Eastern Australian Gas Demand and Supply Outlook

Gas Market Briefing

Presenter:
Leo Yanes, Principal
Mob: 0404 619 781
Email: L.Yanes@acilallen.com.au

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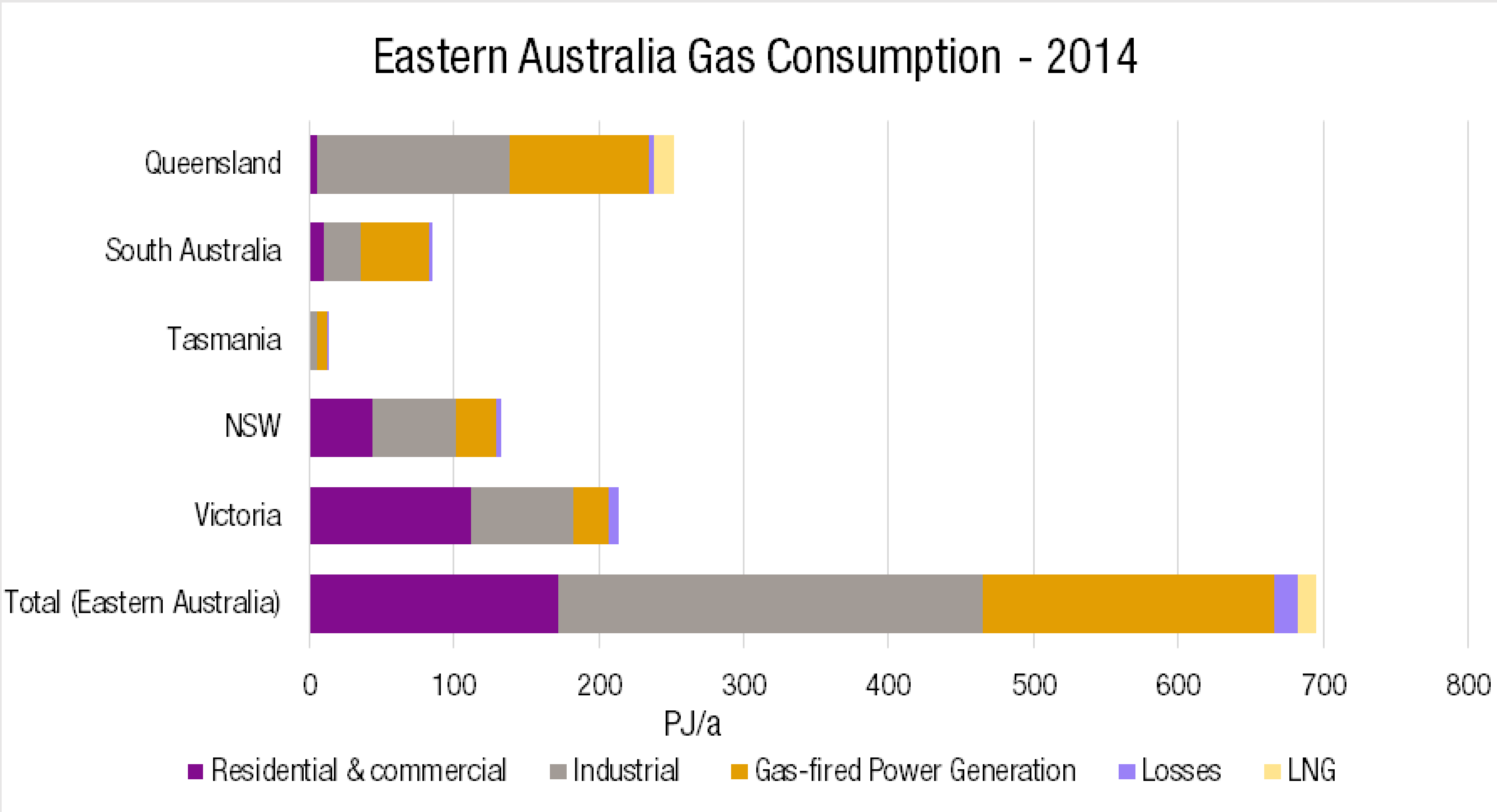
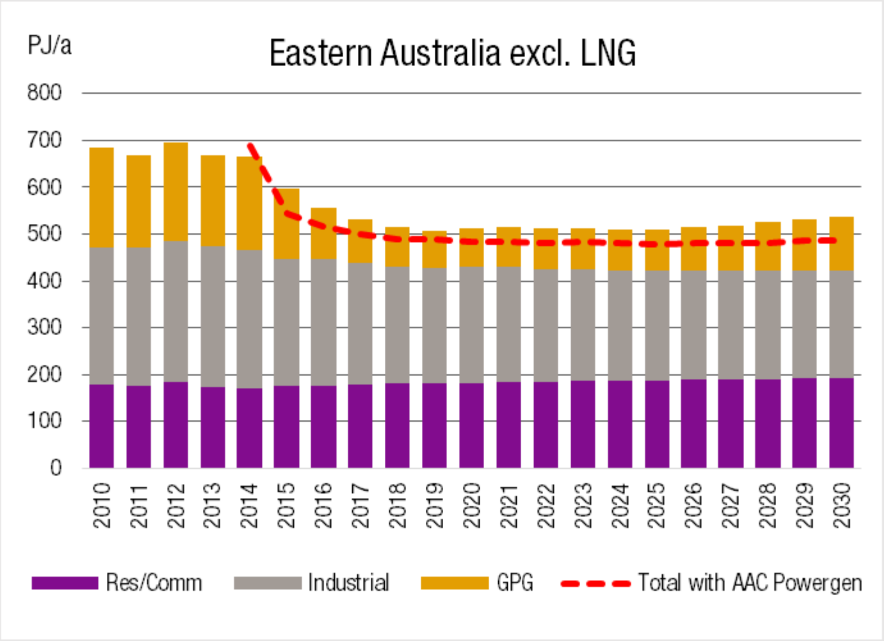
Eastern Australia: Gas consumption

