3. PROJECT RATIONALE

Arrow's Surat and Bowen basin petroleum tenures contain significant coal seam gas resources suited for domestic supply and conversion to liquefied natural gas (LNG) for export. The global demand for gas presents an opportunity to develop these resources for export with resources still available for the existing domestic market.

For Arrow, development of the proposed Arrow LNG Plant forms part of the company's vision to increase business value by commercialising coal seam gas reserves held in the company's petroleum tenures. The acquisition of Arrow by Shell and PetroChina ensures the financial, operational and market strength required to underpin development of a major new coal seam gas – LNG export project.

This chapter describes the rationale for converting coal seam gas to LNG for export. The chapter discusses:

- Projected Australian and worldwide demand for gas and energy.
- The extent of Australia's natural gas resources and the availability of coal seam gas for conversion to LNG for export.
- Australian and Queensland government policy supporting the conversion of gas to LNG.
- Alternative uses of the gas resource.

3.1 Gas and Energy Demand

The following sections discuss international and Australian gas and energy demand.

3.1.1 International Demand

Gas is an established energy source that presently meets 22% of the world's energy needs. Compared to other fossil fuels, gas offers several advantages as a fuel source, including relatively lower greenhouse emissions, greater energy efficiency, ease of extraction, ease of transport through pipelines, and ease of export once converted to LNG (IEA, 2009).

Unlike worldwide oil markets, gas has typically been considered a regional resource. Now, LNG is becoming a global commodity and represents about 7% of global gas sales (IEA, 2008). Worldwide LNG sales are predicted to rise from 165 million tonnes (Mt) in 2007 to between 245 and 340 Mt per year by 2015 (IEA, 2009) and predictions show a global increase in the gas trade of about 80% by 2035, of which more than half takes the form of LNG (IEA, 2010).

Historically, there have been two LNG import markets; the Asia-Pacific, which includes China, Taiwan, Japan and the Republic of Korea, and the Atlantic, which includes Europe and North America. The growth of Middle East imports in 2010 signals the rise of new areas of demand (ABARES, 2011a).

In 2008/09, LNG accounted for $10.3 billion of Australia's export income. In 2009/10, the value decreased to $7.8 billion, though exports increased by 16% to 18 Mt. The global economic downturn, and the increased strength of the Australian dollar relative to the US dollar, contributed to lower LNG prices during the latter period (ABARES, 2011b). In 2010/11, Australian LNG production reached a record 20.8 Mt (EnergyQuest, 2011a).

Australian Bureau of Agricultural and Resource Economics and Sciences (ABARES) predict LNG exports will grow by 4% in 2010/11 to 19 Mt, and thereafter at an average rate of 19% per annum to 2015/16, reaching about 41 Mt. Construction projects underpinning this growth include the Woodside Pluto LNG Project and Chevron Gorgon Gas Project in Western Australia, and the Queensland Gas Company and BG Group Queensland Curtis LNG Project and the Santos and Petronas Gladstone LNG Project in Queensland. Given the number of projects also undergoing feasibility and design, ABARES foresee the potential for Australian LNG exports to continue growing beyond 2015/16 (ABARES, 2011a).

Australia's major LNG trading partners include Japan, China and the Republic of Korea. While strong growth in these markets is expected to continue, there are opportunities in India, Thailand, Singapore and Chinese Taipei (ABARE, 2010). With sufficient gas resources to meet domestic demand, Australia has a significant opportunity to strengthen its position as a key LNG supplier to global markets.

