

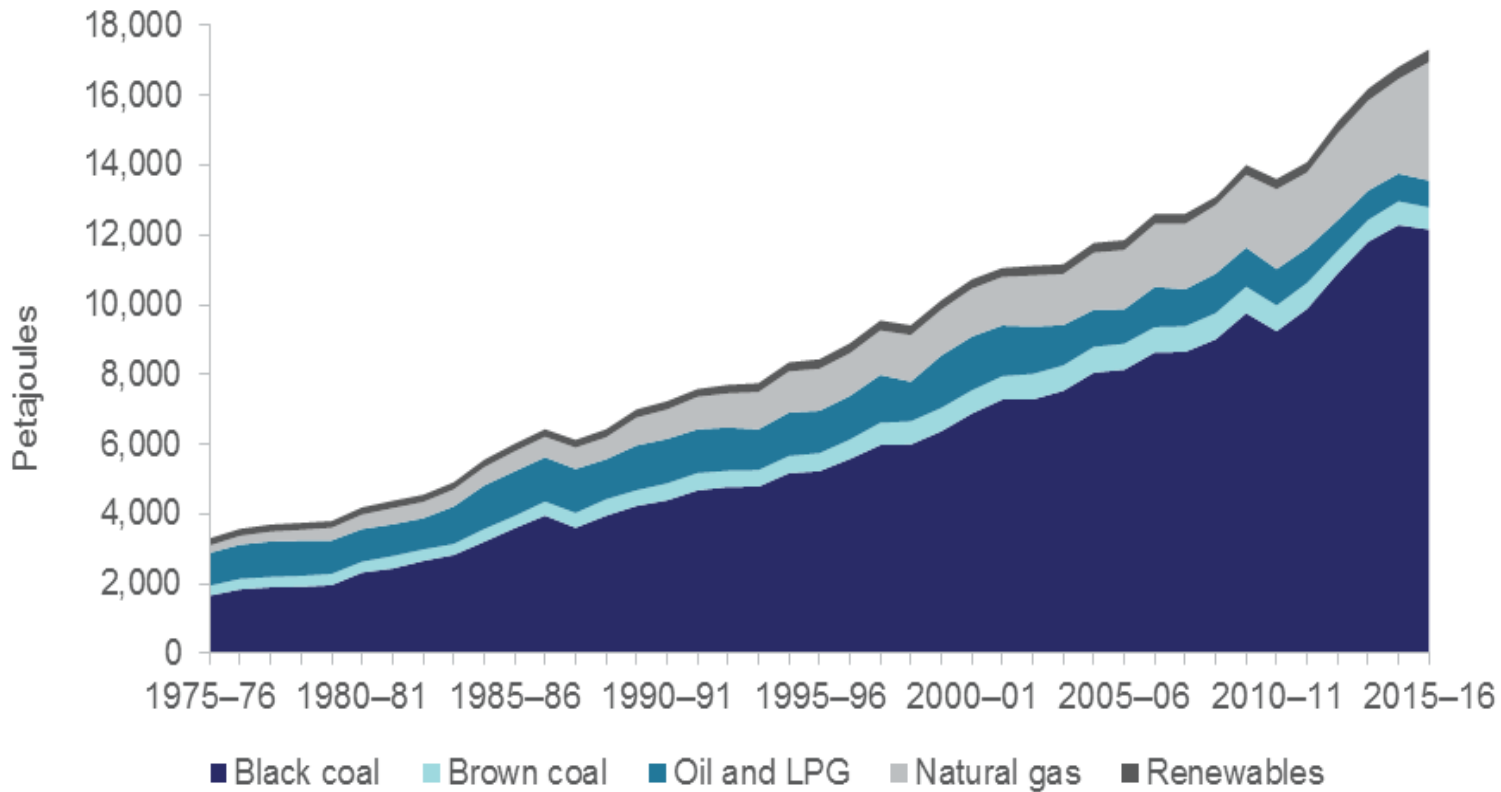
Update on OIL AND GAS SECURITY

Australia

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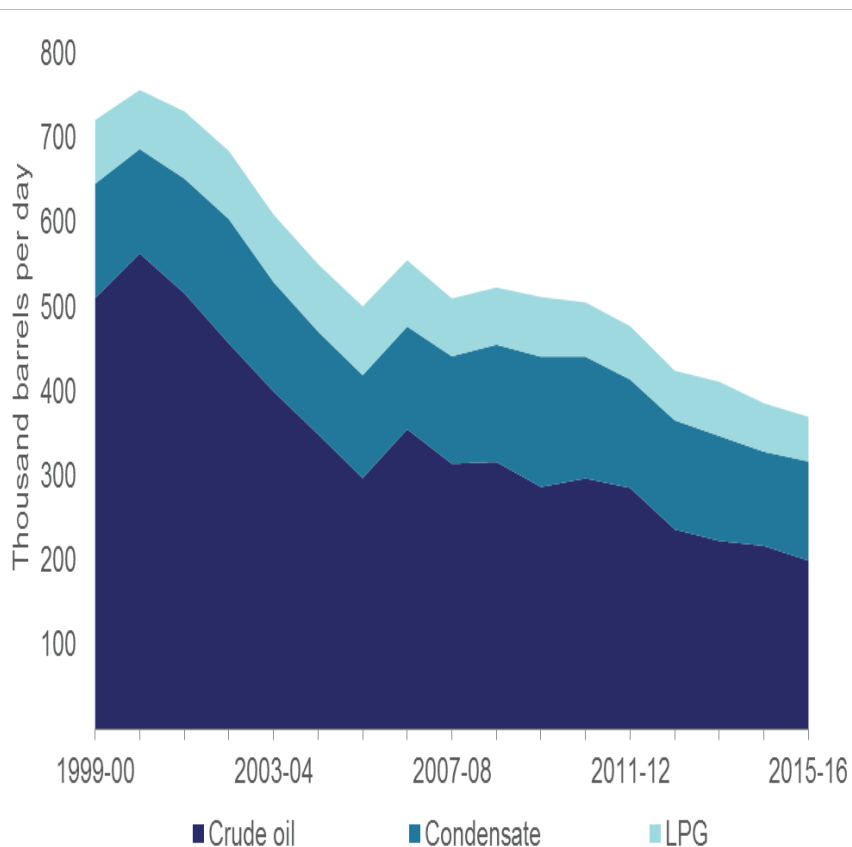
Oil and Gas Supply and Demand Situation

