

## Chapter 1

# Introduction



This chapter provides an overview of the proposed Viva Energy Gas Terminal Project (the project) and sets out the purpose and structure of the Environment Effects Statement (EES) for the project.



## 1.1 Viva Energy Gas Terminal Project

Viva Energy Gas Australia Pty Ltd (Viva Energy) is planning to develop a gas terminal using a ship known as a floating storage and regasification unit (FSRU), which would be continuously moored at Refinery Pier in Corio Bay, Geelong.

The project would introduce a new source of natural gas supply to the south-eastern Australian gas market where there is a projected supply shortfall in coming years.

The gas terminal would be comprised of the following components:

- An extension to the existing Refinery Pier
- A floating gas terminal known as an FSRU continuously moored at Refinery Pier and supplied by visiting liquefied natural gas (LNG) carriers
- A treatment facility located within the Geelong Refinery site
- A 7-kilometre pipeline, comprising a 3-kilometre aboveground section and a 4-kilometre underground section, from the FSRU to the South West Pipeline (SWP) connection point at Lara.

A decline in the availability of gas from sources such as Bass Strait and the distant location of northern Australian gas reserves and resources is predicted to result in a gas shortage for the south-eastern Australian domestic market by 2023. The project would provide a flexible option for short and medium-term energy supply by providing a secure, stable source of gas.

### 1.1.1 Background

In June 2020 Viva Energy announced its vision to transform its Geelong Refinery into an Energy Hub. The Geelong Energy Hub would support both the company's and the Australian economy's energy transition currently underway, while helping to underpin the future viability of the refinery.

Having been part of the Geelong community since 1954, the refinery already supplies approximately half of Victoria's liquid fuel energy needs. The broader Energy Hub vision could see the facility taking a leading role in supplying liquid fuels and gas as well as supporting the development of other alternative energy solutions. Importantly, diversification of the Geelong Refinery site would protect local jobs, generate new jobs and skills and support economic development for the region.

The Geelong Energy Hub comprises a number of potential projects. The first project to be developed, and which is the subject of this EES, is the Gas Terminal Project. Other projects that are currently being considered include a solar energy farm, projects to support alternative energies such as renewables and hydrogen, and the development of strategic storage to improve fuel supply security as part of a Government program. It is important to note that the Gas Terminal Project has no inter-relationship with, or reliance on these other projects being considered for the Energy Hub. Other potential Energy Hub projects would be subject to different approvals processes in the event that they are progressed by Viva Energy and are not the subject of this EES. In addition to potential future Energy Hub projects, a low sulfur gasoline project is being considered by Viva Energy as part of an upgrade to existing Geelong Refinery operations to meet new fuel standards which come into force in 2024. This project is unrelated to the Gas Terminal Project and would also undergo a separate approvals process.

Where these projects were sufficiently well developed to enable technical assessments during the Gas Terminal Project EES, potential cumulative impacts such as noise and air emissions were considered in this EES.

Victorian gas production from legacy fields such as Bass Strait's Gippsland Basin are in decline, meaning Victoria will need to find alternative sources of gas supply. Geographically, the transportation of available gas is highly constrained by the existing network of gas pipelines. The existing pipeline





network is not designed to carry gas from the north and west of the country in the volumes needed to satisfy large demand centres in the east and south of the country. Augmenting the existing pipeline system would be costly and time consuming.

The lack of gas reserves and resources in the south-east of Australia combined with inadequate transmission infrastructure is expected to create a gas shortage for domestic customers in the south-eastern states by the mid-2020s (Australian Energy Market Operator Gas Statement of Opportunities (AEMO GSOO), 2021). Both AEMO and the Australian Competition & Consumer Commission (ACCC) have identified a range of measures to address and mitigate the predicted shortfalls, which includes the development of LNG terminals.

