



## EnergyQuest Capability Statement

### About EnergyQuest...

EnergyQuest is an Australian-based energy advisory firm, which specialises in independent energy market analysis and strategy for energy companies, energy buyers, investors and governments. It is a source of informed comment on energy trends affecting Australia and the region.

### Our history...

EnergyQuest was established by Graeme and Susan Bethune in 2005 to provide strategic analysis on Australian oil, gas and other energy sources. It produces regular multi-client reports and undertakes specific consulting assignments.

EnergyQuest produces the flagship EnergyQuarterly, which for 15 years has been the authoritative source of data and analysis of oil and gas demand, production, reserves, development projects, gas contracts and prices in Australia.

### What we do...

Our work covers analysis and advice on oil, gas, power, LNG, renewable energy, pipelines, and transport fuels. We provide market insights through our EnergyQuarterly report, multi-client reports and consulting services.

We are passionate about providing our clients with accurate data and independent, rigorous analysis so they can confidently navigate the rapidly changing energy markets.

### Our unique approach ...

More than just analysis, EnergyQuest's team has over 200 years of first-hand experience in the energy industry. We understand how markets develop, and the competitive opportunities and options which present themselves in a real market place.

We use proprietary analysis of subsurface petroleum systems to establish the inherent risks, and energy supply scenarios in meeting market demand.

EnergyQuest tracks contracting positions, and demand for each of the key markets.

Our EnergyQuarterly is the most in-depth and widely read quarterly report of the Australian oil and gas industry. This ensures our data and analysis is always current and tested over time.

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E N E R G Y Q U E S T

## Our capabilities...

We provide a wide range of services for our clients which include business intelligence based on our extensive data bases and industry fact gathering, and bespoke energy advice.

### - Business intelligence

EnergyQuest produces a number of multi-client and subscription reports on energy including Australian oil, gas and transport fuel.

Multi-client reports are a cost effective and timely way to address current issues in the industry. EnergyQuest has recently released an important multi-client report, the **East Coast Gas Outlook to 2040**. APAC Biofuels, a collaboration between Ecco Consulting and EnergyQuest, produces an annual **Australian Biofuels** report.

EnergyQuest has produced its flagship **EnergyQuarterly** since 2005. It is Australia's most widely read and comprehensive quarterly review of the Australian oil and gas industry. It provides comprehensive and timely statistical analysis of oil and gas production, reserves, development projects, gas contracts and prices in Australia.

EnergyQuest also produces a **LNG Monthly** report which provides analysis and data on Australian LNG exports, major LNG markets and the interface between LNG exports and domestic gas markets

### - Energy advice

The energy market is rapidly changing, and clients need to make important decisions in this new environment. EnergyQuest can help work through client issues, refocus strategies and show how to build business resilience for the future.

EnergyQuest provides energy advice to a range of major Australian and international energy companies, energy buyers, investors and governments.

Assignments have spanned upstream and downstream energy types, including oil, gas, coal, coal seam methane, oil shale, biofuels, electricity and diesel; and a range of issues such as demand and supply, petroleum reserves and production, infrastructure and prices.

## Case studies...

Below are some the examples of recent studies and reports completed by EnergyQuest.

### - Upstream industry

EnergyQuest uses a proprietary bottom up approach to oil and gas supply. This detailed analysis provides insight into, not only reserves and production rates, but also costs of gas.

- ▶ **Multi-client Report: Queensland Coal Seam Gas: Performance and Outlook to 2036**  
- This report provided a forensic analysis of Queensland CSG performance, based on production data since 2005 for 120 Production Licences, analysis of drilling statistics for approximately 10,000 wells, and reserves bookings for approximately 60 Authorities to Prospect and 120 Production Licences.

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## ENERGYQUEST

- ▶ **West Australian Domestic Gas Supply Report** - The report, undertaken for a major energy planning agency, reviewed the production and cost outlook for current and prospective WA domestic gas supply sources.

### - LNG industry

EnergyQuest's people have direct experience in negotiating LNG contracts, and the development of the major CSG to LNG projects in Queensland. We combine analysis, with practical experience in how LNG projects and markets behave.

- ▶ **Review of LNG gas imports to eastern Australia for an LNG import proponent** - the client required an independent assessment of the supply case to import LNG into the east coast gas market. The report reviewed gas demand and supply, and compared gas costs and pricing.