Australia



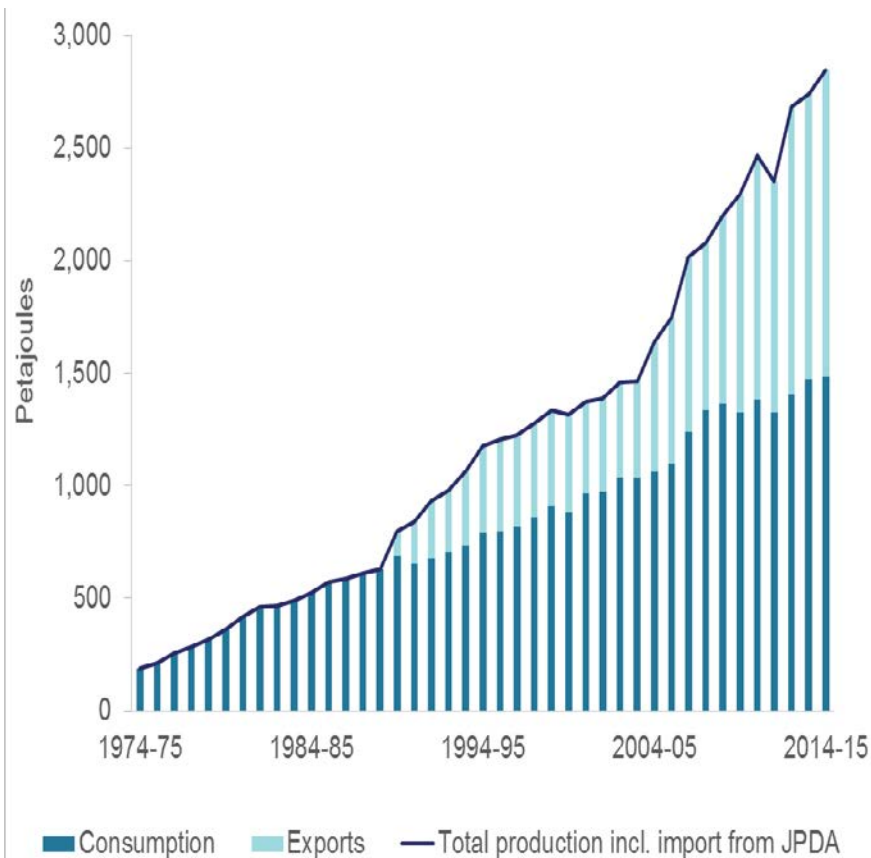
Oil and Gas Supply and Demand Situation

Oil Production



Source: Department of the Environment and Energy (2016)
 Australian Petroleum Statistics – December 2016