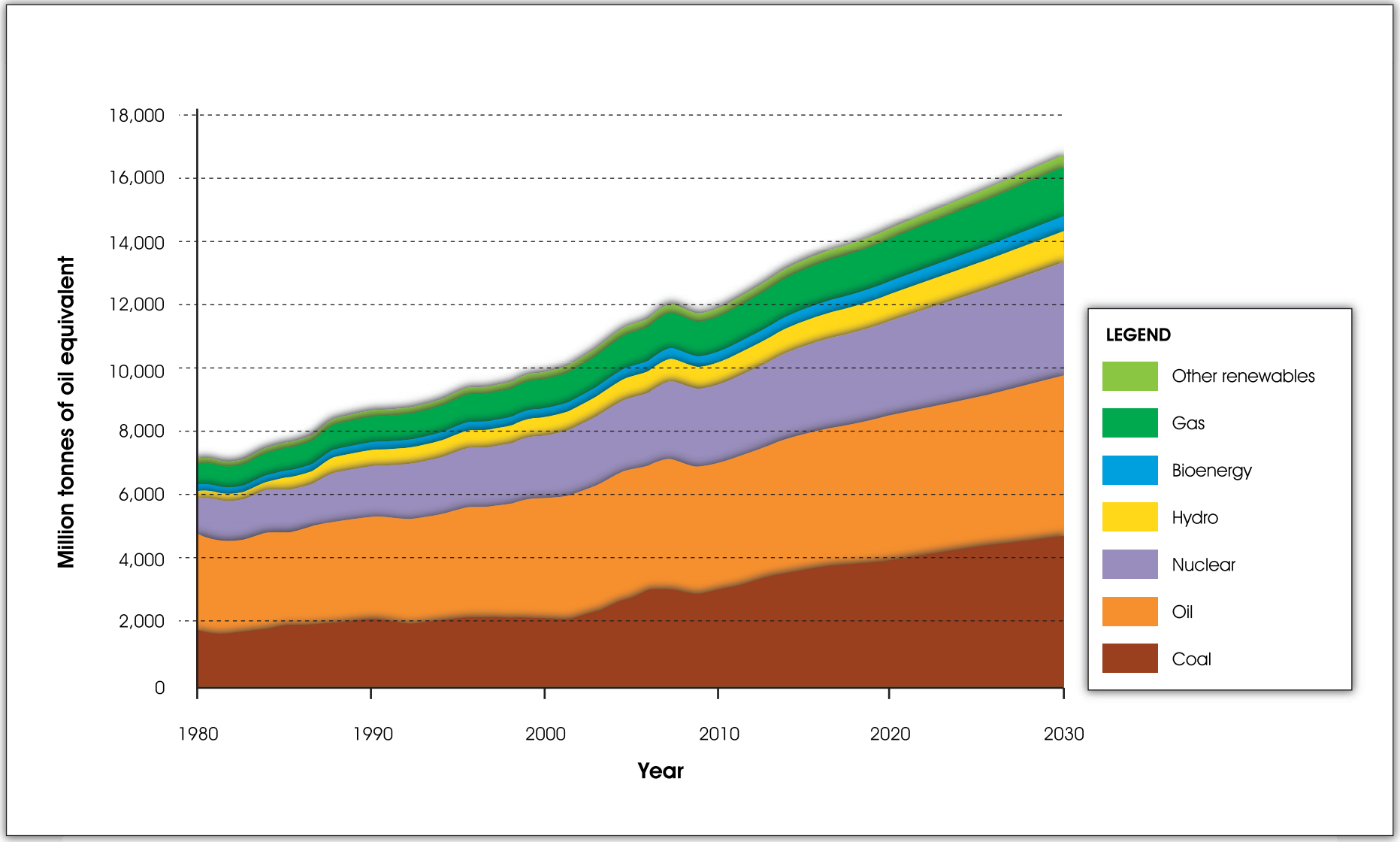
Worldwide energy demand in 2007 and projected demand in 2030 is shown in Figure 3.1. The International Energy Agency estimates that over 20% of the global population still lacks access to electricity. The agency expects world primary energy demand to increase by 36% to 40% between 2008 and 2035, at the annual average rate of 1.2% to 1.4% (IEA, 2010). Emerging economies led by China and India, and to a lesser extent growth in the Middle East, are considered to be the main drivers for increased demand. Demand in China alone contributes to 36% of this growth.

These projections assume that governments take a cautious approach to implementing greenhouse gas reduction measures. The International Energy Agency notes natural gas is set to play a central role in meeting the world's energy needs for the next two and a half decades, as governments introduce a greater focus on policies aimed to maintain economic growth while deploying less carbon intensive energy technology. Table 3.1 compares the greenhouse gas emissions of the world's primary fossil fuels (expressed as kg CO_2-e). Gas estimates are given according to different methods by which gas is supplied for the consumption of natural gas and solid fuels (not taking into account lifecycle factors such as the method of processing and transportation).

Table 3.1 Greenhouse gas emissions per GJ of fuel combusted

Fuel	Emissions (kg CO_2-e/GJ)
Coal seam methane that is captured for combustion	51.1
Natural gas distributed in a pipeline	51.2
Liquefied natural gas	51.2
Black coal (other than that used to produce coke)	88.4
Brown coal	92.7

Source: DCCEE (2010a).



Source: International Energy Agency, World Energy Outlook, 2009. Derived from Figure 1-1 World primary energy demand by fuel in the Reference Scenario	coffey environments	Job No: 7033 File Name: 7033_07_F03.01_GL	Arrow Energy Arrow LNG Plant	arrow energy go further	Projected worldwide energy demand 2007 to 2030	Figure No: 3.1

3.1.2 Australian Demand

Australia's gas consumption has increased by an average of 3.1% per annum over the five years ending 2008/09. In the period 2011 to 2030, the Australian Energy Market Operator (AEMO) expects growth to continue at a rate of between 3.0% and 4.8%, with gas-fired power generation in Queensland, Victoria and New South Wales being a key driver of demand (AEMO, 2010).

