1. INTRODUCTION

Arrow Energy Pty Ltd (Arrow) proposes to expand its coal seam gas operations in the Surat Basin of Queensland through the Surat Gas Project (the project). In this EIS, reference to the Surat Basin includes proposed development of Arrow's petroleum tenures in the Surat Basin and westernmost part of the Clarence-Moreton Basin. The project derives its name from the fact that most of Arrow's tenements are in the Surat Basin. The project is expected to cater to the growing demand for gas in the Australian market and the global liquefied natural gas (LNG) export market.

This environmental impact statement (EIS) has been prepared as the statutory basis for the environmental and social impact assessment of the project under Chapter 3 of the *Environmental Protection Act 1994* (Qld) (EP Act) and s. 133 of the *Environment Protection and Biodiversity Conservation Act 1999* (Cwlth) (EPBC Act). This EIS will inform a decision on whether the project should proceed and, if so, under what conditions. Coffey Environments, a subsidiary of Coffey International Pty Ltd, was commissioned to assist Arrow in the preparation of this EIS.

This chapter provides background information on Arrow (Section 1.1); an overview of the proposed project, including location, scope, phasing and development considerations (Section 1.2); a summary of project objectives (Section 1.3); an explanation of the relationship between the Surat Gas Project and other projects (Section 1.4); and information about the EIS objectives and structure and details on the public consultation process and how to obtain a copy of the EIS (Section 1.5).

1.1 Project Proponent

Arrow is an integrated energy company with interests in coal seam gas field developments, pipeline infrastructure, electricity generation and a proposed liquefied natural gas (LNG) project.

Arrow is a Queensland-based wholly owned subsidiary of Arrow Energy Holdings Pty Ltd, a 50:50 joint venture between a subsidiary of Royal Dutch Shell plc and a subsidiary of PetroChina Company Limited (PetroChina). The joint venture took ownership of Arrow on 23 August 2010.

Royal Dutch Shell has had a presence in Australia since 1901. Current operations include petroleum refining, sale of petroleum products and retail businesses. The company maintains equity in the exploration and development of large gas resources off the coasts of Western Australia and the Northern Territory. Royal Dutch Shell is an internationally recognised leader in LNG production and has delivered some of the world's largest and most complex LNG projects in the last 40 years, including facilities in Qatar, Nigeria, Russia and Southeast Asia. Through its subsidiary, Shell International Trading and Shipping Company Limited, Royal Dutch Shell operates one of the largest LNG carrier fleets in the world.

PetroChina is a subsidiary of China's largest state-owned oil and gas producer and distributor, China National Petroleum Corporation, and is one of the world's largest oil companies. PetroChina was incorporated as a joint stock company in 1999 and has extensive experience in exploration, refining and marketing of oil and natural gas in China and other countries.

Arrow has interests in more than 65,000 km^2 of petroleum tenures, mostly within Queensland's Surat and Bowen basins. Elsewhere in Queensland, the company has interests in the Clarence-Moreton, Coastal Tertiary, Ipswich, Styx and Nagoorin Graben basins.

Arrow's petroleum tenures are located close to Queensland's three key energy markets: Townsville, Gladstone and Brisbane. The Moranbah Gas Project in the Bowen Basin and the

Tipton West, Daandine, Kogan North and Stratheden projects in the Surat Basin near Dalby comprise Arrow's existing coal seam gas production operations. These existing operations account for around 20% of Queensland's overall domestic gas production.

Arrow supplies gas to the Daandine, Braemar 1 and 2, Townsville and Swanbank E power stations, which participate in the National Electricity Market. With Arrow's full ownership of Braemar 2 and the commercial arrangements in place for Daandine and Townsville power stations, Arrow has access to supply 600 MW of power generation capacity.

Arrow and its equity partner, AGL Energy, have access rights to the North Queensland Pipeline, which supplies gas to Townsville from the Moranbah Gas Project. They also hold the pipeline licence for the proposed Central Queensland Pipeline between Moranbah and Gladstone.

Arrow are committed to continual improvement through their integrated health, safety and environmental management system (HSEMS). Arrow Energy Holdings Pty Ltd and/or its subsidiaries have received two penalty infringement notices (PINs) relating to non-compliances with Environmental Authority conditions issued under the EP Act. The PINs related to:

- Unauthorised clearing of a Category B Environmentally Sensitive Area; and
- Unauthorised release of coal seam gas water to land.

Arrow are not aware of any other fines or prosecutions for breaches of environmental legislative requirements in the past five years.

Arrow's registered office address in Australia is:

Level 19, AM60
42-60 Albert Street
Brisbane, QLD 4000
Australia

All project enquiries should be directed to:

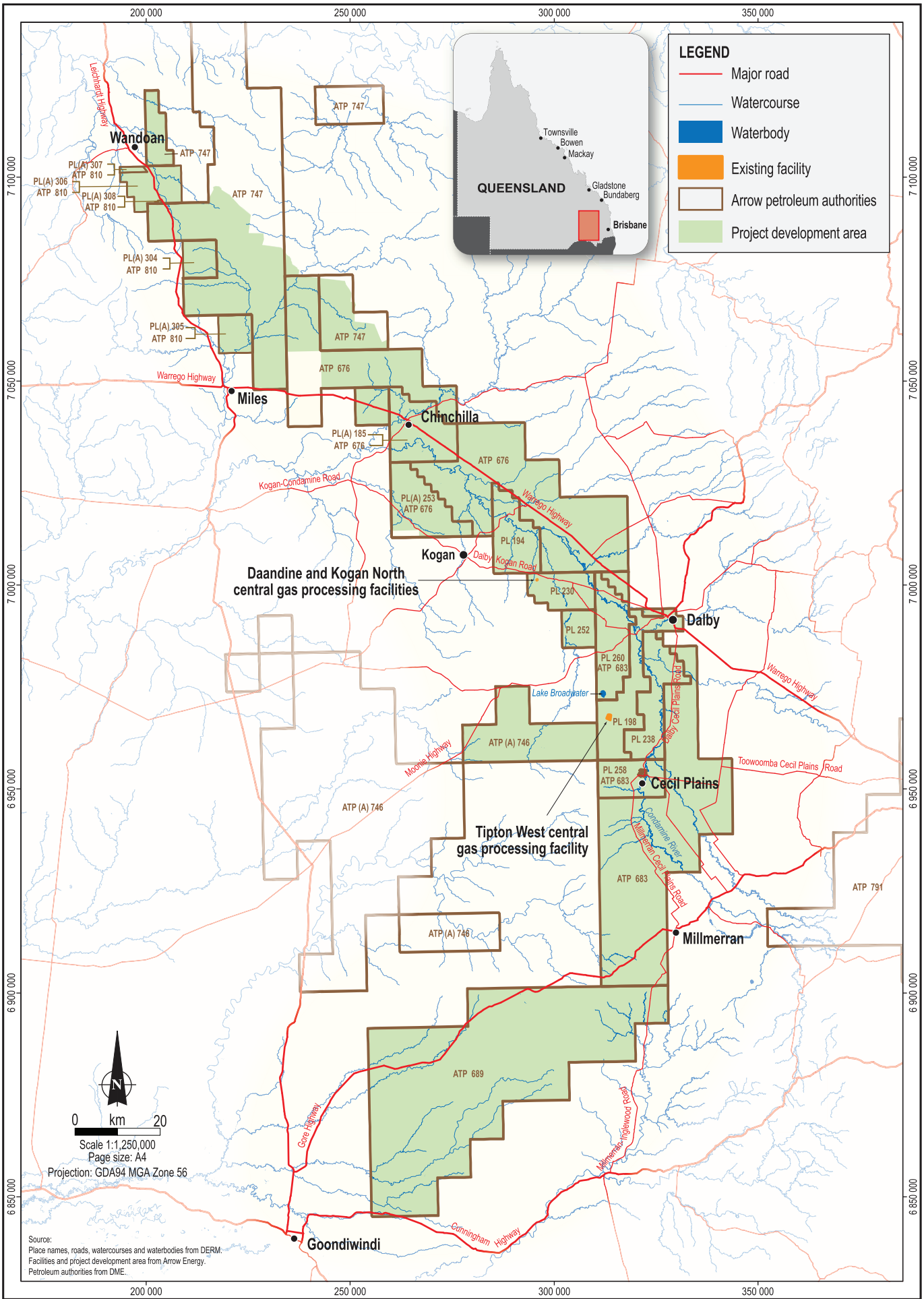
Surat Gas Project
Reply Paid 81
Hamilton, QLD 4007
Australia
Ph: 1800 038 856
Email: suratgas@arrowenergy.com.au

1.2 The Project

This section provides a high-level overview of the project, including location, scope, phasing and development considerations.

1.2.1 Location

The project development area covers approximately 8,600 km^2 and is located approximately 160 km west of Brisbane in Queensland's Surat Basin. The project development area extends from the township of Wandoan in the north towards Goondiwindi in the south, in an arc through Dalby (Figure 1.1). The towns of Wandoan, Chinchilla, Kogan, Dalby, Cecil Plains, Millmerran, Miles and Goondiwindi are located in or adjacent to the project development area. Project infrastructure, including coal seam gas production wells and production facilities, will be located



coffey environments	Date: 11.11.2011 MXD: 7040AC_04_GIS005_v1_4 File Name: 7040_04_F01.01_GIS_GL	Arrow Energy Surat Gas Project	arrow energy go further	Surat Gas Project development area (including petroleum authorities)	Figure No: 1.1

throughout the project development area but not in towns. Facilities supporting the petroleum development activities, such as depots, stores and offices, may be located in or adjacent to towns.

The project development area comprises Petroleum Leases (PLs) 194, 198, 230, 238, 252, 258, 260; Petroleum Lease Applications (PL(A)s) 185, 253, 304, 305, 306, 307 308; Authorities to Prospect (ATPs) 676, 683, 689, 810; part of ATP 747; and parts of Authority to Prospect Application (ATP(A)) 746 (see Figure 1.1).

1.2.2 Scope

The Surat Gas Project EIS will consider the development of the gas resource within the coal seams of the Walloon Coal Measures of the Surat Basin. The conceptual Surat Gas Project design presented in this EIS is premised upon production of approximately 1,050 TJ/d of gas, of which 970 TJ/d is for LNG production (including a 10% fuel gas requirement for facility operation) and 80 TJ/d is for the domestic gas market.

For Arrow to realise the potential for the Surat Gas Project as a viable commercial development, exploration has been conducted across the project development area to identify and define the gas resource. Exploration is governed under existing approvals (environmental authorities) and is therefore outside the scope of this EIS. Exploration is ongoing and at a mature stage in many regions of the project development area.

This EIS will assess project activities associated with the construction, operations and decommissioning phases of the project for development contributing to both the domestic and overseas gas markets.

Development of the Surat Gas Project will require significant infrastructure and facilities for the construction, operations and decommissioning phases of the project. The principal components of the project are provided in Table 1.1. Further details are provided in Chapter 5, Project Description.

Table 1.1 Surat Gas Project key components

Key Component	Description
Production wells	• Total of approximately 7,500 wells. • Approximately 400 wells drilled per year. • Well depth of between 300 m and 750 m.
Field gathering systems	• Gather gas and water from the production wells. • Low-pressure gas and water subsurface pipelines. • Pipeline diameters between 100 mm and 630 mm. • High-density polyethylene pipelines.
Medium-pressure gas pipelines	• Subsurface pipelines constructed of plastic composite, glass-reinforced epoxy or steel. • Operating pressure of 1,000 kPa. • Transport gas from field compression facilities to central gas processing facilities and integrated processing facilities.
Field compression facilities	• Approximately six facilities expected. • Receive gas from production wells. • Compress 30 to 60 TJ/d of gas to medium pressure (1,000 kPa) for transport to central gas processing facilities or integrated processing facilities.

