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INTRODUCTION

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SUPPLEMENTARY REPORT TO THE EIS

Section 1 Introduction

1 Introduction

Arrow Energy Pty Ltd (Arrow) is seeking to develop gas reserves in the Bowen Basin for growing overseas gas markets. The Bowen Gas Project (the Project) petroleum tenures cover an area of approximately 8,000 km² within the gas exploration acreage. The tenures are located approximately 150 km south-west of Mackay, with the bulk of the area extending from Glenden in the north to Blackwater in the south (Figure 1-1).

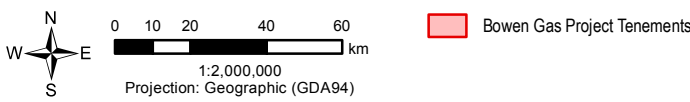
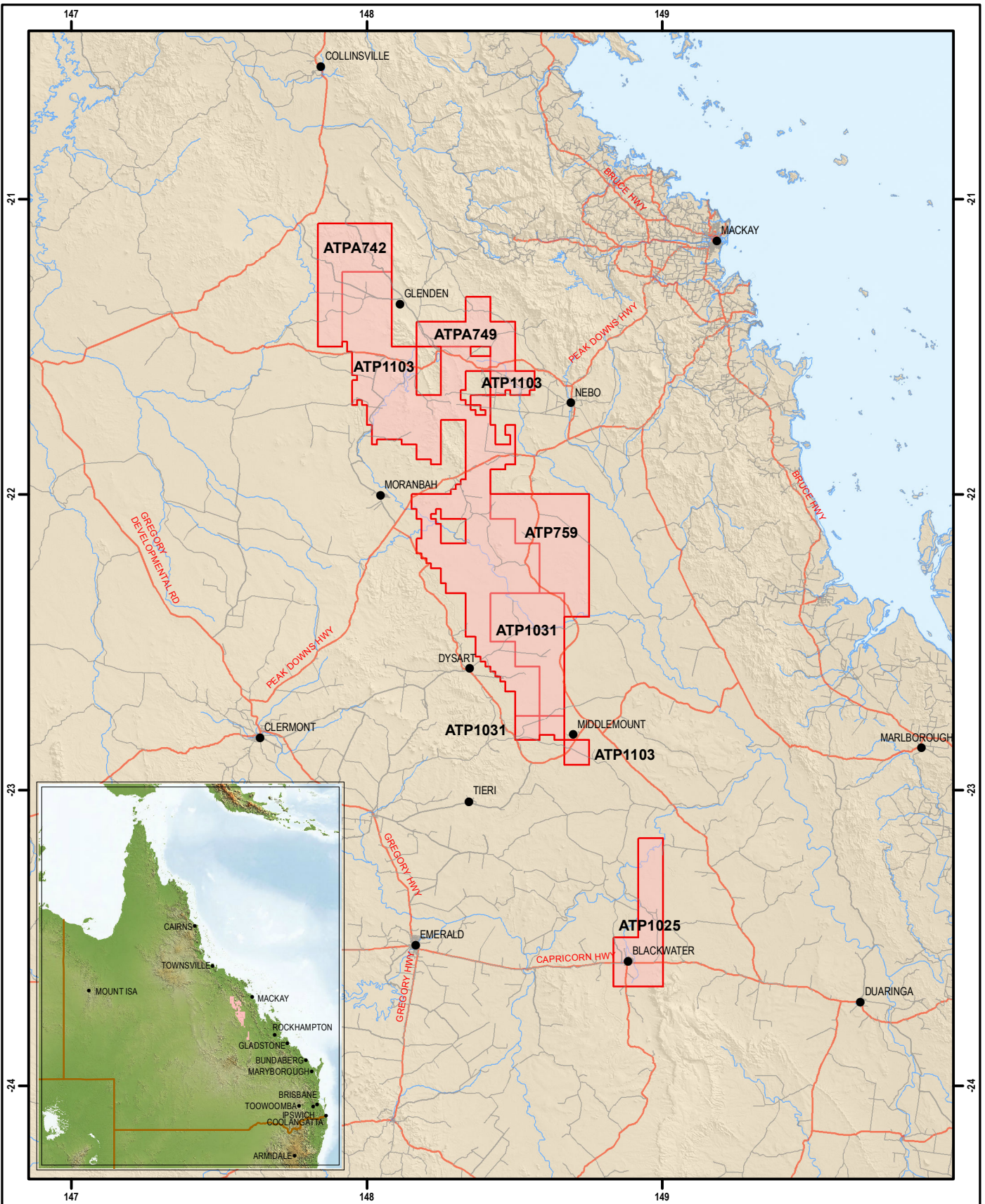
An environmental impact statement (EIS) has been prepared for the Project under Chapter 3 of the *Environmental Protection Act 1994* (EP Act) and s.133 of the *Environmental Protection and Biodiversity Conservation Act 1999* (EPBC Act). The purpose of the EIS was to inform a decision on whether the Project should proceed, and if so, under what conditions.

