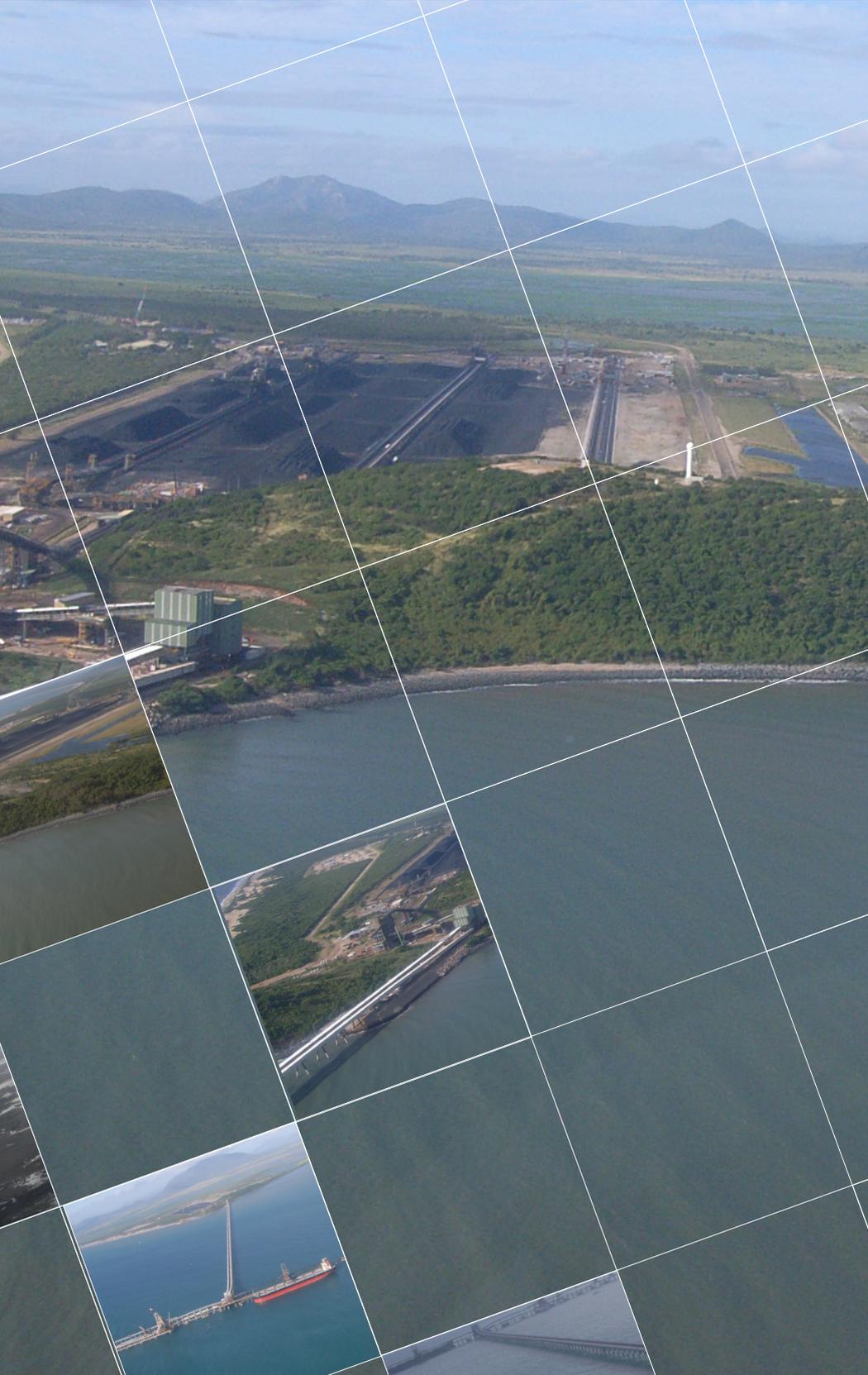


Section 1 General Information



Section 1 General Information

1.1 Objective and Scope

This Environmental Impact Statement (EIS) has been prepared in accordance with the published *Guidelines for an Environmental Impact Statement for Abbot Point Coal Terminal 0, Port of Abbot Point, Queensland (EPBC 2011/6194)* (the EIS Guidelines). The EIS describes the action that will be assessed under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) through the Department of Sustainability, Environment, Water, Population and Communities (SEWPaC).

The objective of this EIS is to ensure that all impacts, both direct and indirect to the natural, social and economic environments are examined, avoided or mitigated. This EIS aims to be a self-contained document which provides comprehensive information and definitive statements on strategies, commitments, measures, actions and monitoring programs to the Commonwealth Government and public. This EIS seeks for all potentially adverse impacts to be avoided or mitigated and also identifies positive impacts that may arise as a result of the proposed action described henceforth as the Adani Abbot Point Coal Terminal 0 (herein referred to as the Project).

This EIS discusses compliance with the objectives of the EPBC Act and the principles of ecologically sustainable development and use, as set out in the EPBC Act and published in the EIS Guidelines for the Project. The scope of the EIS reflects only the Project and associated infrastructure reasonably required for the Project and as described in the action referred to SEWPaC on 15 November 2011 (EPBC 2011/6194) by the proponent, Adani Abbot Point Terminal Pty Ltd (Adani).

The assessment of impacts is based on the nature, extent, likelihood and consequences of the likely short and long-term impacts resulting from the Project. An analysis of the probable significance of impacts is provided as well as predictions regarding the confidence in successfully avoiding, managing or mitigating those impacts. Where applicable, the assessment has considered the cumulative and consequential nature of impacts through the Project life-cycle from design, construction, operation and decommissioning.

On the 13th December 2011, a delegate of the Minister for SEWPaC determined that the proposed Project is a controlled action under the provisions of the EPBC Act, as the Project has the potential to have significant impact on a number of matters of National Environmental Significance (MNES). The controlling provisions for the Project under the EPBC Act are:

- World Heritage properties (sections 12 and 15A);
- National Heritage places (15B and 15C);
- Listed threatened species and communities (sections 18 and 18A);
- Listed migratory species (sections 20 and 20A);
- Commonwealth marine areas (sections 23 and 24A); and
- Great Barrier Reef Marine Park (Sections 24B and 24C).

A separate voluntary Cumulative Impact Assessment (CIA) was undertaken by Adani and other proponents proposing coal terminals at the Port of Abbot Point in collaboration with the port authority North Queensland Bulk Ports Corporation Limited (NQBP). The Abbot Point CIA

incorporates the cumulative impacts of the proposed Abbot Point Coal Terminal 0, Terminal 2 (T2) and Terminal 3 (T3) at the Port of Abbot Point as well as NQBP's capital dredging works in support of port developments. Key information and outcomes of the published CIA, its associated technical studies and environmental mitigation strategies and objectives are referenced and incorporated into this EIS.

Adani fully supports the CIA process, its assessment of impacts and proposed mitigation measures for developments at the Port of Abbot Point, particularly where relevant to the proposed T0 Terminal.

Adani received a direction to publish the Draft EIS from a delegate of the Minister of SEWPaC on 7 February 2013, for a period of no less than 30 business days. The Draft EIS was released for public comment from 18 February 2013 to 3 April 2013. Advertisements were published in National, State and local media on 18 February 2013 and 20 February 2013 to notify the public that the comment period was commencing and to identify locations where the document could be viewed.

A Submissions Response Report was prepared in response to submissions received on the Draft EIS. The Submissions Response Report addresses all of the relevant issues raised during the public comment period. In accordance with the EPBC Act; the Submissions Response Report, as part of the Final EIS document, provides information on which the decision on the Project will be made by the Commonwealth Minister. Refer to Appendix A3 for the detailed Submissions Response Report.

1.2 Title

The title of this EIS is the Abbot Point Coal Terminal 0 Environmental Impact Statement.

1.3 Project Proponent

Adani Abbot Point Terminal Pty Ltd (Adani) is the proponent developing the Project and is a wholly owned subsidiary of Adani Enterprises Limited, a company based in Ahmedabad, India. Adani operates India's largest private sector port at Mundra and is also developing a 32,000 acre Special Economic Zone at Mundra, 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 is a vertically integrated company and through its subsidiaries it has operational ports at various locations in India which include a state of the art coal terminal, container handling facility and export facilities.

Adani established in Australia in mid-2010 with the intent of engaging in exploring, mining, and exporting coal resources. In June 2011, Mundra Port Holding Trust which is owned by Mundra Port Pty Ltd (subsidiary of Adani) purchased the lease (99 years) of Abbot Point Coal Terminal 1 (T1 facility). The T1 facility has capacity for 50 million tonnes per annum (Mtpa) and has been operational since 1984. The facility is currently operated by Abbot Point Bulk Coal Pty Ltd (APBC), a subsidiary of Xstrata Coal Queensland Pty Ltd. The Project is immediately east of the T1 facility.

Adani is a 'preferred proponent' by NQBP for development of the 90 Mtpa Dudgeon Point Coal Terminal through its subsidiary Adani Mining Pty Ltd and is seeking to develop Abbot Point Coal Terminal 0 as part of its overall programme for coal export.

Adani is aware of its responsibilities under Queensland and Commonwealth legislation and ensures its operations meet those requirements. Adani's exploration program in Central QLD operates under an environmental authority issued by the Queensland Government and holds all

necessary permits and approvals. In addition, Adani has constructed and will operate the Stormwater Return Dam at Abbot Point under an approval provided by the Commonwealth Government.

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 the EIS Appendices at Volume 1: Appendix C1 Adani Environment and Sustainability Policy.

Adani Brisbane Corporate Office:

Address: Level 25 AMP Place, 10 Eagle Street
Brisbane Qld 4000

Postal Address: GPO Box 2569
Brisbane Qld 4001

Telephone: +61 7 3223 4800

Email: info@adani.com

1.4 Outline of the Project

The Port of Abbot Point is managed by North Queensland Bulk Ports Corporation (NQBP), a company under the *Corporations Act 2001* and *Government Owned Corporations Act 1993* and *Government Owned Corporations (NQBP Amalgamation) Regulation 2012* and a port authority under the *Transport Infrastructure Act 1994*. NQBP was formed as a result of a Review of the Queensland Port Network Structure in 2008 by the Queensland Government. The outcome of the review was a regional five port Authority model with the aim of meeting the long term supply chain and trading needs of Queensland. On 2 July 2009, the ports of Weipa, Abbot Point, Mackay, Hay Point and Maryborough merged with Mackay to become part of the new port authority.