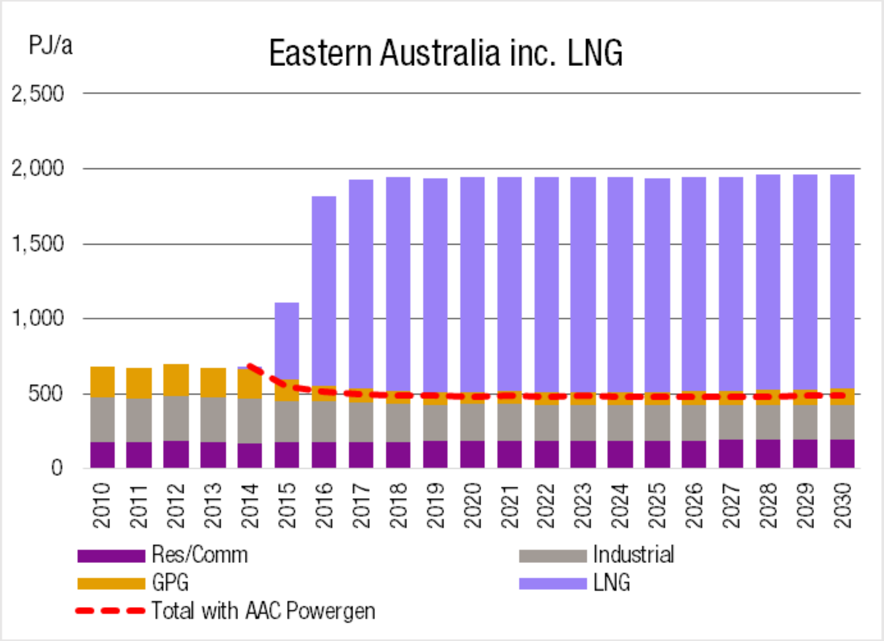


Source: AEMO NGFR 2014

Eastern Australia: forecast consumption



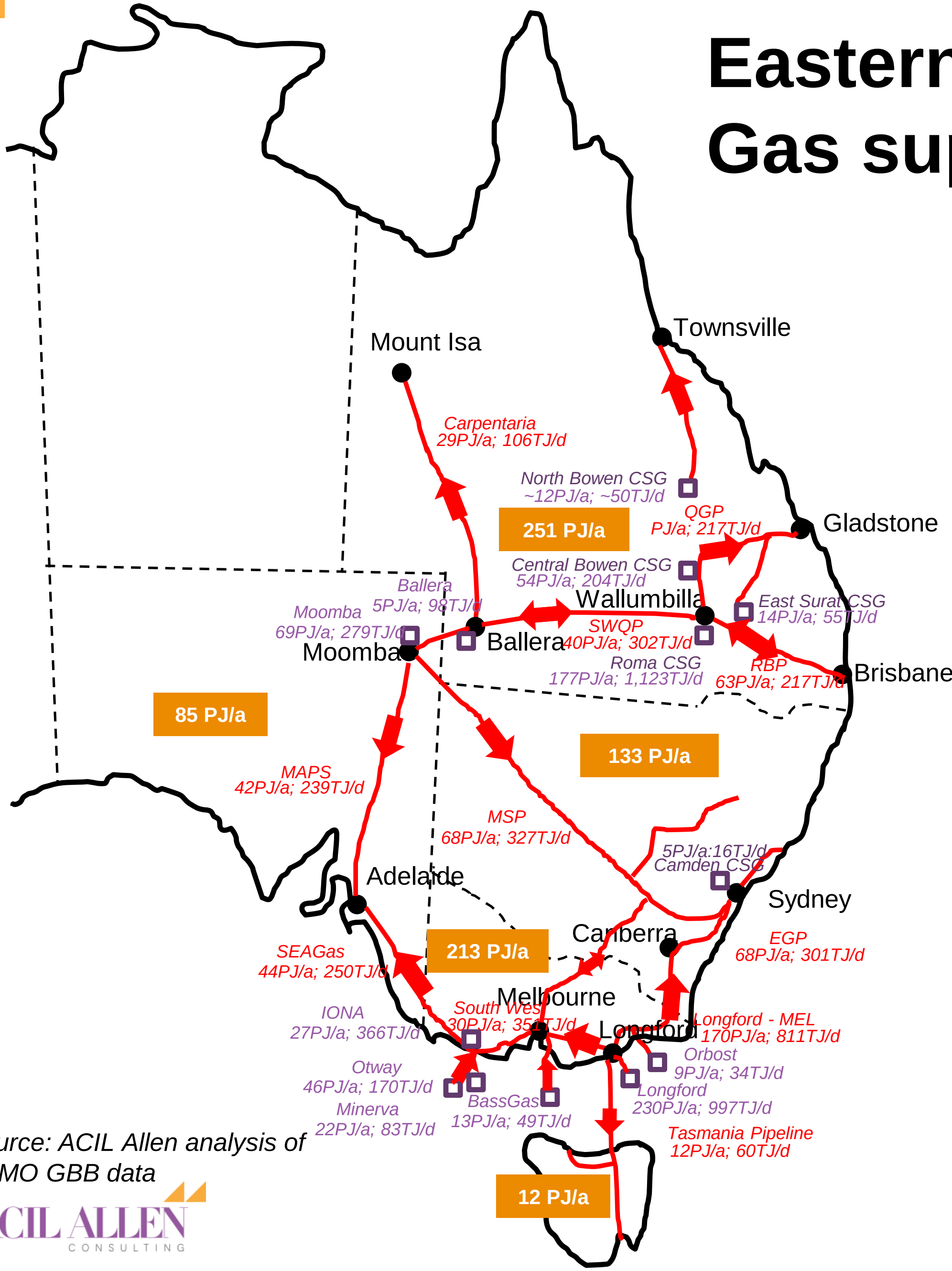
Sources: AEMO NGFR 2014; ACIL Allen Consulting (AAC) modelling



Sources: AEMO NGFR 2014; ACIL Allen Consulting (AAC) modelling

- Weak growth in residential & commercial consumption
  - Increased customer numbers offset by lower average consumption per connection
- Industrial use contracting
- Sharp drop in gas-fired power generation
- Rapid expansion for LNG exports to ~70% of total consumption

Eastern Australia: Gas supply 2014



Source: ACIL Allen analysis of AEMO GBB data

- Bowen Surat CSG ramping up: 244PJ produced, combined peak 1,380TJ/d
- Cooper continuing decline: 74PJ produced. CSG displacement – anticipate some rebound
- Bass Strait 347PJ produced; 66% from Longford
  - KTT start-up in 2015 will boost Longford contribution
- Balance of supply will shift toward Bass Strait (supported by Longford expansion) as availability of gas ex Moomba declines