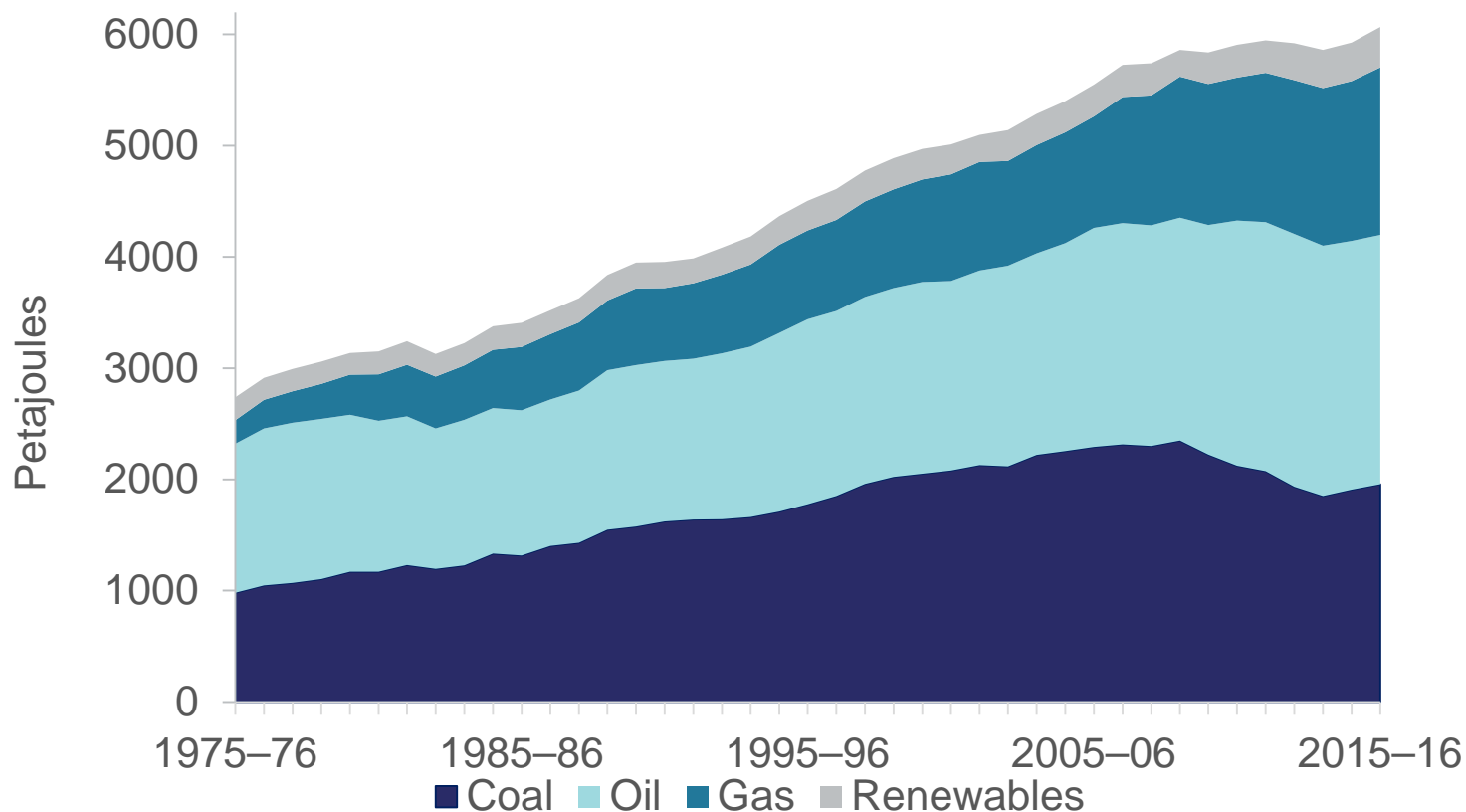
Gas Production



Source: Department of Industry, Innovation and Science (2016)
 Australian Energy Statistics

Oil and Gas Supply and Demand Situation

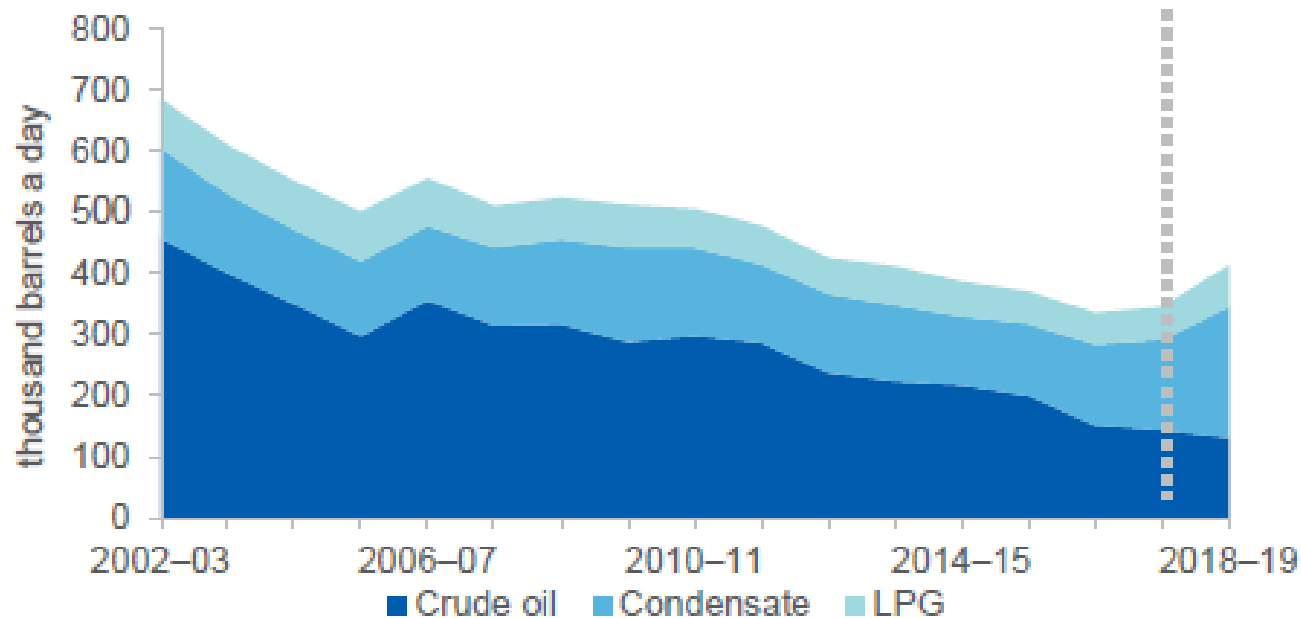
Australian primary energy consumption, by fuel