The Project will provide a new standalone coal export facility at the Port of Abbot Point for export of up to 70 Mtpa of coal (constructed in two phases) principally from the Carmichael Coal Mine in the Galilee Basin. The Carmichael Coal Mine will be owned by Adani Mining Pty Ltd, a subsidiary of Adani Enterprises Limited. The Carmichael Coal Mine and Rail project is seeking approval to proceed under a separate approvals process to the Project (EPBC 2010/5736). Coal will reach the Project through either a new connection to the Carmichael Mine (for example along with the North Galilee Basin Rail corridor the subject of EPBC referral 2013/6885) or to the existing Aurizon Newlands rail network that currently services the T1 facility.

The operating life of the Project is related to production from the Carmichael Coal Mine but could also accommodate coal from other sources in the Bowen and Galilee Basins, using available capacity in the supporting rail networks. Considering the anticipated production rates from the region, the Project will be required for no less than the operational period for the Carmichael Coal Mine and is designed to operate 24 hours per day, 365 days per year.

Preparation of the EIS for the Project has been undertaken in parallel with the development of the Master Plan and Preliminary Engineering Design for the Project. Accordingly, some details regarding specific aspects of the site, including construction methods, temporary work areas (such as laydowns or moorings), timing, quantities/types of materials and management approaches are likely to be refined as the Project proceeds through detailed design and subsequent stages. However, these changes are not expected to be substantively different from the information provided in this EIS and the assessments, mitigation strategies and proposed commitments developed by Adani. Where refinements do occur, impacts to MNES will be avoided.

1.4.1 Location

The Port of Abbot Point is located approximately 25 km north-west of Bowen and is Australia's most northerly coal port (see Figure 1-1). Strategically, the Port of Abbot Point is both a Commonwealth and State asset as there are few locations on Queensland's eastern seaboard where there is deep water (>15 m) access for bulk carrier ships so close in-shore.

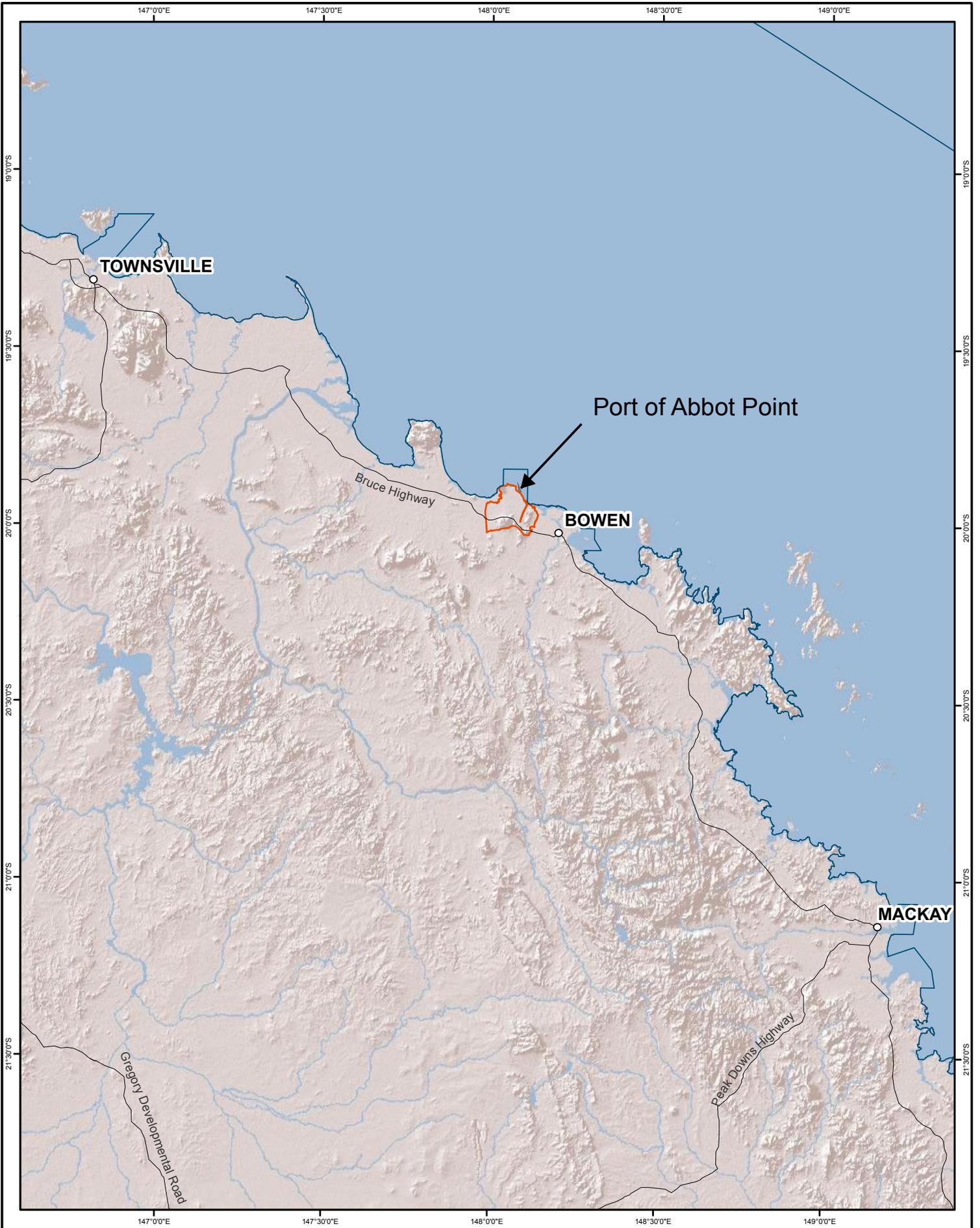
The permanent Project infrastructure will be primarily on Strategic Port Land (SPL), under the management of NQBP, with some temporary support facilities (such as an construction accommodation camp and material storage/laydown areas) located on land outside the Port precinct. The Project will be immediately to the east of the existing T1 facility at Abbot Point and comprises both onshore and offshore infrastructure components (refer to Section 2 Project Details for detailed information). The onshore development footprint will be approximately 140 hectares (ha) and the offshore development footprint will be approximately 15 ha in area. Accordingly, the EIS describes:

- Project area – the areas defined for the purposes of impact assessment. This area may not necessarily be the area of disturbance; and
- Project footprint – the area of direct disturbance resulting from the Project.

The Project is generally adjacent and to the east of the Abbot Point State Development Area (APSDA) and is in proximity to the Caley Valley Wetland but does not overlap directly with it. Some temporary works (accommodation camp and laydowns) may be located in the APSDA and rail alignment is yet to be finalised in relation to the margin of APSDA. The offshore component of the Project is located within the Port of Abbot Point Limits, which sits within the Great Barrier Reef World Heritage Area (GBRWHA) but outside the Great Barrier Reef Marine Park (GBRMP). Refer to Figure 3-3 and Figure 3-7 for general boundaries in relation to these features and for the defined Project area described in the EIS.

The details of the Project are described fully in Section 2 Project Details. The following is provided as a summary of Section 2 Project Details to describe the general location of infrastructure required for the Project at Abbot Point.

The proposed common rail corridor may contain both narrow gauge and standard gauge lines with inloading facilities and will be aligned with the existing T1 rail corridor. The coal stockyard (with three stockpile bunds) will be located to the east of the existing T1 stockyard and is constrained by the location of a Threatened Ecological Community (TEC) to the east and the existing T1 rail corridor to the south. The Material Offloading Facility (MOF) will require expansion of an existing facility to the immediate south west of Abbot Point that was used for construction of the T1 facility. The outloading trestle jetty and conveyor will duplicate the existing T1 outloading conveyor and jetty to the east, with the new ship berths and mooring dolphins extending east beyond the existing T1 berths.



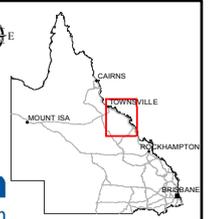
Abbot Point Coal Terminal 0 (T0) Project
Figure 1-1 Regional location of the T0 Project

- Legend**
- Town
 - APSDA Boundary
 - Highway
 - GBRMP Boundary



DISCLAIMER
 CDM Smith has endeavoured to ensure accuracy and completeness of the data. CDM Smith assumes no legal liability or responsibility for any decisions or actions resulting from the information contained within this map.

Data source:
 Roads, rail from Geoscience Australia; Base Layer by ESRI, 2011. All other data by DERM, 2010.



1.4.2 Project Background and Need

The Queensland Government has implemented a strategy (Northern Economic Triangle (NET)) to build on the internationally recognised economic triangle of North-West and North Queensland. The NET incorporates Mount Isa, Townsville and Bowen and will enhance the significant contribution the region currently makes to the State's development. That contribution is based primarily on the region's world scale mining, mineral processing and resource export projects.

The NET is a commitment by the Queensland Government to foster sustainable economic, social and community growth through the emergence of Mt Isa, Townsville and Bowen as a triangle of mining, mineral processing and industrial development. The NET Infrastructure Plan 2007-2012 was released by the Government in August 2007. A cornerstone of the NET Infrastructure Plan is the establishment of the Bowen Abbot Point region, as a major new industrial hub for large scale industries (Department of State Development, Infrastructure and Planning 2007). The establishment of the APSDA was a natural outcome from the NET.

The NET Infrastructure Plan is on track with over 60% of the 120 actions in the 2007-2012 infrastructure plan implemented (Department of Infrastructure and Planning 2010). At Abbot Point, significant advancements have been made through:

- Acquisition and planning of land suitable for industrial development;
- Integrated road, rail and port planning and construction;
- Planning for water to support significant industrial development;
- Power transmission planning and augmentation; and
- Planning for accommodation and community infrastructure to support potential industrial development.