The final EIS was submitted to the Chief Executive of the Department of Environment and Heritage Protection (EHP) in February 2013 and released for public review and comment from 11 March 2013 to 23 April 2013. The Chief Executive of EHP received 53 submissions relating to the EIS during this time.

Under s.56 of the EP Act, following receipt of submissions, the proponent is required to prepare a supplementary report to address the matters raised in submissions and, based on the submissions, to include any corrections or clarifications to the EIS and provide further information and results from additional studies.

The Project supplementary report to the EIS (SREIS) has been prepared for this purpose. Further, the SREIS presents any material changes to the conceptual project description and undertakes further impact assessment deemed necessary as a result of these changes.

This chapter broadly highlights the main key changes to the Project since the EIS was published and sets out the objectives and structure of the SREIS. Further detailed descriptions of changes are provided in the SREIS Project Description chapter (Section 3).



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BOWEN GAS PROJECT SREIS

REGIONAL PROJECT LOCATION

Section 1 Introduction

1.1 Project Update

Since publication of the EIS, Arrow's field development plan and conceptual design for the Project have advanced. This progression is the result of ongoing exploration activities that have improved Arrow's understanding of the gas resource, as well as the evolution of Arrow's planning, engineering and operational processes. The following key changes have been made to the Project, and are further described in detail in the Project Description chapter (Section 3) of the SREIS:

- Revised development planning and sequencing;
- Change to number, type and layout of wells and compression facilities;
- Changes to the number of water treatment facilities (co-located with central gas processing facilities (CGPFs));
- Changes to supply of electricity;
- Revised strategy for water management;
- Changes to construction techniques;
- Operations and maintenance changes; and
- Changes to the workforce and accommodation strategy.

1.2 Objectives of the SREIS

The objectives of the SREIS are to:

- Present any material changes to the conceptual project description that have occurred since the publication of the EIS;
- Present results of any further impact assessment deemed necessary as a result of changes to the conceptual project description;
- Provide technical responses to issues raised in stakeholder submissions;
- Address any Terms of Reference (ToR) requirements for which information was unavailable at the time of publishing the EIS;
- Re-affirm Arrow's mitigation commitments for the Project;
- Provide an update on the consultation undertaken for the Project; and
- Provide recommendations to the Chief Executive of EHP in relation to the Project.

1.3 Structure of the SREIS

The SREIS is comprised of three parts as outlined below.

1.3.1 Part A – SREIS Chapters

Part A is similarly structured to the EIS Main Report and presents:

- Further clarification and reiteration of the EIS approvals process, as well as an update of other subsequent approvals processes that are required prior to Project construction (Project Approvals chapter (Section 2));

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- Changes to the conceptual project description (Project Description chapter (Section 3));
- An update on stakeholder consultation undertaken for the Project (Community Consultation chapter (Section 4));
- An assessment of potential environmental impacts arising from the updated project description (Sections 5 to 16); and
- An update of mitigation strategies required for potential environmental impacts arising from the updated project description (Sections 5 to 16).

Table 1–1 identifies the original EIS Sections and associated analogous sections updated in the SREIS for which supplementary information has been prepared.

Table 1-1 Summary of EIS Sections and Analogous SREIS Sections with Supplementary Information

EIS Sections	SREIS Sections
Executive Summary	Key Findings
Section 1 – Introduction	Section 1 – Introduction
Section 2 – Project Approvals	Section 2 – Project Approvals
Section 3 – Project Need	No revision necessary
Section 4 – Project Description	Section 3 – Project Description
Section 5 – Community Consultation	Section 4 – Community Consultation
Section 6 – Impact Assessment Methodology	No revision necessary
Section 7 – Environmental Framework	No revision necessary
Section 8 – Climate	No revision necessary
Section 9 – Air Quality	Section 5 – Air Quality
Section 10 – Greenhouse Gas Emissions	Section 6 – Greenhouse Gas
Section 11 – Contaminated Land	No revision necessary
Section 12 – Soils and Land Suitability	No revision necessary
Section 13 – Geology	No revision necessary
Section 14 – Groundwater	Section 7 – Groundwater
Section 15 – Surface Water	Section 8 – Surface Water Section 9 – Hydrology and Geomorphology
Section 16 – Aquatic Ecology	Section 10 – Aquatic Ecology
Section 17 – Terrestrial Ecology	Section 11 – Terrestrial Ecology
Section 18 – Environmentally Sensitive Areas	No revision necessary
Section 19 – Landuse and Tenure	Section 13 – Land Use and Tenure
Section 20 – Landscape and Visual Amenity	No revision necessary
Section 21 – Roads and Transport	Section 12 – Roads and Transport
Section 22 – Noise and Vibration	Section 14 – Noise and Vibration
Section 23 – Economics	No revision necessary
Section 24 – Social	Section 15 – Social
Section 25 – Indigenous Cultural Heritage	No revision necessary
Section 26 – Non-Indigenous Cultural Heritage	No revision necessary
Section 27 – Preliminary Hazard and Risk	No revision necessary

