1. Introduction

1.1 Project Proponent

Adani Mining Pty Ltd (Adani) is the Proponent of the Carmichael Coal Mine and Rail Project (the Project). Adani is an Australian subsidiary of Adani Enterprises Limited, a company based in Ahmedabad, India. Adani Enterprises Limited has diverse interests in global trading, development and operation of ports, inland container terminals, establishment of special economic zones, oil refining, logistics, gas distribution, power generation, transmission and trading.

Adani established in Australia in mid-2010 with the intent of engaging in exploring for, mining, and exporting coal resources. Accordingly, Adani initially purchased the right to seek a mining lease application (being MLA70441) over exploration permit for coal (EPC) 1690 and then secured similar rights to the eastern and northern parts of EPC1080 in December 2011. This was the initiation of development of the Carmichael Coal Mine and Rail Project (the Project). Adani Abbot Point Terminal Pty Ltd (Adani APT), also an Australian subsidiary of Adani Enterprises Limited, has purchased the lease of Abbot Point Coal Terminal 1 and is seeking to develop Abbot Point Coal Terminal 0 as part of their overall programme for exportation of coal.

Adani has not been subject to any proceedings under a Commonwealth, State or Territory law for the protection of the environment or the conservation and sustainable use of natural resources. Adani's Environment and Sustainability Policy is included in Volume 4 Appendix A Adani Environment and Sustainability Policy.

Since establishing in Australia, Adani has sought to deliver community benefit from its business involvement. This commitment to delivering community benefit is further detailed through the commitments identified in the Social Impact Management Plan (SIMP) included in Volume 4 Appendix G Social Impact Management Plan.

1.2 The Project

Adani is proposing to develop a 60 million tonne (product) per annum (Mtpa) thermal coal mine in the north Galilee Basin approximately 160 kilometres (km) north-west of the town of Clermont, Central Queensland. All coal will be railed via a privately owned rail line connecting to the existing QR National rail infrastructure, and shipped through coal terminal facilities at the Port of Abbot Point and the Port of Hay Point (Dudgeon Point expansion). The Carmichael Coal Mine and Rail Project (the Project) will have an operating life of approximately 90 years.

The Project comprises of two major components:

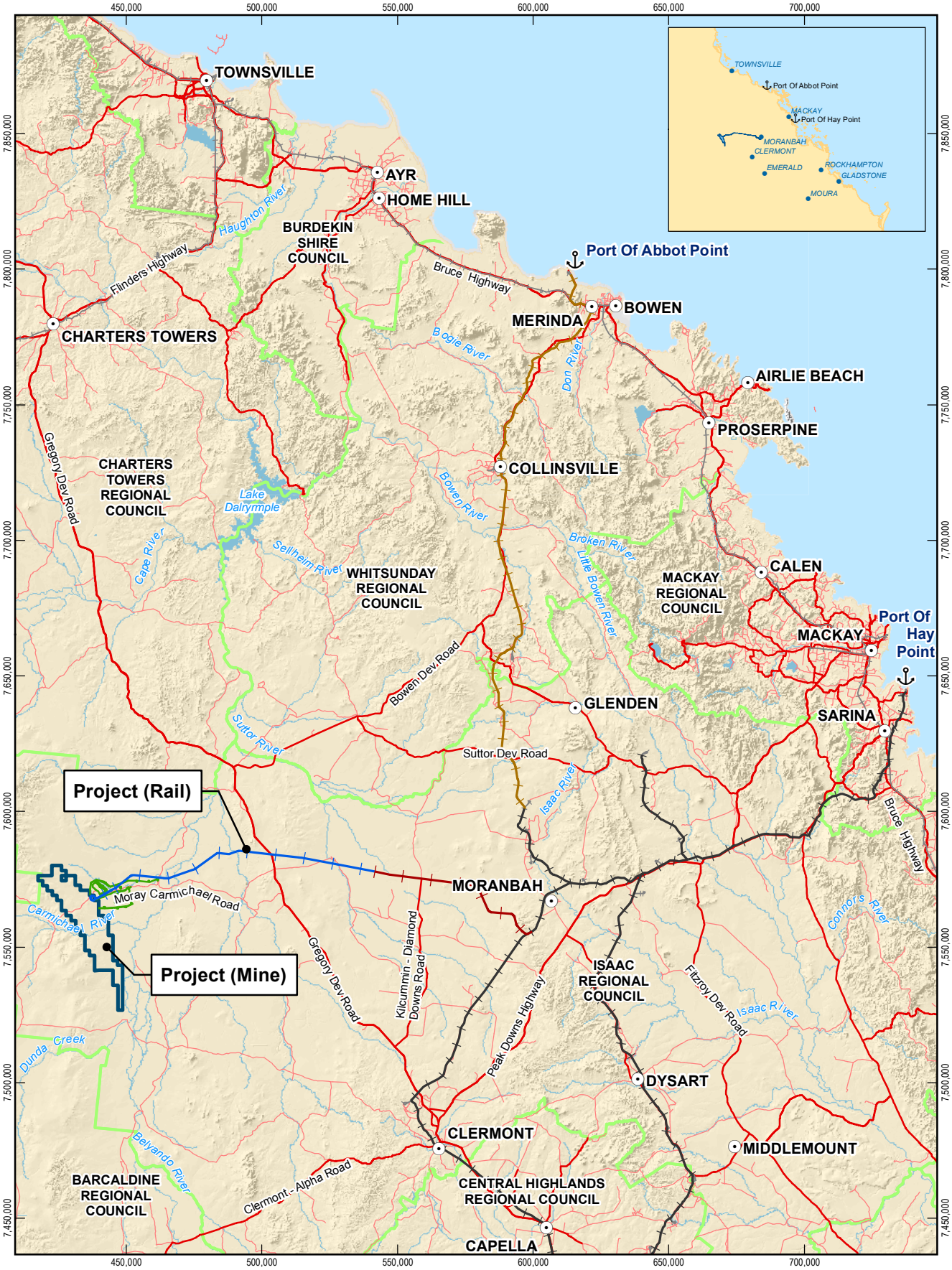
- The Project (Mine): a greenfield coal mine over EPC1690 and the eastern portion of EPC1080, which includes both open cut and underground mining, on mine infrastructure and associated mine processing facilities (the Mine) and the Mine (offsite) infrastructure including:
  - A workers accommodation village and associated facilities
  - A permanent airport site
  - Water supply infrastructure

- The Project (Rail): a greenfield rail line connecting the Mine to the existing Goonyella and Newlands rail systems to provide for the export of coal via the Port of Hay Point (Dudgeon Point expansion) and the Port of Abbot Point, respectively; including:
  - Rail (west): a 120 km dual gauge portion from the Mine site running west to east to Diamond Creek
  - Rail (east): a 69 km narrow gauge portion running east from Diamond Creek connecting to the Goonyella rail system south of Moranbah

The Project has been declared a 'significant project' under the *State Development and Public Works Organisation Act 1971* (SDPWO Act) and as such, an Environmental Impact Statement (EIS) is required for the Project. The Project is also a 'controlled action' and requires assessment and approval under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

The Project EIS has been developed with the objective of avoiding or mitigating all potential adverse impacts to environmental, social and economic values and enhancing positive impacts. Where unavoidable residual impacts exist these are offset in accordance with State and Commonwealth policies. Detailed descriptions of the Project are provided in Volume 2 Section 2 Project Description (Mine) and Volume 3 Section 2 Project Description (Rail).

Figure 1-1 illustrates the Project location.



LEGEND

- Town
- Major Port
- Other Rail Network
- Goonyella System
- Newlands System
- State Road
- Local Road
- Watercourse
- Local Government Area
- Project (Rail)
- Rail (West)
- Rail (East)
- Project (Mine)
- Mine (Offsite)

1:2,000,000 (at A4)

0 10 20 30 40 50

Kilometres

Map Projection: Universal Transverse Mercator
Horizontal Datum: Geocentric Datum of Australia (GDA)
Grid: Map Grid of Australia 1994, Zone 55

N

Adani Mining Pty Ltd

Carmichael Coal Mine and Rail Project

Job Number 41-25215
Revision L
Date 28-08-2012

Project Location

Figure: 1-1

Level 4, 201 Charlotte St Brisbane QLD 4000 T +61 7 3316 3000 F +61 7 3316 3333 E bnemail@ghd.com W www.ghd.com

Data Source: © Commonwealth of Australia (Geoscience Australia): Town, Railways, Watercourses (2007); DERM: LGA, (2011), Hillshade (2009); DMR: State Roads (2008); Gassman/Hyder: Mine (Offsite) (2012); DME: EPC1690 (2010), EPC1080 (2011); Adani: Alignment Opt9 Rev3 (2012). Created by: BW, JVC

1.3 Project Rationale

1.3.1 Strategic Justification

Coal is Queensland's largest export industry. Queensland's saleable coal production in 2009–10 amounted to a total of 205.7 Mt (DEEDI 2011a). Exports totalling 183 Mt, worth AU$24.5 billion free-on-board, were made to 30 countries, with an additional 26 Mt supplied to domestic markets (DEEDI 2011a).

Queensland's world-class mining and petroleum industries are cornerstones of the State's economy. Recent studies indicate these sectors directly contributed $23.7 billion toward Queensland's gross state product (GSP) in 2009–10, equating to 10.3 per cent of the state's total economic output for the year (DEEDI 2011b). This level of production is expected to provide an estimated $2.6 billion in royalties in 2010–11 to enable the funding of much critical public infrastructure and services (DEEDI 2011b).

Queensland has a rich endowment of high-quality coal resources, with more than 32 billion tonnes (raw coal in-situ) identified by drilling operations (DEEDI 2011a). Queensland has 58 per cent of Australia's recoverable black coal (DLGP 2011a). At present, exports comprise 85 per cent of Queensland's coal production (DIP 2010). Coal resources within the state are found in three key areas, the Bowen Basin, Surat Basin and the Galilee Basin, in which the proposed Mine is situated.

The Galilee Basin spans over 247,000 km^2 of land and contains coal resources that are largely high-volatility, low-sulphur thermal coal of Permian age. This coal is targeted by Adani to meet demands in India. Of the State's coal inventory, Permian coals within the Galilee and Bowen Basins account for approximately 71 per cent. Of this, shallow coal potentially amenable to open-cut mining makes up about 55 per cent of the inventory with the remaining 45 per cent present at greater depths more suited to underground mining operations. Thermal coals represent about 65 per cent of the inventory, with the remainder being identified as coking coal (DEEDI 2011c).

Approximately 97 per cent of the growth in demand for coal is from the growing energy needs of developing non 'Organisation for Economic Co-operation and Development' (OECD) countries, with Australia's and other OECD countries' growth being tempered by policy imperatives of reducing greenhouse gas emissions (ABARE 2010). China and India are expected to lead this growth with these two countries forecast to account for 28 per cent of global demand for thermal coal by 2030 (World Energy Outlook 2008).

India is the world's second most populous nation, with an estimated population of more than 1.2 billion, and a nominal gross domestic product of US$1.54 trillion, is one of the world's fastest growing economies and is Australia's fastest growing export market, having grown at an average of 25 per cent since 2005 (accessed 5 January 2012 http://export.business.vic.gov.au). Coal is the most important source of energy for India, accounting for more than half of the primary energy mix of the country.

Adani Enterprises Limited is the largest private power generating company in India and the largest integrated coal management firm in India: it plays a critical role in the supply of power for India. Adani Enterprises Limited aims to generate 20,000 MW of power by 2020 from its power plants (including those under construction and scheduled to be built) and sees supply from Queensland coal resources as key to meeting that aim.

The Queensland Government's Coal Plan 2030 states that India is, and will continue to be, a major market for Australian export coal, and that the servicing of this market will require significant coal and infrastructure developments. Demand from the Indian export market for thermal coal is expected to double between 2009 and 2015 (DIP 2010). The Galilee Basin is likely to become a major source of coal export to meet this demand, and there is a recognised need for infrastructure, particularly rail links from mine to port, to support such mining development.

1.3.2 Economic Policy and Planning

The Project aligns with both the Federal and Queensland Governments' economic policy and planning frameworks. The Federal Department of Resources, Energy and Tourism's Budget Statement (DRET 2011) includes the strategic goals of furthering Australia's interests in international markets and promoting international investment in the resources sector. The Australian Energy Resource Assessment (ABARE 2010) also highlights the need for infrastructure to take advantage of in-situ coal resources in the Galilee Basin in response to global demand.