LNG terminals that would import gas from both Australian and international sources have been identified by the ACCC as a way of potentially improving competition within the market. An LNG terminal would offer a more cost-effective supply of gas compared to transporting gas long distances via a pipeline network. Gas, like many commodities, can be transported more cost effectively by ship. In this way, the terminal can be thought of as a 'virtual pipeline' bringing gas from where it is available to where it is needed. LNG terminals are considered by AEMO and respected industry analysts to be an important measure in avoiding the predicted gas supply shortfalls in the south-eastern states.

### 1.1.2 Project objectives

The key objectives of the project are to:

- Provide a new secure and flexible source of gas to the south-eastern Australian domestic gas market
- Ensure forecast annual supply shortfalls in Victoria are avoided
- Contribute to meeting peak seasonal and peak day demand for gas in Victoria
- Support the Geelong Energy Hub vision for the Geelong Refinery, the Geelong economy and Victoria's energy transition.

### 1.1.3 Project description

Key components of the project include:

- Extension of the existing Refinery Pier with an approximately 570 metre (m) long angled pier arm, new berth and ancillary pier infrastructure including high pressure gas marine loading arms (MLAs) and transfer lines connecting the seawater discharge points on the FSRU to the refinery seawater intake
- Continuous mooring of an FSRU at the new Refinery Pier berth to store and convert LNG into natural gas - LNG carriers would moor alongside the FSRU and unload the LNG
- Construction and operation of approximately 3 kilometres (km) of aboveground gas pipeline on the pier and within the refinery site connecting the FSRU to the new treatment facility
- Construction and operation of a treatment facility on refinery premises including injection of odorant and nitrogen (if required)
- Construction and operation of an underground gas transmission pipeline, approximately 4km in length, connecting to the SWP at Lara.

The Refinery Pier extension would be located to the north-east of Refinery Pier No. 1. The new pier arm would be positioned to allow for sufficient clearance between an LNG carrier berthed alongside the FSRU and a vessel berthed at the existing Refinery Pier berth No. 1. Dredging of approximately 490,000 cubic metres (m<sup>3</sup>) of seabed sediment would be required to allow for the new berth pocket and swing basin.

The FSRU would be up to 300 metres in length and 50 metres in breadth, with the capacity to store approximately 170,000m<sup>3</sup> of LNG. The FSRU would receive LNG from visiting LNG carriers and store it on board in cryogenic storage tanks at approximately -160°C.

The FSRU would receive LNG to the equivalent of up to 160 petajoules per annum (approximately 45 LNG carriers) depending on demand. The number of LNG carriers would also depend on their storage capacity, which could vary from 125,000 to 180,000m<sup>3</sup>.

When gas is needed, the FSRU would convert LNG back into a gaseous state by heating the LNG using seawater (a process known as regasification). The natural gas would then be transferred through the aboveground pipeline from the FSRU along Refinery Pier and through the refinery to the treatment facility where odorant and nitrogen would be added, where required, to meet Victorian Transmission System (VTS) gas quality specifications. Nitrogen injection would occur when any given gas cargo needs to be adjusted (diluted) to meet local specifications. Odorant is added as a safety requirement so that the normally odourless gas can be smelt when in use. From the treatment facility, the underground section of the pipeline would transfer the natural gas from the treatment facility to the tie-in point at the SWP.

Construction and commissioning of the project is estimated to take up to 18 months. The project is anticipated to operate for approximately 20 years.

An overview of the project and its components is shown in **Figure 1-1**.

Further details on the construction and operation of the project are provided in Chapter 4: *Project description*.