Beyond the local establishment of infrastructure response plans like the NET, global energy consumption is forecast to grow 53% from 2008 to 2035. Increased consumption of marketed energy from all fuel sources is forecast to continue growing through to 2035. Even with the likely growth in the renewable sector, fossil fuels including coal are expected to continue supplying a significant proportion of energy needs. (US Energy Information Administration 2011)

Coal demand is predicted to be dictated largely by growth in emerging economies. Increases in demand are predicted for around the next ten years, after which point demand is expected to stabilise at around 17% higher than 2010 (International Energy Agency (IEA) 2011). Under the IEA New Policies Scenario, a 20% increase in global coal production between 2009 and 2035 occurs in countries that are not part of the Organisation for Economic Co-operation and Development (OECD), with China contributing over half of the increase in global supply (IEA 2011).

Australia is predicted to contribute almost one third (31%) of the coal produced by OECD countries in 2035, and around 7% of total world coal production (US Energy Information Administration 2011). Australia is forecast to be the only major OECD producer to increase production over this period, with output in the United States and Europe declining in absolute terms (International Monetary Fund (IMF) 2011). Australia has approximately 10% of the world share of demonstrated economic reserves of black coal, and around 8% of the world share of brown coal reserves (Australian Bureau of Agricultural Resource Economics and Science (ABARES) 2011a). Being one of only three net energy exporting nations in the OECD, Australia is well placed to meet increasing global energy demand (ABARES 2011b).

Queensland has a rich endowment of high-quality coal resources, with more than 32 billion tonnes (raw coal *in situ*) having been identified by drilling operations. The State has identified resources of coking coal that amount to approximately 11 billion tonnes, of which about 4 billion tonnes is suitable for open-cut mining. The Bowen Basin contains virtually all of the State's hard coking coal and is the most important source of export coal in Queensland (Department of Natural Resources and Mines 2012).

Five major thermal coal developments are proposed for the regions south-west and north-west of Alpha. This major expansion of the Galilee coal basin includes new railways and expanded port infrastructure at Abbot Point and Dudgeon Point on the Central Queensland coast (Department of Natural Resources and Mines 2012). The development of the Galilee Basin will require significant investment from proponents to support the establishment of new infrastructure necessary to mine, transport and then export the coal. The Carmichael Coal Mine and Rail project will link to the Central Queensland Integrated Rail Project (Adani Mining Pty Ltd 2010) and ultimately, to the Port of Abbot Point.

Queensland's saleable coal production in 2010-11 amounted to a total of 179.8 million tonnes (Mt). Exports totalling 162.5 Mt, worth AU\$29.04 billion free-on-board, were made to 29 countries. An additional 22.8 Mt were supplied to domestic markets in Australia (22.5 Mt within Queensland) (Department of Natural Resources and Mines 2012).

As a result of the ongoing global growth and subsequent demand for coal worldwide, comes the need for additional coal export infrastructure. Additionally, the ongoing development of coal mines in the Bowen, Surat and Galilee Basins dictates the need for export infrastructure to ship coal globally.

Through this Project, Adani proposes to develop the Project at Abbot Point to:

- Accommodate own coal extraction and shipping needs;
- Meet the demands of other coal projects in Queensland; and
- Meet coal demands on a global scale.

1.4.3 Relationships to Other Projects and Existing Facilities

A number of projects and existing facilities are included in the State and national plans to maximise Queensland's economic development. These projects include port and associated infrastructure located in proximity to the Project whereas others are of regional relevance. Figure 1-2 shows the proximity of the existing T1 facility with the Project to the east and the T2 and T3 projects to the west. The location of the Abbot Point T0, T2 and T3 Capital Dredging project area is also indicated on this Figure given its relevance to the coal terminal projects at Abbot Point. The list of projects below has been compiled on the basis of a review of EPBC referrals available from the SEWPaC website. All relevant projects in the vicinity of the Port of Abbot Point are included.

1.4.3.1 NQBP Terminal 1 (T1) and Associated Expansions (EPBC 2005/2154)

The existing T1 facility was developed in the 1980s and was the first coal terminal developed at Abbot Point. During 2011, the port underwent significant upgrades to the T1 (X50) Terminal, expanding current capacity to 50 Mtpa. Presently, the facility maintains coal handling and stockpile areas, a rail inloading facility, a single trestle jetty and a conveyor, which is connected to a berth and shiploader 2.75 km offshore. Coal is brought to the Port by rail from Newlands, Collinsville and Sonoma mines as well as small volumes from mines on the Goonyella system. The T1 facility is directly west of the Project.

1.4.3.2 **Hancock Coal Infrastructure Terminal 3 (T3) (EPBC 2008/4468)**

Hancock Coal Infrastructure Pty Ltd, a wholly owned subsidiary within the GVK Group, has been nominated by NQBP as the preferred developer for the proposed T3 (part of the X110 Terminal) at the Port of Abbot Point.

Hancock Coal proposes to develop T3 to facilitate the export of up to 60 Mtpa of coal delivered by a standard gauge rail line from new mines in the Galilee Basin. Linked with the Alpha Coal project the proposed development includes both onshore and offshore development, including jetty and wharf facilities and associated inloading and outloading infrastructure.

On 4 October 2012, GVK-Hancock received conditional approval from the Minister for SEWPaC for its T3 proposal. The project is located to the west of the T1 facility.

1.4.3.3 **Alpha Coal Project Port Options Development (EPBC 2008/4647)**

Hancock Prospecting Pty Ltd, designated proponent for the Alpha Coal Project Port Options Development proposal, proposed to construct and operate a coal port at either Abbot Point or Dudgeon Point in the Port of Hay Point, south of Mackay. The Abbot Point option had two sub-options, namely construction of the X230 which included the coal handling facility/coal terminal, outloading conveyor, jetty/berth and offshore infrastructure or alternatively, connection to the Multi Cargo Facility, this sub-option would only include the proposed onshore coal handling facility/stockyard.

Guidelines for the proposal were released on 24 July 2009 and the proposal is subject to an ongoing options assessment.

1.4.3.4 **NQBP Multi Cargo Facility (MCF) (EPBC 2009/4837)**

In keeping with the State Government's strategic planning objectives, NQBP planned to construct a new multi trade port facility at the Port of Abbot Point – the Multi Cargo Facility (MCF). The master planning development was to involve construction of a dredged basin and channel access and associated reclamation to create a breakwater-protected harbour capable of handling up to 225,000 dead weight tonnes (DWT) vessels, west of the existing T1 berths.

The Deputy Premier, Minister for State Development, Infrastructure and Planning announced in a Ministerial Media Statement on 21 May 2012 that it would suspend the project in response to an apparent lack of industry support.

1.4.3.5 **Port of Abbot Point Stormwater Return Dam (EPBC 2010/5561)**

Mundra Port Holdings Pty Ltd obtained approval to develop a stormwater return dam (SRD) and ancillary facilities to support the operation of the T1 facility, through improving both the management of stormwater runoff capacity and the efficiency of water resources use.

The SRD project will provide additional rainwater storage capacity for the site and is currently being constructed within the existing T1 rail loop.

1.4.3.6 **Carmichael Coal Mine and Rail Project (EPBC 2010/5736)**

Adani Mining Pty Ltd proposes to develop the Carmichael Coal Mine and Rail Project, which will involve the development of a new open-cut and underground coal mine and the construction of a rail link to Abbot Point, possibly via the existing Aurizon network. Coal will be exported via rail to the Project and Dudgeon Point. The proposed mine will produce up to 60 Mtpa of product coal.

The coordinated project EIS is currently being prepared for submission to the Queensland Coordinator-General for assessment.

1.4.3.7 **Offshore Geotechnical Investigations Abbot Point (EPBC 2010/5774)**

The action comprised offshore geotechnical and geophysical investigations required as part of the feasibility for the Abbot Point MCF, developed by NQBP.

On 14 March 2011, a decision was made under the EPBC Act that the proposed action was not a controlled action provided that it was undertaken in a specified manner.

1.4.3.8 **Mount Luce Quarry, Abbot Point (EPBC 2011/5924)**

NQBP is proposing to establish and operate an extractive industry (quarry) on Mount Luce, Bowen. The quarry development will provide material for construction and future industrial developments proposed within the APSDA declared by the Queensland Department of State Development, Infrastructure and Planning.

On 10 June 2011, a decision was made under the EPBC Act that the proposed action was not a controlled action.

1.4.3.9 **NQBP Additional Offshore Geotechnical Investigation Abbot Point (EPBC 2011/5994)**

The action, submitted by NQBP comprised offshore geotechnical investigations at Abbot Point. These investigations were required to facilitate geotechnical understanding of areas, which may be subject to future development of offshore berths.

On 12 July 2011, a decision was made under the EPBC Act that the project was not a controlled action.

1.4.3.10 **BHP Billiton MetCoal Holdings Terminal 2 (T2) (EPBC 2011/6185)**

The BHP Billiton MetCoal Holdings proposed Goonyella to Abbot Point Rail Project will involve the construction and operation of a BHP Billiton rail line and associated facilities (T2) from the Goonyella Mine complex in the northern Bowen Basin to the Port of Abbot Point. BHP Billiton is a preferred developer for the T2 facility. The development of the proposed T2 Project will allow for an export capacity of 60 Mtpa of coal.

1.4.3.11 **Abbot Point T0, T2 and T3 Capital Dredging (EPBC 2011/6213)**

NQBP proposes to undertake capital dredging for T0, T2 and T3 at the Port of Abbot Point. If approved, NQBP will dredge up to approximately 3,000,000 cubic metres (m³) of capital dredge material and dispose of it offshore.

A draft public environment report was lodged with SEWPaC in September 2012. Following a six week public comment period from 4 January 2013 to 15 February 2013, a submission report was provided to SEWPaC on 14 May 2013.

1.4.3.12 **Waratah Coal Abbot Point Coal Terminal (EPBC 2012/6250)**

Waratah Coal Pty Ltd is proposing to construct and operate a new coal terminal, including onshore and offshore infrastructure, at the Port of Abbot Point.