Management and planning for the economic development of Queensland's coal resources is guided by a number of key Federal and Queensland Government policies. The Coal Plan 2030 (DIP 2010) guides the development of Queensland's major coal regions and export markets over the next 20 years. The report focuses on the development of regional coal resources, the growth of global markets and the need for domestic infrastructure to supply those markets.

The Queensland Government's Queensland Infrastructure Plan (DLGP 2011b) guides the development of major infrastructure, and supporting Queensland's resources regions is a key initiative of the Infrastucture Plan. The Infrastructure Plan forecasts that the completion of a number of large thermal coal mining projects will place Queensland as one of the largest thermal coal exporters globally, in line with Queensland's current status as a major global metallurgical coal exporter. Improving rail access between the Galilee Basin and Abbot Point is a specific focus, to improve current and future prospects for mining development in the region. The private sector is seen as the major proponent of such projects, a view supported by the Australian Government's National Ports Strategy (Infrastructure Australia 2010).

The Queensland Government's Northern Economic Triangle Infrastructure Plan 2007 - 2012 (DEEDI 2007 is administered by Department of State Development, Infrastructure and Planning (DSDIP)). It is the first five year incremental plan towards achieving a 50 year commitment to ensure that critical infrastructure is provided to underpin private sector investment in industrial development and mineral processing. The expansion of the Port of Abbot Point and associated coal terminals, the development of coal processing infrastructure, and the integration of new and existing infrastructure are strategic objectives of this document. The expected output of 60 Mtpa of the proposed Carmichael Coal Project will promote current and future expansions, and will integrate with the existing Goonyella rail system.

The Queensland Regionalisation Strategy (DLGP 2011c) also cites the expansion of mining into the Galilee Basin as a key opportunity for the Mackay, Isaac and Whitsunday region. The Project is estimated to generate approximately 3,000 jobs as part of the Project (Mine) and 270 jobs as part of Project (Rail) operations.

1.3.3 Economic Justification and Commercial Drivers

The primary objective of the Project is to produce 60 Mtpa (product) of thermal coal product for export. The objectives of the Project are also to:

- Undertake a staged build-up to the target 60 Mtpa of product as received basis by 2022, sourced from open cut and underground mining
- Produce product coal with a target ash of 25 per cent or lower
- Export blended unwashed crushed product wherever possible

The key commercial driver is to meet the demand for coal. This will lead to the commercial outcome of the export of a thermal product suitable for blending or direct feed into Indian power stations within a timeframe to supply power stations as they are constructed and come on line under Adani's overarching power supply aim.

1.3.4 Project Technical Feasibility

The Carmichael Macro-conceptual Mining Study (Runge Limited 2011) outlines the Mine plan, the purpose of which is to:

- Provide preliminary Mine designs
- Outline basic infrastructure requirements
- Develop concept level cost estimates and production schedules
- Identify mining, infrastructure and environmental constraints
- Identify major risks or opportunities associated with the Project

Initial analysis of the geological data indicates a coal resource of 7.8 billion tonnes. The coal seam strike is approximately north south through the proposed Mine, with a regional dip of two to four degrees to the west. There is a slight steepening in the south in the middle of the deposit where a fault has been interpreted. There is no evidence of significant structures elsewhere in the deposit; however, there is a possibility that infill drilling may indicate some localised structure at a later stage of exploration. The seams are contained within the Permian coal measures, which are overlain across the total area by a poorly consolidated to unconsolidated cover of Tertiary materials.

Capital investment for the life of the Mine (onsite infrastructure) is expected to total $21.5 billion, with approximately $5.9 billion being spent in the years preceding 2022, i.e. up to full production and the remaining $15.6 billion being spent over the remaining years of operation. This estimate excludes the external infrastructure necessary for provision of power and water to the Mine site.

1.4 Relationship to Other Projects

1.4.1 Overview

The Project (Mine) is located within the Galilee Basin there are other projects under investigation or expected to commence investigations in the next five years. The following projects have been identified as having particular relevance, including in terms of cumulative impacts (refer Volume 1, Section 8 Cumulative Impacts), to development of the Project, offering the opportunity for co-location of infrastructure, and / or providing necessary supporting infrastructure for the export of product coal.

The following projects currently under assessment (or approved) have been included in the cumulative assessment, (refer Section 8) as they are relevant in terms of cumulative impacts associated with the Project:

- Alpha Coal Mine and Rail Project (EPBC 2008/4648, 2008/4647): Mine only
- Kevin's Corner Coal Mine (EPBC 2009/5033)
- Galilee Coal (Northern Export Facility) (EBPC 2009/4737): Mine only
- South Galilee Coal Mine Project (EBPC 2010/5496)

Adani is also aware of the following proposal within the region that was not included in the cumulative assessment due to insufficient publically available information at the time of writing (November 2012) to enable inclusion in the cumulative assessment:

- The China Stone Project to the north of the Project (Mine), being investigated by Macmines. The project was declared a significant project on 31 October 2012.

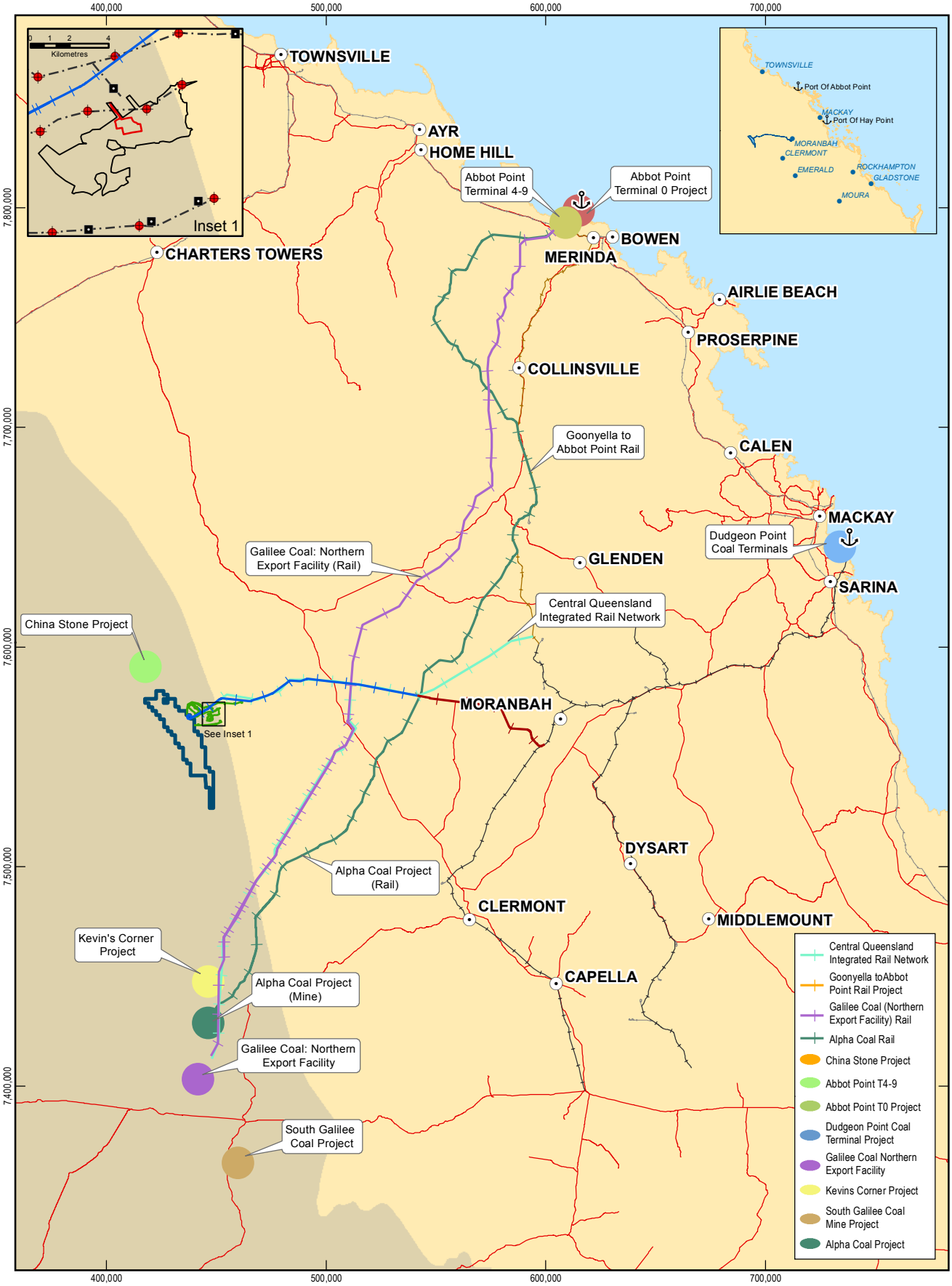
The following projects are relevant as they offer the opportunity for co-location of rail infrastructure:

- Galilee Coal (Northern Export Facility) (EBPC 2009/4737): Rail element
- Alpha Coal Project (EPBC 2008/4648, 2008/4647): Rail element
- Goonyella to Abbot Point Rail Project (EPBC 2011/6082)
- Central Queensland Integrated Rail Network (EPBC 2012/6321, 2012/6322)

The following projects are relevant as they provide necessary supporting infrastructure for the export of product coal:

- Abbot Point Terminal 0 Project (EPBC 2011/6194)
- Port of Hay Point (Dudgeon Point Coal Terminals) (EPBC 2012/6240)

Figure 1-2 shows the location of each of the projects mentioned in this section.



LEGEND

- Town
- Major Port
- State Road
- Other Rail Network
- Goonyella System
- Newlands System
- Project (Mine)
- Mine (Offsite)
- Galilee Basin
- Rail (West) Mine (Offsite)
- Rail (East)
- Borehole
- Storage Site (Instream)
- Pipeline Network
- Community Area
- Workers Accommodation Village

1:2,500,000 (at A4)

0 25 50 75 100

Kilometres

Map Projection: Universal Transverse Mercator
Horizontal Datum: Geocentric Datum of Australia (GDA)
Grid: Map Grid of Australia 1994, Zone 55

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Adani Mining Pty Ltd
Carmichael Coal Mine and Rail Project

Job Number 41-25215
Revision C
Date 03-09-2012

Relationship to Other Projects

Figure: 1-2

G:\41\25215\GIS\Maps\MXD\100_Planning\41-25215_195_rev_c.mxd
Level 4, 201 Charlotte St Brisbane QLD 4000 T +61 7 3316 3000 F +61 7 3316 3333 E bnemail@ghd.com W www.ghd.com

Data Source: DERM: LGA (2011); DMR: State Roads (2008); DME: EPC1690 (2010), EPC1080 (2011); Adani: Alignment Opt9 Rev3 (2012); Gassman/Hyder: Mine (Offsite) (2012); Other Projects (2012). Created by: NR,MS

1.4.2 Alpha Coal Project (EPBC 2008/4648, 2008/4647)

Hancock Coal Infrastructure Pty Ltd (Hancock) proposes to establish the Alpha Coal Project, a new open cut coal mine in the Galilee Basin to service international export energy markets for thermal coal. Hancock's proposal involves the development of the following:

- A coal mine and coal handling and preparation plant
- A mine-to-port railway to transport processed coal to an export terminal at Abbot Point
- Associated infrastructure, including an airport near the mine site and power and water supply infrastructure

This project was declared a significant project requiring an EIS under the SDPWO Act and also a controlled action under the EPBC Act.

The project EIS (Hancock Coal 2011) states that this project will initially be a 30 Mtpa open cut coal mine, with the potential for developing significant underground reserves. The coal will be treated by a coal preparation plant and conveyed to a rail load-out facility. It is expected that the coal will be railed to the Port of Abbot Point for export. Initially all product coal is planned for export, however domestic use will be explored. The project has an expected mine life of 30 plus years, with sufficient JORC compliant resources to significantly extend the project life beyond 30 years. The rail facility will be designed to transport coal at a capacity greater than Hancock production, thereby catering for possible future neighbouring Galilee Basin producers and other downstream producers. The proposed north-south rail line has a design capacity of 60 Mtpa product. Following declaration of this rail project as an Infrastructure Facility of State Significance under the SDPWO Act, the rail operator is obliged to provide third party access to the infrastructure where it is available. However, it is expected that the majority of the available capacity would be utilised by the Kevin's Corner Project, which is being developed by Hancock Galilee Pty Ltd.