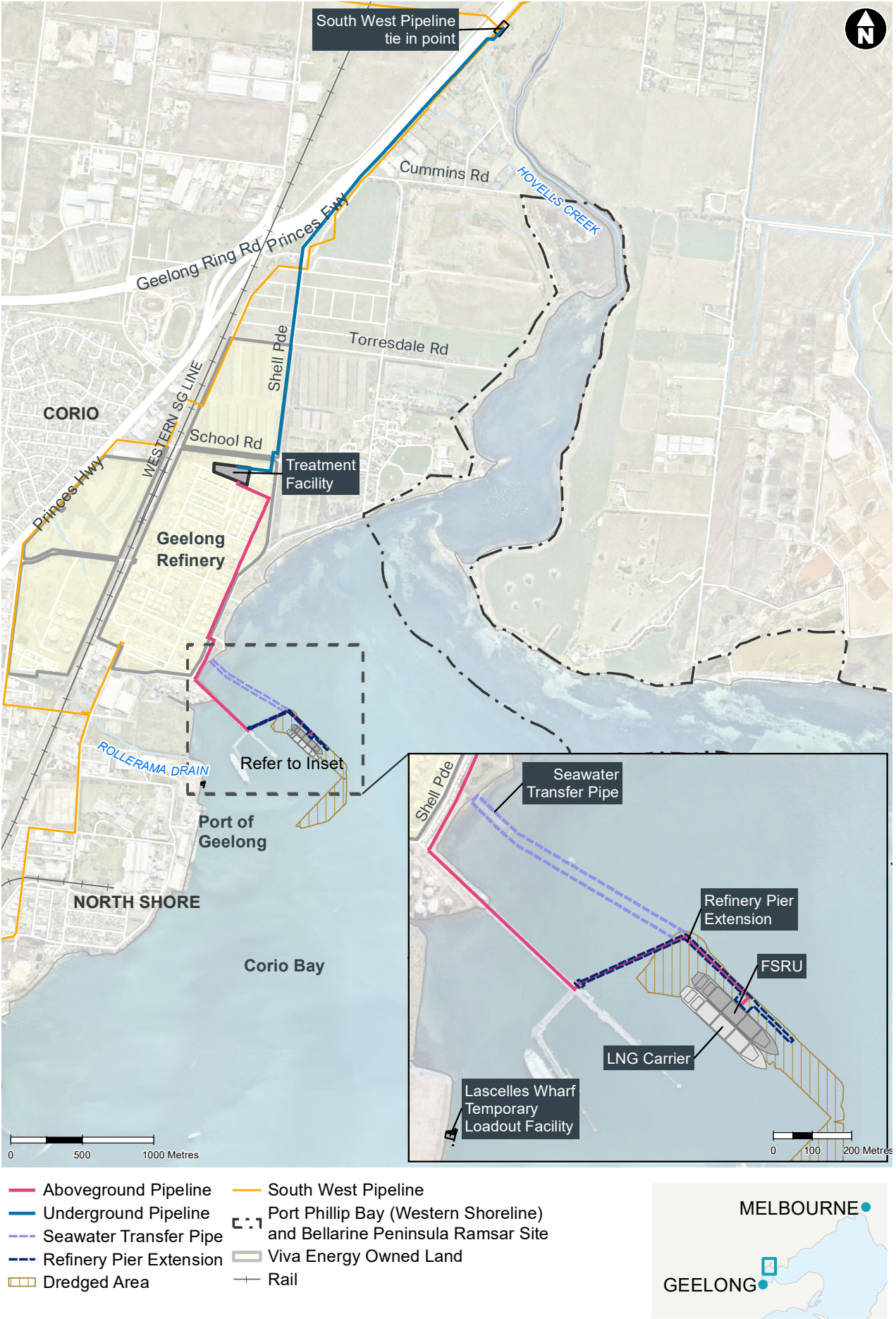


Figure 1-1 Project overview



### 1.1.4 Project location

The project would be located in the City of Greater Geelong, 75km south-west of Melbourne. The project area is situated adjacent to, and on, Viva Energy's Geelong Refinery, within a heavily developed port and industrial area on the western shores of Corio Bay between the Geelong suburbs of Corio and North Shore. The Geelong central business district is located approximately 7km to the south of the project.

