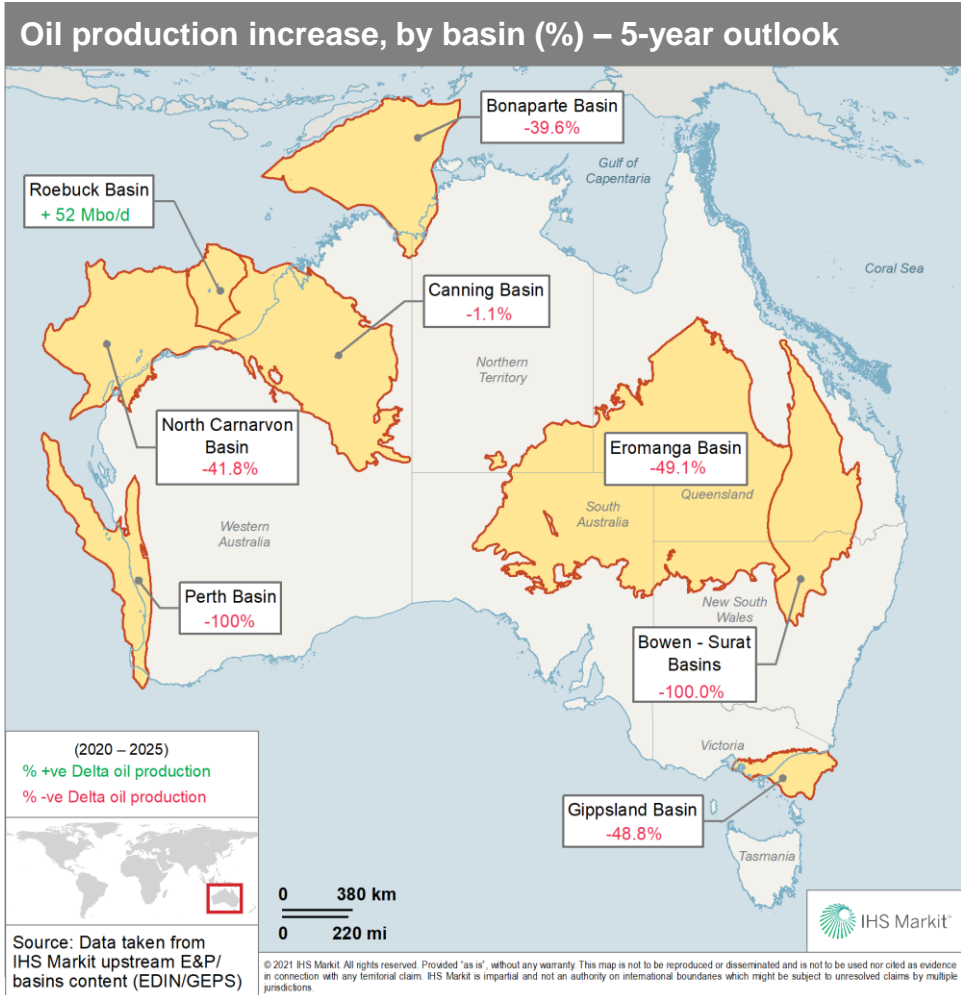


- Green field & expansion projects over the next 5 years will considerably increase the domestic gas supply.
- Production decline for gas is negligible, by basin.
- Beyond 2025, production is encouraging based on current resources but sanctioning over the next 12-months could be important.
- LNG supply is expected to remain flat from 2020 production levels.

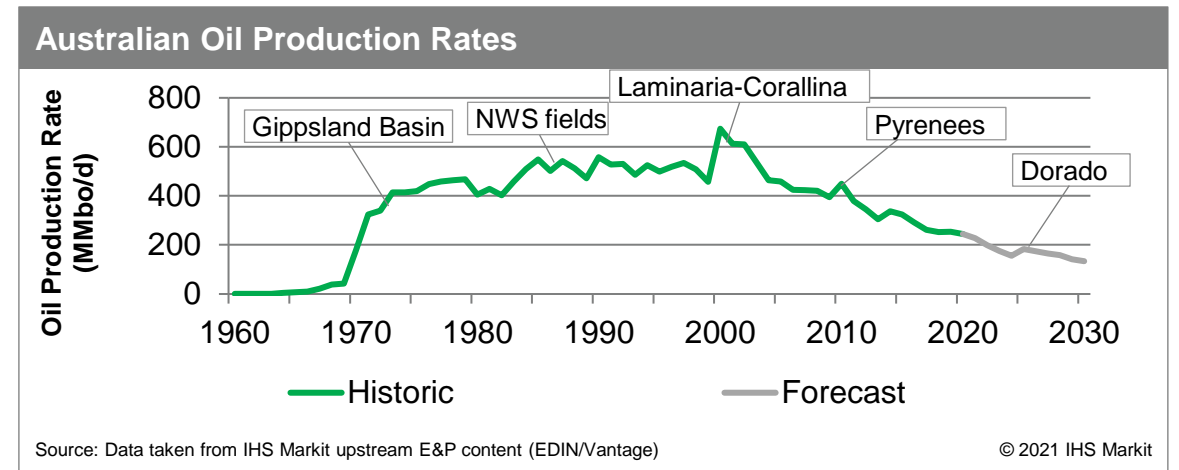


Oil Production Forecast, by Basin

Major oil production decline is expected to continue across most basins and in aggregation. The Roebuck Basin could buck the trend.



- Dorado in the Roebuck Basin could temporarily reverse the oil production decline from 2024 with rates of around 52 MMbo/d.
- Gippsland Basin is facing significant natural reservoir decline from each asset leading to AUD multi-billion decommissioning programmes, specifically for the Gippsland Joint Venture.
- New discoveries could be brought online quickly yet exploration still favours gas.
- IOR/EOR potential could extend the life of some fields but without new supply, the forecast remains negative.



Thank you

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