ABARES projects Australia's primary energy consumption to increase by 1.4% per year, from about 5,772 petajoules (PJ) in 2007/2008 to 7,715 PJ by 2029/2030 (Geoscience Australia & ABARE, 2010). While this represents an overall increase of about 35%, ABARE predicts that Australia's long-term trend will move towards greater energy efficiency and the use of less carbon intensive energy sources. ABARE predicts Australia's primary fuel mix will change, aided by policies that encourage the development of gas and renewable energy sources to reduce dependency on coal. Figure 3.2 shows Australian energy consumption in 2007 and projected consumption in 2030.

3.2 Gas Resource

The following sections discuss the availability of gas resources in Australia and the production capacity of the project.

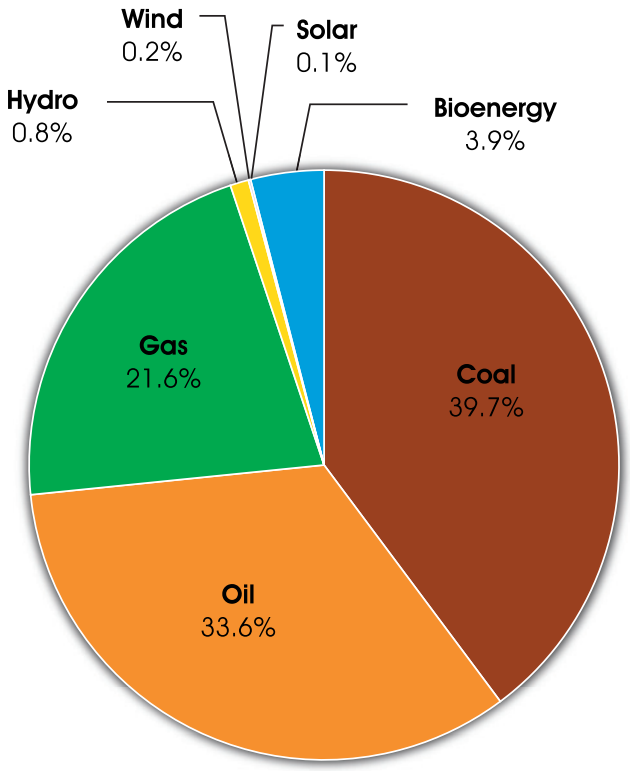
3.2.1 Availability of Australian Gas Resources

In the past two years, the Australian Government has commissioned several reports that examine the availability of Australia's gas resources to meet projected domestic energy demand. Reports include:

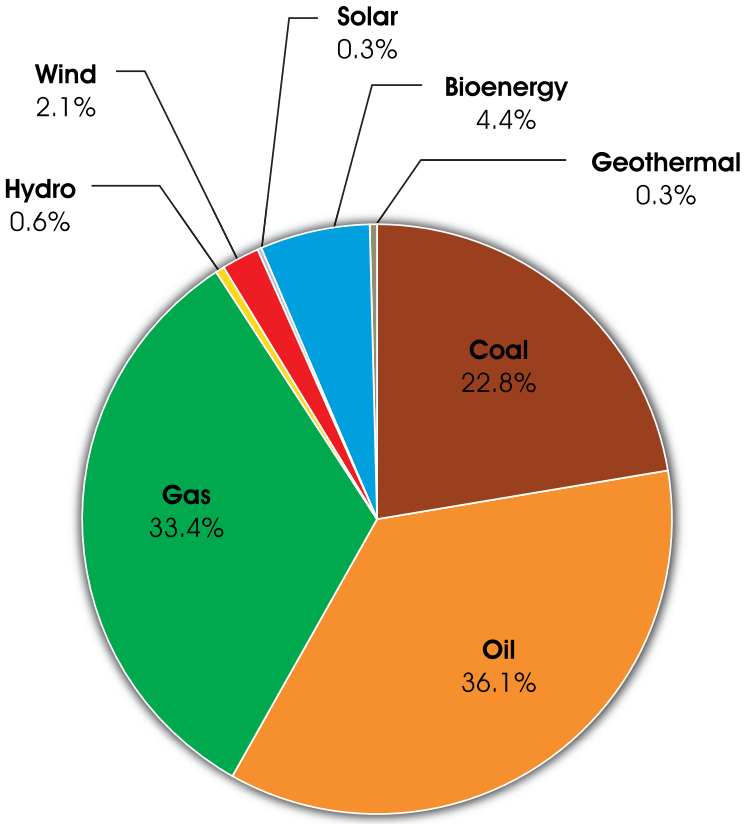
- The Gas Statement of Opportunities, first published by the Australian Energy Market Operator (AEMO) in 2009 (AEMO, 2009) and updated in 2010 (AEMO, 2010). This provides 20-year outlooks on the potential balance of gas supply and demand in Australia, under low, medium and high growth scenarios. Forecasts to 2030 prepared by McLennan Magasanik Associates inform the Gas Statement of Opportunities; these forecasts consider the availability of proven, probable and possible, as well as contingent, gas reserves within Australia, and market demand in Queensland, New South Wales, South Australia, Tasmania, Victoria and the Australian Capital Territory (MMA, 2009a; 2010a).
- The Australian Energy Assessment Report, published by Geoscience Australia and ABARE in 2010 (Geoscience Australia & ABARE, 2010). The report presented reserves estimates as at December 2008 and considered factors likely to influence the use and availability of resources during the period to 2030, including new technology development.
- The Australian Energy Projections to 2029-30, published by ABARE in 2010 (Syed et al., 2010). The report provides long-term projections of Australian energy consumption, production and trade for the period 2007/08 to 2029/30.