In May 2012, SEWPaC finalised Guidelines for the proposal.

It is important to note that at the time of the Draft EIS submission (and Final EIS), the Waratah Coal Abbot Point Coal Terminal project only had its final Guidelines published; no EIS or supporting documentation was available for public viewing. Therefore, no speculative information about this project has been included in this EIS.

1.4.3.13 Galilee Infrastructure Corridor Project (EPBC 2012/6489)

East West Line Parks intends to build, own and operate a 600 km open access, multi user, multi-purpose infrastructure corridor from the Port of Abbot Point to the coal mining regions of the Bowen and Galilee Basins. The Corridor will be complete with rail and telecommunications infrastructure and will comprise of three elemental sections.

On 28 August 2012, it was decided that the Corridor was a controlled action under the EPBC Act and to be assessed by EIS.

1.4.3.14 North Galilee Basin Rail Project (EPBC 2013/6885)

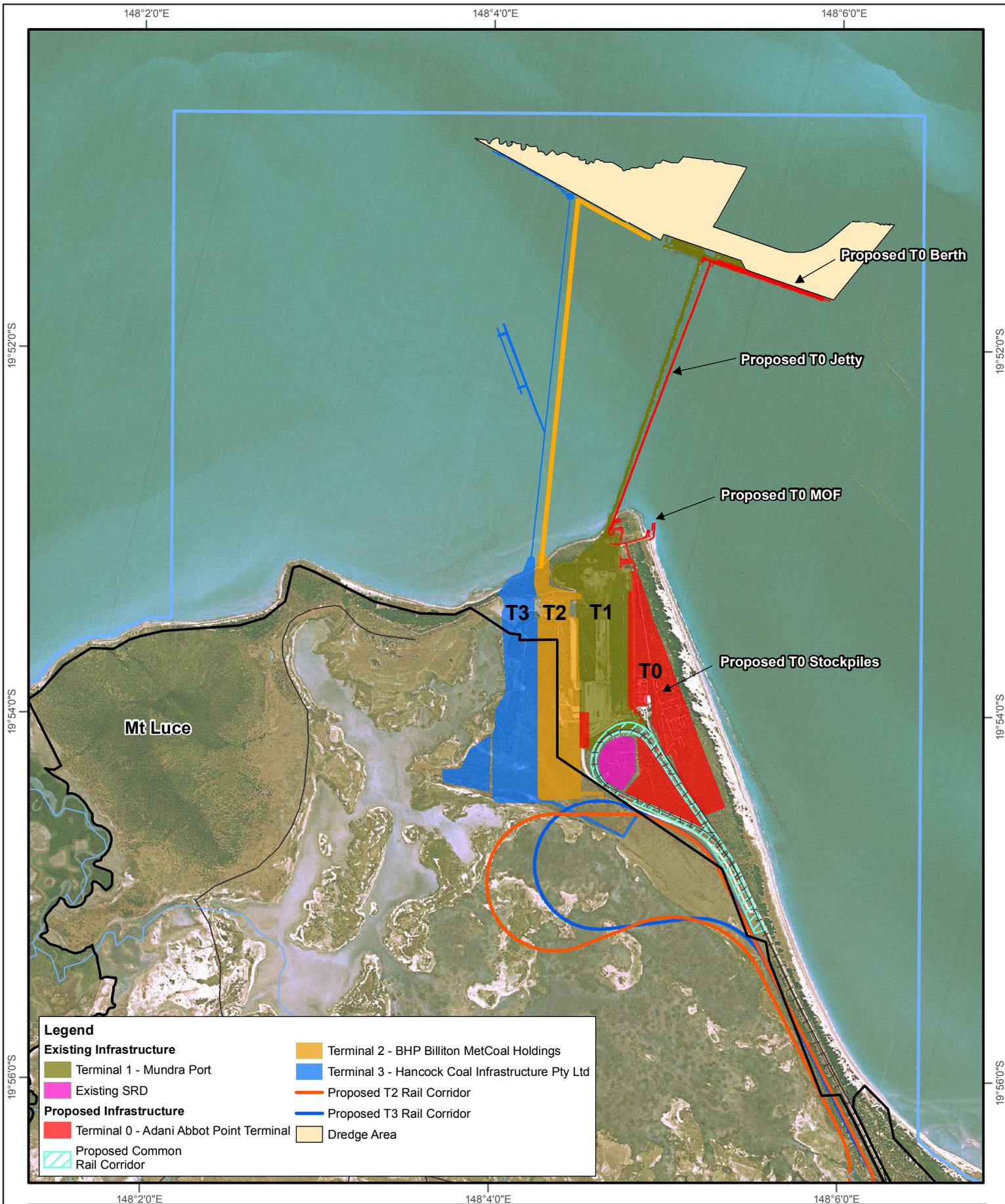
Adani have recently progressed a standard gauge rail project proposal to provide an alternative to existing narrow gauge options. The North Galilee Basin Rail (NGBR) project was declared a coordinated project by the Queensland State Coordinator-General on 14th June 2013 (by gazette notice) and will undergo a separate environmental assessment and approvals process (EPBC 2013/6885), but could provide a mechanism for transportation of coal from the Galilee Basin to the Project, should it be approved and proceed. Accordingly, the NGBR project was not considered in this EIS.

1.4.3.15 Common User Infrastructure

Construction and operation of the coal terminal projects at Abbot Point will require a number of supporting services and facilities. These services and facilities, termed common user infrastructure (CUI), are shared by the multiple proponents at the Port. Detailed design and arrangements for the CUI are currently being considered by NQBP and proponents. The relationship between CUI and the Project is discussed in Section 2 Project Details.

Adani is seeking approval for the following CUI to support the Project:

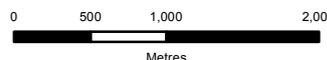
- Re-establishment and extension of the existing MOF (including realignment of the MOF access road);
- Development of a new construction camp (two locations are currently being considered);
- Use of material from existing quarries; and
- Establishment of a new laydown area for Phase 2 (on Abbot Point Road).



Abbot Point Coal Terminal 0 (T0) Project
Figure 1-2 Relationship of the Project to existing T1 facility and proposed T2 and T3 projects at Abbot Point

Legend

- Road
- +— Existing Rail
- Watercourse
- APSDA Boundary
- GBRMP Boundary



DISCLAIMER
 CDM Smith has endeavoured to ensure accuracy and completeness of the data. CDM Smith assumes no legal liability or responsibility for any decisions or actions resulting from the information contained within this map.
 Data source:
 Roads by Geoscience Australia; Terminal data by Adani and GHD;
 Aerial Image by BingMaps, 2011; All other data by DERM, 2010.



1.4.4 Alternatives

1.4.4.1 Site Selection

During the preliminary planning stage of the Project, Adani considered a number of locations for development of a deep-water coal export terminal close to an existing rail network that could efficiently export coal from the Carmichael Coal Mine. Options such as the Port of Brisbane were ruled out quickly because of the distance of the Port to the Carmichael Coal Mine and lack of rail or stockpile capacity. However, other development options were considered in parallel, particularly the Dudgeon Point development (EPBC 2012/6240) which is currently being progressed by Adani separate to the Project.

The decision to proceed with developing a terminal at the Port of Abbot Point was influenced by the lease purchased for the T1, which allowed for an investigation of possible expansion or standalone options for the site to accommodate additional stockpile capacity. In addition, the relative proximity of the Port to the source mines and separation from residential communities made the Port of Abbot Point an ideal location to enable storage and export of coal to occur whilst minimising the potential for adverse community and environmental impacts.

The Port of Abbot Point has three features, which constrain its development (refer to Figure 1-2):

1. The T1 facility occupies land directly to the south of Bald Hill. The Project is proposed to occur directly to the east of the T1 facility within the remaining SPL. To the west of the T1 facility the proposed T2 and T3 projects will be within the APSDA and utilising coastal land at Abbot Point not otherwise requiring significant reclamation. Generally, Abbot Point is bounded by sea to the north and east, and by the Caley Valley Wetland to the west. Abbot Beach defines the eastern boundary of Abbot Point and supports a narrow dunal vegetation system defined as a Threatened Ecology Community (TEC);
2. Rail and road access to Abbot Point is via a narrow strip of land along Abbot Point Road. The natural “pinch point” will be further constrained by the development of proposed projects at Abbot Point that will require additional rail, water and power infrastructure; and
3. Offshore, the presence of Clark Shoal west of the existing T1 jetty and berths limits the presence of suitable deep water (not requiring significant dredging) to the north-eastern portion of the Port Limits of the Port of Abbot Point. The two existing T1 berths and proposed two berths each for T2 and T3 effectively occupy the deep water to the west of T1 whereas the two berths for the Project are to the east of T1 berths, (refer to Figure 1-2).

Consequently, any future expansion west, beyond T3 would involve either the creation of an inland or offshore reclaimed terminal, or extensive reclamation of further seaboard sites within the APSDA and affecting directly the Caley Valley Wetland. The proposed MCF facility would have provided future capacity for expansion via a reclaimed offshore terminal.

Adani is proposing to make the most efficient use of land available at Abbot Point without impacting operations at the T1 facility and limiting the impact upon the natural environment. The efficient design of the Project within the remaining SPL will not impede the operation of the T1 facility or any future proposed development within the adjacent APSDA as:

- The Project jetty and berths are located to the east of the existing T1;
- The Project stockyards are to the east of the APSDA generally and T1 facility directly and north of the T1 rail loop; and
- The Project rail corridor is aligned with the existing T1 loop and rail corridor.

In summary, the Project will be located immediately adjacent (within approximately 100 m) to the east of the existing T1 facilities. The design for the Project has maximised use of the natural and infrastructure features (both existing and proposed) of the remaining SPL at Abbot Point and will achieve the objectives of the Abbot Point Land Use Plan by improving the functionality and capacity of the Port. All infrastructure proposed for the Project is in accordance with the Port Handling and Offshore Port Infrastructure designations outlined in the Abbot Point Land Use Plan.