Eastern Australia: Key issues, risks & uncertainties

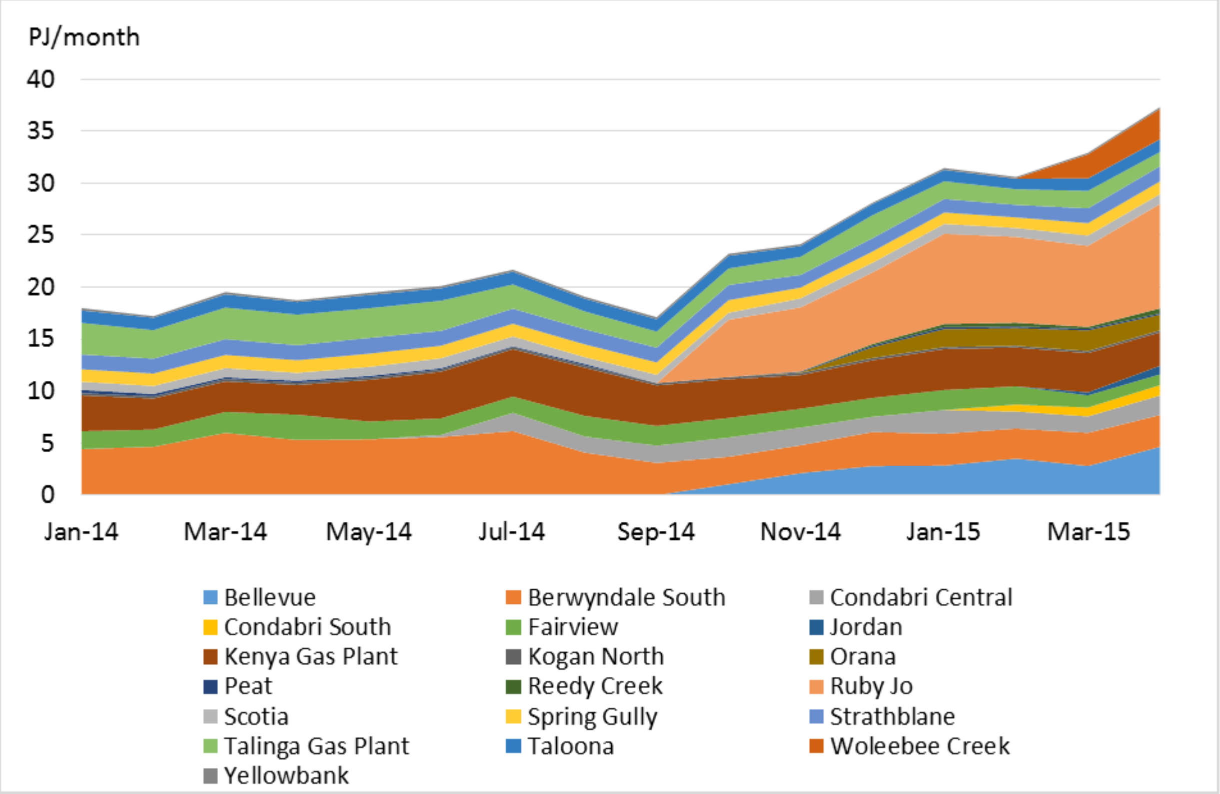
- Supply & price risk => Demand destruction is already happening
- Policy paralysis in NSW, Victoria, Tasmania
  - Anti-gas lobby is winning

> *"The Victorian coalition government – traditionally a guardian of energy security and affordability – has gone further than the NSW government and banned onshore gas production outright." (AFR, 24 Sept 2014)*

- CSG ramp-up to LNG projects
  - Supply/demand imbalances => short-term price volatility and increased gas transport
  - Shell/BG takeover: Arrow LNG roll-in positive for longer-term supply adequacy
- Oil price impact on LNG projects and upstream development
  - Reduced netback puts squeeze on upstream economics, reduced E&P spend
  - Slower CSG development - spot/portfolio LNG more attractive?