The Alpha Coal Project is currently in the feasibility stage of development with the EIS being approved. The Coordinator General gave environmental approval subject to conditions on 29 May 2012 and the Commonwealth Minister gave approval on 23 August 2012. The Project is expected to be operational by 2016.

1.4.3 Kevin's Corner (EPBC 2009/5033)

Hancock Galilee Pty Ltd proposes to develop Kevin's Corner, a coal mine targeting the thermal coal seams in the Upper Permian coal measures of the Galilee Basin. This project will supply 30 Mtpa of thermal coal for the export market for a period of 30 years. The project will consist primarily of three underground longwall operations, supplemented in the early years with two open-cut pits. It is planned that the project will link with the rail line currently being proposed as part of the Alpha Coal Project, and access the existing port facilities at Abbot Point.

1.4.4 Galilee Coal (Northern Export Facility) (EBPC 2009/4737)

Waratah Coal Pty Ltd (Waratah) proposes to establish the Galilee Coal (Northern Export Facility), also known as the China First Project, a coal mine in the Galilee Basin, to supply thermal coal to the international market (Waratah Coal, 2011). The project will involve:

- Coal mine near Alpha incorporating both open cut and underground operations

- Construction of a new rail line, approximately 500 km long, to transport processed coal from the mine for export through the Port of Abbot Point
- Coal stockyards and associated transfer infrastructure within the Abbot Point State Development Area (APSDA), to link with the port through a proposed APSDA multi-user infrastructure corridor
- Major new water and power supply infrastructure

The project was declared to be a significant project requiring an EIS under the SDPWO Act and also a controlled action under the EPBC Act.

The coal will be sourced from Waratah's mining tenements near Alpha. It will be transported by rail to the APSDA, where stockyards will be established that tie in with a proposed multi-user infrastructure corridor linking industrial areas within the APSDA with the Port of Abbot Point. The coal will then be exported through the proposed Abbot Point Multi-cargo Facility (MCF), or a new jetty, berth, and conveyor of a design similar to that currently in use at Abbot Point.

At the time of writing (November 2012) advertising of the project EIS was complete and the Coordinator-General was assessing submissions to determine if a supplementary report is required.

1.4.5 South Galilee Coal Project (EPBC 2010/5496)

AMCI (Alpha) Pty Ltd (AMCI) and Alpha Coal Pty Ltd (Bandanna Energy) are seeking to establish the South Galilee Coal Project (SGCP), a new coal mine on two of their exploration tenements near Alpha in the Galilee Basin. The mine will produce up to 20 Mtpa of high volatile, low sulphur steaming coal for export to international markets.

The project will target thermal coal at depths suitable for both open cut and underground mining. Current exploration has identified a JORC compliant thermal coal resource of 982 Mt, with potential for significant additional resources. A high level concept study based around the existing exploration data and confirmed reserves indicates a total mine life of 43 years with phased open cut and underground developments.

The EIS for this project is on public display at the time of writing until 3 December 2012.

Open cut mining methods will be determined following further mine planning, but will involve truck and shovel, shovel and conveyor, and/or dragline options and is likely to involve a number of active pits. Underground mining is likely to be via traditional longwall mining methods and may include multiple longwalls.

1.4.6 QR National Central Queensland Integrated Rail Project (EPBC 2012/6321, 2012/6322)

The QR National Central Queensland Integrated Rail Project (CQIRP) is proposed to service the needs of the Central and South Galilee Basin providing the Basin's mines with access to the ports of Central Queensland (Abbot Point, Hay Point and Gladstone). The project is also proposed to enhanced access to Abbot Point for the expanding and new mines of the Bowen Basin (QR National, 2011).

The greenfield rail comprises three sections:

- Diamond Creek to Newlands Junction

- Central Galilee to Diamond Creek – this section is proposed to follow an alignment that is broadly consistent with that proposed by Adani Mining Pty Ltd
- South Galilee to Galilee Junction – this section is proposed to follow an alignment that is broadly consistent with that proposed by Waratah Coal

This proposal was declared a significant project on the 27 January 2012, with the Terms of Reference released on 20 September 2012. The proposal was determined to be a controlled action requiring an EIS on19 April 2012.

1.4.7 Port of Hay Point (Dudgeon Point Coal Terminals) (EPBC 2012/6240)

North Queensland Bulk Ports Corporation (NQBP) is proposing to develop two new coal export terminals with a combined capacity of up to 180 Mtpa on strategic port land at Dudgeon Point in the Port of Hay Point. The project will involve:

- Two new coal export terminals
- Six rail loops and train unloading facilities
- Rail connection to the Goonyella rail system
- Offshore wharf facilities for up to eight ship berths
- Dredging of approximately 11 to 15 million m^3 to create berth pockets and a departure apron for ships
- Expanded tug facilities to accommodate up to 10 extra tug and service berths

NQBP has endorsed Adani as a preferred developer for one of the proposed coal terminals, which is expected to have a capacity of 60 Mtpa. This facility would be utilised by Adani to directly export coal from the Port of Hay Point via the Project (Rail) and the Goonyella rail system.

This proposal was declared a significant project requiring an EIS on 27 October 2011. The project has also been determined to be a controlled action under the EPBC Act. At the time of writing (November 2012) the EIS was being prepared.

1.4.8 Abbot Point Terminal 0 Project (EPBC 2011/6194)

Adani Abbot Point Terminal Pty Ltd (Adani APT) proposes to develop the Abbot Point Coal Terminal 0 at the Port of Abbot Point, Queensland. The project will provide for new coal export facilities immediately adjacent to the existing Abbot Point Coal Terminal 1 facilities and enable the initial export of 35 Mtpa coal and up to 70 Mtpa coal at the completion of development.

The project includes the development of onshore coal handling facilities, additional rail loops and out-loading facilities and offshore infrastructure comprising a duplicate jetty immediately adjacent to the existing Terminal 1 jetty and two new berths capable of loading cape size vessels. Adani will utilise this coal terminal for export of the Project coal through the Port of Abbot Point.

The project has been declared a controlled action under the EPBC Act requiring assessment by EIS. Final guidelines have been issued by DSEWPaC for the EIS and Adani has lodged the Draft EIS.

1.4.9 Summary

There are currently up to five coal mining projects (including the Project) under active development within the Galilee Basin. Three of these projects comprise both mine and rail proposals providing integrated development of infrastructure for the export of product. In addition a further two rail projects are being separately investigated and major expansions are being proposed for the two major coal export ports expected to be utilised by Galilee coal proponents.

Adani is actively working with proponents to maximise the benefits of co-locating infrastructure and thus minimise environmental and social dis-benefits associated with major infrastructure. Co-use of existing and proposed rail infrastructure is discussed further in Section 1.5.3.

Volume 1 Section 10 Project Commitments of the EIS provides details of the cumulative impacts associated with these projects.

1.5 Alternatives to the Project

1.5.1 Overview

This section provides details regarding feasible alternatives, including project planning and locality alternatives to the Project, as well as discussion of the consequences of not proceeding with the project. The interdependencies of the Project (Mine) and Project (Rail) components are explained in terms of how each infrastructure requirement relates to the viability of the Project.

This section also addresses the requirements of Section 2.01(g) of Schedule 4 of the EPBC Regulations requiring an assessment of feasible alternatives to a project.

1.5.2 Project Mine

The Project (Mine) is located in the northern extent of the Galilee Basin with access to an estimated 7.8 Bt of indicated plus inferred resource. Initial mine planning has identified a combination of open cut and underground mining methods will be required to access this coal. Adani has access to EPC1690 and part of EPC1080 (and rights to MLAs sought over these areas); it has no other access to coal mining within Australia. Adani has investigated potential soutces of coal that meet its specific resource quantum and delivery timeframe requirements and has not identified any viable alternatives.

Planning for above ground infrastructure has been dictated by the location of the coal resource to minimise as far as possible sterilisation of the available resource.

The Macro-conceptual Mine Plan included a detailed assessment of technological alternatives for economic mining methods. This is described in further detail in Section 2 Description of the Project. Specifically the investigation considered open cut versus underground operations and options for best utilisation of the resource.

1.5.3 Project Rail

The Galilee Basin is not currently serviced by any rail infrastructure which would enable export of coal product from the Project (Mine), or other resource activities. As such, the Project comprises development of both the Project (Mine) and the Project (Rail). Adani has also identified opportunities to link the Project (Rail) to current and proposed rail infrastructure, to minimise the potential environment and social impacts of linear infrastructure within the rural environs while facilitating the

export of resources from the Galilee Basin region. Transport of coal by rail is the only economically feasible option for transport to the ports for export.

In October 2010, Adani undertook a high level desk-top assessment to identify possible rail alignments. These options were refined by considering the environmental, hydrological, geotechnical and civil constraints associated with four nominated west-east alignments between EPC1690 and a connection point to the Goonyella rail system at approximately 14 km south-west of Moranbah.

Environmental considerations included:

- River and waterway crossings
- Wetlands, in particular those triggered under State Planning Policy 4/11 Protecting Wetlands of High Ecological Significance in Great Barrier Reef Catchments, water bodies, dams, etc.
- Topography and landforms
- Regional ecosystems (REs), in particular endangered and of concern (REs), high value regrowth vegetation and Essential Habitat
- The location and extent of Biodiversity Planning Assessment areas
- Indigenous cultural heritage and Native Title claims
- Environmental features such as restricted area, nature refuges and reserves
- The presence of other infrastructure (including homesteads and settlements), mining and exploration lease and permit boundaries, coal resource areas, roads, power lines and pipelines
- Strategic Cropping Land

The geotechnical assessment considered criteria that had the potential to affect the railway embankment details and soil treatments. This included the extent of black soils or reactive soils; the extent of wet or low strength soils; the extent of basalt; and the extent of hard rock.

Results of the assessment were evaluated at an Options Framing Workshop through a multi-criteria analysis (MCA) process. The objectives set for the Options Framing Workshop were:

- To minimise the length and number of waterway and wetland crossing
- Avoiding significant earthworks features
- To avoid homesteads and sensitive environmental areas
- Avoiding black soil areas as much as possible
- Keeping the total length of corridor to a minimum

A preferred railway alignment was selected having considered all the constraints. The preferred alignment was considered (amongst others) to:

- Minimise wetland crossings
- Improve the Goonyella rail system (Moranbah Junction) approach
- Minimise impact on REs
- Provide a smoother geometry

The preferred alignment was used to initiate discussions with landowners potentially directly impacted by the alignment. A dedicated and independent Land Liaison Officer was appointed to undertake

these discussions. Based on feedback received from landowners, further refinement of the alignment was undertaken. Realignment considered the placement of the preferred alignment along cadastral boundaries as far as is practicable, and the minimisation of impact on existing infrastructure, all constraints.

A 500 m investigation corridor was established in association with the preferred alignment and presented for use in the EIS. Through the EIS process, development of concept design and on-going liaison with potentially directly impacted landowners the 500 m investigation corridor was reduced to a defined 95 m Project (Rail) alignment.

1.5.4 Offsite Infrastructure

The offsite infrastructure is comprised of:

- A workers accommodation village and associated facilities including:
  - Industrial area
  - Upgrade and realignment of Moray Carmichael Road
  - Rail siding
- A permanent airport site
- Water supply infrastructure

Adani undertook a detailed analysis of siting constraints and opportunities to locate each element of the offsite infrastructure having regard to environmental, social and planning outcomes. In the first instance, this included a broad scale physical assessment of the Moray Downs land holding (immediately surrounding the mine site) to refine the possible development area from the total area of 117,000 ha to a target investigation area of approximately 2,500 ha.

The broad scale physical analysis resulted in the development of a database of information collated under six main categories:

- Administrative boundaries (tenure, lot boundaries etc.)
- Drainage constraints identified around surface features and topography
- Geology
- Mining tenure
- Transport
- Vegetation

Based on the broad scale desktop review potential areas for development were identified. Following the broad scale analysis, an assessment of ecological constraints was completed focusing on Commonwealth and State ecological values, the aim of the assessment being to avoid areas of ecological value. Ground-truthing of the proposed development area confirmed that the proposed infrastructure locations were largely situated outside areas of constraint.

