

Chapter 6

Confronting the Productivity Challenge in the High Cost Economy: Evidence from the Australian Oil and Gas Industry

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ABSTRACT

This chapter reports research findings into the productivity challenge facing the Australian oil and gas industry. This industry has been experiencing cost overruns indicating a productivity decline that puts future projects and investment at risk. Using world-class survey methodologies developed by the Centre for Business Research at Cambridge University and adapted for the oil and gas industry, an evidence-based view on business decisions and conditions is provided and linked to performance. While many of the productivity challenges facing the Australian oil and gas industry are beyond immediate managerial control, this research shows that key productivity drivers are in the realm of the firm to influence. The research reported in this chapter shows that improvements in innovation, collaboration, and deeper competitive capabilities are the best levers to lift business productivity and to build a growth pathway for the future for this industry.

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INTRODUCTION

Recent years have seen soaring investment in natural gas resources in Australia. A mix of conventional and unconventional natural gas projects are at the heart of this expenditure with a majority of projects focused on exporting Liquefied Natural Gas (LNG) to Asia. Conventional gas projects include offshore gas field developments like Chevron's Gorgon project in Western Australia. Unconventional gas projects include Queensland's Coal Seam Gas (CSG) projects, which will bring together distributed gas wells from across a vast geographic distance to parallel LNG processing plants on Curtis Island, Gladstone, Australia. Taken together, Australia has more than \$US190b in LNG export projects under construction (Reuters, 2013), placing Australia on track to becoming the world's largest exporter of LNG by 2025 (OECD, 2012). A list of the major projects, expected to be completed by 2020, is provided in Table 1.

Cost overruns in these projects have become commonplace in the Australian oil and gas industry. In 2012 Chevron announced a \$9 bn cost overrun on its Gorgon gas project with the final cost now estimated to be \$52 bn (MENA, 2012). This represents a 40 per cent increase on the original 2009 project budget in US \$ terms. In 2012, cost

overruns from Chevron, Woodside, BG, Santos and Exxon Mobil totalled \$25 bn (Ker, 2012). This pattern has continued into 2013 with the Conoco/Origin joint venture APLNG announcing a more modest seven per cent overrun of \$US1.3 bn (Reuters, 2013). The BG group's QCLNG project has witnessed a \$US5 bn overrun (Chambers, 2013).

Explanations for cost overruns usually focus on external factors, which all relate in various ways to productivity. Logistical challenges of remote locations, access to overseas labour (Bloomberg, 2009), wage costs, regulatory complexity and technical challenges are all commonly cited as reasons for these overruns. Together these represent various facets of the productivity challenge facing the industry. The received wisdom is that these challenges contribute to the overall inefficiencies of the LNG megaprojects and to declining productivity. The threat of the productivity decline is that future projects might not be invested in, or worse, delivered at unnecessarily high cost (BCA, 2012). Faced with this prospect, investors will seek better capital returns on projects outside Australia, signs of which are already becoming evident. For instance, recent reports show that comparable investments in gas projects might be up to 30 per cent less expensive in east Africa (Ellis, Heyning, & Legrand, 2013). Executives from several major energy companies warn that steps need to be made

Table 1. Australian LNG projects expected to start through 2020 (Reuters, 2013)

Projects Under Construction	Developer(s)	Capacity (mtpa)	Cost (\$US bn)	Development Type
Gorgon 1,2,3	Chevron	15.6	52	Conventional, off-shore
Queensland Curtis Island (QCLNG) 1, 2	BG Group (QGC)	8.5	20.4	Coal Seam Gas
Gladstone LNG (GLNG) 1 2	Santos/ PETRONAS/ Total / KOGAS	7.8	18.5	Coal Seam Gas
Australia Pacific LNG (APLNG) 1, 2	Conoco Phillips / Origin	9	25.4	Coal Seam gas
Ichthys 1, 2	Inpex / Total	8.4	34	Conventional, Offshore
Prelude FLNG*	Shell / KOGAS	3.6	12.6	Conventional, floating offshore
Wheatstone 1, 2	Chevron	8.9	29	Conventional, Offshore

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