Ramp-up of CSG production volumes

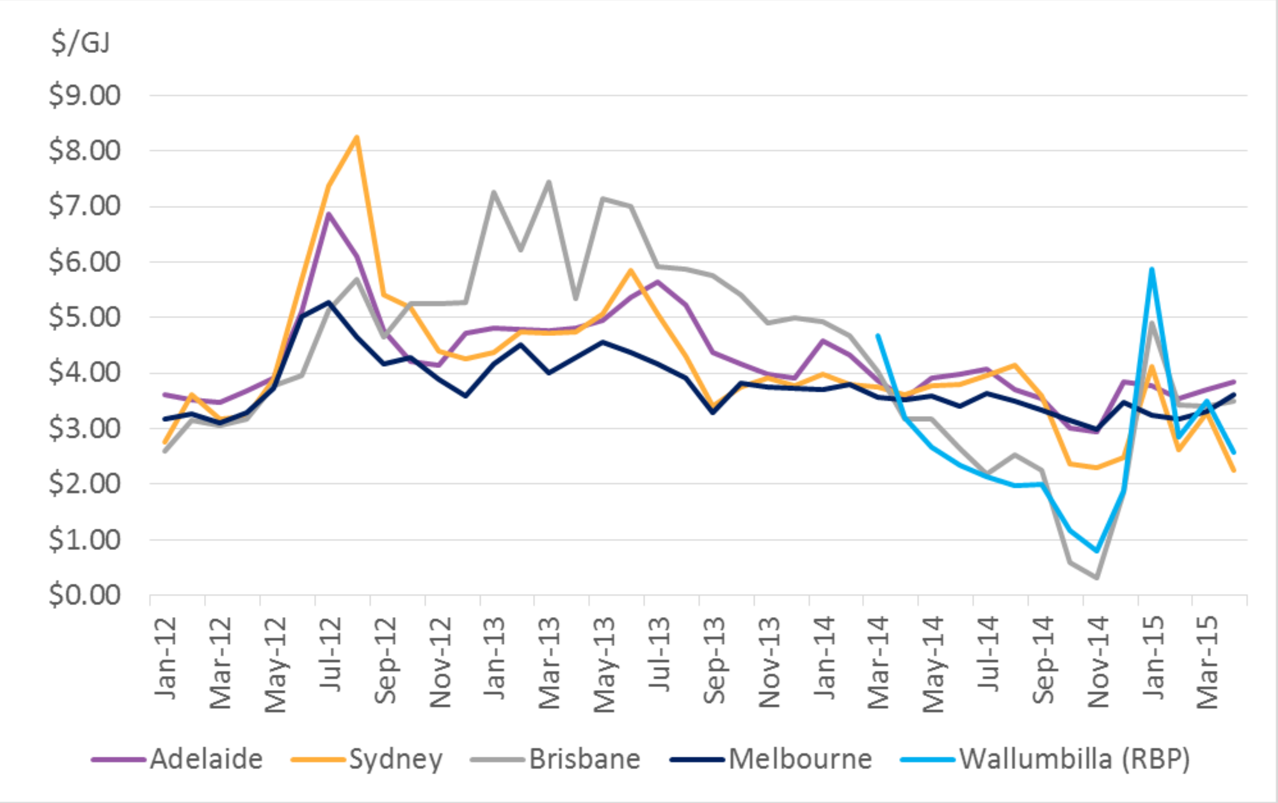
- Queensland CSG production in April 2015 exceeded 37 PJ—annualised rate almost 450 PJ/a—with eight new production facilities coming on line over the past twelve months



Source: ACIL Allen analysis of Gas Bulletin Board data

Prices responses to LNG start up

- Spot prices have responded as expected – up and volatile
- Contract prices – no recent deals; tight supply, high prices persist
  - Will EA producers have the same appetite for oil price linkage?



Source: ACIL Allen analysis of AEMO STTM data

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Low oil price: implications for Curtis Island LNG Projects

- Lower oil prices mean:
  - Margin squeeze but LNG projects still viable
    - IRR positive to +/- US$40/bbl
    - Cover variable costs (inc. sustaining upstream capex) to +/- US$20/bbl
  - Some marginal CSG resource now uneconomic
    - May look to alternatives: 3rd party gas, spot LNG
    - Arrow CSG may contribute if economic
      - Shell takeover of BG raises possibility of QCLNG Train 3 in long term
  - A silver lining?
    - Short-term LNG oversupply & weak spot LNG prices may relieve time/cost pressures on upstream CSG development

Take-away messages

- EA domestic gas consumption will shrink by 30% to around 500 PJ/a by 2020
  - Contraction mainly GPG and Large Industrial Loads
- New supply developments outside established production areas look problematic
  - Policy settings, public opinion and falling oil prices are major obstacles
  - Significant cost challenges
- Lower oil price offers little if any price relief for domestic gas customers
  - Spot prices will be volatile; long-term supply tight and high-priced
  - Curtis Island LNG Projects will continue to attract gas at relatively high prices