Source: Department of the Environment and Energy (2017), *Australian Energy Statistics*, Table C

Oil and Gas Supply and Demand Situation

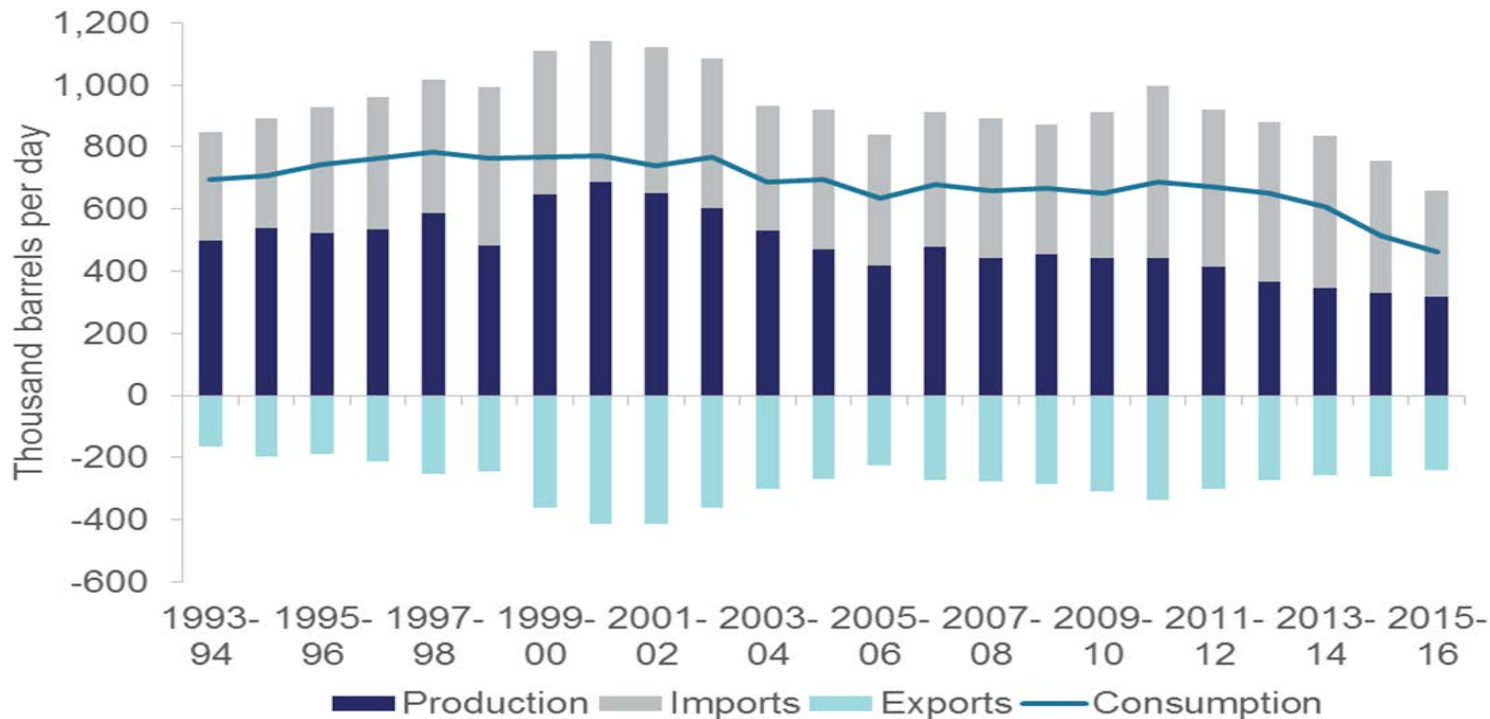
- Recent declines in oil production outweighed by higher condensate and LPG output
- Refined product imports have been growing following refinery closures



Source: Dept of Environment and Energy ,Australian Petroleum Statistics (2017); EnergyQuest (2017); Department of Industry, Innovation and Science (2017); Dept of the Environment and Energy (2017), *Australian Energy Statistics*, Tables D and J