Reporting Methods for Reserves

Two systems are used to report gas reserves internationally. The most widely used international standard is the 2007 Petroleum Resources Management System, approved by the Society of Petroleum Engineers, World Petroleum Council, American Association of Petroleum Geologists



a) 2007-08 (5,772 PJ)



b) 2029-30 (7,715 PJ)

Source:
Geoscience Australia and ABARE. 2010. Australian Energy Resources Assessment.
Report prepared by Geoscience Australia and ABARE, Canberra, ACT.

coffey environments	Job No: 7033	Arrow Energy	arrow energy go further	Australia's primary energy consumption, 2007 to 2008 and 2029 to 2030	Figure No: 3.2
	File Name: 7033_07_F03.02_GL	Arrow LNG Plant			

and the Society of Petroleum Evaluation Engineers in 2007, and updated in 2008 to state the correct conversion ratio for LNG, which is about 1/614 the volume of natural gas (SPE-PRMS) (SPE et al., 2007). The system is used within Australia and allowable under the Australian Stock Exchange.

Within the United States, the Securities and Exchange Commission (SEC) has defined a separate system, which is mandatory within that country. From 2010, the SEC has adopted the SPE-PRMS principles within its regulatory framework.

Under the SPE-PRMS system, proven (1P) gas reserves are those reserves that, to a high degree of certainty (90% confidence), are recoverable from existing wells using existing infrastructure and operating methods. Proven and probable (2P) gas reserves are those reserves that analysis of geological and engineering data suggests are more likely than not (50% confidence) to be recoverable.

Proven, probable and possible (3P) gas reserves are those reserves that, to a low degree of certainty (10% confidence), are recoverable. Relatively high risk is associated with these reserves. Contingent reserves are those quantities of hydrocarbons that are estimated to be potentially recoverable from known reservoirs but are not currently considered commercially recoverable. Although contingent reserves may be significant, they have constraints to development.

From a commercial perspective, the 2P reserve category is critical because the establishment of long-term sales gas contracts generally require this level of confidence.

Gas Resources and Reserves Growth

Australia has 60 sedimentary basins and subbasins that potentially contain accumulations of oil and gas. Thirty-one of these lie in eastern Australia. Gas production has focused on a small number of basins, which commentators attribute to both economic and geological factors such as proximity to market and basin structure (MMA, 2010a).

About 90% of Australia's conventional gas resources are located in the Carnarvon, Browse and Bonaparte basins off the Northern Territory and Western Australian coasts. For conventional gas reserves in eastern Australia, McLennan Magasanik Associates note that 2P reserves have increased steadily since initial discoveries. While production has recently commenced from the Bass and Otway basins, production from older gas fields, such as those in the Cooper/Eromanga Basin, has started to decline.

For coal seam gas resources, large deposits exist in the coal basins of Queensland and New South Wales. McLennan Magasanik Associates note that growth in 1P, 2P and 3P reserves has grown exponentially since 2003 and they identify 2007 and 2008 as particularly strong years with the major gas producers accelerating the proving up of reserves to back proposed LNG export projects. The Surat and Bowen basins respectively account for 61% and 34% of current 1P and 2P coal seam gas reserves, with small amounts also discovered in the Clarence-Moreton, Gunnedah, Gloucester and Sydney basins (Geoscience Australia & ABARE, 2010).

An annual review of Australian gas reserves by EnergyQuest (2011b) reported that 2P gas reserves in Queensland had been rising steadily since the reporting period began in 2000. At the end of December 2009, 2P reserves in Queensland were at 23,053 PJ, and had risen to 32,149 PJ by the end of December 2010. In July 2011, 2P reserves in Queensland were at 34,986 PJ. Within New South Wales, reported 2P gas reserves were at 2,910 PJ in July 2011 (EnergyQuest, 2011b).

Australian gas resources by basin in May 2011, as reported by EnergyQuest (2011b), are shown in Figure 3.3.