Table 1.1 Surat Gas Project key components (cont'd)

Key Component	Description
Central gas processing facilities	• Approximately six facilities expected. • Receive gas from field compression facilities and production wells. • Compress 30 to 150 TJ/d of gas to high pressure (10,200 kPa) for transport in the transmission pipeline. • Dehydration facility. • Water transfer station.
Integrated processing facilities	• Approximately six facilities expected. • Receive gas from field compression facilities and production wells. • Compress 30 to 150 TJ/d of gas to high pressure (10,200 kPa) for transport in the transmission pipeline. • Dehydration facility. • Water treatment and storage facility.
High-pressure gas pipelines	• Subsurface pipelines constructed of steel. • Operating pressure of 10,200 kPa. • Transport gas from production facilities to transmission pipeline.
Other associated infrastructure or facilities	• Camps. • Depots. • Roads.

1.2.3 Project Phasing

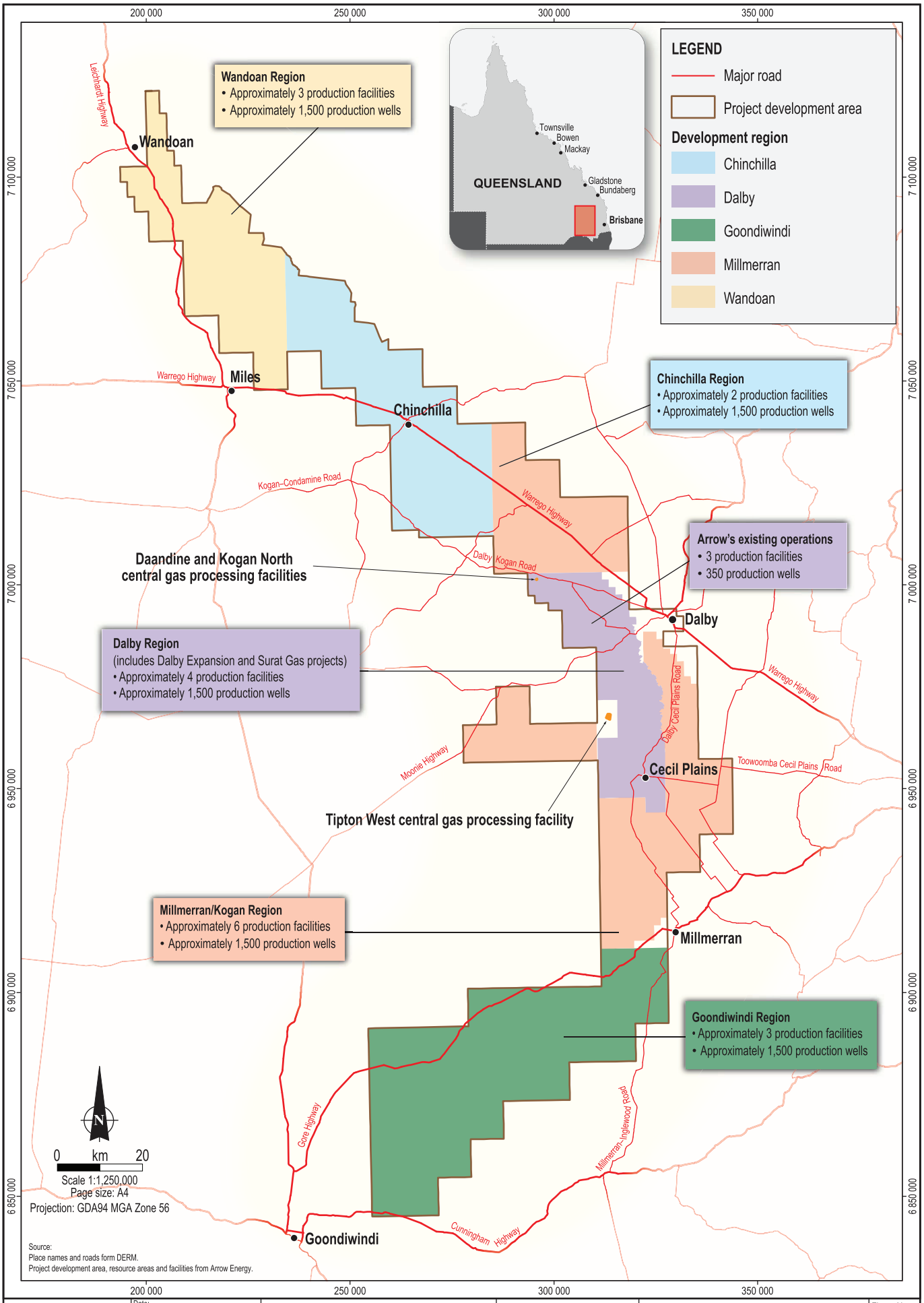
A project life of 35 years is expected, with ramp-up to peak production estimated to take between four and five years commencing in 2014. Following ramp-up, gas production will be sustained at approximately 1,050 TJ/d for approximately 20 years, after which production is expected to decline.

Arrow expects the Surat Gas Project development will be staged and conducted progressively over the project life and across the Surat Gas Project development area. To conceptualise this staging for the purpose of environmental and social impact assessment, a 'project reference case' was developed.

The project reference case identifies five development regions: Wandoan, Chinchilla, Dalby, Millmerran/Kogan and Goondiwindi (Figure 1.2). Development of the regions will be staged to optimise production over the life of the project, with the rate of development heavily influenced by energy market demand, gas sales contracts, and information gathered from Arrow's ongoing exploration program.