Co-locating the project with the existing Geelong Refinery and within the Port of Geelong offers significant opportunity to minimise potential environmental effects and utilise a number of attributes that come with the port and industrial setting. A detailed description of the advantages of the proposed location can be found in Chapter 3: *Project alternatives and development*.

Corio Bay is the largest bay in the south-western corner of Port Phillip and is a sheltered, shallow basin at the western end of the Geelong Arm with an area of 43 square kilometres (km<sup>2</sup>). The Point Wilson/Limeburners Bay section of the Port Phillip Bay (Western Shoreline) and Bellarine Peninsula Ramsar site is located along the northern shoreline of Corio Bay approximately one kilometre to the north-east of the project.

The Port of Geelong has been in operation for over 150 years and is the largest industrial bulk cargo port in Victoria with over 600 ship visits annually handling more than 14 million tonnes of product. Geelong's shipping channels extend 18 nautical miles through Corio Bay from Point Richards through to Refinery Pier. Ports Victoria (formerly known as Victorian Regional Channels Authority (VRCA)) manages commercial navigation in the port waters in and around Geelong and is responsible for the safe and efficient movement of shipping, and for maintaining shipping channels and navigation aids. The channels are man-made having been deepened and widened through periodic dredging to support port trade development.

Refinery Pier is the primary location within the Port of Geelong for movement of bulk liquids. Vessels up to 265 metres in length currently utilise the four berths at Refinery Pier which service Viva Energy refinery operations. The majority of ship visits to the port are to Refinery Pier, with Viva Energy accounting for over half of the trade through the Port of Geelong.

Refinery Pier is located on Crown land leased and managed by GeelongPort. The existing pier and associated landside infrastructure, owned by GeelongPort, are zoned Port Zone (PZ) under the Greater Geelong Planning Scheme (GGPS). Onshore of the pier, to the east of Shell Parade within the PZ, the land is freehold owned by GeelongPort. Land for the proposed pier extension is currently unreserved Crown land.

The Geelong Refinery has been in operation since 1954 with both the refinery and the co-located LyondellBasell plant being licensed Major Hazard Facilities. A range of industrial activities are located in the port environs including wood fibre processing and chemical, fertiliser and cement manufacture.

The Geelong Refinery and undeveloped land immediately to the north, also owned by Viva Energy, is zoned Industrial 2 Zone (IN2Z) under the GGPS.

To the north of the refinery along the proposed pipeline corridor, the area is predominantly rural. There are several other existing Viva Energy-owned underground pipelines running between the refinery and the area where the proposed gas pipeline connects to the SWP at Lara. The proposed pipeline route follows already disturbed pipeline corridors where possible, through a mix of land uses.

The former New Corio Estate subdivision now known as the Corio Native Grassland Reserve is zoned partly Farming Zone (FZ) and partly Public Conservation and Resource Zone (PCRZ) and is covered by an Environmental Significance Overlay (ESO4). Beyond this the land on either side of the Princes Freeway is zoned Farming Zone (FZ) or Rural Living Zone (RLZ) and is actively cultivated for crops or animal farming.

The proposed SWP tie in point is located within the Hovells Creek Reserve zoned Public Park and Recreation Zone (PPRZ) and covered by an Environmental Significance Overlay (ESO2).

## 1.2 Project delivery

The project would be delivered by Viva Energy (the proponent). This section provides further information of the proponent and Viva Energy's health, safety and environmental policy and commitments, as well as the timeframe for which the project is proposed to be delivered.

### 1.2.1 Proponent

The proponent for the project is Viva Energy Gas Australia Pty Ltd, a wholly owned subsidiary of Viva Energy Group Limited (Viva Energy).

Viva Energy is one of Australia's leading energy companies with more than 110 years of operations in Australia and supplies approximately a quarter of the country's liquid fuel requirements. Viva Energy is the exclusive supplier of Shell fuels and lubricants in Australia through an extensive network of more than 1,300 service stations across the country. Viva Energy owns and operates the strategically located Geelong Refinery, and operates bulk fuels, aviation, bitumen, marine, chemicals and lubricants businesses supported by 24 fuel import terminals, 22 depots and 55 airports and airfields.