1.4.4.2 Alternative Location

As described, development of the available coastal land at the Port of Abbot Point beyond sites already identified for the Project, T2 and T3 is not possible without significant development within the Caley Valley Wetland. This is due to natural features of Abbot Point and the presence of existing coal terminal infrastructure with the T1 facility. The Project design has made the best possible use of the available SPL at Abbot Point without affecting existing or proposed terminal facilities.

The proposed T2 and T3 developments will extend into the Caley Valley Wetland and effectively constrain the development of the Project to its current proposed location, east of the T1 facility. This in turn correlates with the location for the jetty and berths and presents the only feasible location for the Project at Abbot Point.

Adani is investigating additional coal export capacity at the Port of Hay Point (Dudgeon Point) and is considered a preferred developer for the proposal. However, the Project provides a logical solution that can be established in a timeframe commensurate with the immediate and anticipated need to develop capacity for the Carmichael Coal Mine and other proponents from the northern Bowen or Galilee Basin requiring export facilities at Abbot Point.

There are no alternative locations for the establishment of the Project at the Port of Abbot Point. The layout of the infrastructure was selected as having regard to site constraints and operational requirements. The proposed layout and design is the most feasible and efficient option given the location of the existing T1 infrastructure and proposed development areas for the T2 and T3 projects.

1.4.4.3 Alternative Design

The basis for the engineering design for the Project was developed to specifically minimise the spatial footprint and subsequent construction and operational requirements within the land for the stockyard. As noted, the location of marine structures was determined directly by the proposed stockpile configuration in the stockyard and for the purposes of this EIS, no feasible alternatives were considered.

The overarching design principles broadly considered the construction, functionality, operation and relative cost of alternative stockpile configurations for the Project. These operational and conservation objectives considered the broad criteria identified, where applicable, in the *Great Barrier Reef Outlook Report 2009*. The criteria used to assess options included:

- Ability to maximise terminal storage capacity;
- Relative cost of onshore works;
- Size of construction yards and ability to include areas (such as material laydowns) that were used through construction of the previous T1 expansion (X50) to minimise the land area required for the Project;
- Avoid direct impacts on the TEC located adjacent to Abbot Beach;
- Minimising direct impacts to the marine environment and MNES;
- Avoid direct impacts to the Caley Valley Wetland;
- Level of interaction with existing T1 support buildings and structures;
- Avoid operational constraints to the T1 facility; and
- Interface with existing operation of the T1 facility.

The Project represents the optimal solution considering the criteria above. Any alternative design or configuration of the stockpiles for the Project would increase the spatial footprint and construction requirements, resulting in an inferior outcome.

1.4.4.4 Rail Alternatives

Adani has undertaken a rail loop options assessment which analysed four rail loop corridor options for the Project. The assessment considered the following options:

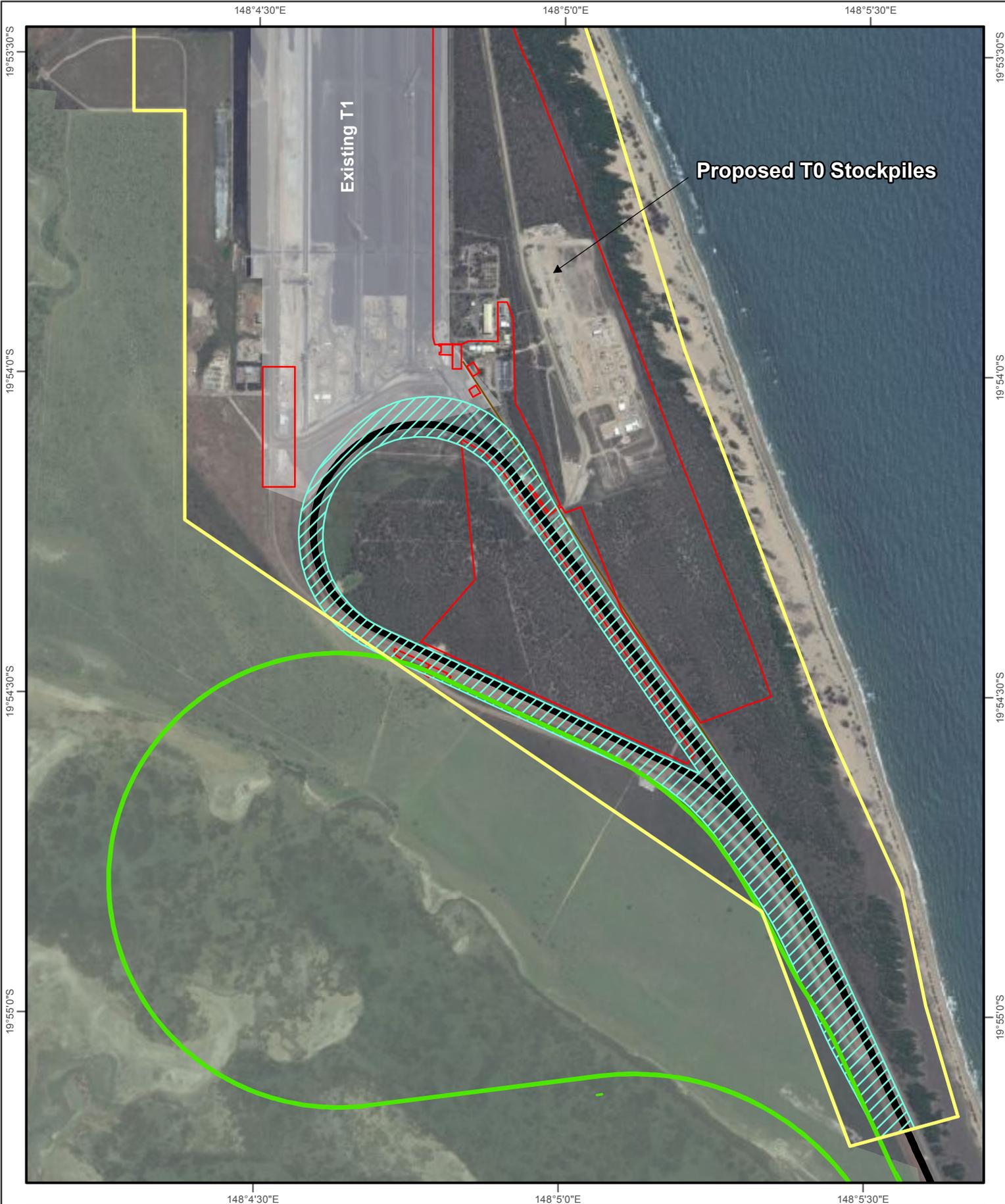
1. Option 1 – Development of two nested rail loops as near to the outside of the existing T1 narrow gauge rail loop as practically possible (within a disturbed area);
2. Option 2 – Development of two nested rail loops as near to practically possible to the outside of the proposed GVK-Hancock loop (within the Caley Valley wetland);
3. Option 3 – Development of two nested greenfields rail loops adjacent to the Bruce Highway some 6 km from the Port of Abbot Point (within an undisturbed area); and
4. Option 4 – Development of two nested rail loops inside the existing T1 narrow gauge rail loop (within a disturbed area).

Each option was assessed on the basis of environmental, engineering and planning criteria. After close consideration of engineering factors, Option 3 was eliminated as a preferred option due to potential infrastructure conflicts with the proposed GVK-Hancock rail line. Given that both Options 1 and 4 involved development in the immediate vicinity of the T1 rail loop and on already disturbed land, these two options were considered similar and assessable within a common rail corridor. Accordingly, this corridor option and Option 2 (rail loop outside of the GVK-Hancock rail loop) were referred to SEWPaC as part of the EPBC referral variation on 25 July 2012.

Figure 1-3 shows the two referred rail corridor options (inside/outside of existing T1 rail loop and outside of GVK-Hancock rail loop) and their positioning in relation to existing built and natural features. The options were further assessed for their feasibility and impacts on issues such as:

- Planning intent and constraints;
- Social impacts and community and political acceptance;
- Cost, during both construction and operation;
- Environmental impacts, particularly in relation to the Caley Valley Wetland; and
- Future rail and terminal expansion at the Port of Abbot Point.

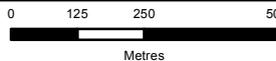
In order to address these matters during the preliminary assessment process, each issue was assessed individually for each rail loop alignment. The use of a Risk Characterisation Table (Table 1-1) was employed to facilitate the process.



Abbot Point Coal Terminal 0 (T0) Project
Figure 1-3 Rail loop corridor options identified for the T0 Project

Legend

- Road
- APSDA Boundary
- Project Area
- Proposed Project Infrastructure Area
- Proposed Common Rail Corridor
- Option 2 rail corridor concentric to GVK/Hancock rail loop
- Existing Rail



DISCLAIMER
 CDM Smith has endeavoured to ensure accuracy and completeness of the data. CDM Smith assumes no legal liability or responsibility for any decisions or actions resulting from the information contained within this map.

Data source:
 Roads by Geoscience Australia; Terminal data by Adani; Aerial Image by BingMaps, 2011; All other data by DERM, 2010.