1.2.4 Project Considerations

Unlike many resource projects, the nature of coal seam gas development is such that Arrow has yet to determine the exact locations of production wells and infrastructure. The key factors that influence site selection include:



coffey environments	Date: 09.12.2011 MXD: 7040AC_04_GIS011_v1_3 File Name: 7040_04_F01.02_GIS_GL	Arrow Energy Surat Gas Project	arrowenergy go further	Surat Gas Project development regions Figure No: 1.2

- The continuing identification of viable gas reserves through exploratory drilling and pilot well programs.
- The economic and commercial risks that influence the extent and rate of field development. These include proximity of new resources to existing infrastructure, market constraints, land access, and long-term gas supply contracts with positive rates of return on capital invested.
- The extended timeframe over which field development will occur, including ongoing refinement of the field development plan as new reservoir data from operating regions is collected and assessed.
- The potential development of new techniques (including new standards and best practices) that may emerge over the lifetime of the project.
- The outcome of consultation with landowners to ensure project activities are planned and conducted with regard to existing land use activities.
- The potential environmental and social impacts.

Conceptual designs have been developed for the purposes of identifying, describing and assessing the likely impacts of the proposed development. The designs nominate potential areas for development rather than specific locations; and consequently, uncertainty about the exact location of wells and infrastructure remains a limitation of this EIS.

Specific locations for project infrastructure will be defined as engineering studies progress; however, detailed information is known about the impacts of developing such infrastructure, as Arrow has been developing coal seam gas reserves for over 10 years. Knowing the nature and severity of impacts associated with coal seam gas development has enabled Arrow to develop, implement and, through this EIS, refine environmental controls to manage development in the ecosystems and environments encountered throughout the project development area.

Knowledge of the ecosystems and environments compiled through the technical studies that inform this EIS has resulted in multicriteria constraints that are used to inform the assessment of potential impacts of the proposed development if it were to occur in the identified ecosystems or environments. This overcomes issues arising from uncertainty about the exact location of wells and other infrastructure and the impacts associated with such development.

The constraints and environmental controls comprise what is known as the framework, a tool to inform site selection and manage the potential impacts of development wherever the infrastructure is ultimately located. Implicit in the framework is a commitment to avoid highly sensitive ecosystems and environments, as the environmental controls become more restrictive with increasing constraint, which is an indicator of the sensitivity of the potentially affected ecosystems and environments.

This approach to the EIS is predicated on two key assumptions:

- All phases of development are likely to occur concurrently at different rates and locations across the project development area. This will be the case for the life of the project.
- Regardless of specific location, each type of project activity will be undertaken in a similar manner, using similar equipment and with appropriate environmental controls in place.

1.3 Project Objectives

The following section describes the planning and design objectives of the Surat Gas Project (Section 1.3.1) and details of Arrow's corporate environmental policy and reporting of environmental performance (Section 1.3.2).

1.3.1 Planning and Design Objectives

The principal objective of the Surat Gas Project is to commercialise gas reserves held in the company's Surat Basin petroleum tenures. The LNG market in particular offers gas sales opportunities that do not exist within the Australian domestic market, yet which continue to safeguard Australia's domestic gas supply for many years. The construction and operation of the Surat Gas Project will benefit regional, state and national economies through employment and business opportunities in areas surrounding the project.

Specific objectives as set out in the terms of reference are:

- To provide public information on the need for and likely effects of the project.
- To set out acceptable standards and levels of impacts (both beneficial and adverse) on environmental values.
- To demonstrate how environmental impacts can be managed through protecting and enhancing environmental values.

In addition, Arrow holds the following objectives in planning and designing the project:

- **Safety**. Causing no harm or injury to people or the environment.
- **Environment.** Adhering to Arrow's Corporate Environment Policy and Environmental Management System.
- **Operational Excellence.** Implementing Lean Production principles to reduce waste in work processes and improve business efficiency. Manufacturing industries around the world have adopted these principles and the repetitious nature of coal seam gas exploration and production activities lend themselves to the Lean Production approach.
- **Governance and Reputation.** Adhering to industry regulations with a desire to become the operator of choice.
- **Key Stakeholder Management.** Engaging landowners and local communities appropriately to earn and maintain their respect throughout project life.
- **Maximising Net Present Value.** Maximising revenue and minimising development costs.

1.3.2 Corporate Environmental Policy

Arrow maintains a comprehensive and integrated HSEMS based on the principles of ISO 14001:2004, Environmental Management Systems - Requirements with Guidance for Use, and AS/NZS 4801:2001, Occupational Health and Safety Management Systems - Specification with Guidance for Use.

Arrow's Corporate Environmental Policy is presented in Figure 1.3. Arrow reports environmental performance as per the EP Act, the National Environment Protection (National Pollutant Inventory) Measure 1998, and the *National Greenhouse and Energy Reporting Act 2007* (Cwlth).

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Corporate Environmental Policy

Policy Statement

Arrow Energy promotes sustainable environmental practices as part of our commitments, beliefs and values.

Scope and Responsibility

This Policy applies to all personnel involved in Arrow operations and it is a cornerstone to the Arrow Management System.

The Chief Executive Officer and the leadership team are responsible for the implementation, review, update and enforcement of this Policy and each employee, consultant, contractor and service provider is responsible for actively participating in and implementing this Policy.

Practice, Implementation and Supporting Documents

Arrow Energy ensures all elements of the Environmental Policy are implemented by:

- Seeking continuous improvement in managing significant environmental impacts by clearly defining objectives and targets and evaluating them through transparent review and implementation processes.
- Establishing programs to reduce environmental impacts, conserve and recycle resources, reduce waste and pollution, and improve processes to help protect the natural environment as well as monitoring and measuring performance.
- Ensuring all of our activities comply with all applicable environmental laws and regulations.
- Promoting a culture where employees andservice providers are aware of environmental impacts affecting their work and promptly report any environmental impacts or incidents while encouraging improvements.
- Monitoring Policy implementation at all relevant Arrow controlled workplaces, and periodically reviewing and updating.

Expectations

- Maintaining open and transparent communications with employees, government and other stakeholders. transparent community,
- Communicating expectations to all employees and service providers and holding them accountable for their performance.
- Operating within compliance with all applicable environmental laws and regulations.
- Collaborating with stakeholders and participating in research and development, aimed at enhancing knowledge and improving our environmental performance.
- Employing new and improved technologies and developing industry partnerships that are aimed at reducing the carbon emission per unit of production and improving cost/benefit balance.
- Our Environmental Policy plays a vital role in Arrow's Sustainable Development Policy.

