Australian geography
Queensland CBM fields
CBM reserves and resources

Queensland CBM reserves and resources 2000 to 2015 (PJ)
ConocoPhillips & Origin’s CBM APLNG
LNG plants
CBM wells drilled

Queensland CBM wells drilled by type 2000 to 2015

Number

0 200 400 600 800 1000 1200 1400 1600 1800


Appraisal and exploration
Development
Producing wells

Queensland CBM producing wells 2005 to 2015 (number)
Queensland CBM production
World’s first CBM LNG cargo
Forecast production

Queensland CBM production 1996-2020 (PJ)
Early resource over-optimism

- Good knowledge of Queensland coals but limited CBM production history and resource appraisal at FID
- Three projects require ~30 Tcf
- Now ~14 Tcf 1P, 27 Tcf 2P, 30 Tcf 3P, 10 Tcf 2C
- Exploration and appraisal drilling continue but hit by oil price slump
- CBM reserve development is an incremental process but early reserve forecasts were over-optimistic
Government support critical but requires heavy regulation
Not anticipated by companies or governments
Strict environmental regime, EIS’s 13,500 pages per project, 1,500 regulatory conditions
Regulation creep
Compliance and cost challenges for companies but challenges also for governments
Hearts and minds

- Massive change for local communities
- Initially an engineering issue for companies. Tight timetables too. But an emotional issue for communities
- Importance also of winning support/avoiding opposition from towns, local government, farming industry and media
- Largely achieved in Queensland but not New South Wales
Costs

- Project cost increases of 7%-36%
- Rising oil and gas development costs globally, national resource and LNG development boom, rising exchange rate, tight labour market, uncertainties of novel development projects, under-estimation of regulation, high community expectations
- Competing projects. No cooperation or coordination
Domestic gas markets

- CBM LNG development has taken place within a domestic gas market, tripling demand
- Challenge for domestic gas buyers, particularly manufacturing
- Higher gas prices also switching power generation back to coal
- Call for domestic gas reservation but not generally supported politically
Successful start ups

- Three projects, four trains operational
- 159 cargoes to end March
- QCLNG: 7.4 Mt using 440 PJ gas feedstock
- GLNG: 1.5 Mt/ 90 PJ
- APLNG: 0.9 Mt, 52 PJ
- Total 9.8 million tonnes using 580 PJ of gas
- GLNG ramp-up rate similar to QCLNG, APLNG faster
- Ramping up quickly, aiming to maximise production to maximise cash flow
- Positive balance of payments impact. So far-so good on domestic gas market impacts judging by short-term gas prices.
Thank you