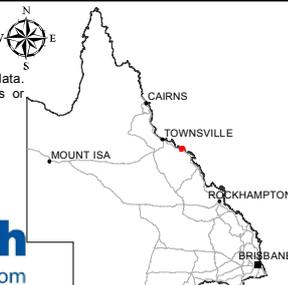


Table 1-1 Rail Loop Corridor Options Risk Characterisation Table

	Risks associated with development of rail loop concentric with GVK/Hancock rail loop	Risks associated with development with a common rail corridor (concentric with existing T1 rail loop)
Planning intent and constraints		
Planning intent	Minimal risk - development of rail infrastructure within the Environmental Management/Materials Handling Precinct of the APSDA is likely to be consistent with the intent of the APSDA.	Minimal risk – development within a common rail corridor will either be contained within the footprint of T1 facility in a relatively unused, unallocated space and/or located immediately outside of the T1 facility in an already disturbed area of land. The rail alignment is yet to be finalised in relation to the margin of the APSDA. If the rail alignment is within the APSDA, additional approvals will be required. However the development is likely to be consistent with the intent of the Environmental Management/Materials Handling Precinct of the APSDA.
Constraints	High, due to loop being located within the APSDA and subject to additional approvals processes	Minimal risk, as development within a common rail corridor which is concentric to the existing T1 rail loop is located on SPL. The rail alignment is yet to be finalised in relation to the margin of the APSDA.
Social impacts, community and political acceptance		
Social impacts	Moderate, social impacts could arise from employment related issues (e.g. housing, increased pressure on services in Bowen and in general) during construction and operation phases.	Minimal, social impacts could arise from employment related issues (e.g. housing, increased pressure on services in Bowen and in general) would arise during construction and operation phases.
Public, political and media perception	Moderate risk. The public, government and media are aware of proposed developments at Abbot Point, however perceptions are anticipated to reflect preference to minimise direct impacts upon the wetland.	Minimal risk. The public, government and media are aware of proposed developments at Abbot Point. The construction of the common rail corridor is unlikely to garner attention in lieu of terminal and offshore developments. The public, government and media perceptions are anticipated to reflect preference for development in immediate vicinity of existing infrastructure.
Cost, during both construction and operation		
Cost – construction	High, the relative cost of constructing a standalone standard gauge rail loop within the APSDA will be considerable. Apart from the additional length of track, major site works are required to provide a construction platform within an existing wetland environment.	Moderate risk. The cost of constructing within a common rail corridor concentric to the existing T1 rail loop is likely to cost less. The cost will be reduced due to the disturbed nature of the land and pre-existing rail infrastructure that can be utilised.
Cost – operation	Moderate, ongoing operational costs will be similar to the pre-existing T1 facility loop.	Moderate, ongoing operational costs will be similar to the pre-existing T1 facility loop.

	Risks associated with development of rail loop concentric with GVK/Hancock rail loop	Risks associated with development with a common rail corridor (concentric with existing T1 rail loop)
Environmental impacts, particularly in relation to Caley Valley Wetland		
Impact on Caley Valley Wetland	High, rail loop borders the Caley Valley Wetland and may impact the hydrology of the area / wetland	Minimal as concentric to the existing T1 facility loop which is already on disturbed land and away from the Caley Valley wetland.
Flora	High, the loop area will require vegetation clearing, marine plant clearing and potentially offsetting.	Minimal, the majority of vegetation has already been cleared as part of the existing SRD Project and presence of maintenance road surrounding the T1 rail loop.
Fauna (including migratory and wader birds)	High, as it is located within the Caley Valley Wetland, Fauna species may be disturbed, particularly migratory birds.	Minimal, due to the pre-existing nature of the T1 facility loop, impacts to fauna are anticipated to be lower as the area is already disturbed.
Future rail and Terminal expansion at the Port of Abbot Point		
Impact on other projects	High, reduces area available for development of other options.	Minimal, uses an existing constrained space that would not otherwise be utilised.

In summary, the risk characterisation table identified the broad categories as carrying the following risks (Table 1-2):

Table 1-2 Summary of Risks for Each Option

Risk Item	Rail loop outside of GVK-Hancock rail loop	Rail Loops in Common Rail Corridor Overall Risk Ranking
Planning intent and constraints	Moderate	Minimal
Social impacts, community and political acceptance	Moderate	Minimal
Cost, during both construction and operation	Moderate – High	Moderate
Environmental impacts, particularly in relation to the Caley Valley Wetland	High	Minimal
Future rail and Terminal expansion at the Port of Abbot Point	High	Minimal

As summarised in Table 1-2, development within a common rail corridor carries a lower risk across all impact areas. Some items, including planning intent, social/community/political acceptance and relative cost were not dissimilar. Overall, the common rail corridor is the ultimate development option for the Project as it will provide flexibility for the customer base. Accordingly, developing within a common rail corridor is the preferred option to proceed with the EIS for assessment.

1.4.4.5 Alternative Stages

The Project will be developed for operation over two phases - Phase 1 and Phase 2. Development will occur over a 5-6 year period corresponding with production outputs at the Carmichael Coal Mine. The Project will allow for an initial throughput of up to 35 Mtpa and maximum throughput of 70 Mtpa, allowing for other sources of coal to be incorporated into the Terminal's capacity.

Phase 1 of the Project is proposed to be completed by the end of 2015 to early 2016 to align with the first available coal shipments from the Carmichael Coal Mine project. Phase 1 will comprise:

- An upgrade of the existing eastern MOF to allow delivery of materials and modular infrastructure during construction. The MOF is required for all phases of the Project;
- Rail loops within a common rail corridor concentric to the existing T1 rail loop;
- Common concrete dump-station vault for each rail gauge and an inloading conveyor stream to the coal stockyard;
- Development of a new coal stockyard supporting one bund, two stockpile rows and two stacker/reclaimers;
- Associated infrastructure, including a workshop, administration building, sewerage treatment plant, amenities block; and
- Inloading and outloading stream of conveyors, stacker/reclaimers, transfer towers, surge bin, sample plant and shiploader;
- Offshore trestle jetty and one wharf berth; and
- Jetty and single wharf outloading conveyors feeding the shiploader.

Phase 2 of the Project will increase the capacity of the Terminal by an additional 35 Mtpa and to a maximum target capacity of 70 Mtpa and will comprise:

- The development of a second dump-station and inloading conveyor stream to the coal stockyard;
- Earthworks and contribution of stockyard fill material to support two additional bunds with two stockpile rows and two stacker/reclaimers on each bund;
- One outloading stream of conveyor, transfer towers, surge bin, sample plant and shiploader; and
- The construction of a second berth.

Construction of Phase 1 and Phase 2 infrastructure may occur simultaneously, depending on productivity rates at the Carmichael Coal Mine, availability of labour and resources and productivity of construction for Phase 1 works.

A detailed description of the Project phases is provided in Section 2 Project Details. No alternative stages or phases have been considered beyond those described above and in Section 2 Project Details.

1.4.5 Consequences of Not Proceeding

1.4.5.1 Trade

The Project requires materials and services during construction and operations, ranging from very large and specialised, to smaller and more general. The local communities including Bowen and Proserpine will play a key role in providing relevant support to the Project, and will be invited to do so during construction and the long term operation of the Terminal. Beyond the local suppliers, the Project will also require support from the Queensland economy to deliver the Project and sustain operations.

The increase in employees on-site during construction and operation will benefit local businesses, and will increase the number of people flying in and out of Mackay and Townsville. Such increases will boost the local and State economy. If the Project was not to proceed, there would be no consequential beneficial impacts to trade and the local and State economy. This is further discussed in Section 3.20 Economic Matters.

1.4.5.2 Social and Economic Benefits

Baseline social and economic assessments were completed for the Project (refer to Section 3.21 Social Matters and Section 3.20 Economic Matters). The assessment identified that the Project would result in significant economic benefits to the region through the creation of new employment opportunities and related local investment. It was estimated that the Project would create approximately:

- 500 jobs during construction; and
- 200-250 jobs during operation.

As the Port of Abbot Point does not currently support a permanent population and is populated by a working population only, the Project would expand the permanent working population. Consequently, the impacts of the Project would be centred on the nearby Bowen community and the wider region.

Overall, the Project would provide economic growth to the Bowen locality and the wider Whitsunday region from direct inputs and the Project's flow on effects. The financial value of the Project is expected to generate between AU\$1.4 billion and AU\$2.8 billion per annum in gross revenue based on the projected export of thermal coal from Adani's Carmichael Coal Mine and Abbot Point Coal Terminal 0 projects. The economic growth in the Bowen locality will peak during the construction then stabilise during operation. This would contribute a significant amount of revenue to both the Queensland and Australian economy. A comprehensive economic assessment is provided in Section 3.20 Economic Matters.

1.4.5.3 Infrastructure

If the Project were not to proceed, Adani would have no option for the export of coal extracted from the Carmichael Coal Mine. As the Galilee Basin has no major coal developments in operation, the Project provides an important catalyst for other proponents to make significant financial commitments towards additional coal mining activities in the Galilee Basin as well as associated rail transport and coal export infrastructure. Furthermore, the Project's use of the available Strategic Port Land (SPL) and development of infrastructure supporting Port Handling Activities is critical for the long term planning, use, and sustainable development of Abbot Point. The Project is in direct accordance with the strategic intended use of the Port of Abbot Point.

To summarise, the consequences of not proceeding with the Project would result in the loss of significant numbers of future potential jobs and considerable revenue to both the local and State economies. Further, without additional storage and export capacity at the Port of Abbot Point, there would be significant negative consequences for the development of coal developments in the Galilee Basin, including Adani's Carmichael Coal Mine.

1.5 Scope, Structure and Legislative Basis

The EPBC Act provides for the protection of the environment, in particular MNES. Under the EPBC Act, a person must not take an action that has, will have, or is likely to have a significant impact on any MNES without approval from the Australian Government Environment Minister or the Minister's delegate. A proposed action must be referred if it may have a significant impact on MNES. The purpose of a referral is to obtain a decision on whether a proposed action will need formal assessment and approval under the EPBC Act.

The scope of the Project is described in detail in Section 2 Project Details. This EIS has been prepared to enable interested stakeholders and the assessing agencies to understand the environmental consequences of the Project. The information provided in this EIS is objective, clear, succinct and, wherever possible, supported by maps, plans or other diagrams that support the text. The main body of the EIS is written in a style that makes it easily understood by the general reader. The EIS includes technical appendices that have been extrapolated into sections that avoid the use of overly-technical descriptions. The EIS is cross-referenced to avoid unnecessary duplication of textual descriptions. The format outlined in the EIS Guidelines has been modified in this EIS to effectively present information that improves readability and flow.

The legislative basis for the Project, assessment under the EPBC Act and other State regulatory requirements are explained in detail in Section 3.1 Legislation, Land Use and Planning.

1.5.1 Status

The Project (as a proposed action under the EPBC Act) was referred to the Commonwealth Government (SEWPaC) on 15 November 2011 (EPBC 2011/6194). A delegate of the Minister determined on 13 December 2011 that the proposed action was a controlled action, requiring assessment in accordance with the EPBC Act, as the action had the potential to have a significant impact on a number of MNES. On the same date a delegate of the Minister determined that the proposed activity would be assessed by an EIS. The EIS Guidelines published in November 2012 identify the issues that the Australian Government requires Adani Abbot Point Terminal Pty Ltd (Adani) to address in the EIS.