Oil and Gas Supply and Demand Situation

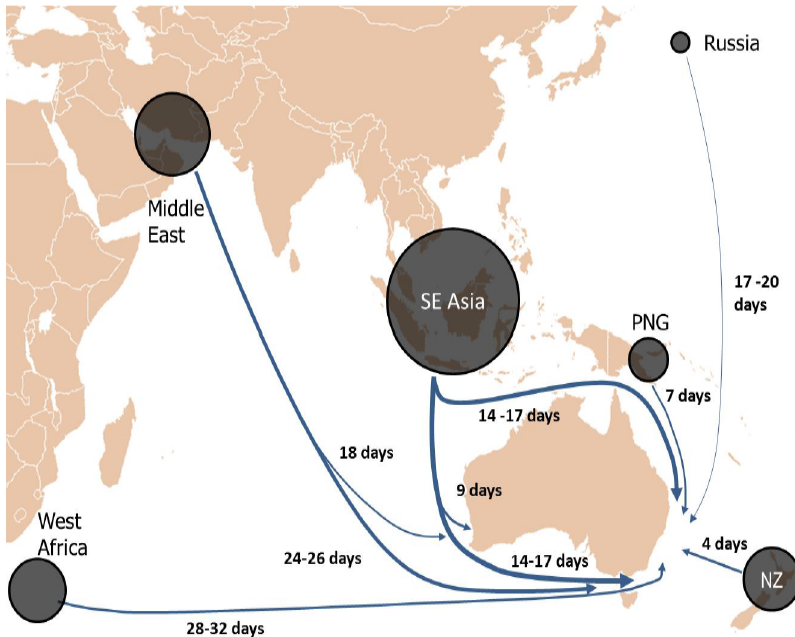
Australian Refinery Feedstock Balance



- Four refineries in Australia supply approximately 50 per cent of refined products used in Australia
- Australia's refining capacity in 2014 was equal to 1.7% of Asia-Pacific capacity

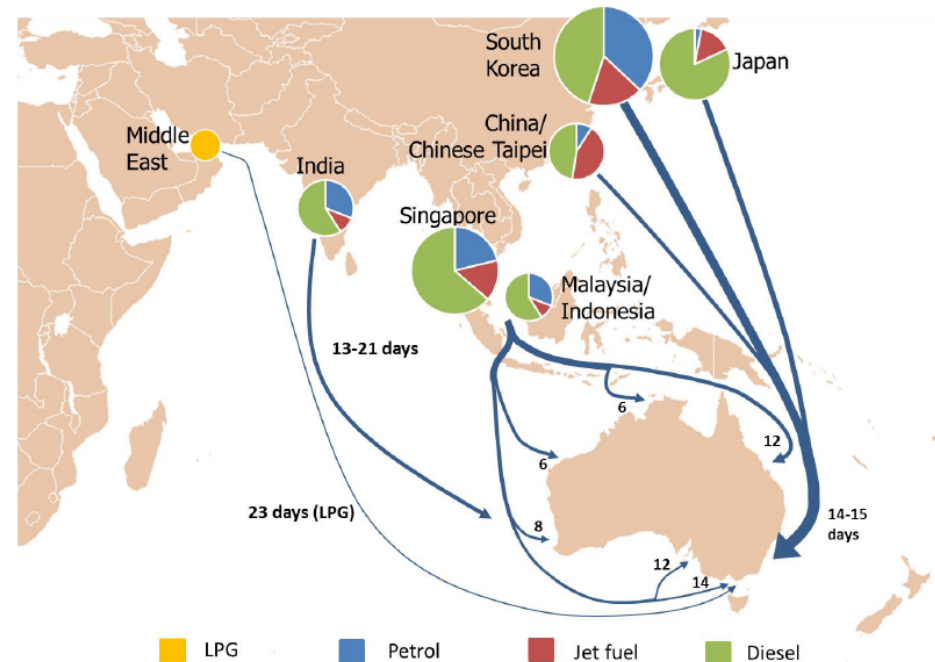
Oil and Gas Supply and Demand Situation

Australia's major import crude oil sources and shipping routes



Source: Australian Petroleum Statistics (2015/16); Hale & Twomey supply/demand model
 Note: Size of circle represents volumes from each import location (2015/6 data).

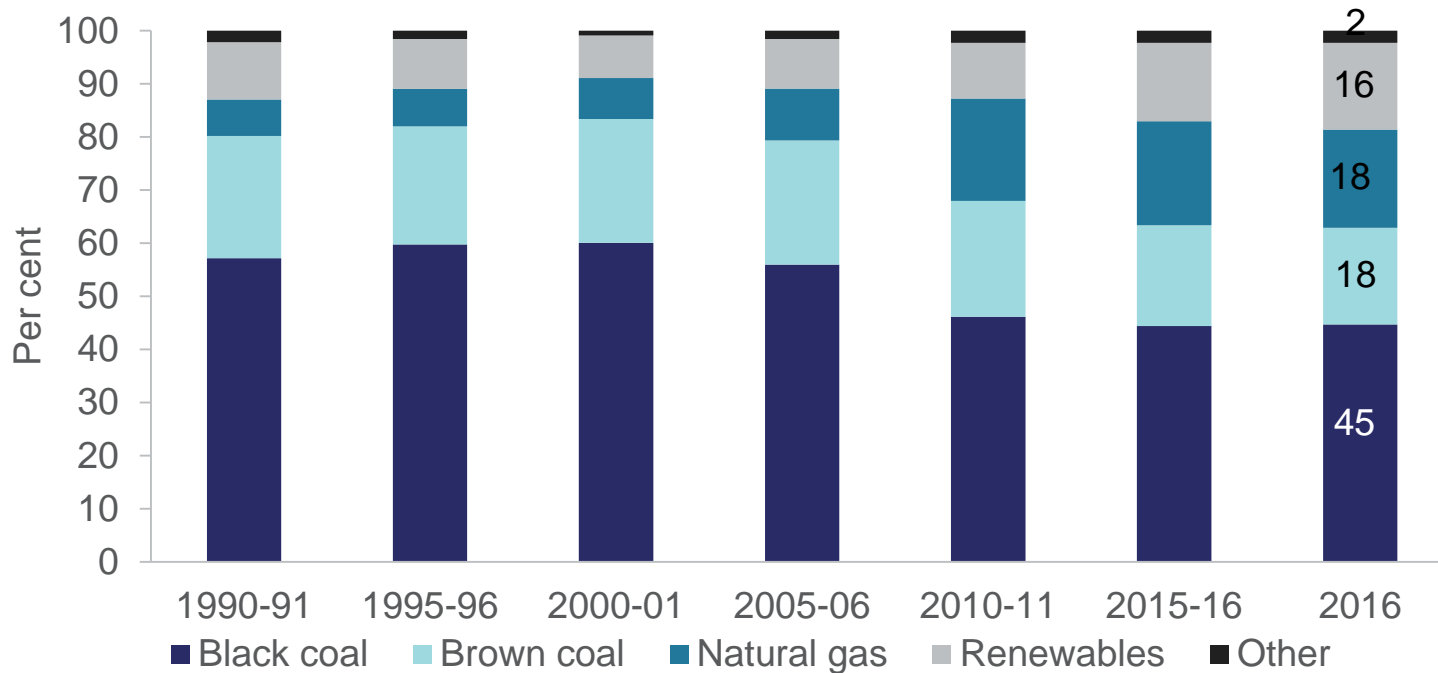
Australia's major import product sources and shipping routes