### - Investors

Investing in an uncertain market is risky, but can also present opportunities. Using its detailed knowledge of supply, demand and price outlook, EnergyQuest can give potential investors a clear view of the opportunity and the risk scenarios. We are independent, and provide assurance to decision makers all the way to the Board room.

- ▶ **Future gas price scenarios for an electricity transmission infrastructure operator** - The client was exploring the need for additional inter-state connections in the electricity grid. The report examined future gas supply and costs, as well as risk analysis for each scenario developed. The report included gas cost analysis, development of three gas price scenarios, scenario risk analysis, and trigger points for gas supply scenario development. The report also critiqued and compared the scenarios against client and AEMO models.
- ▶ **Eastern Australia Gas Market Report for a successful bid by the client for Victorian upstream gas assets** - The report reviewed the Victorian and related gas markets, gas infrastructure relevant to the gas asset, and LPG and condensate markets.

### - Energy buyers

Large energy users are facing unprecedented uncertainties and mixed messages. The challenge is to map a path forward which allows energy intensive businesses to manage the volatility and develop into the new energy markets.

EnergyQuest analysis shows what are the cost drivers, where the key game changers are, and how a business should plan its energy future.

- ▶ **Gas supply options for a major gas user** - This project was a review of supply options for a major industrial gas user. It considered cost, likelihood and volume of supply. The report included detailed demand, supply and cost analysis, an overview of east coast proven and probable reserves, contingent resources, and the potential for future long term supply, with a ranking of supply options, and risks.
- ▶ **Multi-client Report: East Coast Gas Outlook to 2036** - This major multi-client report completed in December 2018, reviewed gas field reserves using a proprietary field by field approach, cost of production, infrastructure constraints, domestic and export gas demand, gas pricing, risks and industry game-changers.

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E N E R G Y Q U E S T

### - Government

There is intense pressure on government agencies to keep up with the energy industry developments, and provide a robust investment environment to attract investors.

EnergyQuest's experience in the industry, and fact-based analysis has provided government agencies with the tools to make important policy, regulatory and broader strategic decisions.

- ▶ **East Coast Government Agency - Gas to Market Infrastructure.** The agency wanted to better understand the key barriers to the development of gas resources and identify options to facilitate new gas supplies for the eastern gas market. The analysis provided by EnergyQuest combined detailed in-house gas industry knowledge, with an extensive consultation with 30 industry stakeholders. The approach included a literature review, targeted consultation with industry stakeholders, analysis of the results, and recommendations to the government to support gas resource investment.
- ▶ **Review of international gas reserve and resource reporting standards** - This report, undertaken for an energy regulator, reviewed reporting standards for gas reserves in Australia, the UK, the USA and Canada.

### A selected list of our clients...

- Adelaide Brighton Limited
- AGL
- Alinta Energy
- APA Group
- Arrow Energy
- Australian Consumer and Competition Commission (ACCC)
- Australian Gas Networks Ltd
- Australian Government
- Australian Energy Market Operator (AEMO)
- Australian Industrial Energy
- Australian Petroleum Production and Exploration Association (APPEA)
- Australian Pipelines and Gas Association (APGA)
- Australian Tax Office
- Bank of America Merrill Lynch
- Beach Energy
- Bengal Energy Ltd
- BHP
- Brookfield
- Chevron
- ConocoPhillips

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- Cooper Energy
- Credit-Suisse
- CSR
- ElectraNet
- Energy Australia
- Epic Energy
- ExxonMobil
- Glencore
- GLNG
- Global Energy Ventures Ltd (GEV)
- Incitec Pivot
- Jemena
- Kogas Australia
- Lochard Energy
- Marubeni
- MIMI
- Mitsui
- MPC Kinetic
- National Offshore Petroleum Titles Administrator (NOPTA)
- New Zealand Oil & Gas Ltd (NZOG)
- North West Shelf Gas
- Orica
- Origin Energy
- Osaka Gas
- Palisade Asset Management Pty Ltd
- Qenos
- QER Pty Ltd
- Queensland Government
- Santos
- Schlumberger
- Senex Energy
- Shell
- Sinopec

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- South Australian Government
- Snowy Hydro
- Stanwell Corporation Limited
- Sumitomo
- Total
- UBS
- Victorian Government
- Visy
- Western Australia Government
- Woodside

### Our key people...



#### **Graeme Bethune**

CHIEF EXECUTIVE OFFICER

Graeme has 40 years' experience in economic and financial analysis, 10 years in senior business development and finance roles with Santos and founded EnergyQuest in 2005. His interests include natural gas, LNG, oil and transport fuels, electricity and renewables.