The EPBC Act establishes a process for environmental assessment and approval of proposed actions that have, or are likely to have, an impact on MNES. Accordingly, the EPBC Act forms the legislative basis for this EIS, which will be assessed separately from assessment processes under Queensland State legislation. The Project does not trigger the submission of an EIS under the *Queensland State Development and Public Works Organisation Act 1971* or the *Environmental Protection Act 1994*. Nevertheless, State approvals will be required prior to construction of the Project and these will be sought separately.

The EPBC Act does not exclude or limit the concurrent operation of any law of a State, accordingly Adani is proceeding with preparation and submission of necessary State applications prior to assessment of the EIS, though no applications have yet been lodged. Information provided within this EIS will be used to support the State approvals. However, determinations made by the Commonwealth will not affect the review of this information by the State of Queensland.

The Draft EIS was released for public comment from 18 February 2013 to 3 April 2013. A Submissions Response Report was prepared in response to submissions received on the Draft EIS, addressing all of the relevant issues raised during the public comment period. Refer to Appendix A3 for the detailed Submissions Response Report.

1.5.2 Environmental Principles

The development of the Project will be managed in accordance with a range of environmental principles. These include relevant environmental protection legislation, policies, regulations, guidelines and strategies. Each principle is discussed in the relevant sub-sections of this EIS, based on each environmental component (e.g. surface water quality, terrestrial ecology, soil and landscape and others).

1.5.3 EPBC Act Matters

The specific EPBC Act matters affected by the Project are:

- a) Listed threatened species and ecological communities (sections 18 and 18A);
- b) Listed migratory species (sections 20 and 20A);
- c) World Heritage Properties (sections 12 and 15A);
- d) National Heritage Places (sections 15B and 15C);
- e) Commonwealth marine areas (sections 23 and 24A); and
- f) Great Barrier Reef Marine Park (sections 24B and 24C).

1.5.4 Policies, Controls and Agreements

1.5.4.1 International Agreements

The Commonwealth is a signatory to a range of international conventions and agreements that obligate the Commonwealth Government to prevent pollution and protect specified habitats, flora and fauna. Those of consequence to the Project are listed in Table 1-3 below and their relevance to the Project described in detail in Section 3.1 Legislation, Land Use and Planning.

Table 1-3 International Conventions and Australia's Obligations Relevant to the Project

Convention or Protocol	Overview	Obligations and Relevancy
Migratory Bird Agreements between Australia and the north Asian countries of Japan, China and the Republic of Korea	<ul style="list-style-type: none"> ▪ Protects migratory bird habitats; and ▪ Limiting circumstances where migratory birds may be taken or harmed 	<p>Obligation is to introduce protective measures for the preservation of species or subspecies of migratory birds which are listed in the agreements</p> <p>Relevant to direct or indirect impacts on relevant species that may be impacted as a result of the Project</p>

Convention or Protocol	Overview	Obligations and Relevancy
Convention on the Conservation of Migratory Species of Wild Animals (Bonn Convention) 2003	<ul style="list-style-type: none"> Improves the status of threatened migratory species through national action and international agreements 	Obligation is to introduce protective measures for the preservation of all terrestrial, marine and avian migratory species listed in appendices 1 and 2 of the convention Relevant to direct or indirect impacts on relevant species that will be impacted as a result of the Project (refer to Table 1-2 and Table 1-3)
Convention concerning the protection of the World Cultural and Natural Heritage 1972	<ul style="list-style-type: none"> Identifies, protects and conserves cultural and natural heritage sites 	Obligation is to ensure those places listed as either World or National Heritage are protected from adverse impacts Relevant to the marine components of the Project that are within the GBRWHA
United Nation Convention on Biological Diversity 1992	<ul style="list-style-type: none"> Ensures conservation of biological diversity and sustainable use of its components; and Promotes fair and equitable sharing of the benefits drawn from genetic resources 	Obligation is to identify and monitor components of biological diversity and threats to these components and adopt necessary conservation measures Relevant to construction and operation of the Project where biological impacts may result
Montreal Protocol on Substances that Deplete the Ozone Layer 1987 Relevant to the use of materials during construction and operation of the Project	<ul style="list-style-type: none"> Requires reductions in emissions of gases that deplete the ozone layer 	Must phase out use of those substances identified as 'controlled substances' within the protocol. The phase out is based on the type of substance and extends to 2040
United Nations Framework Convention on Climate Change Relevant to the actual construction and operation of the Project	<ul style="list-style-type: none"> Seeks to stabilise greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system 	Required to reduce emissions of greenhouse gases and implement measures to facilitate adaptation strategies

1.5.4.2 Commonwealth Policy Framework

The following Commonwealth government policies are relevant to the Project.

Australia's Biodiversity Conservation Strategy 2010-2030

The *Australian Biodiversity Conservation Strategy 2010-2030* is a national policy document that guides how government, the community, industry and scientists manage and protect Australia's plants, animals and ecosystems over the next two decades (SEWPaC 2010).

Adani has committed to maximising environmental sustainability throughout its operations, encourage engagement and promote initiatives to drive environmental sustainability within Adani's Environment and Sustainability Policy (Appendix C1). The relevance of this Policy is further discussed in Section 3.1 Legislation, Land Use and Planning.

Commonwealth National Oceans Policy 1998

Australia's Oceans Policy was introduced in 1998 and has a number of goals for the protection of various marine environments. Under the Oceans Policy, the Commonwealth and State

governments are progressively establishing a National Representative System of Marine Protected Areas (NRSMPA). The Marine Protected Areas restrict activities in an effort to conserve the environments. This Policy and its relevant to the Project are further discussed in Section 3.1 Legislation, Land Use and Planning.

To facilitate development of NRSMPA, Australia's marine environments have been divided into five bioregions with 41 provincial bioregions (SEWPaC 2012a). The GBRMP has existing legislative protection and has therefore been excluded from the proposed network. Therefore, the closest MPA to the Project is the proposed Coral Sea reserve bordering the Great Barrier Reef Marine Park, 157km east of the Project area. Ships accessing the Terminal will be required to transit the Coral Sea reserve prior to entering the shipping routes through the GBRMP, however, the preliminary MPA zoning plan does not restrict general transit/shipping. Ballast water exchange will continue to be managed under national arrangements and restrictions may apply within sensitive areas. The Abbot Point Cumulative Impact Assessment (CIA) addresses ship movements within the GBRMP.

National Waste Policy 2009

The *National Waste Policy 2009* (National Waste Policy) has been endorsed by the Commonwealth and State governments and sets Australia's waste management and resource recovery direction to 2020. The National Waste Policy addresses waste, including hazardous waste and substances, in the municipal, commercial and industrial construction and demolition waste streams and includes gaseous, liquid and solid waste.

Adani is committed to reducing waste throughout the construction and operation phases of the Project. Adani will be implementing a waste hierarchy that reduces, reuses and recycles waste material. Whitsunday Regional Council (WRC) is currently developing a Waste Minimisation and Recycling Strategy. Adani will be seeking to complement the strategy by limiting the transfer of materials to landfill. This policy is further discussed in Section 3.1 Legislation, Land Use and Planning and Section 3.22 Waste Management.

National Framework for the Management and Monitoring of Australia's Native Vegetation 2001

The Native Vegetation Framework (NVF) addresses intergovernmental cooperation between Commonwealth, State and local governments to build consistency, common commitments and processes around vegetation management. Although the NVF is concentrated on developing intergovernmental approaches, private landholders (including leaseholders) as managers of large tracts of native vegetation are considered important for the implementation of the NVF.

The NVF seeks to:

- Reverse the decline in native vegetation extent;
- Conserve and, where appropriate, restore native vegetation; and
- Retain regionally and nationally significant vegetation (DEH 2001).

The NVF establishes a series of best practice benchmarks for land managers and the wider community, separate to government responsibilities. This community role entails:

- Sustainable land management;
- Development and coordination of local action on vegetation management;

- Communicating to government agencies on potential management issues and solutions;
- Education and awareness initiatives regarding native vegetation management; and
- The formation of partnerships between the community, industry and government (DEH 2001).

Adani will work closely with NQBP and government agencies to achieve vegetation management and monitoring outcomes envisaged in the Framework.

For the Project, it is anticipated that the policy objectives of the NVF can be achieved through strategic revegetation and offsetting, data collection and vegetation surveying for mapping updates, protection of important littoral areas along Abbot Beach and improved management practices (see Section 3.11 Terrestrial Ecology).

Coal stock planning and exporting operations will seek to avoid clearance of native terrestrial and wetland vegetation. Offsets will be established to compensate for required clearing, and any revegetation required will be targeted to improve the habitat and conservation, patch sizes and connectivity, particularly in consideration of reliant fauna species (see Section 3.11 Terrestrial Ecology for further discussion).

1.5.4.3 Commonwealth Legislation

A comprehensive list of relevant Commonwealth legislation is provided in Table 1-4. The relevance of these Acts to the Project is further discussed in Section 3.1 Legislation, Land Use and Planning.

Table 1-4 Commonwealth Legislation and Regulations for the Project

Key Commonwealth Legislation for the Project
<i>Environment Protection and Biodiversity Conservation Act 1999</i>
<i>Native Title Act 1993</i>
<i>Aboriginal and Torres Strait Islander Heritage Protection Act 1994</i>
<i>Clean Energy Act 2011</i>
<i>Natural Greenhouse Energy Reporting Act 2007</i>
<i>Energy Efficiencies Opportunities Act 2006</i>
Other relevant Commonwealth Legislation
<i>Australian Heritage Council Act 2003</i>
<i>Australian Maritime Safety Authority Act 1990</i>
<i>National Environmental Protection Council Act 1998</i>
<i>Quarantine Act 1908 and Australian Ballast Water Management Requirements 2001</i>
<i>Protection of the Sea (Powers of Intervention) Act 1981</i>

1.5.4.4 State Legislation

A comprehensive list of all relevant State legislation is provided in Table 1-5.