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EIS Sections	SREIS Sections
Section 28 – Waste Management	Section 16 – Waste Management
Section 29 – Decommissioning and Rehabilitation	No revision necessary
Section 30 – Health and Safety	No revision necessary
Section 31 – Cumulative Impacts	No revision necessary
Section 32 – Draft Environmental Management Plan	No revision necessary
Section 33 – References	Section 17 – References
Section 34 – Glossary and Abbreviations	Section 18 – Glossary and Abbreviations

1.3.2 Part B – Submission Responses

Part B relates to regulatory and public stakeholder submissions on the EIS and presents:

- A submissions overview and outline of the process used to respond to submission issues (Submissions Overview chapter (Section 19));
- A register identifying the issues raised (by way of a unique reference number for each issue) by each submitter (Submitters and Identification of Issues chapter (Section 20));
- Arrow's response to stakeholder submissions (Submission Responses chapter (Section 21));
- EHP Submission Responses chapter (Section 22); and
- Department of Sustainability, Environment, Water, Population and Communities (DSEWPaC) (now known as Department of the Environment) Submission Responses chapter (Section 23).

A total of 53 submissions on the EIS were received from individuals, private organisations, government agencies and regional councils. Over 1,300 issues were raised by submitters, although certain issues were raised multiple times.

Arrow has reviewed each submission and summarised the issues of concern, with an appropriate detailed response, grouped by topic. The level of detail required to respond to each submission issue varies. Examples include:

- Where the issue had previously been addressed in the EIS an explanation has been provided and a cross reference has been supplied directing the reader to that specific EIS section;
- Where a further detailed response is required, this has been provided in the text of Part B and in some cases in the text of Part A chapters; and
- Where additional studies were undertaken to adequately respond, these have been referenced in Part B, summarised in Part A chapters, and any technical studies conducted are also provided in Part C.

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1.3.3 Part C – Supplementary Appendices

Part C presents the supplementary appendices to the SREIS, including the results of any targeted technical studies. Table 1–2 identifies the original EIS Appendices and associated analogous appendices updated in the SREIS for which supplementary information has been prepared.

Table 1-2 Summary of EIS Appendices and Analogous Appendices with Supplementary Information

EIS Appendices	SREIS Appendices
Appendix A – Final Terms of Reference	No revision necessary
Appendix C – Study Team	No revision necessary
Appendix D – EIS Commitments Summary	Appendix O – Commitments Update
Appendix E – Arrow HSE Policy	No revision necessary
Appendix F – Consultation Report	Appendix A – Supplementary Community Consultation Report
Appendix G – Ecologically Sustainable Development	No revision necessary
Appendix H – Air Quality Technical Report	Appendix B – Supplementary Air Quality Technical Report
Appendix I – Greenhouse Gas Technical Report	Appendix C – Supplementary Greenhouse Gas Technical Report
Appendix J – Contaminated Land Technical Report	No revision necessary
Appendix K – Soils and Land Suitability Technical Report	No revision necessary
Appendix L – Groundwater and Geology Technical Report	Appendix E – Supplementary Groundwater Assessment
Appendix M – Groundwater Model Technical Report	No revision necessary
Appendix N – Surface Water Technical Report	Appendix F – Supplementary Surface Water Technical Report Appendix G – Supplementary Hydrology and Geomorphology Technical Report
Appendix O – Aquatic Ecology Technical Report	Appendix H – Supplementary Aquatic Ecology Technical Report
Appendix P – Terrestrial Ecology Technical Report	Appendix I – Supplementary Terrestrial Ecology Technical Report
Appendix Q – Landuse and Tenure Technical Report	No update required
Appendix R – Road Impact Assessment	Appendix K – Supplementary Road Impact Assessment
Appendix S – Noise and Vibration Technical Report	Appendix L – Supplementary Noise and Vibration Technical Report
Appendix T – Economic Technical Report	No revision necessary
Appendix U – Social Technical Report	Appendix M – Supplementary Social Technical Report
Appendix V – Social Impact Management Plan	Appendix N – Social Impact Management Plan
Appendix X – Non-Indigenous Cultural Heritage Technical Report	No revision necessary
Appendix Y – Preliminary Hazard and Risk Technical Report	No revision necessary

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EIS Appendices	SREIS Appendices
Appendix Z – Draft Environmental Management Plan	No revision necessary
Appendix AA – Coal Seam Gas Water and Salt Management Strategy	Appendix D – Coal Seam Gas Water and Salt Management Strategy
Appendix BB – Constraints Mapping	No revision necessary
Appendix CC – Matters of National Environmental Significance	Appendix J – Matters of National Environmental Significance Report
Appendix DD – Draft Environmental Offset Strategy	Appendix P – Environmental Offsets Strategic Management Plan
Appendix EE – Stygofauna Assessment	No revision necessary