Eastern Australia Gas Consumption

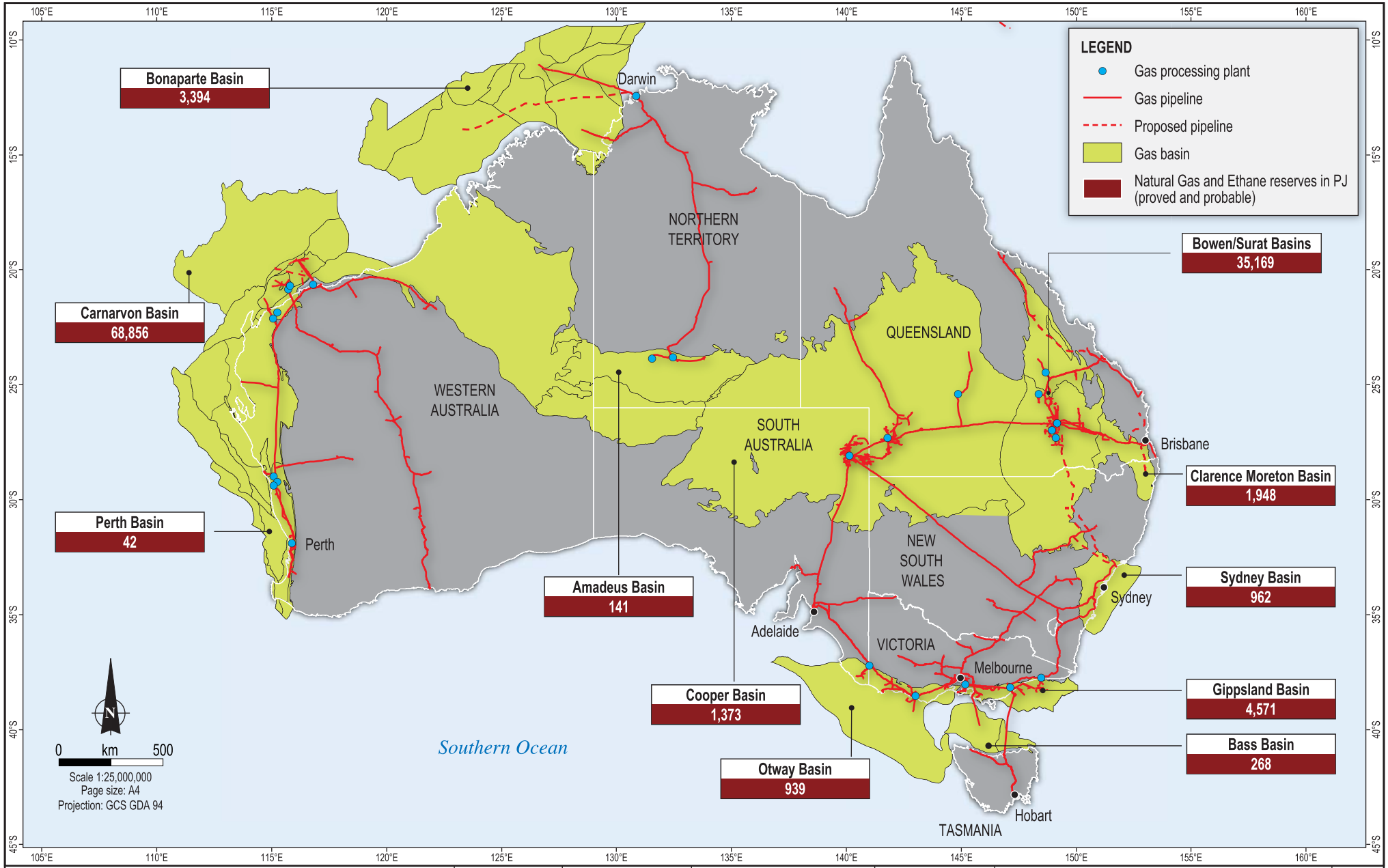
AEMO categorises gas consumers into four main groups and through the Gas Statement of Opportunities, projects gas demand for the years 2011 to 2030 across eastern Australia. The groups, which each have different demand drivers, include:

- The mass market – caters to the gas needs of residential, commercial and small industrial users. The growth of core demand is influenced by population, new dwelling construction and activity in the manufacturing sector, as well as the variability of climate (peak winter and summer demand), technological development and government policy initiatives.
- Power generation – relate to contractual supply to gas-fired power station operators. Influences on this use include demand for new electricity market participants, and therefore economic and commercial factors such as fuel costs, new entry costs for generators and renewable energy, and greenhouse gas abatement schemes.
- Large domestic projects – most relate to the smelting, refining or processing of minerals. Other customers may include chemical and petrochemical industries. These projects are small in number and demand drivers (such as pricing information) are often confidential.
- LNG exports – such as projects already operating out of Western Australia and the Northern Territory, and proposed for Queensland. Influences on demand for gas for LNG include the global demand for LNG, present supply capacity, the availability of gas resources and LNG pricing and costs associated with resource development.