1.5.5 No Action Option

A no action option, that is, that Adani does not develop the Project, would likely lead to Adani's demand for coal being met from outside of Australia. While the ash content of the coal is suitable for

the Adani's power stations, the feasibility of its use relies on the ability for Adani to gain high efficiencies along the entire supply chain – from extraction, transport and end use in power stations. These efficiencies can only be gained through Adani having ownership and control over the vertical supply chain.

The no action option for the Project (Mine) would see significant capital investment totalling approximately $21.5 billion foregone. Estimates undertaken by Runge Limited have indicated that $5.9 billion will be spent in the years preceding 2022. The remaining $15.6 billion will be spent over the remaining years of operation. Table 1-1 indicates the regional and State benefits which would be lost if the Project did not proceed. The Project (Rail) is expected to require capital expenditure totalling $1.2 billion over a three year period. The benefits of this economic investment will not be realised to the Queensland and national economy if the Project is not developed. Similarly, approximately 3,000 direct jobs associated with the Project (Mine) and approximately 270 associated with the Project (Rail) will be foregone.

Table 1-1 Coal Production and Operational Capital Expenditure of the Project (Mine)

Year	3	4	5	6	7	8	9	10	11	12	13
Fiscal year	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**
Production (Mtpa)	2	7	14	24	29	34	43	47	50	50	60
Opex and Capex ($m)											
Mackay Region	101	87	83	101	164	166	188	190	229	234	260
Other Queensland	114	98	93	113	184	186	212	213	257	263	293
Outside Queensland	680	584	555	675	1,096	1,110	1,262	1,270	1,531	1,568	1,744
Total	895	769	731	889	1,443	1,462	1,662	1,673	2,016	2,065	2,298

Further, even were Adani to pursue the no action option, the significance of the identified coal reserve underlying EPC1690 means it is highly probably that another proponent would seek to mine the same resource in the future. Adani has the financial and technical resources available to progress the Project, while development of resource projects in the Galilee Basin is in its infant stages, allowing for maximum flexibility in reducing the overall negative environmental and social impacts of this development, including by the co-use of infrastructure facilitated by the Project (Rail).

The Queensland Government also has a strongly expressed policy position that development of rail corridors servicing the Galilee Basin needs to be integrated now to achieve efficient transport outcomes while minimising the impacts of infrastructure development on the region. Adani's proposal furthers this position.

1.6 Co-location Opportunities

1.6.1 Co-use of Rail Infrastructure

Adani is actively working with a number of proponents of projects within the Galilee Basin to establish opportunities for co-location of infrastructure to service the region and facilitate the export of coal. To facilitate future connections to existing and/or proposed third party rail infrastructure, the Project (Rail) (west) will be of a dual gauge design (narrow gauge and standard gauge).

The Queensland Government this year announced its preference that rail corridors be developed to service transport needs from Galilee Basin to Abbot Point in a coordinated manner. The policy position is that the government will facilitate two common rail corridors (a north-south alignment and a west-east alignment), to ensure development is serviced while minimising impacts to the region. The Project (Rail) alignment has been nominated for investigation in determining the Queensland Government's preferred west-east common user rail corridor.

The proposed Project (Rail) west-east aligned greenfield corridor links the Project (Mine) to the existing QR National Goonyella rail system, south of Moranbah. The Project (Rail) integrates with the existing and proposed QR National systems to enable the transport of coal through to the Port of Abbot Point and/or the Dudgeon Point expansion at the Port of Hay Point (refer to Volume 3, Section 2.4).

As outlined in Section 1.4, potential alternative third party railway infrastructure includes:

- Hancock Coal Infrastructure Pty Ltd's proposed Alpha Coal Project, including a 495 km rail component comprising a standard gauge single track, non-electrified rail corridor between Alpha Mine to the Port of Abbot Point
- Waratah Coal Pty Ltd's proposed Galilee Coal (Northern Export Facility) Project (also known as the China First Coal Project), including a 468 km, standard gauge railway running from the Galilee Basin to the Port of Abbott Point
- BHP Billiton MetCoal Holdings Pty Ltd's proposed Goonyella to Abbot Point Rail Project, comprising a standard, narrow or dual gauge railway between the Goonyella Riverside Mine Complex approximately 24 km north-north-west of Moranbah in Central Queensland to the Port of Abbot Point
- QR National's proposed Central Queensland Integrated Rail Network which will provide access for a number of Galilee coal mines to the ports of Abbot Point and Hay Point.

Grade-separated rail-over-rail structures would be required to traverse any or all of these proposed railways depending on the relative timing of construction for each rail line. Connection to a proposed third party rail line can be facilitated by a turnout.

1.6.2 Power Infrastructure

In addition to the opportunities for co-location of rail infrastructure, Adani, along with other Galilee Basin mine proponents are currently investigating power supply options via a number of alternative sources. Options include:

- Powerlink via the new Surbiton 275 kV Substation fed from Lilyvale in the south

- Powerlink via the Moorevale 132 kV Substation (yet to be developed near Moranbah) fed from the existing Nebo 275 kV Substation to the north
- Powerlink via the Strathmore 275 kV Substation (near Collinsville)
- Copperstring Project via the Pentland 330 kV Substation (Project is yet to be committed and developed)

Depending upon which power supply option is chosen, a transmission line will be installed by either Powerlink or Adani to meet the Project requirements. Whichever option is implemented it will be able to supply multiple mines in the Galilee Basin including the Project.

1.7 Environmental Impact Assessment Process

1.7.1 Approach

The Project EIS is being undertaken in accordance with the provisions of the EPBC Act and the SDPWO Act and addresses the requirements of the Project Terms of Reference included in Volume 4 Appendix B Final Terms of Reference.

Environmental impact assessment (EIA) is an approach for assessing a proposed action (or project) and describing these in an EIS. The approach taken for this EIA was to identify and link the actions associated with the Project to the direct and indirect impacts, develop mitigation measures and then management strategies for residual impacts.

Each technical report in Volume 4 includes identification of the actions associated with the construction and/or operation of the Project and the environmental impact resulting from that action.

Potential impacts can be both positive and negative and characteristics can vary in terms of the:

- Nature (positive/negative, direct/indirect)
- Magnitude (severe, moderate, low)
- Extent/location (area/volume covered, distribution)
- Timing (during construction, operation etc., immediate, delayed)
- Duration (short term/long term, intermittent/continuous)
- Reversibility/irreversibility
- Likelihood of occurrence (probability, uncertainty)
- Significance (local, regional, global)

The methods for predicting impacts vary according to the technologies and data available and include:

- A qualitative method. This is a professional judgement, based on professional experience with a particular environmental value in a specific region. It is acceptable where suitable professional experience and/or third party peer review can be obtained.
- Use of quantitative mathematical models (e.g. CALPUFF, MODFLOW). Where the ability to utilise these models is limited due to technology and data availability, conservative assumptions are utilised.

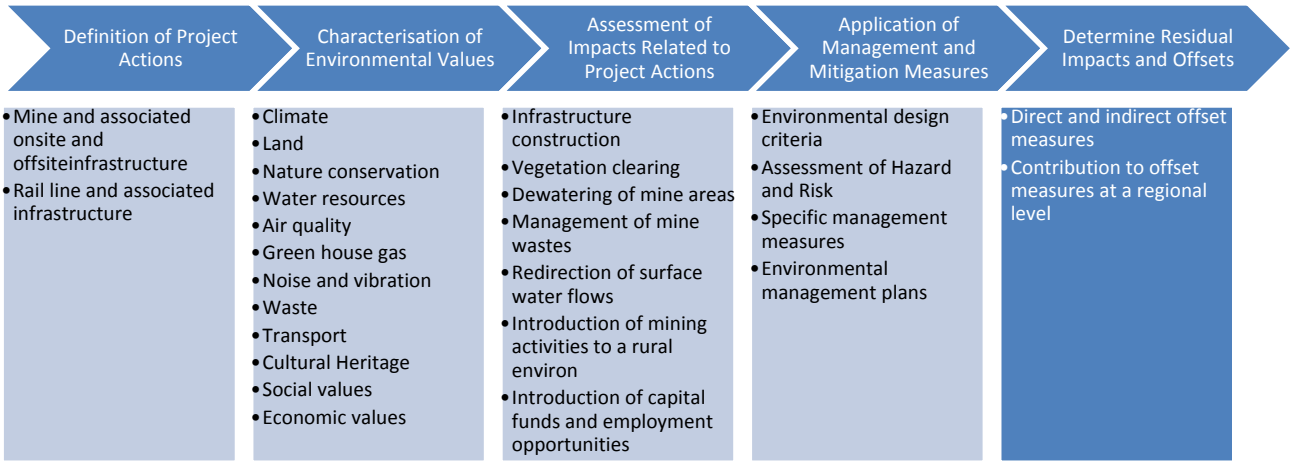
- Experiments and physical models where suitable engineering design data is available.
- Case studies as analogues or references. Virtually all assessment of baseline data includes a thorough literature search and review to identify case studies, available references and available information. These are then supplemented by field collection of project specific data.

If a potential impact is identified, available management and mitigation measures are applied. If, after application of these measures there is a residual impact, the test for significant effects is then applied as follows:

- If there are any residual impacts, are these likely to be significant?
- If yes, are these significant impacts likely to occur?

Figure 1-3 provides an overview of the EIA process adapted for the Project.

Figure 1-3 Overview of Environmental Impact Assessment Process



The objective of the EIS is to ensure that all potential environmental, social and economic impacts of the Project are identified and assessed, and that adverse impacts so identified are avoided or mitigated. The EIS document provides information for the following persons and groups, as Project stakeholders:

- for interested bodies and persons: a basis for understanding the Project, feasible alternatives, affected environmental values, impacts that may occur and the measures to be taken to mitigate adverse impacts
- for directly affected persons: an outline of the effects of the Project
- for government agencies and referral bodies: a framework for decision-makers to assess the environmental aspects of the Project with respect to legislative and policy provisions, and based on that information; to make an informed decision on whether the Project should proceed or not and if so, subject to what conditions, if any
- for Adani: a mechanism by which the potential environmental impacts of the Project are identified and understood, including information to support the development of management measures, such as an environmental management plan, and to mitigate the effects of adverse environmental impacts of the development

Adani is required to address the Project ToR to the satisfaction of the Coordinator-General before the EIS is publicly available. Volume 4 Appendix B Final Terms of Reference provides a cross-reference of the ToR and the EIS sections. The Project EIS is structured across four volumes.

- Volume 1 includes project wide material which is relevant to both the Project (Mine) and Project (Rail) components
- Volume 2 discusses environmental matters relevant to the Project (Mine) component of the Project only
- Volume 3 discusses environmental matters relevant to the Project (Rail) component of the Project only
- Volume 4 includes appendices comprising technical reports relevant to each component of the Project and sections within Volumes 1 to 3 of the EIS

Table 1-2 provides a summary of the structure of the EIS for Volumes 1 to 3.

Table 1-2 Carmichael Coal Mine and Rail Project EIS Structure Volumes 1 to 3

Section No	Section Name
Volume 1	**Project Wide**
1	Introduction
2	Description of the Project
3	Social Impact Assessment
4	Social Impact Management Plan
5	Indigenous and Non-indigenous Cultural Heritage
6	Economies
7	Community Consultation
8	Cumulative Impacts
9	Draft Offsets Strategy
10	Project Commitments
11	Matters of National Environmental Significance Report
12	Conclusions and Recommendations
Volume 2	**Mine**
01	Introduction
02	Project Description
03	Climate, Natural Hazards and Climate Change
04	Land
05	Nature Conservation

Section No	Section Name
06	Water Resources
07	Air Quality
08	Greenhouse Gas Emissions
09	Noise and Vibration
10	Waste
11	Transport
12	Hazard and Risk
13	Draft Environmental Management Plan
14	Conclusions and Recommendations
Volume 3	**Rail**
01	Introduction
02	Project Description
03	Climate, Natural Hazards and Climate Change
04	Land
05	Nature conservation
06	Water resources
07	Air Quality
08	Greenhouse Gas Emissions
09	Noise and Vibration
10	Waste
11	Transport
12	Hazard and Risk
13	Draft Environmental Management Plan
14	Conclusions and Recommendations

1.7.2 Relationship of the Environmental Impact Statement to the Environmental Management Plan

All level 1 mining activities in Queensland must be conducted under an environmental authority (EA) pursuant to the *Environmental Protection Act 1994* (Qld) (EP Act). Assessment of these projects includes the preparation of an environmental management plan (EMP). In many cases, an EIS is also required, in which case a draft EMP will usually be included in the EIS to assist the assessment of the project, as a number of commitments to be made in the EMP will arise form the EIA process.