Table 1-5 State Legislation and Regulations

Key State Legislation for the Project
<i>Sustainable Planning Act 2009</i>
<i>State Development and Public Works Organisation Act 1971</i>
<i>Transport Infrastructure Act 1994</i>
<i>Environmental Protection Act 1994</i>
<i>Vegetation Management Act 1999</i>
<i>Nature Conservation Act 1997</i>
<i>Coastal Protection and Management Act 1995</i>
<i>Water Act 2000</i>
Other relevant State Legislation

<i>Lands Act 1994</i>
<i>Fisheries Act 1994</i>
<i>Building Act 2000</i>
<i>Land Protection (Pest and Stock Route Management) Act 2002</i>
<i>Workplace Health and Safety Act 2011</i>
<i>Water Reduction and Recycling Act 2011</i>
<i>Plumbing and Drainage Act 2002</i>
<i>Food Act 2006</i>
<i>Aboriginal Cultural Heritage Act 2003</i>
<i>Forestry Act 1959</i>
Other relevant State Legislation
<i>Electricity Act 1994</i>
<i>Explosions Act 1999</i>
<i>Radio Communications Act 1992</i>
<i>Liquor Act 1992</i>

The relevance of these Acts to the Project is further discussed in Section 3.1 Legislation, Land Use and Planning.

The following environmental protection policies and subordinate legislation have been prepared under the *Environmental Protection Act 1994* (EP Act) and must be complied with:

- *Environmental Protection Regulation 2008 (EP Regulation);*
- *Environmental Protection (Air) Policy 2008;*
- *Environmental Protection (Noise) Policy 2008;*
- *Environmental Protection (Water) Policy 2009;* and
- *Environmental Protection (Waste Management) Regulation 2000.*

These regulations and policies have been considered in preparing the EMPs set out in Section 5 Environmental Management and Offsets and are outlined in further detail in Section 3.1 Legislation, Land Use and Planning.

The EP Regulation (Sch 2) outlines those industrial activities with known potential to release contaminants into the environment. These activities are termed Environmentally Relevant Activities (ERA) and for the Project will be administered by NQBP as the Authority responsible for the Port of Abbot Point. Those ERAs likely to be required for the Project are listed in Table 1-6.

Table 1-6 Environmentally Relevant Activities for the Project

ERA Number	Relevant Activity	Project Stage
ERA 8	Chemical Storage – storage of chemicals and dangerous goods over specific thresholds (EP Regulation – Sch 2, Part 2)	Construction and operation
ERA 38	Surface Coating – producing 200t or more of concrete or concrete products per year (EP Regulation – Sch 2, Part 9)	Construction and operation
ERA 50	Bulk Material Handling – the loading and unloading of minerals at rate of 100t or more per day (EP Regulation – Sch 2, Part 11)	Operation
ERA 63	Sewage Treatment – operation of treatment works or pumping station that over specific thresholds (EP Regulation – Sch 2, Part 13)	Operation
ERA 64	Water Treatment – treatment of water over specific thresholds (EP Regulation – Sch 2, Part 13)	Operation

1.5.4.5 Corporate Standards

North Queensland Bulk Ports

As part of the Abbot Point Long Term Lease acquisition, all environmental management systems, plans and processes implemented for the Port of Abbot Point were transferred to Adani as the lease holder for the T1 facility. The Abbot Point Environmental Management System (EMS) is consistent with the principles of ISO 14001, including provisions for monitoring and continuous improvement of environmental performance.

As part of its ongoing environmental initiatives NQBP undertakes:

- Environmental Monitoring – developed separately for each port;
- Ecoports Program – practical action plans updated regularly;
- Environmental Improvement – development of environmental partnerships and facilitation of improvement activities; and
- Impact Assessment of Projects – internal assessment requiring development of an Environmental Management Plan.

The same standard of EMS will be applied to the Project.

Adani

Adani has an Environment and Sustainability Policy (Appendix C1) setting commitments for its operations and activities. The policy applies to all Adani activities, including those undertaken by contractors and third parties. Adani will actively apply the policy requirements, including those for accountability and responsibility, to all personnel involved in the construction and operation of the Project.

The Adani Environment and Sustainability Policy includes the following commitments:

- Encourage the efficient use of water and energy, recycling of materials, reduction of waste and prevention of pollution;
- Improve the management of greenhouse gas emissions and energy efficiency;
- Implement and maintain an Environmental Management System in accordance with AS/NZS ISO 14001;
- Complete regular reviews of environmental performance and identify and implement opportunities for improvement;
- Motivate and influence suppliers and subcontractors with an approach towards responsible environmental practice;
- Promote initiatives, systems, values and behaviours that drive environmental sustainability; and
- Display leadership in environmental management internally and within the operating industry.

1.5.4.6 Other Standards and Guidelines

Other non-statutory guidelines and standards considered applicable to the Project are outlined in Table 1-7 below. The EIS has, where possible, been developed to accord with these non-statutory standards and guidelines.

Table 1-7 Applicable Standards and Guidelines

Category	Title	Overview	Applicability to the Project
Industry Standards and Guidelines	International Association for Impact Assessment (IAIA) Policies and Guidelines	A global network focusing on best practice in the use of impact assessment for informed decision making regarding policies, programs, plans and projects	The IAIA policies and guidelines have been used to assist in determining best practice impact assessment procedures
	Reef Water Quality Protection Plan	A Framework for the Commonwealth and Queensland governments to work with industry to improve the quality of water flowing to the reefs	No planned water discharge or runoff, however, applicable if a discharge occurred.
Australian Standards and Guidelines	Significant Impact Guidelines 1.1 – Matters of National Environmental Significance	Provides an overarching guidance on determining whether an action is likely to impact on a matter protected under the EPBC Act	This guideline was used to assist in determining referral of the application to SEWPaC regarding MNES
	Australian Ballast Water Management Requirements 2008	Manages the risk of introducing pest species in ship ballast water	Increased shipping as a result of the Project heightens the potential for introduction of invasive marine species. This risk, and mitigatory measures, are addressed within the Abbot Point CIA and Project EMP
	Australian and New Zealand Guidelines for Fresh and Marine Water Quality 2000	Aims to achieve the sustainable use of water resources by protecting and enhancing their quality while maintaining economic and social development	The guidelines have been utilised for water quality assessment purposes
	Australia/ New Zealand Standard International Organisation for Standardisation (ISO) 14001: 1996 Environmental Management System – Specification with Guidance	Specifies requirements for an environmental management system, to enable an organization to formulate a policy and objectives taking into account legislative requirements and information about significant environmental impacts	The environmental management system for the Project, including the EMP, will be prepared in accordance with this standard

Project approvals, land use planning and other legislative requirements that are relevant to the Project are discussed in Section 3.1 Legislation, Land Use and Planning.

1.6 Stakeholder and Community Engagement

The purpose of this section of the EIS is to set out key elements for stakeholder and community engagement required for the purposes of the published EIS Guidelines for the Project.

The EIS Guidelines require the following information to be provided in the EIS:

- Any consultation that has already taken place including details of frequency, forum and timeframes provided for consultation;
- Proposed consultation about relevant impacts of the action;
- If there has been consultation about the proposed action, details of the issues discussed, including the view of the affected parties;
- Identification of affected parties, including a statement mentioning any communities that may be affected and describing their views;
- Details on how affected parties comments received during consultation have been addressed in the EIS; and
- Any further proposed consultation about the potential impacts of the proposal.

The Project is one of several projects proposed at the Port of Abbot Point, in order to provide both the public and the proponent with adequate clarity in the process, it is important to focus consultation activities and material on the Project as a standalone element.

1.6.1 Consultation Aims

The aim of stakeholder and community engagement is to develop a systematic approach to communication activities and development of communication materials which adequately supports the social impact assessment and requirements for consultation and engagement for the purposes of the EIS process under the EPBC Act.

Stakeholders are essentially organisations or individuals who can be identified as having an interest in the decision making about a particular project either by being a party affected by the project or by being partly involved in decision making about a project. Decisions about the Project will be made by the Commonwealth Minister administering the EPBC Act. The decision will be based upon assessment of the potential environmental impacts and mitigation measures of the project. The nature of the decision making process influences the identification and interest of stakeholders.

The EPBC Act does not provide the State government with direct decision making powers within this EIS process so the level of State government involvement as stakeholders is anticipated to be less than if the process was run as a bilateral assessment or as an EIS under either the *State Development and Public Works Organisation Act 1971* or the *Sustainable Planning Act 2009*.

Key stakeholders, including Indigenous Groups and their primary interest in the Project are detailed in Section 3.21 Social Matters and Section 3.19 Indigenous Cultural Heritage.

1.6.2 Approach and Application

Stakeholders and community members need to be able to understand the parameters of the Project and provide feedback about key elements which should be considered or accommodated within the Project. Formal notification of the Project was required under the provisions of the

EPBC Act and these are prescribed by regulation. Adani has complied with all regulatory requirements for notification of the EIS.

With specific reference to Indigenous Groups, Adani’s Indigenous and Cultural Heritage engagement approach has involved a high level of discussion and agreement with relevant parties. This is outlined in Section 3.19 Indigenous Cultural Heritage.

In addition to the formal notification requirements and to facilitate two way communication about the Project, a variety of engagement methods have been used. Each technique and its applicability are identified below in Table 1-8.

Table 1-8 Consultation Techniques

Consultation Technique	Applicability
Fact sheets	Provided a printed ‘take home’ copy of key details of the Project at particular stages
Website	Allowed for access to Project information for those unable view hard copies of documents Allowed for the complete EIS to be available electronically to anyone who wants the detailed content to review Allowed for receipt of submissions about the Project
1800 number	Allowed access to Project information for those wishing to make enquiries about the Project or request information
Stakeholder briefing sessions	Provided a forum for presentation of the Project and discussion of particular aspects. Issues raised by stakeholders have been addressed through the public consultation period and submissions have been addressed in the Submissions Response Report and included in the Final EIS where relevant.