Andrew Faulkner, Chief Executive Officer

18th Day April 2011, Review Date:2014

Doc No: 9&-V-POL-0002

coffey environments	Job No: 7040	Arrow Energy	arrow energy go further	Arrow's Corporate Environmental Policy	Figure No: 1.3
	File Name: 7040_04_F01.03_FT	Surat Gas Project			

1.4 Relationship to Other Projects

The relationship of the Surat Gas Project to the Arrow LNG Project (Section 1.4.1) and Dalby Expansion Project (Section 1.4.2) is discussed below.

1.4.1 Arrow LNG Project

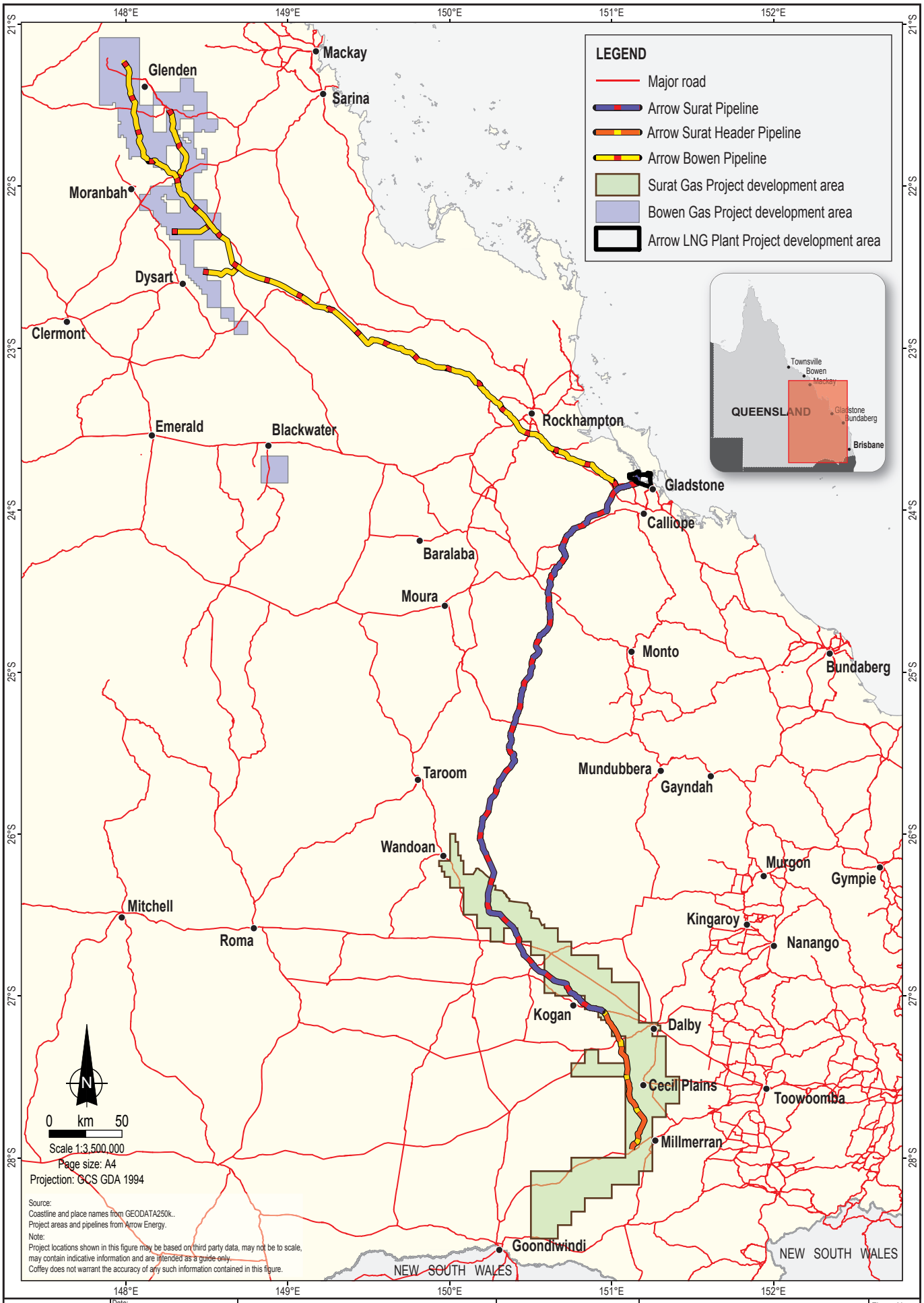
Prior to the acquisition, Arrow had commenced an EIS process to obtain approval to develop the Surat Gas Project. Gas from the project was intended to supply LNG export proposals, including the Liquefied Natural Gas Limited Gladstone LNG Project at Fisherman's Landing and the Shell Australia LNG Project on Curtis Island.

Following the acquisition, Arrow and Shell Australia projects were brought together as components of the larger Arrow LNG Project. Separate approval is being sought for each component described below.

In addition to the Surat Gas Project, the other components include:

- **Arrow LNG Plant** (formerly the Shell Australia LNG Project). The proposed LNG export facility on Curtis Island will have a base-case capacity of 16 million tonnes per annum (Mtpa), with a total plant capacity of up to 18 Mtpa. The plant will consist of four LNG trains, each with a nominal capacity of 4 Mtpa. The project will be undertaken in two phases of two trains (nominally 8 Mtpa) with a financial investment decision undertaken for each phase. Associated infrastructure will include marine facilities and an approximately 8-km-long, feedgas pipeline from the Arrow Surat Pipeline to the Arrow LNG plant on Curtis Island. A tunnel is proposed for the feedgas pipeline crossing of Port Curtis. The project is presently undergoing an EIS process in accordance with Part 4 of the *State Development and Public Works Organisation Act 1971*. The project is a controlled action under the EPBC Act.
- **Arrow Surat Pipeline** (formerly the Surat to Gladstone Pipeline Project). The proposed 470-km-long, high-pressure gas transmission pipeline extends from the Kogan area of the Surat Basin to Fisherman's Landing at Gladstone. An EIS process for the project was completed on 15 January 2010 under the EP Act, and a petroleum pipeline licence (PPL 144) was granted in February 2010.
- **Surat Header Pipeline.** The proposed 106-km-long, high-pressure gas transmission pipeline connects the Arrow Surat Pipeline to the production facilities that will be located in the southern region of the project development area. The project is intended to be assessed under the *Petroleum and Gas (Production and Safety) Act 2004* (Qld) (P&G Act) and as a Level 2 Environmental Authority under the EP Act.
- **Bowen Gas Project.** The proposed gas field development in the Bowen Basin is located between Collinsville in the north and Middlemount in the south, approximately 475 km north of Brisbane and 75 km from Mackay. The proposed project includes the existing Moranbah Gas Project. The timing of the EIS has yet to be determined.
- **Arrow Bowen Pipeline.** The proposed 475 km-long, high-pressure gas transmission pipeline consists of a main pipeline and several lateral pipelines to convey coal seam gas from Arrow's gas fields in the Bowen Basin to Gladstone. The project is presently undergoing an EIS process under the EP Act.

Figure 1.4 shows the relationship between the projects that comprise the Arrow LNG Project.



coffey environments	Date: 19.10.2011 MXT: 7040AC_04_GIS084_v1_2 File Name: 7040_04_F01.04_GIS_FT	Arrow Energy Surat Gas Project	arrow energy go further	Arrow LNG Project	Figure No: 1.4

1.4.2 Dalby Expansion Project

The Dalby Expansion Project commenced construction in 2011 and involves up to 200 new production wells and associated infrastructure to meet Arrow's contractual obligations under current domestic gas supply agreements. The project was approved by the Department of Environment and Resource Management (DERM) on 17 December 2010 as a Level 1 petroleum activity not requiring an EIS.

Areas of the Dalby Expansion Project and the Surat Gas Project overlap in the Dalby development region. While the Dalby Expansion Project is an approved Level 1 petroleum activity, the activities associated with the Dalby Expansion Project have been considered as part of the Surat Gas Project EIS (captured as part of the overall scope comprising 7,500 production wells and approximately 18 production facilities) to ensure any potential cumulative impacts arising from the Dalby Expansion and the Surat Gas projects are assessed.

1.4.3 Actions Already Undertaken in the Project Development Area

The project development area includes Arrow's 350 existing gas production wells at Tipton West, Daandine, Stratheden and Kogan North near Dalby.

Arrow has also conducted exploration (or is in the process of conducting exploration) in the broader area extending from Wandoan to Dalby and south of Cecil Plains toward Millmerran and Goondiwindi (Figure 1.5).

1.5 Environmental Impact Statement (EIS)

This section describes the objectives, method and structure of the EIS, and also provides details on how to view or obtain copies of the EIS and make submissions on its content.