The function of the EMP is to link the assessment and identification of mitigation and management measures during the EIA process to their actual implementation during the project construction and operation.

The Project EIS includes a Draft EMP framework in Volume 2 Section 13 (Mine), Volume 2, Section 14 (Offsite Infrastructure) and Volume 3 Section 13 (Rail). These frameworks are based on the mitigation and management measures identified throughout the EIA of the Project. The EMP (Mine) has been prepared in accordance with the requirements under the EP Act.

1.7.3 Submissions about the Environmental Impact Statement

Any person, group or organisation can make a submission about the Project EIS to the Office of the Coordinator-General. Any submissions which are properly made submissions must be accepted by the Coordinator-General and considered in evaluating the EIS.

Under section 24 of the SDPWO Act a properly made submissions must:

- Be made in writing
- Be received on or before the last day of the submission period
- Be signed by each person who makes the submission
- State the name and address of each person who makes the submission
- State the grounds of the submission and the facts and circumstances relied on in support of those grounds

A person wishing to make a submission about the EIS should also:

- Clearly state the matter(s) of concern or interest and list points to help with clarity
- Reference the relevant section(s) of the EIS
- Ensure the submission is legible

The Coordinator-General may also accept submissions which are not properly made.

Any submissions regarding this EIS should be addressed to:

The Coordinator-General

C/- EIS Project Manager – Carmichael Coal Mine and Rail Project
Coordinated Project Delivery
Office of the Coordinator-General Box 15009
CITY EAST QLD 4002
Tel: (07) 3227 8548 Fax: (07) 3225 8282
Email: carmichael@deedi.qld.gov.au

The Coordinator-General will consider public submissions in making decisions in relation to the Project and coordinate a consultation process between Adani and other regulatory agencies that may assess aspects or provide specific technical inputs. All submissions from the public and other regulatory agencies will be collated and provided to Adani for review and response.

Adani may then be required to prepare a supplementary statement addressing the comments submitted by the Advisory Bodies and the public.

Please note all submissions will be treated as public documents and copies will be provided to the proponent.

1.7.4 Decision Making Process

At the completion of the EIS phase, the Coordinator-General will prepare a report (Coordinator-General's report) evaluating the EIS and other relevant material, under section 35 of the SDPWO Act. The Coordinator-General's report will include an assessment and conclusion about the environmental effects of the Project and any associated mitigation measures. Material assessed will include:

- the EIS
- properly made submissions and other submissions accepted by the Coordinator-General
- any other material the Coordinator-General considers relevant to the Project, such as any supplementary statement, reports or EIS, comments and advice from advisory agencies and other entities, technical reports and legal advice

The Coordinator-General's report will be publicly notified by placing it on the SDIP website at http://www.dsdip.qld.gov.au/assessments-and-approvals/carmichael-coal-mine-and-rail-project.html. The Coordinator-General's report will also be provided to the proponent, Commonwealth Government Minister and relevant State government decision makers for related approvals (refer to Volume 4, Appendix D Project Approvals and Planning Assessment).

1.7.5 Other Approvals

If the Project requires an application for a development approval under *Sustainable Planning Act 2009* (SP Act), the Coordinator-General's report on the EIS may, under section 39 of the SDPWO Act, state for the assessment manager one or more of the following:

- conditions that must attach to the development approval
- that the development approval must be for part only of the development
- that the approval must be a preliminary approval only

Alternatively, the Coordinator-General's report must state for the assessment manager that either:

- there are no conditions or requirements for the project or
- the application for development approval be refused

Under section 45 of the SDPWO Act, the Coordinator-General's report may state conditions for a proposed mining lease(s) under the *Mineral Resources Act 1989* (MR Act). If conditions are included in the report, the Coordinator-General must give the Minister responsible for the MR Act a copy of the report.

Similarly, the Coordinator-General's report may, under sections 47(c) or 49 of the SDPWO Act, state conditions for any proposed EA under the *Environmental Protection Act 1994* (EP Act). If conditions are included in the report, the Coordinator-General must give the Minister responsible for the EP Act a copy of the report. Similarly, the Coordinator-General's report may, under section 49(d) of the SDPWO Act, state conditions for any proposed greenhouse gas injection and storage lease under the *Greenhouse Gas Storage Act 2009*. If conditions are included in the report, the Coordinator-General must give the Minister responsible for that Act a copy of the report.

The SPDWO Act also allows the Coordinator-General to make recommendations to anyone else who may give an approval required for the Project under another Act regarding whether the approval should proceed an on what conditions. For a full list of approvals identified as being required for the Project, see Volume 4, Appendix D Project Approvals and Planning Assessment.

1.8 Public Consultation Process

1.8.1 Consultation Methodology

A consultation programme was undertaken as part of the Project EIS. Full details of consultation undertaken to date are provided in Volume 4 Appendix I Consultation Report. The aim of the consultation programme was to inform stakeholders and the broader community of the Project, actively seek their involvement in the EIS, and report back on how this input was considered in the Project's outcomes.

This aim was supported by four objectives, to:

1. Establish an open two-way flow of information, designed to meet both community, government and the Proponent's requirements in achieving a transparent, meaningful and appropriate consultation process
2. Communicate detailed project information, in an easy to interpret, community friendly format
3. Enable opportunities for local and regional communities, and other stakeholders to identify issues, impacts and possible mitigation measures to be documented for consideration as part of the EIS
4. Build community understanding and support of the EIS process and the Project

The consultation methodology was guided by the core values and principles of the International Association of Public Participation (IAP2). A Consultation Plan was developed to guide effective and timely delivery of the consultation programme. The Consultation Plan identified:

- The types of activities to be undertaken
- Timing of activities
- Key stakeholder and community representatives
- Integration with other EIS activities and the Project development process
- Consultation responsibilities
- Communication protocols
- Reporting and feedback arrangements

The consultation process was undertaken over a two year period during the EIS commencement and development phases. This approach aimed to provide multiple opportunities for both targeted stakeholders and the wider community to participate and comment on the Project. Specific consultation activities and communication tools are depicted in Figure 1-4.

Figure 1-4 EIS Consultation Activities and Communication Tools

1.8.2 Stakeholder Identification and Involvement

A preliminary stakeholder list was developed through desk-based research and analysis of existing information materials. This list was subject to ongoing refinement throughout the consultation process, with input from Adani and other project stakeholders. Stakeholders identified for the Project included Federal, State and Local Government representatives, potentially affected landowners, local business and residents, community interest groups, industry representatives, environmental and cultural heritage groups, media and surrounding communities. These are detailed in the Consultation Report (Volume 4 Appendix I Consultation Report).

Stakeholders were engaged using a range of consultation and communication techniques, including face-to-face meetings, workshops and briefings, public information sessions, newsletters and web-based features. These were supported by feedback mechanisms through which stakeholders and community members could provide comment, such as feedback forms and project-specific contact channels (1800 telephone line, email address, reply paid post). Adani participated in key consultation meetings, forums and briefings. This enabled the two-way exchange of information between the proponent and stakeholders, and gave valuable insight to stakeholder perceptions, concerns and interests.

1.8.3 Integration of Consultation with Project EIS

The consultation programme methodology and timing was specifically developed to integrate with the EIS process. The public consultation process commenced in early 2011 and is based on a staged approach, coinciding with key EIS milestones:

Stage 1: EIS commencement including release of Initial Advice Statement (IAS) and Draft ToR

Stage 2: EIS development

Stage 3: Release of EIS

Stage 4: Evaluation and EIS finalisation

The sequencing of consultation activities is shown in Figure 1-5. This process continued throughout 2012, with public exhibition of the EIS scheduled for late 2012. Information relating to other EIS technical studies was included in public consultation materials and activities at key stages of the

process, as required. Of particular significance to the consultation approach was integration with the Social Impact Assessment (SIA), in order to:

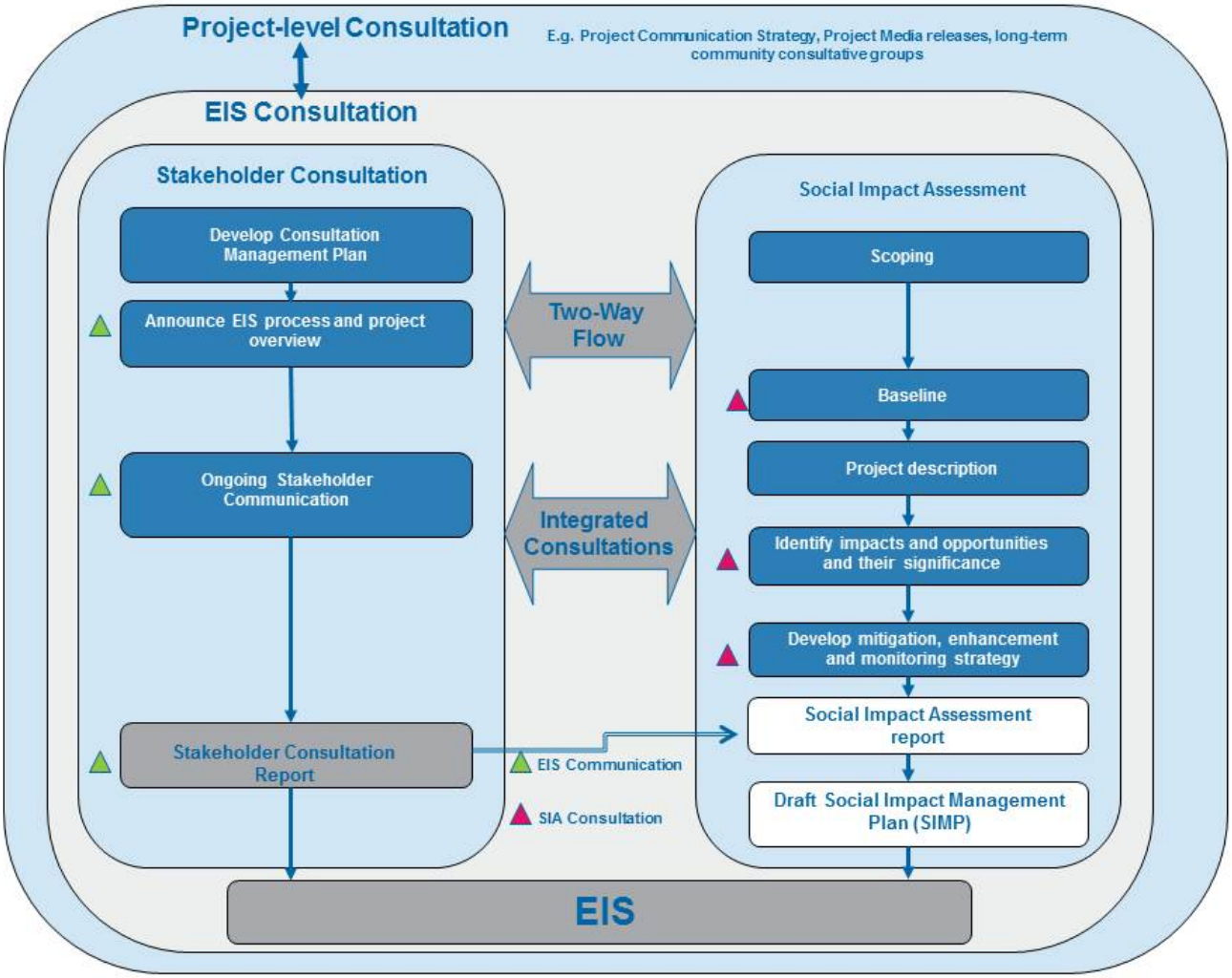
- Avoid potential duplication and consultation fatigue amongst stakeholders involved in both the broader EIS consultation and social research for the SIA; and
- Enable the EIS consultation and SIA processes help to inform each other on the basis of information gathered from stakeholders.