The demand drivers for each group were used to develop high, medium and low growth scenarios for the period 2011 to 2030. The Gas Statement of Opportunities found that for all scenarios modelled, gas reserves in eastern Australia are sufficient to meet the projected growth in domestic gas and export consumption over the forecast period to 2030 (AEMO, 2010). These findings are consistent with the Australian Energy Projections to 2029/30 (Syed et al., 2010) and the Australian Resources Assessment Report (Geoscience Australia & ABARE, 2010). Geoscience Australia and ABARE note that combined identified gas resources in 2008 were in the order of 393,000 PJ, the equivalent to 180 years of gas at 2010 production rates and that, traditionally, reserve estimates increase as new areas are explored.

3.2.2 Arrow Independently Assessed Reserves

Arrow's investment in the Surat Basin began in March 2000, with the company's first coal seam gas exploration program conducted in June 2001. First gas was sold from the Kogan Project in January 2006. The Kogan North Project is now one of Arrow's four producing gas fields in the Surat Basin, which also include Tipton West, Daandine and Stratheden. Most of the gas



Source:
Pipelines, coastline and gas basins from Geosciences Australia.
Natural Gas and Ethane reserves in PJ from Energy Quest (2011) Energy Quarterly August 2011.
Australian Energy Resources Assessment, Canberra, ACT, 2008.

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Arrow Energy

Arrow LNG Plant

arrow energy go further

Australian gas resources by basin, May 2011

Figure No: 3.3

produced from these fields is sold for power generation under long-term gas sales agreements or long-term gas tolling and power purchase agreements.

Arrow has conducted significant exploration across its Surat Basin tenures and holds extensive reserves beyond those committed under existing gas contracts. Exploration is at a mature stage in several areas with extensive 3P reserve coverage. Upcoming exploration will focus on collecting data on the lesser explored areas in the northwest and south of the Surat Gas Project development area, and upgrading 3P reserves to 2P status.

Arrow's investment in the Bowen Basin began in 2006 when CH4 Pty Ltd, operator of the Moranbah Gas Project, was acquired. First gas was sold from the field to Enertrade in September 2004. Arrow, together with joint-venture partner AGL Energy, now supplies Queensland Nickel Industries and Copper Refineries, Townsville Power Station and Incitec Pivot.

Exploration in the Bowen Basin has focused on extending reserves in the Moranbah Coal Measures in areas north and south of the Moranbah Gas Project, and proving reserves in the Rangal Coal Measures to the east of Moranbah. Gas from coal seams in these measures will underpin the LNG project, with additional, but currently untargeted, potential available from the extensive gas resources contained within the Fort Cooper Coal Measures.

Modelling of Arrow's Surat and Bowen basin gas reserves is ongoing. Production and exploration data collected from petroleum tenures within these basins continues to build the company's confidence of total reserves. Gross gas reserves as at July 2009 are presented according to petroleum tenure in Table 3.2.

Table 3.2 Arrow's independently assessed reserves (as at July 2009)

Basin	Gross 1P	Gross 2P	Gross 3P
Surat Basin			
PL 194 (Kogan North)	45	140	289
PL 198 (Tipton West)	253	528	620
PL 230 (Daandine)	66	304	331
PL 252 (Stratheden)	0	268	268
PL 185 (Dundee)	0	77	108
PLA 253 (Hopelands)	0	8	574
PLA 238 (Plainview)	8	358	592
PLA 258 (Meenawarra)	0	109	323
PLA 260 (Longswamp)	13	346	468
ATP 676 (Kogan East)	0	0	147
ATP 676 S1 & S2	0	13	48
ATP 810 (Castledean, Kedron, Burunga Lane)	0	612	823
ATP 683P (Bowenville including Tipton East)	0	75	968
ATP 683P (Dalby South)(River Road)	1	107	280
ATP 683P (Millmerran)	0	11	451
Subtotal	**386**	**2,956**	**6,290**

Table 3.2 Arrow's independently assessed reserves (as at December 2009) (cont'd)

Basin	Gross 1P	Gross 2P	Gross 3P
Bowen Basin			
PL 191 (Moranbah Gas Project)	278	683	1,410
PL 196 (Moranbah Gas Project)	9	82	194
PL 223 (Carborough)	18	113	217
PL 224 (Moranbah Gas Project)	5	30	75
PLA 222 (Moranbah Gas Project)	0	87	261
ATP 364P (North Goonyella)	0	39	39
ATP 364P (South Walker)	7	40	301
ATP 364P (Red Hill and Hill Creek)	0	62	525
Subtotal	**317**	**1,136**	**3,022**
Total	**703**	**4,092**	**9,312**

Source: Arrow (2009).

In September 2011, Arrow announced a definitive agreement to acquire Bow Energy via a Scheme of Implementation Arrangement. This acquisition would add to the company's existing Queensland coal seam gas reserves and enhance opportunities to expand the size of its LNG project trains.