Graeme is the lead author of major EnergyQuest reports and consulting studies for energy producers, energy buyers and governments.

He is often asked for expert comments by media outlets and is frequently invited to speak at industry conferences. He is also Chair of the Australian Gas Industry Trust and a member of the Executive Committee of the International Gas Union.

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## Susan Bethune

### HEAD OF DATA AND FINANCE

Susan Bethune is a partner in EnergyQuest, responsible for market data and analysis. She is a specialist in economic, financial and statistical analysis. She has created and maintains EnergyQuest's comprehensive data bases of most aspects of Australian energy and has undertaken numerous projects for clients wanting customised data series.

Susan has a BA (Hons.) (Macquarie University) and an M.Ec. (ANU). She has over 40 years' experience in economic and financial analysis with the Australian Government (Australian Bureau of Statistics and Productivity Commission), the corporate and finance sectors, the tertiary education sector (University of Adelaide and University of South Australia) and EnergyQuest.



## Rick Wilkinson

### HEAD OF CONSULTING

Rick Wilkinson has more than 30 years of experience in the oil and gas industry. He has held senior positions in the areas of commercial negotiation, LNG contracting, gas wholesaling and retailing, as well as technical field engineering.

Rick held various roles with Santos over 16 years, including President GLNG and Queensland where he oversaw the initiation, and definition for final investment of the A\$16+ Billion CSG to LNG project, and Vice-President Commercial of Santos.

He has been an Associate with management consultants, McKinsey & Co., and held managerial and engineering positions with Schlumberger in Iran, Iraq, Egypt, Sudan and the USA.

Rick is also an Adjunct Professor at the University of Queensland – Centre for Natural Gas.

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## Denis Dare

SENIOR ASSOCIATE

Denis is a petroleum engineer with over 40 years domestic and international experience. For the past seven years he has worked as a private industry consultant as the principal of DL Dare & Associates. He has provided input to numerous EnergyQuest's reports.

For the seven years prior to forming DL Dare & Associates, Denis worked for Gaffney, Cline and Associates (GCA) initially in Singapore, as one of GCA's ten person Global Management Executive and then in Sydney as General Manager Australasia.

For the twenty years prior to GCA, Denis worked for Santos where he was successively the Santos General Manager responsible for Petroleum Development, Production Operations and Engineering & Facilities. These roles included significant Cooper Basin responsibilities.



## Marie-louise Lees

SENIOR ASSOCIATE

Marie-louise is a petroleum engineer with over 30 years domestic experience. Marie-louise joined EnergyQuest in January 2019.

For 29 years to July 2017 Marie-louise worked for Santos in many Reservoir Engineering and Leadership Roles including Chief Reservoir Engineer, General Manager Reservoir Development and Cooper Basin Development Manager. During her career with Santos Marie-louise worked in Reservoir Engineering roles in the Cooper Basin, Victoria, Western Australia, Papua New Guinea, Vietnam, Bangladesh and Indonesia. Marie-louise started her career working for Esso Australia as a process engineer based at the Longford Processing Plant.

Marie-louise has a Bachelor of Chemical Engineering with 1st Class Honours from the University of Adelaide. She is a life member of the Society of Petroleum Engineers, a member of Engineers Australia, a Certified Professional Engineer and a registered Petroleum Engineer.

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## Mike Cochran

SENIOR ASSOCIATE

Mike Cochran is an economist who brings to EnergyQuest over 35 years' extensive experience in liquid fuels marketing, economics, strategy, policy, valuations and logistics/infrastructure analytics focusing on petroleum products including crude oils, natural gas liquids and petroleum fuels. His ability to provide high quality services is backed by prominent organisations in the oil and petroleum industries in Australia and overseas.

Mike and Graeme are also joint CEO's of APAC Biofuels Consultants, a consulting entity to provide much needed independent analysis on the Australian biofuels sector. Since its formation in 2006, APAC has become a leading independent specialist advisor, and its annual client report 'Australian Biofuels', is recognised as a key reference by industry and governments. Mike has been with EnergyQuest since 2005.

## Our company and contact details...

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