The SIA involved targeted stakeholder consultation to inform the social baseline study, identification of impacts and development of appropriate management strategies. Figure 1-6 depicts the integration of EIS and SIA consultation processes.

Figure 1-5 EIS Consultation Stages and Timeframes

	Q1 2011	Q1 2011 - Q2 2012	Q4 2012	Q1 2013
STAGE	**STAGE 1** Commencement of EIS process	**STAGE 2** EIS Development	**STAGE 3** Public Exhibition of EIS	**STAGE 4** Evaluation and EIS Finalisation
Consultation Activities	Stakeholder identification Conduct preliminary issue/risk assessment Document review Prepare Stakeholder Consultation Plan Prepare information materials Government Agency consultations	Community Information Sessions Distribution of project information materials (newsletters and information packs) Project briefings and focus group meetings Manage project telephone hotline, email address, reply paid post, and stakeholder database Respond to stakeholder comments in a timely manner Analyse stakeholder comments to inform EIS investigations SIA consultation activities	Promote Public Exhibition Period including public displays and Community Information Sessions Coordinate and manage public submissions Analyse public submissions and draft responses	Close out activities Consultation evaluation
Ongoing stakeholder consultation and monitoring of feedback				
Regulatory Deliverables	Stakeholder Consultation Plan aligns with Project ToR	Prepare Stakeholder Consultation Report for EIS	Prepare Community Feedback Report for Supplementary EIS Report	Submit Supplementary EIS Report to CG for final approval decision

Figure 1-6 Links between EIS and SIA Consultation



1.8.4 Consultation Outcomes

Key themes raised throughout the consultation program are broadly categorised as follows:

- Project-related benefits for local business and employment
- Potential to exacerbate shortages in housing and accommodation
- Workforce supply and regional shortages
- Fly-in/ fly-out out (FIFO) operations
- Environmental impacts of the Project, notability on air quality and flooding
- Support for Adani's greenfield rail line to link into a shared third party railway for access to the Port of Abbot Point

- Cumulative impacts of mining projects on local towns, notably the higher cost of living, declining housing affordability, and impacts of FIFO and shift work on family life
- Cumulative impacts of mining projects on the region's roads, notably increased mine-related traffic and public safety concerns, road deterioration, new rail crossings and wait times, driver fatigue risks associated with a drive-in/drive-out (DIDO) workforce, and emergency service response times
- Support for Adani to have a long term presence in the Isaac Region through investment in local towns, business and community life

1.9 Relevant Legislation and Project Approvals

1.9.1 Overview

The purpose of this section is to satisfy the requirements of Section 1.9 of the Project ToR, which requires a review of relevant Commonwealth, State and local legislation and policies relevant to planning, approvals, construction and operation of the Project. Full details are provided in Volume 4 Appendix D Project Approvals and Planning Assessment.

Commonwealth legislation relevant to the Project includes:

- *Environmental Protection and Biodiversity Conservation Act 1999* (EPBC Act)
- *Native Title Act 1993* (NT Act)
- *Aboriginal and Torres Strait Islander Heritage Protection Act 1984 (ATSIHP Act)*
- *Great Barrier Reef Marine Park Act 1975 (GBRMP Act)*
- *Civil Aviation Act 1988*

Commonwealth obligations such as the migratory animals (China – Australia Migratory Bird Agreement – CAMBA), Japan-Australia Migratory Bird Agreement (JAMBA), Republic of Korea-Australia Migratory Bird Agreement (ROKAMBA) Bonn Convention have been reviewed in Volume 4 Appendix J Matters of National Environmental Significance.

State legislation relevant to the Project includes:

- *State Development and Public Works Organisation Act 1971* (SDPWO Act)
- *Environmental Protection Act 1994 (EP Act) and Environmental Protection (Waste Management) Regulation 2000*
- *Waste Reduction and Recycling Act 2011* (WRR Act)
- *Mineral Resources Act 1989 (MR Act)*
- *Sustainable Planning Act 2009* (SP Act)
- *Water Act 2000*
- *Fisheries Act 1994*
- *Aboriginal Cultural Heritage Act 2003* (ACH Act)
- *Queensland Heritage Act 1992*
- *Nature Conservation Act 1992* (NC Act)

- *Vegetation Management Act 1999 (VM Act)*
- *Forestry Act 1959*
- *Transport Infrastructure Act 1994* (TI Act)
- *Land Title Act 1994* (TL Act)
- *Strategic Cropping Land Act 2011 (SCL Act)*
- *Work Health and Safety Act 2011 (WHS Act)*
- *Land Protection (Pest and Stock Route Management) Act 2002* (LP (PSRM) Act)

Local government legislation applicable to the Project:

- *Local Government Act 2009 and associated by-laws*
- *Planning Scheme for the Belyando Shire 2008*
- *Planning Scheme for the Dalrymple Shire 2006*

For an assessment of the Project against the applicable Local Government legislation, applicable Planning Schemes and State Planning Policies refer to Volume 4 Appendix D Project Approvals and Planning Assessment. The Project Approvals and Planning Assessment provides a summary of development approvals required for the Project.

1.9.2 Commonwealth Legislation

1.9.2.1 Environmental Protection and Biodiversity Conservation Act 1999

The *Environmental Protection and Biodiversity Conservation Act 1999* (EPBC Act) is the Commonwealth's principal piece of environmental protection legislation. Under Part 3 of the EPBC Act, a person must not take an action that has or is likely to have a significant impact on a Matter of National Environmental Significance (MNES) unless that person can rely on an exemption, or obtains an approval from the Commonwealth Minister. An activity that has potential to impact upon MNES is deemed to be a controlled action and as such requires an approval of the Commonwealth Minister for the Department of Sustainability, Environment, Water, Population and Communities (DSEWPaC) (Commonwealth Government Minister for the Environment).

The Project was declared a controlled action on 6 January 2011 due to the likely potential impacts on MNES, particularly with regard to the following controlling provisions under the EPBC Act:

- World Heritage properties (Sections 12 and 15A)
- National Heritage places (Section 15B and 15C)
- Ramsar Wetlands (Sections 16 and 17B)
- Listed Threatened Species and Communities (Sections 18 and 18A)
- Listed Migratory Species (Sections 20 and 20A)
- Great Barrier Reef Marine Park (Sections 24B and 24C)

Accordingly, the Project requires assessment and approval under the EPBC Act. The Commonwealth Government has accredited the EIS process, to be conducted under the SDPWO Act, under a bilateral agreement between the Commonwealth and Queensland Governments. This will enable the EIS to meet the impact assessment requirements under both Commonwealth and

Queensland legislation. The Project will require approval from the DSEWPaC under Part 9 of the EPBC Act, before it can proceed.

The Queensland Government, coordinated by the Office of the Coordinator General within DSDIP, has invited relevant Commonwealth, State and local government representatives, and other relevant authorities, to participate in the impact assessment process as advisory agencies. DSEWPaC will review the EIS to confirm the Project has been adequately assessed against the requirements of the EPBC Act. The Commonwealth Environment Minister's assessment will follow the preparation of a draft Coordinator General's report by the State.

1.9.2.2 Commonwealth Native Title Act 1993

In accordance with Section 3 of the *Commonwealth Native Title Act 1993* (NT Act) the main objectives of the NT Act are to:

To provide for the recognition and protection of native title; and

To establish ways in which future dealings affecting native title may proceed and to set standards for those dealings; and

To establish a mechanism for determining claims to native title; and

To provide for, or permit, the validation of past acts, and intermediate period acts, invalidated because of the existence of native title.

The lands associated with the Project are within the registered native title claim area of the Wangan and Jagalingou People (QUD85/04). A Right to Negotiate (RTN) pursuant to Section 29 of the NT Act has been completed and an Indigenous Land Use Agreement (ILUA) is currently under negotiation.

The lands associated with the Project Area are within the registered native title claim area of the following parties:

- The Project (Mine) and first 17 km of the Project (Rail) are located within the external boundaries of the Wangan and Jagalingou People registered native title claim (QUD85/04, QC04/6)
- Approximately 145 km of the Project (Rail) is located within the external boundaries of the Jangga People registered native title claim (QUD6230/98, QC98/10)
- Approximately 17 km of the Project (Rail) is located within the external boundaries of the Barada Barna Kabalbara and Yetimarla People #4 (BBKY #4) former registered native title claim (QUD6023/01, QC01/25)
- Approximately 3 km of the Project (Rail) is located within the external boundaries of the Barada Barna People registered native title claim (QUD380/08, QC08/11).

Adani are progressing native title negotiations with relevant parties. Indigenous Land Use Agreements (ILUAs) and extinguishment assessments are being progressed as required.

1.9.2.3 Aboriginal and Torres Strait Islander Heritage Protection Act 1984

The purpose of the *Aboriginal and Torres Strait Islander Heritage Act 1984* is to *preserve and protect areas and objects in Australia and in Australian waters which are of particular significance to Aboriginals in accordance with Aboriginal tradition*. All cultural heritage matters regarding the Project are being dealt with through a number of ILUA's which are being negotiated (refer to Volume 1 Section 5 Indigenous and Non indigenous cultural heritage for further information) and through

implementation of the Cultural Heritage Management Plans (CHMP) for the Project which have been approved by the Department of Environment and Heritage Protection (DEHP).

1.9.2.4 Great Barrier Reef Marine Park Act 1975

The *Great Barrier Reef Marine Park Act 1975* (GBRMP Act) establishes a framework for the establishment, control, management and development of the Great Barrier Reef Marine Park (GBRMP). The GBRMP Act is administered by the Great Barrier Reef Marine Park Authority (GBRMPA).

The Project is not located within or adjacent to the GBRMP. However, the Project (Rail) intersects waterways and catchments that drain into marine environments and are therefore connected to the GBRMP. As a result, potential indirect impacts only have been considered by this EIS. The Project area does not coincide with the GBRMP and as such, potential indirect impacts only have been considered by this EIS. Full details in regard to potential impacts to the Great Barrier Reef are provided in Volume 1 Section 11 Matters of National Environmental Significance.

1.9.2.5 Civil Aviation Act 1988

The Civil Aviation Safety Authority (CASA) has been established for the purposes of conducting the safety regulation of civil air operations in Australia and the operation of Australian aircraft overseas. Civil Aviation Regulations 1988 and the Civil Aviation Safety Regulations 1998 were made under the *Civil Aviation Act 1988* and provide for general regulatory controls for the safety of air navigation (CASA, 2011).

The construction and operation of the proposed air strip will be undertaken in accordance with the provisions of the above mentioned regulations.

1.9.3 State Legislation

1.9.3.1 State Development and Public Works Organisation Act 1971

In accordance with Section 1 of the *State Development Public Works Organisation Act 1971* (SDPWO Act), the purpose of the SDPWO Act is to provide for *State planning and development through a coordinated system of public works organisation, for environmental assessment, and for related purposes*. An Initial Advice Statement (IAS) for the Project was lodged to the Office of the Coordinator General to seek *'significant project'* declaration under Section 27 1(a) of the SDPWO Act. On 26 November 2010, the Office of the Coordinator-General declared the Project to be a 'significant project' for which an EIS is required pursuant to section 26 (1) (a) of the SDPWO Act. This declaration was based on the Project information presented within the IAS, applicable Commonwealth, State and local government requirements, level of investment, Project's strategic significance, infrastructure impacts and employment opportunities.

As identified previously, the Project has also been declared as a 'controlled action' under the EPBC Act. Following consultation between the DSEWPaC and the Office of the Coordinator-General, it was agreed that the EIS is to be prepared under the SDPWO Act and the EPBC Act in parallel, based upon one ToR. Accordingly, one EIS has been prepared which satisfies the requirements of both jurisdictions. This process has streamlined the environmental baseline reporting and impact assessments across common study areas in a consolidated process. At the completion of the assessment of the Project the Coordinator-General will issue a report on the Project EIS. This report

cannot be finalised until the Commonwealth Minister for Environment has completed an assessment against the EPBC Act.

Other development approvals are triggered under the SDPWO Act; refer to Volume 4 Appendix D Project Approvals and Planning Assessment for further information.

1.9.3.2 Environmental Protection Act 1994

In accordance with Section 3, the object of the EP Act is to *protect Queensland's environment, while allowing for development that improves the total quality of life, both now and in the future, in a way that maintains the ecological processes on which life depends (ecologically sustainable development).* The EP Act is administered by the DEHP.