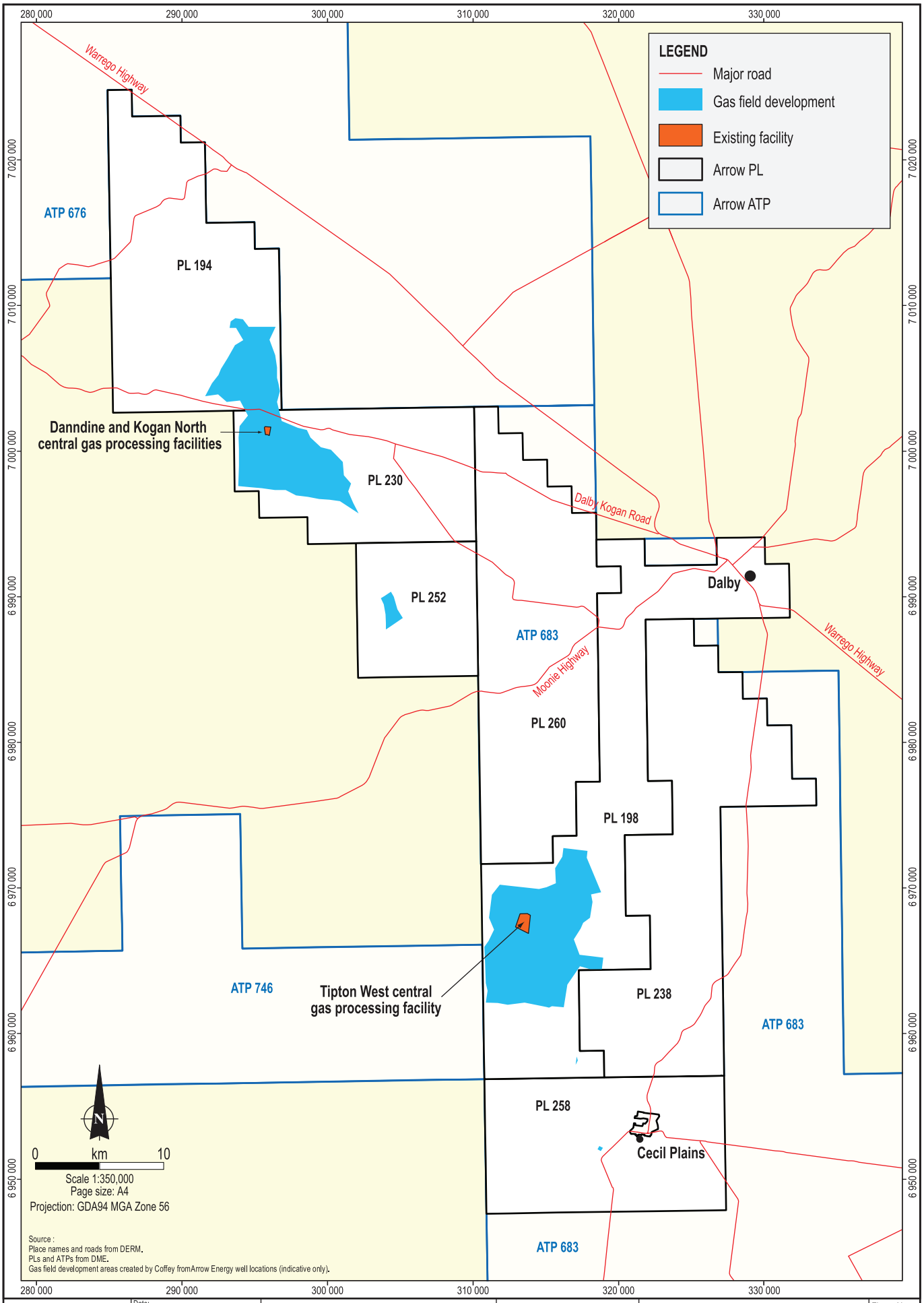
1.5.1 Objective of the EIS

The objective of the EIS is to ensure Arrow has fully examined and addressed all environmental, social and economic impacts of the proposed project, both direct and indirect. The EIS is a self-contained document that provides:

- For affected and interested persons and organisations, a basis of understanding of the proposal, environmental and social values, impacts that may occur and measures to be taken to avoid or mitigate adverse impacts.
- For government agencies and decision makers, a framework for assessing the impacts of the project and associated development in view of legislative and policy provisions. The purpose of the EIS is to propose management measures to address the identified impacts. The management measures are detailed in the environmental management plan. The recommended management measures set out in the environmental management plan are considered by relevant government agencies in setting the conditions of approval.
- For Arrow, a mechanism to establish environmental protection objectives, control measures and strategies to be undertaken throughout construction, operation and decommissioning of the project.

1.5.2 Steps of the EIS Process

The provisions of the EP Act govern the steps of the EIS process. Broadly, these include:



coffey environments	Date: 19.10.2011 MXD: 7040AC_04_GIS010_v1_3 File Name: 7040_04_F01.05_GIS_GL	Arrow Energy Surat Gas Project	arrowenergy go further	Existing field development, August 2011	Figure No: 1.5

- Scoping and preparation of the EIS.
- Document submission and public exhibition.
- Assessment and approval.

The legislative context for preparing the EIS and the associated approval is detailed in Chapter 2, Project Approvals.

1.5.3 Method of the EIS

The EIS addresses all environmental, social and economic aspects of the proposed Surat Gas Project. The EIS presents the conceptual project design and timeframes for gas field and facility development and provides a detailed description of how project activities will be undertaken during the construction, operations and decommissioning phases.

On this basis, the supporting studies that inform this EIS have used a range of desktop studies, consultation activities, field investigations and modelling to:

- Identify relevant policies, legislation and standards applicable to the project.
- Identify the environmental and social values important to the project development area, including their significance, potential exposure to threatening processes and capacity to adjust to change.
- Review the type, timing, extent and duration of project activities to determine potential project impacts on environmental and social values.
- Recommend mitigation and management measures to minimise potential impacts or capitalise on benefits that may arise from the project.
- Identify residual impacts and, where applicable, potential cumulative effects.

Detailed knowledge of the environmental and social values and the processes that threaten those values will inform decisions about whether project activities are likely to have an adverse impact.

The method set out above ensures the EIS focuses on the most significant and important environmental and social values and potential impacts relevant to the project development area. Under this approach, supporting study recommendations will be used to:

- Establish guidelines (including buffers, thresholds, trigger levels and appropriate environmental controls) to inform site and route selection for infrastructure.
- Prepare constraints to identify environmentally sensitive areas where development should not occur or where it might occur under appropriate environmental controls that reflect the significance of the affected value.

Site selection and management procedures will identify the standard management requirements for all project activities, as well as additional environmental protection required in areas identified as having high environmental and social sensitivity. The method adopted for this EIS is elaborated on in Chapter 7, Impact Assessment Method.

1.5.4 Structure of the EIS

The EIS is comprised of the following:

- An executive summary, which provides a succinct overview of the project, its impacts and proposed environmental and social management measures.

- The main report (this report), which is intended to be understood without reference to the supporting study reports on which it is based. The main report includes a number of attachments, including:
  - The environmental management plan, which details the control measures to be managed through development of construction and operations environmental management plans and is intended to be understood without reference to the EIS main report.
  - The social impact management plan, detailing how social impact management recommendations will be implemented.
  - A summary of the supporting study findings pertaining to matters of national environmental significance, which is intended to be understood without reference to the EIS main report.
- A series of supporting studies as appendices to the main report, detailing specific environmental and social aspects of the project. Study findings are represented in the main report.

The EIS documentation, including the title and author of each supporting study, is presented in Table 1.2.

Table 1.2 Surat Gas Project EIS documentation

EIS Component	Author	Title
Executive Summary and Main Report		
Executive Summary	Coffey Environments Pty Ltd	Surat Gas Project EIS Executive Summary
Main report	Coffey Environments Pty Ltd	Surat Gas Project EIS Main Report
Attachments		
Attachment 1	DERM	Surat Gas Project Final Terms of Reference
Attachment 2	Coffey Environments Pty Ltd	Cross Reference with the Final Terms of Reference
Attachment 3	Coffey Environments Pty Ltd	Matters of National Environmental Significance
Attachment 4	Coffey Environments Pty Ltd	Other Relevant Legislation
Attachment 5	Coffey Environments Pty Ltd	Environmental Management Plan
Attachment 6	URS Australia Pty Ltd	Social Impact Management Plan
Attachment 7	Coffey Environments Pty Ltd	Ecologically Sustainable Development
Attachment 8	Coffey Environments Pty Ltd	EIS Commitments Summary
Attachment 9	Coffey Environments Pty Ltd	Coal Seam Gas Water Management Strategy
Attachment 10	Coffey Environments Pty Ltd	Preliminary Constraints Maps
EIS Supporting Studies		
Appendix A	Harrison Grierson Consultants Pty Ltd	Planning Assessment
Appendix B	JTA Australia Pty Ltd	Consultation Report
Appendix C	PAE Holmes (Queensland Environment Pty Ltd)	Air Quality Impact Assessment
Appendix D	PAE Holmes (Queensland Environment Pty Ltd)	Greenhouse Gas Impact Assessment
Appendix E	Coffey Environments Pty Ltd	Geology, Landform and Soils Impact Assessment
Appendix F	Gilbert and Sutherland Pty Ltd	Agricultural Report