3.2.3 Use of Arrow's Independently Assessed Reserves

There are four major gas consumer groups within Australia – the mass market, power generators, large domestic projects and LNG exporters. Arrow's gas is currently directed to the mass market or power generators under long-term gas sales agreements; however, the Arrow LNG Plant will see significant volumes of gas directed to the LNG export market.

Arrow's Surat and Bowen basin gas reserves will provide a significant source of gas. AEMO has noted that mass market and large domestic project consumption in eastern Australia will increase in the period to 2030. Compared to international demand, the increase in mass market and large industrial consumption is predicted to be very small. Meanwhile, global demand will continue to grow with secure, less emissions intensive energy sources preferred. The most likely requirement for gas to cater for Australian and global energy demand during the period involves the use of gas to displace more greenhouse gas emissions intensive sources of:

- New entrant baseload and intermediate power generation in Queensland.
- Offshore energy demand, including heavy transport industry fuels.

The suitability of these options is discussed further below.

Power Generation in Queensland

A range of generators operates in the national electricity market to meet the daily, weekly and seasonal demand for electricity. Generators are typically described in three classes:

- Baseload generators – operate for the majority of the year to supply constant power needs generated by industry, commercial developments, public facilities and typical household activities.
- Peaking generators – meet short-term power needs. This may occur on very cold or very hot days when consumers switch on heating or air-conditioning, and when baseload generators

are unavailable as a result of plant failure, forced outages, or planned maintenance outages that coincide with other unforeseen events, such extreme weather conditions.

- Intermediate generators – operate in-between the extremes of baseload and peaking generators. Often, intermediate generators will run in the morning when consumers rise and prepare for work or school, or in the evening when they return for their evening meal and entertainment. Intermediate generators often shut down or curtail output during the night when demand for power is at its lowest.

Coal-fired generators, due to their low running costs, are the predominate supplier of baseload and intermediate power in the national electricity market. Comparatively, significant greenhouse gas emissions reductions can be achieved using gas for this purpose. As baseload and intermediate demand grows, government energy policy initiatives such as the Queensland Gas Scheme are creating opportunities for new entrant gas-fired generators.

Arrow supplies 20% of the gas required to fuel Queensland's existing gas-fired plants and, through the Braemar 2 Power Station, owns generation capacity in its own right. The Townsville Power Station is a peaking plant, while Braemar and Braemar 2 power stations currently operate in peak and intermediate roles although they can also provide baseload generation. The 33 MW Daandine Power Station, located near the existing Daandine central gas processing facility, provides baseload generation.

Offshore Energy Demand

Forecasts show global demand for energy increasing in the period to 2029. Australia's natural gas resources are significant and are less emissions intensive than other fossil fuels. Conversion of gas to LNG enables transportation of this resource to markets unable to be technically or economically reached by pipeline. LNG can be used to meet the growing demand for less emissions intensive fuel for power generation, industry and domestic heating and cooling, particularly in Asia.

The Arrow LNG Plant facilitates an opportunity to export gas as LNG to cater for global energy demand. Importantly, Arrow's owners, Shell and Petrochina, have (through their extensive commercial interests) a confirmed market for all LNG produced. PetroChina, whose sole sponsor and controlling shareholder is the state-owned enterprise, China National Petroleum Corporation, is the largest oil and gas producer and distributer in China.

Key Influencing Factors

Key factors, as set out by AEMO (2010), influencing the level and timing of gas demand for LNG export are:

- Global LNG demand.
- Competing LNG sources.
- Availability of coal seam gas resources.
- Economics of coal seam gas projects.

Key factors influencing the timing of gas supply to the Arrow LNG Plant from Arrow's Surat and Bowen basin gas fields are:

- Availability of coal seam gas resources.
- Access to third-party land.

- Time required to drill and dewater the required number of coal seam gas wells to reach the production levels required.
- Project conditions and the prevailing regulatory environment.
- Opportunities to enter into gas supply arrangements with other Queensland coal seam gas producers.

3.3 Policy Framework

Australian and Queensland government energy policy is driven by the need to:

- Grow a diverse economy at regional, state and national levels.
- Reduce greenhouse gas emissions from the stationary energy sector.
- Support Australian industry and ensure Australia's security of energy supply.

This position, discussed below at national and state levels, supports the development of Australia as a global energy producer, including growth through the export of LNG.

3.3.1 Australian Government Energy White Paper

In 2008, the Australian Government commenced an Energy White Paper process. The objective was to identify a comprehensive policy framework durable to 2030 and beyond. The National Energy Policy Framework 2030 Directions Paper (DRET, 2009a) was released in March 2009, followed in April 2009 by the discussion paper Realising Australia's Energy Resource Potential (DRET, 2009b). The discussion paper noted that Australia's large energy resources and educated population provide a strong platform from which to further develop the nation's energy resource sector while maintaining long-term energy security, and that Australia's extensive gas reserves and expected long-term growth of the LNG market provide significant export opportunities to the Asia-Pacific region.