Under the EP Act anyone undertaking an activity that may cause environmental harm must comply with the EP Act's general duty of care and approval is required for the following:

- Activities that could cause actual or potential environmental harm via the generation of emissions or through carrying out the activity
- Environmentally Relevant Activities (ERAs)
- Activities likely to cause land contamination (notifiable activities recorded on the Environmental Management Register)
- All other notifiable activities listed in Schedule 3 of the EP Act.

Sections 319 and 320 of the EP Act note that all persons have a duty of care to the environment. Therefore, it is not permissible to cause environmental harm whilst undertaking any activity, unless all reasonable and practical means are taken to minimise that harm.

The following provisions of the EP Act are especially relevant to the Project:

Chapter 5 of the EP Act provides for environmental authorities (EA) for mining activities, details the types of EAs and the general process required to be undertaken to obtain an EA. An EA only applies to the Project (Mine) only, refer to further detail in following paragraphs and within Volume 4 Appendix D Project Approvals and Planning Assessment.

Schedule 2 of the *Environmental Protection Regulation 2008* (EP Regulation) lists various activities for which a Material Change of Use Development Application (MCU DA) for an Environmentally Relevant Activity (ERA) and associated registration certificates required. ERAs applicable to the Project are discussed in the following paragraphs and in more detail within Volume 4 Appendix D Project Approvals and Planning Assessment.

Chapter 2 of the EP Act identifies Environmental Protection Policies (EPPs) which have been created for the purposes of protecting and enhancing environmental values. Review and applicability of the EPPs to the Project is presented in more detail within Volume 4 Appendix D Project Approvals and Planning Assessment.

Schedule 3 of the EP Act identifies notifiable activities which have been identified as likely to cause land contamination. Pursuant to Section 371 of the EP Act, landowners and local government (the owner or occupier of land) must, within 22 business days after becoming aware a notifiable activity is being carried out on such land, give notice to the DEHP. Land that has been, or is being, used for a notifiable activity, is recorded on the Environmental Management Register (EMR), which is

maintained by the DEHP. Part 8 of the EP Act deals with managing contaminated land. Adani will be required to advise DEHP if notifiable activities are to occur within the Project Area.

Subject to Section 424 of the EP Act, if any removal of contaminated land is required as part of Project works, a permit for removal and treatment or disposal contaminated soils is required to be obtained from the DEHP.

These provisions of the EP Act and required development approvals for the Project have been discussed in more detail within Volume 4 Appendix D Project Approvals and Planning Assessment.

Environmental Authority

Pursuant to Section 426 of the EP Act, a person must not carry out a mining activity unless the person holds, or is acting under, an EA (mining activities) for the activity. In accordance with Section 147 of the EP Act, mining activities are an activity (such as prospecting, exploring or mining, processing a mineral, rehabilitation and other activities that facilitate or support mining) authorised under the *Mineral Resources Act 1989* (MR Act) to be carried out on land that relates to, or provides access to, a mining tenement. The Project (Mine) involves the following types of mining activities as defined under the EP Act:

- Mining under the MR Act
- Processing mined materials (i.e. coal)
- A number of activities directly associated with, or facilitating or supporting, the mining and processing activities (which, if they were not mining activities, would have been ERAs listed in the EP Regulation)
- Rehabilitation and remediation
- Actions taken to prevent environmental harm

Adani currently holds an EA (exploration and mineral development) for Non Code Compliant Level 1 Mining Project for EPC1690 (Permit No. MIN102643011). Subject to conditions of the EA, Adani is authorised to explore the EPC1690. The current EA has been issued on the basis of the Adani Mining Pty Ltd Environmental Management Plan EPC1690.

Prior to commencement of the Project (Mine) establishment, an EA (mining lease) will be sought over the entire Project Area, specifically EPC1690 and part of EPC1080. This EA cannot be granted to Adani until the Project EIS is approved and the mining lease over the Project Area has been granted in accordance with the MR Act.

Environmentally Relevant Activities

Based on the Project (Mine) information presented within Volume 2 Section 2 Project Description (Mine) and Project (Rail) information presented within Volume 3 Section 2 Project Description (Rail), the following ERAs are likely to be required for the Project:

ERA 8 – Chemical Storage

ERA 16 – Extractive and Screening Activities

ERA 17 – Abrasive Blasting

ERA 18 – Boiler making or engineering

ERA 21 – Motor Vehicle Workshop Operation

ERA 31 – Mineral Processing

ERA 38 – Surface Coating

ERA 43 – Concrete Batching

ERA 50 – Bulk Material Handling

ERA 56 – Regulated Waste Storage

ERA 63 – Sewage Treatment

ERA 65 – Water Treatment

ERA 60 – Waste disposal

Further detail regarding the scale of each ERA will be available once the detailed design stage of the Project is complete. Refer to Volume 4 Appendix D Project Approvals and Planning Assessment for further information regarding the abovementioned ERAs.

Environmental Protection Policies

EPPs may be made with regard to the environment or anything that affects, or may affect, the environment. The EP Act outlines the scope and content for preparing EPPs to protect Queensland's environment. It should be noted that all subordinate legislation to the EP Act, such as the EPPs, binds all persons.

Essentially, EPPs are the means of implementing the objectives of the EP Act by identifying the following:

- Background environmental quality standards;
- Emissions standards; and/or
- Monitoring procedures and requirements.

The EPPs provide a policy framework for the determination of appropriate conditions for development permits for material change of use for ERA's and/or EAs. EPPs are legally enforceable (EP Act Section 25(3)). Where relevant to particular environmental impacts, the matters required to be considered or procedures to be followed under the EPPs have been addressed in this EIS.

The following EPPs have been released to date and are applicable to the Project:

- *Environmental Protection (Noise) Policy 2008*
- *Environmental Protection (Air) Policy 2008*
- *Environmental Protection (Water) Policy 2009*

It is noted that the *Environmental Protection (Waste Management) Policy 2000* has been repealed and overridden by the newly gazetted WRR Act 2011.

Refer to Volume 4 Appendix D Project Approvals and Planning Assessment for further information regarding the abovementioned EPPs.

1.9.3.3 Environmental Protection (Waste Management) Regulation 2000

In accordance with Section 4 of the *Environmental Protection (Waste Management) Regulation 2000*, the object of this regulation is to protect the environment by:

- *Minimising the impact of waste on the environment including, in particular, the impact of waste so far as it directly affects human health; and*
- *Establishing an integrated framework for minimising and managing waste under the principles of ecologically sustainable development.*

The provisions of this regulation apply to the Project and relevant waste management measures will be implemented throughout the construction and operation stages of the Project. Refer to Volume 2, Section 10 and Volume 3 Section 10 for waste management measures proposed for general and mine specific waste for the Project. For further detail regarding this regulation refer to Volume 4 Appendix D Project Approvals and Planning Assessment.

Dams Containing Hazardous Waste

According to Section 9 of the *Code of Environmental Compliance – Environmental authorities for high hazard dams containing hazardous waste 2011*, hazardous waste is defined as *any substance, whether liquid, solid, or gaseous, derived by or resulting from, the processing of minerals that tends to destroy life or impair or endanger health.*

According to DERM (2011), a dam contains hazardous waste if the contents of the dam exceed any of the criteria listed in Table 1 of the *Information Sheet for Determining Dams Containing Hazardous Waste 2011* or in the case of pH, if it does not comply with the limits detailed within Table 1 of the Information Sheet. Dams containing hazardous waste must be determined as either a low hazard dam or a high hazard dam. The difference between the two is based on a range of factors, including proximity to water supplies and dam surface area. The holder of an EA must comply with the specific conditions related to hazardous contaminants and the standard environmental conditions contained in the *Code of Environmental Compliance for Environmental Authorities for High Hazard Dams Containing Hazardous Waste* if the operation includes a hazardous dam containing high hazard waste.

Adani will apply for an EA over the entire Project area (EPC1690 and EPC1080). The design and management of the Project tailings and sediment dams will comply with specific conditions that will be specified within the EA. Refer to Volume 4, Appendix D Project Approvals and Planning Assessment for further information regarding development approvals triggered under the EP Act.

1.9.3.4 Waste Reduction and Recycling Act 2011

The *Waste Reduction and Recycling Act 2011* (WRR Act) aims to encourage proper use of resources by improving ways of reducing and dealing with waste. The WRR Act repeals the *Environmental Protection (Waste Management) Policy 2000*. The objects of the WRR Act are to:

- *promote waste avoidance and reduction, and resource recovery and efficiency actions*
- *reduce the consumption of natural resources and minimise the disposal of waste by encouraging waste avoidance and the recovery, re-use and recycling of waste*
- *minimise the overall impact of waste generation and disposal*

- *ensure a shared responsibility between government, business and industry and the community in waste management and resource recovery*
- *support and implement national frameworks, objectives and priorities for waste management and resource recovery*

The Project has considered the principles of the WRR Act as part of the waste management options in providing best practice waste management strategies. Refer to Volume 2 Section 10 Waste and Volume 3 Section 10 Waste for further information regarding the proposed waste management measures.

1.9.3.5 Mineral Resources Act 1989

The purpose of the *Mineral Resources Act 1989* (MR Act) is to provide for the assessment, development and utilisation of mineral resources to the maximum extent practicable consistent with sound economic and land use management.

The objectives of the MR Act are to:

- *Encourage and facilitate prospecting and exploring for and mining of minerals*
- *Enhance knowledge of the mineral resources of the State*
- *Minimise land use conflict with respect to prospecting, exploring and mining*
- *Encourage environmental responsibility in prospecting, exploring and mining*
- *Ensure an appropriate financial return to the State from mining*
- *Provide an administrative framework to expedite and regulate prospecting and exploring for and mining of minerals*
- *Encourage responsible land care management in prospecting, exploring and mining.*

Adani currently holds one permit for exploration of coal, namely EPC1690 and has an agreement with Waratah Coal Pty Ltd, the holder of EPC 1080 to conduct exploration activities on the eastern portion of EPC 1080. Further to this, a Mining Lease Application (MLA70441) has been applied for over the EPC1690 tenement. An additional MLA will be applied for over the part of EPC1080. Adani has obtained an irrevocable consent from Waratah Coal Pty Ltd for Adani to lodge the MLA over the eastern portion of EPC 1080.

The assessment of MLA 70441 will be carried out pursuant to the MR Act once an application for the tenement is made to Depart of Natural Resource Management (DNRM), made in conjunction with an EA application to DEHP. Prior to this, the Coordinator General's report on the EIS must be finalised and the Commonwealth Minister for Environment having completed an assessment against the EPBC Act. Refer to Volume 4 Appendix D Project Approvals and Planning Assessment for further information regarding the MR Act's applicability to the Project.

1.9.3.6 Sustainable Planning Act 2009

The aim of the *Sustainable Planning Act 2009* (SP Act) is to achieve sustainable planning outcomes through:

- *Managing the process by which development takes place*
- *Managing the effects of development on the environment*

- *Continuing the coordination and integration of local, regional and state planning (DLGP 2011)*

The SP Act provides the legislative framework for development assessment, through the Integrated Development Assessment System (IDAS) and the assessment of applications triggered under the following Acts:

- *Environmental Protection Act 1994* (EP Act)
- *Vegetation Management Act 1999* (VM Act)
- *Fisheries Act 1994* (Fisheries Act)
- *Coastal Protection and Management Act 1995 (*CPM Act)
- *Water Act 2000*
- *Land Title Act 1994*
- *Wild Rivers Act 2005*
- *Transport Infrastructure Act 1994*
- *Land Protection (Pest and Stock Route Management) Act 2002*
- *Queensland Heritage Act 1992*
- *Aboriginal Cultural Heritage Act 2003*

Pursuant to Part 8, Section 319 of the MR Act, all aspects of development of a mining activity for which an EA has been granted, are exempt from the SP Act. Part 8, Section 319 of the MR Act states that the SP Act does not apply with exception to the following:

(2) For administering IDAS for the Heritage Act, the Planning Act applies to a Queensland heritage place under the Heritage Act even if development of the place is authorised under this Act.