Source: Australian Petroleum Statistics (2015/16); Hale & Twomey supply/demand model
 Note: Size of circle represents volume from each import location (2015/6 data).

- Product is imported from around 20 countries, with no country providing more than 30% of imports.
- At any one time there are 45 oil tankers en route to Australia that collectively carry two weeks of additional supplies.

Australia's fuel mix for electricity generation

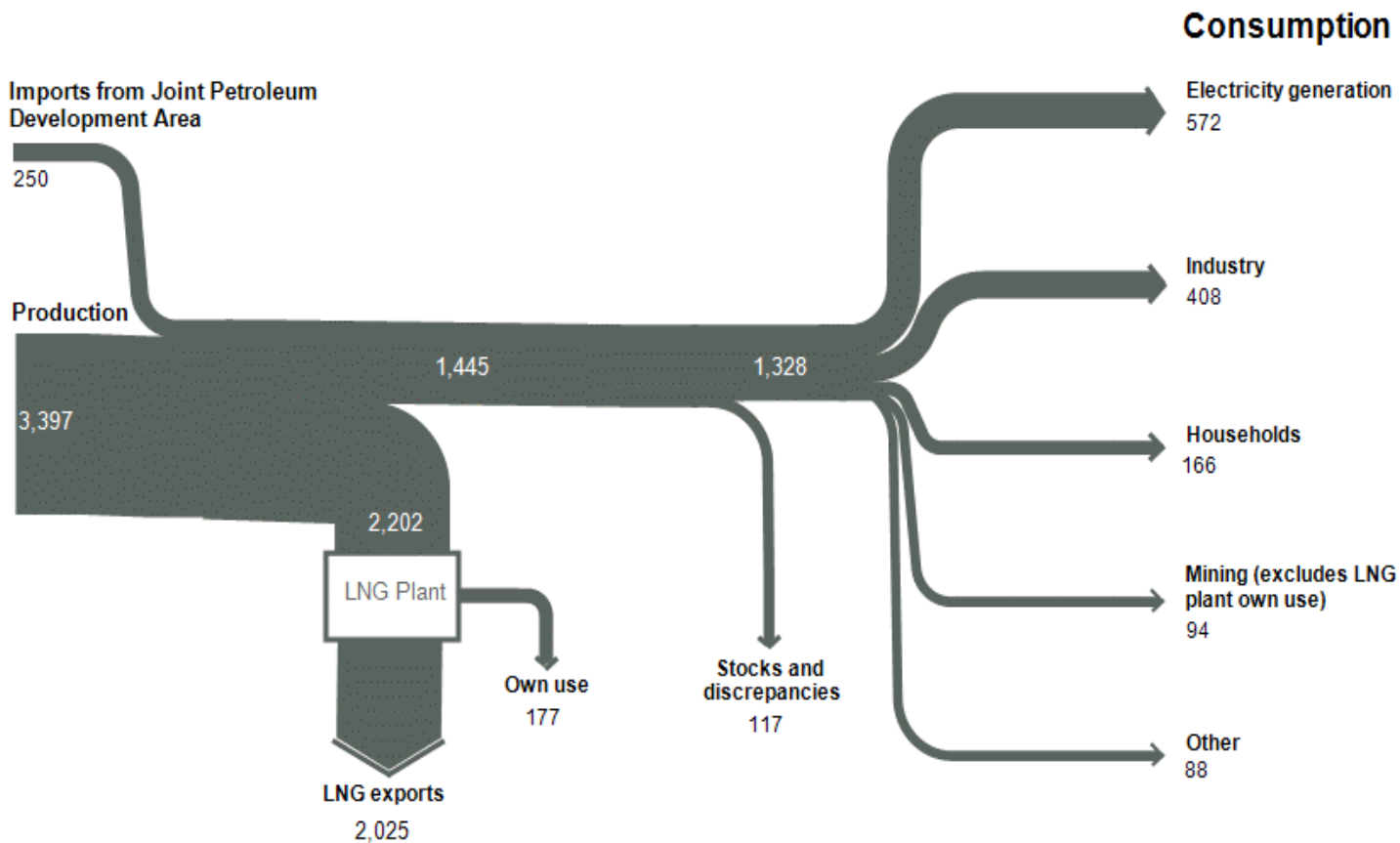


Gas demand by sector 2014/15 (latest available)

- 38.6% Electricity
- 28.2% Industry
- 13.7% Mining
- 11.3% Households
- 8.1% Other

Source: Department of Industry and Innovation, Australian Energy Statistics, 2016

Oil and Gas Supply and Demand Situation

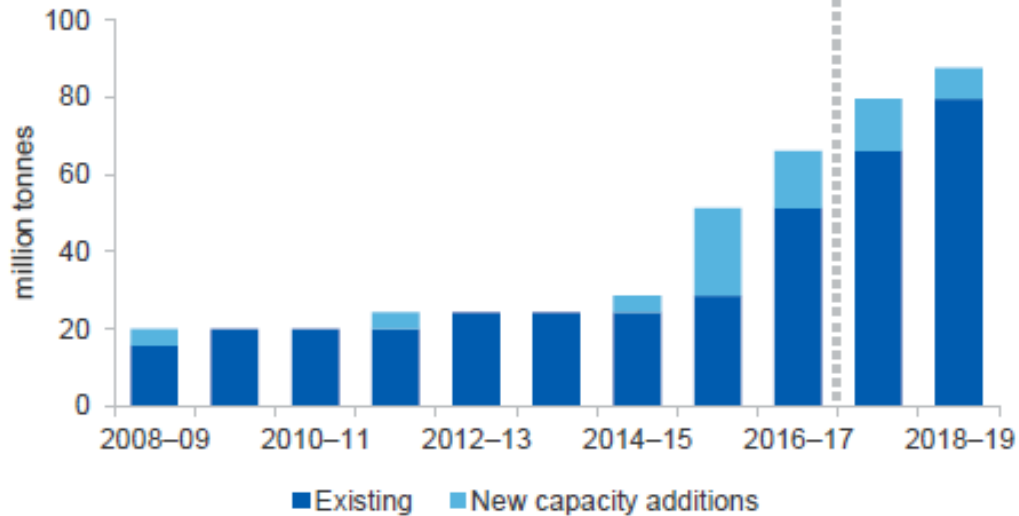


Unit: Petajoule (PJ)

Natural gas flows, Australia, 2015-16 (Australian Energy Statistics Energy Update, 2017)