In February 2011, the Australian Government issued an update on the Energy White Paper process. The draft Energy White Paper is expected to be released for comment within 12 months and finalised in 2012. The White Paper will seek to deliver a whole-of-government policy framework, focused on providing certainty for investors and reliable and secure energy supply for the Australian community (DRET, 2011).

3.3.2 Queensland Climate Change Strategy and the Queensland Gas Scheme

The Queensland Government considers gas to be a key transitional fuel source to reduce the greenhouse gas emissions intensity from electricity generation. The Queensland Gas Scheme is one of the key energy initiatives under the state's ClimateSmart 2050 strategy (Queensland Government, 2007a).

The scheme was established in 2005 to diversify the sources from which the state draws its energy and is regulated under Chapter 5A of the *Electricity Act 1994* (Qld). The scheme set a mandatory gas-fired electricity generation target for the state of 15% in 2010, which will increase to 18% by 2020. Approximately 20% of the gas required to fuel the state's gas-fired generation plants is supplied from Arrow's existing field developments.

Ensuring the Queensland Gas Scheme would remain sustainable in the advent of an LNG industry was one driver behind the domestic market security of supply study, commissioned in 2009 by the Queensland Government.

3.3.3 Domestic Gas Market Security of Supply

In 2009, McLennan Magasanik Associates was commissioned by the Queensland Government to assess the sustainability, costs and benefits of developing an LNG industry in Queensland. The Queensland LNG Industry Viability and Economic Impact Study (MMA, 2009b) assessed several scenarios, including 10 million tonnes per annum (Mt/a), 28 Mt/a and 40 Mt/a industries (with 28 Mt/a considered the standard scenario) and a scenario where LNG is not developed.

The report found that the development of the LNG industry could have the following potential effects:

- Increase gross domestic product, gross state product and Queensland Government royalties.
- Generate a movement of labour resources from other states to Queensland for employment.
- Increase domestic gas prices by about $2/GJ by 2015 due to higher export prices and flow on effects on electricity prices. The highest impact would be felt by the electricity market, which competes for lowest cost generation.

A significant driver for forecast growth of gas demand in Queensland is increased gas-fired power generation. Concern over potential gas price increases affecting the affordability of gas for future electricity generation, and large industrial customer needs led the Queensland Government to release the domestic gas market security of supply consultation paper in September 2009 (DEEDI, 2009a).

As a result of the paper, the Queensland Government announced the following policy position in November 2009:

- A percentage of gas from all fields will not be required to go to domestic supply.
- Should it be determined that domestic supply faces constraint, the Queensland Government will reserve future exploration areas for domestic gas supply (a prospective gas production land reserve).
- The Queensland Government will facilitate the development of a short-term gas trading market. This is a national initiative with a Brisbane hub expected to be operational by late 2011 (DEEDI, 2009a; ABARE, 2011b).

3.3.4 Blueprint for Queensland's LNG Industry

In September 2009, the Queensland Government released its Blueprint for Queensland's LNG Industry, which sets out the government's support for coal seam gas and LNG industries (DEEDI, 2009b). The blueprint discusses the environmental benefits and economic strengths of gas, and considers the likely impacts and benefits of developing a local industry. The blueprint outlines the government’s approach to working with industry and community to develop the state’s LNG industry. Government support includes:

- Preparing and implementing the Sustainable Resource Communities Policy.
- Extending the Gladstone State Development Area to include part of Curtis Island as an LNG precinct. A benefit of the development of the Gladstone region as a LNG hub is its central location to both Surat and Bowen basin coal seam gas resources.
- Developing a Surat Basin Regional Development Strategy to maximise economic and employment opportunities and minimise the social consequences of rapid regional growth.

- Establishing groups, including a Land Access Working Group and a Surat Basin Cumulative Impacts Working Group, to address land use conflicts, housing availability and other cumulative effects that may arise from multiple energy and resource projects.

In November 2010, the Queensland Government released the report, Queensland's LNG Industry – a once in a generation opportunity for a generation of employment, which builds upon the Blueprint for Queensland's LNG industry. This report provides both a progress update on actions listed above, and sets out further areas of government support (Queensland Government, 2010). These further areas include, but are not limited to:

- Finalising and implementing new land access laws.
- Preparing an industry-based CSG/LNG Skills Formation Strategy, as well as a $10 million CSG/LNG industry training program, funded 50/50 by government and industry.
- Conditioning projects for local impacts.
- Implementing the strategic cropping land policy.
- Developing legislation to better protect against environmental groundwater impacts arising from the coal seam gas hydraulic fracturing (fraccing) process.
- Establishing a LNG enforcement unit and releasing compliance information.
- Reviewing the petroleum tenure framework to ensure certainty for investors in the coal seam gas and LNG industries.