Table 1.2 Surat Gas Project EIS documentation (cont'd)

EIS Component	Author	Title
EIS Supporting Studies (cont'd)		
Appendix G	Coffey Environments Pty Ltd	Groundwater Impact Assessment
Appendix H	Alluvium Consulting (Queensland)	Surface Water Part A: Fluvial Geomorphology and Hydrology Impact Assessment
Appendix I	Alluvium Consulting (Queensland) / NRA Environmental Consultants	Surface Water Part B: Water Quality Impact Assessment
Appendix J	Aquateco Consulting Pty Ltd	Aquatic Ecology Impact Assessment
Appendix K	3D Environmental	Terrestrial Ecology Impact Assessment
Appendix L	EDAW (AECOM) Australia Pty Ltd	Landscape and Visual Impact Assessment
Appendix M	Cardno Eppell Olsen Pty Ltd	Road Impact Assessment
Appendix N	Sonus Pty Ltd	Noise and Vibration Impact Assessment
Appendix O	AEC Group Pty Ltd	Economic Impact Assessment
Appendix P	Coffey Environments Pty Ltd / URS Australia Pty Ltd	Social Impact Assessment
Appendix Q	Central Queensland Cultural Heritage Management Pty Ltd	Aboriginal Cultural Heritage Impact Assessment
Appendix R	Heritage Consulting Australia Pty Ltd	Non-Indigenous Heritage Impact Assessment
Appendix S	Planager Pty Ltd	Preliminary Hazard and Risk Assessment

The EIS does not disclose information that is confidential for cultural or commercial reasons. Arrow may provide this information in confidence to relevant government agencies, if required.

1.5.5 Viewing the EIS

Viewing locations of the EIS are set out in Box 1.1.

Box 1.1 Viewing locations for the EIS

Department of Environment and Resource Management Customer Service Centre Level 3, 400 George Street Brisbane 4000	Dogwood Crossing @ Miles Murilla Street Warrego Highway Miles 4415
Cecil Plains Library Taylor St Cecil Plains 4407	Toowoomba Regional Council Millmerran Service Centre 2-16 Campbell Street Millmerran 4357
Western Downs Regional Council Customer Service Centre 80-86 Heeny Street Chinchilla 4413	Department of Environment and Resource Management Customer Service Centre 173 Hume Street Toowoomba 4350
Western Downs Regional Council 107 Drayton Street Dalby 4405	Wandoan Visitor Information Centre 41 Royds Street Wandoan 4419
Goondiwindi Regional Council Library 4-6 McLean Street Goondiwindi 4390	

1.5.6 Obtaining Copies of the EIS

EIS documentation can be obtained:

- Via download from Arrow's website at www.arrowenergy.com.au.
- On compact disc by contacting 1800 038 856 or emailing suratgas@arrowenergy.com.au.

Hard copies can also be ordered by phone or email at a small cost. Please see Arrow's website for details.

1.5.7 EIS Schedule

EIS milestone dates are provided in Table 1.3. The environmental approvals process commenced in the first quarter of 2010, with a decision on the project targeted for the third quarter of 2012.

Table 1.3 Target EIS milestone dates

Milestone	Milestone Date
Voluntary EIS application and Initial Advice Statement lodged with DERM	27 January 2010
EPBC Act referral lodged with the Department of Sustainability, Environment, Water, Population and Communities	27 January 2010
DERM acceptance of voluntary EIS application	2 February 2010
EPBC Act referral decision	26 March 2010
Draft terms of reference advertised for public comment	29 March 2010 to 13 May 2010
Final terms of reference issued	7 September 2010
EIS public notification and submission phase	Targeting Q1, 2012
EIS supplementary report	Targeting Q2, 2012
Chief Executive of DERM's assessment report	Targeting Q3, 2012
Australian Government's EPBC Act assessment report	Targeting Q4, 2012

1.5.8 Submissions

The EIS has been publically notified and the Chief Executive of DERM has allowed a 60 business day period for acceptance of public submissions on the EIS. The Chief Executive must accept all properly made submissions and may accept submissions even if they are not properly made. A properly made submission is one that:

- Is written and signed by or for each person (signatory) who made the submission.
- States the name and address for each signatory.
- Is made to the Chief Executive.
- Is received on or before the last day of the submission period.

Please note that it is a statutory requirement that all submissions will be forwarded to the proponent for consideration and provision of a response to DERM. All submissions, comments and enquiries regarding this EIS process should be addressed to:

The Chief Executive
State-wide Impact Assessments
Department of Environment and Resource Management
Attention: The EIS Co-ordinator (Surat Gas Project)
Floor 3, 400 George Street, BRISBANE, QLD, 4000
GPO Box 2454, 400 George St, BRISBANE, QLD, 4001

The chief executive of DERM may require the Proponent to prepare responses to properly made submissions on the EIS.

1.6 Public Consultation

The Surat Gas Project Final Terms of Reference require Arrow to undertake an appropriate consultation process to identify and address public and stakeholder concerns about potential project impacts.

Arrow has prepared and implemented a detailed consultation program aimed at informing stakeholders about the project and obtaining their feedback. The program has sought to involve affected landowners, nearby residents, business owners, local and state government departments, Arrow staff, and other interested parties. Further details are contained in Chapter 6, Public and Stakeholder Consultation. Feedback obtained during public consultation has been taken into consideration in the impact assessment and mitigation and monitoring sections of the EIS and will be used to further define mitigation and monitoring as the project progresses.