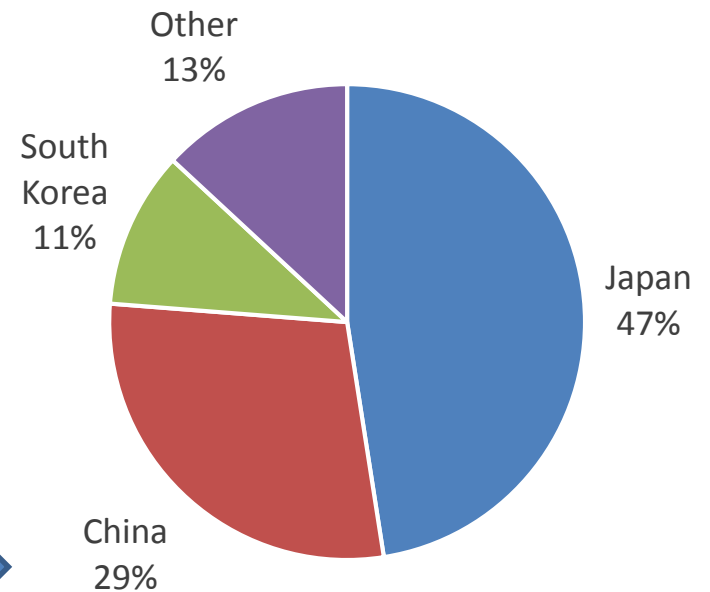
Australian LNG Exports

LNG Export capacity



Notes: Nameplate capacity.

Source: Department of Industry, Innovation and Science (2017)



LNG export destination, 2016-17



Oil and Gas Security Policy

Australia's approach to oil and gas security

- Market-based approach, backed up by strong regulatory powers.
- The Government establishes the market rules, monitors the markets and plans emergency response measures.
- Australia does not hold strategic reserves.
- Australia is advocating for a greater regional IEA focus (see next slide)
- Future energy security means diversified metrics across oil, gas and electricity as all these markets are interdependent.
- The Australian Government is developing an energy security assessment across all its energy sectors in response to the recommendations from the Finkel Review (see next slide).