(3) For applying the Planning Act in relation to the Building Act 1975—

(a) the Planning Act applies to building work, as defined under that Act, forming part of development authorised under this Act, including development authorised under a mining tenement; and

(b) the building work is taken to be self-assessable building work for the Building Act 1975, section 21.

Schedule 4, Table 5, Item 1 of the *Sustainable Planning Regulation 2009* (SP Reg) states that all aspects of development for an activity authorised under the MR Act cannot be declared development of a particular type as per Section 232(2) of the SP Act. Accordingly, the establishment of the on mine infrastructure to be located on the mining lease area is exempt from the provisions of the SP Act.

Notwithstanding, the Project (Mine) offsite infrastructure is subject to the SP Act as this infrastructure is proposed to be located off the mining lease area (refer to Figure 1-1 for location of this infrastructure). Assessable development is likely to include a material change of use (MCU) (code or impact assessable), building works, reconfiguration of a lot and operational works (including bulk earthworks, clearing vegetation and road works).

The provisions of the SP Act apply to the establishment of the Project (Rail). Assessable development is likely to include MCU (code or impact assessable), building works, reconfiguration of a lot and operational works (including bulk earthworks, clearing vegetation and road works). The

Project (Rail) may be designated by a Minister or Local Government as a Community Infrastructure Designation (CID) in accordance with Chapter 5 of the SP Act. The CID assessment process would be supported by the EIS. If the Project (Rail) is granted CID, the development will not require approval under the *Planning Scheme for the Belyando Shire 2008* nor need to meet any scheme requirements. In general, this process facilitates the efficient provision of community infrastructure at the time work needs to commence. Notwithstanding, State level and regulatory requirements continue to apply, including building and environmental management legislation.

If Adani does not apply for a CID, an MCU Development Approval for a Railway Activity under the *Planning Scheme for the Belyando Shire 2008* can be applied for instead. Refer to Volume 4 Appendix D Project Approvals and Planning Assessment for further information regarding development approvals triggered under the SP Act.

1.9.3.7 Water Act 2000

The purpose of the *Water Act 2000* is to provide for the sustainable management of water and other resources and the establishment and operation of water authorities (Section 1, *Water Act 2000*). Water related development is regulated by the *Water Act 2000* in parallel to the SP Act. The *Water Act 2000* covers rights to surface and groundwater resources, also the control of works with respect to surface and groundwater conservation and protection and irrigation, some aspects of supply, drainage and flood control.

The Project will require development approvals and licences in accordance with the provisions of the *Water Act 2000*. Refer to Volume 4 Appendix D Project Approvals and Planning Assessment for a full list of development approvals triggered under the *Water Act 2000.*

1.9.3.8 Fisheries Act 1994

The main purpose of the *Fisheries Act 1994* is to *provide for the use, conservation and enhancement of the community fisheries resources and fish habitats in a way that seeks to –*

- *apply and balance the principles of ecologically sustainable development*
- *promote ecologically sustainable development*

The *Fisheries Act 1994* and the *Fisheries Regulation 1995* are administered by the Department of Agriculture, Fisheries and Forestry (DAFF). *The Fisheries Act 1994* works in parallel with the SP Act. The Project will require development approvals under the *Fisheries Act 1994.* Refer to Volume 4 Appendix D Project Approvals and Planning Assessment for further information.

1.9.3.9 Aboriginal Cultural Heritage Act 2003

The main purpose of the *Aboriginal Cultural Heritage Act 2003 (Qld)* is to *provide effective recognition, protection and conservation of Aboriginal cultural heritage* (Section 5 of the ABCH Act). A person who carries out an activity must take all reasonable and practicable measures to ensure the activity does not harm Aboriginal cultural heritage (the 'cultural heritage duty of care') (Section 23 (1)).

A cultural heritage assessment has been undertaken by ARCHAEO Cultural Heritage Services (ARCHAEO) as part of the Project EIS. Potential impacts of the Project (Mine) upon the identified cultural heritage matters will be appropriately mitigated or avoided through implementation of the Cultural Heritage Management Plans (CHMPs).

Refer to Volume 1 Section 5 Indigenous and Non indigenous Cultural Heritage for further information regarding cultural heritage and Volume 4 Appendix D Project Approvals and Planning Assessment for further information regarding the legislative framework.

1.9.3.10 Queensland Heritage Act 1992

The object of the *Queensland Heritage Act 1992* is to provide for the conservation of Queensland's cultural heritage for the benefit of the community and future generations.

Under the Act, penalties may apply for damage to a place or items that have been entered on the Register. Refer to Volume 4 Appendix D Project Approvals and Planning Assessment for further information regarding the applicability of the *Queensland Heritage Act 1992* to the Project.

1.9.3.11 Nature Conservation Act 1992

The object of the *Nature Conservation Act 1992* (NC Act) is to conserve nature which is to be achieved by an integrated and comprehensive conservation strategy for the whole of Queensland involving amongst other things, the following:

- *Gathering of information and community education*
- *Dedication and declaration of protected areas*
- *Management of protected areas*
- *Protection of native wildlife and its habitat*
- *Use of protected wildlife and areas to be ecologically sustainable*
- *Recognition of interest of Aborigines and Torres Strait Islanders in nature and their cooperative involvement in its conservation*
- *Cooperative involvement of landholders.*

DEHP administers the NC Act. The NC Act as well as the associated *Nature Conservation (Wildlife) Regulation 2006* and the *Nature Conservation (Protected Plants) Conservation Plan 2000* apply to the Project and will require relevant development approvals and management plans, refer to Volume 4 Appendix D Project Planning and Approvals Assessment for further detail.

1.9.3.12 Vegetation Management Act 1999

The *Vegetation Management Act 1999* (VM Act) in conjunction with the SP Act, regulates the clearing of native vegetation, excluding grasses and mangroves. Under the SP Act, operational work that is the clearing of native vegetation is to be assessed against the purposes of the VM Act.

DNRM administers the VM Act and assesses any clearing required for the Project against the relevant Regional Ongoing Clearing Code. Only remnant vegetation (native vegetation that occurs in a mapped Regional Ecosystem (RE)) or that meets the structural and species requirements to be mapped as a RE will be assessed under this process. The type of vegetation clearing applications required for the Project is dependent on the type of vegetation present within the Project Area. Under the VM Act all remnant vegetation (including Endangered, Of Concern and Not Of Concern REs) irrespective of land tenure and all native vegetation on State Land (regardless if conservation status) is protected. Clearing of vegetation on State land is also listed as assessable development under the SP Act.

In accordance with Schedule 24, Part 1, Item 6 of the SP Regulation clearing of native vegetation is exempt for a mining activity or a chapter 5A activity. Accordingly, an operational works development application for clearing of native vegetation is not required for the construction and operation of the Project (Mine). However, the Project (Rail) is not exempt under Schedule 24 of the SP Regulation and as such will require an operational works development application for clearing of native vegetation as triggered under Schedule 3, Part 1, Table 4, Item 1. For further information regarding required development approvals and management plans refer to Volume 4 Appendix D Project Approvals and Planning Assessment.

1.9.3.13 Forestry Act 1959

The purpose of the *Forestry Act 1959* is to provide for forest reservations, the management, silvicultural treatment and protection of State forests, and the sale and disposal of forest products and quarry material, the property of the Crown on State forests, timber reserves and on other lands; and for other purposes. The Act is administered by the DNRM.

The *Forestry act 1959* is applicable to the Project (Rail) only and will trigger a Sales Permit for quarry material and/or timber. For further information regarding this permit refer to Volume 4 Appendix D Project Approvals and Planning Assessment.

1.9.3.14 Transport Infrastructure Act 1994

The object of the *Transport Infrastructure Act 1994* (TI Act) is to provide a regime that allows for and encourages effective integrated planning and efficient management of a system of transport infrastructure (Section 2, TI Act). Pursuant to Section 2(d), the objectives of the TI Act with regard to rail are to establish a regime that:

- *Contributes to overall transport effectiveness and efficiency*
- *Provides for the safety of railways and persons at, on or near railways*
- *Contributes to lower transport costs by allowing the maximum flexibility in rail transport operations consistent with achieving safety objectives*
- *Allows railway managers and operators to make decisions on a commercial basis.*

The TI Act applies to the Project, particularly with regard to the following (:

- *Rail Feasibility Investigator's Authority (RFI Authority), which has been granted toAdani for the purpose of pursuing investigations for the Project (Rail). Refer to Volume 4 Appendix D Project Approvals and Planning Assessment for further information regarding this authority.*
- *Relevant permits for interference with State Controlled Roads (SCR), 'common areas' and road corridor permits. Refer to Volume 4 Appendix D Project Approvals and Planning Assessment for further detail regarding the applicability of these permits to the Project*.

1.9.3.15 Land Title Act 1994

The object of the *Land Act 1994* requires land administered under the Act to be managed for the benefit of the people of Queensland on the basis of the following seven principles: sustainability, evaluation, development, community purpose, protection, consultation and administration.

The Act deals with land tenure and land leases and is applicable to the Project. Relevant provisions of the Act will be applicable in dealings related to obtaining new tenure over or reconfiguring parcels of land required for establishment of the Project (Rail).

1.9.3.16 Work Health and Safety Act 2011

The recently gazetted *Work Health and Safety Act 2011* (WHS Act) now regulates dangerous goods and major hazard facilities within Queensland. The *Dangerous Goods Safety Management Act 2011* has been repealed. A licence may be required for storage of flammable liquids or combustible liquids for the Project. These will be obtained from the Department of Community and Safety (DCS) prior to operation of the Project.

1.9.3.17 Land Protection (Pest and Stock Route Management) Act 2002

The purpose of the Land Protection (Pest and Stock Route Management) Act 2002 is to provide for pest management and for land and stock route network management. A stock route is defined as a road reserve or road corridor, generally in the width of 60 – 1,600 m that is used for the purposes of walking and agisting or stock grazing. Stock routes do not have a separate title or tenure as does a road reserve. Once a stock route's declaration is removed, it remains a road but is no longer named a stock route (DERM, 2010). Stock routes are managed by the relevant Local Governments.

The Project will have an impact upon five stock routes. Where the Project intercepts these stock routes, mitigation and management measures will be implemented to protect its inherent values and to ensure it is available to serve its intended purpose. See Volume 2 Section 4 Land for further details.

1.9.3.18 Strategic Cropping Land Act 2011

The *Strategic Cropping Land Act 2011* (SCL Act) commenced on 30 January 2012. The SCL Act will apply despite any of the following:

- *EP Act*
- *Geothermal Energy Act 2010 and the Geothermal Exploration Act 2004*
- *Greenhouse Gas Storage Act 2009*
- *MR Act*
- *Petroleum Act 1923*
- *Petroleum and Gas (Production and Safety) Act 2004.*

The *Strategic Cropping Land Regulation 2011* (SCL Regulation) commenced on 30 January 2012. The SCL Regulation includes application fees and mitigation rates, the creation of a standard conditions code for resource activities, and development prescribed to be in exceptional circumstances.

It is expected that a some declared as SCL management areas will be impacted by the Project (Rail).

1.9.3.19 Other Legislation

Other State legislation that may be applicable to the Project includes but is not limited to:

- *Torres Strait Islander Cultural Heritage Act 2003*
- *Coal Mining Safety and Health Act 1999 and Coal Mining Safety and Health Regulation 2001*
- *National Greenhouse and Energy Reporting Act 2007*
- *Petroleum and Gas (Production and Safety) Act 2004*
- *Transport Planning and Coordination Act 1994.*

- *Commonwealth Airports Act 1996*
- *Air Navigation Act 1937*
- *Civil Aviation Safety Regulations 1998*
- *Civil Aviation Regulations 1988*

If the Project triggers any permits, licences or approvals under the abovementioned legislation, these will be sought prior to construction or operation of the Project. Relevant local government legislation and associated by-laws have been reviewed in Volume 4 Appendix D Project Approvals and Planning Assessment.

1.9.4 Summary of Approvals

Based on the review of relevant legislation within Section 1.9 a summary of development approvals likely to be required for the Project construction and operation has been detailed in Volume 4, Appendix D Project Approvals and Planning Assessment. The requirement for development approvals will be confirmed with relevant State and local agencies after the completion of the detailed design stage of the Project. Other approvals, permits and licences may be required for the construction and operation of the Project and are subject to completion of the detailed design stage of the Project.

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