South Australian blackout

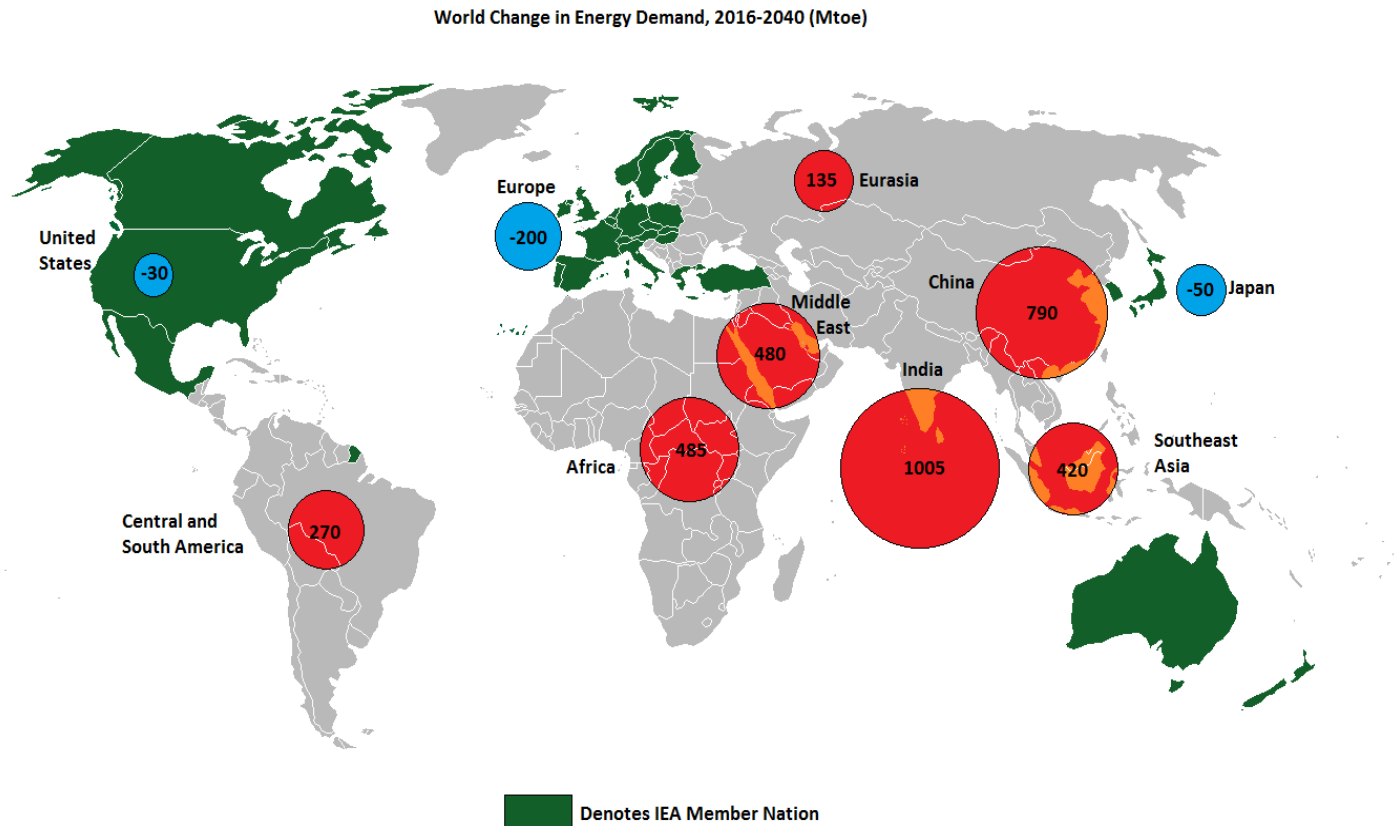
- Entire state of SA in darkness for 3 hours
- AEMO Report: severe weather, infrastructure damage, voltage drop and wind generation disconnected, main interconnector overloaded and closed to prevent damage



Oil and Gas Security Policy

Australia is advocating for a greater focus by the IEA in our region

Asia is driving global oil consumption growth, but IEA membership is limited to the two ends of the regional supply chain.



Gas Supply Security Policy

- Gas Supply Security Framework
 - Australian Domestic Gas Security Mechanism
 - COAG Energy Council reforms
- Indicators to gauge security of supply:
 - Demand/supply (including peak usage and gas powered generation)
 - Market notices
 - Infrastructure capacity (pipelines, storage)
 - Prices
 - AEMO's Gas Statement of Opportunities
 - ACCC Gas Inquiry 2017-2020

Bilateral/Regional Agreements

- The only existing bilateral or regional agreement relating to oil and gas supply security is the Timor-Leste and Australia Joint Petroleum Development Area.
- Australia and Timor-Leste work together in this area to facilitate the development of shared petroleum resources.

Oil and Gas Security Policy Gaps

Opportunities exist for regional energy security development, as global energy dynamics are changing:

- US becoming the leader in oil and gas production
- Shale and LNG add flexibility and versatility to the energy sector
- The Future is electrifying – what does this mean for oil and gas?
- Affordable and sustainable energy is achievable but the energy transition space will be crucial for countries to navigate successfully.

Thank you very much...

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