The Geelong Refinery is Viva Energy's largest operation, employing more than 700 people. The refinery and associated operations have been part of the local Geelong community since 1954 and supplies more than half of Victoria's fuel needs and injects more than \$200 million each year into the local economy through wages and services.

As a longstanding member of the local community, Viva Energy has an ongoing and active Community Program. In addition to national Community Partners, such as the Cathy Freeman Foundation, the Koorie Heritage Trust and the National Aboriginal Sporting Chance Academy, Viva Energy also has partnerships with a range of local Geelong community organisations. These include Northern Futures and the Geelong Football Club – sponsoring their inaugural Australian Football League (AFL) Women's team and their NextGeneration Academy. Social enterprise genU is also engaged to manage the refinery cafeteria and provide gardening services. Sport plays a big role in the Geelong region, with AFL, soccer, netball and cricket being the highest participation sports, and Viva Energy supports 10 local clubs to assist people, particularly children, to participate. Viva Energy further supports the local sporting community through our Club Legends Award, which rewards and celebrates unsung sporting volunteers in the Geelong region.

### Health, safety and environmental policy

Viva Energy conducts its operations under an integrated Health, Safety, Security & Environmental Management System (HSSE MS). The HSSE MS has been designed to facilitate compliance with the Australian regulatory regimes of the relevant jurisdictions within which the company operates. It is also aligned with the Viva Energy values: Integrity, Responsibility, Curiosity, Commitment and Respect.

Viva Energy has a systematic approach to HSSE management in order to achieve continuous performance improvement. To this end, Viva Energy manages these matters as critical business activities, sets standards and targets for improvement; measures, appraises and reports on performance; and supports active discussion to promote learning and continuous improvement. This is further supported by the Viva Energy "Commitment to HSSE", as expressed in the HSSE Policy, which sets out the commitment to pursuing 'Goal Zero' - no harm to people or the environment.

Viva Energy has identified priorities and focus areas in managing their environmental footprint including:

- Greenhouse gas emissions and energy efficiency
- Air quality
- Water management
- Waste and recycling
- Land management
- Noise and odours
- Sustainable communities.

Across all businesses, Viva Energy has adopted the HSSE MS which provides an essential reference document for personnel in the planning, implementation and operation of business activities, with references to the relevant processes that are in place to meet the HSSE objectives and obligations. Business Managers, in conjunction with the HSSE Environmental Team, ensure the activities and facilities that they are responsible for meet the requirements of the:

- Regulatory approvals (e.g., Licence conditions)
- Viva Energy Environmental Manuals and subsidiary guidance
- Facility Environmental Management Manuals.

## Environmental performance

Viva Energy is committed to protecting the environment and minimising any potential environmental impacts arising from its operations or its products. The HSSE Policy outlines this commitment to operating in an environmentally responsible manner. The environmental aspects of Viva Energy's operations are governed by environmental regulations, and subject to project and site-specific environmental permits and approvals, at both the Commonwealth and State government levels which are managed in accordance with the HSSE MS.

Viva Energy has a dedicated and experienced team of in-house environmental professionals and leverages the specialist technical expertise of environmental consultants. Viva Energy has a long history of operating Major Hazard Facilities and executing significant projects in an environmentally responsible manner.

For major facilities, including the Geelong Refinery, environmental licence compliance and performance monitoring results are reported publicly. Recent information on Viva Energy's environmental performance and a summary of environmental performance data is available in the Sustainability Report contained within the 2020 Viva Energy Group Limited Annual Report. This information can be found at the following links respectively:

[www.vivaenergy.com.au/sustainability/environment/environmental-reporting](http://www.vivaenergy.com.au/sustainability/environment/environmental-reporting)

[www.vivaenergy.com.au/sustainability](http://www.vivaenergy.com.au/sustainability)

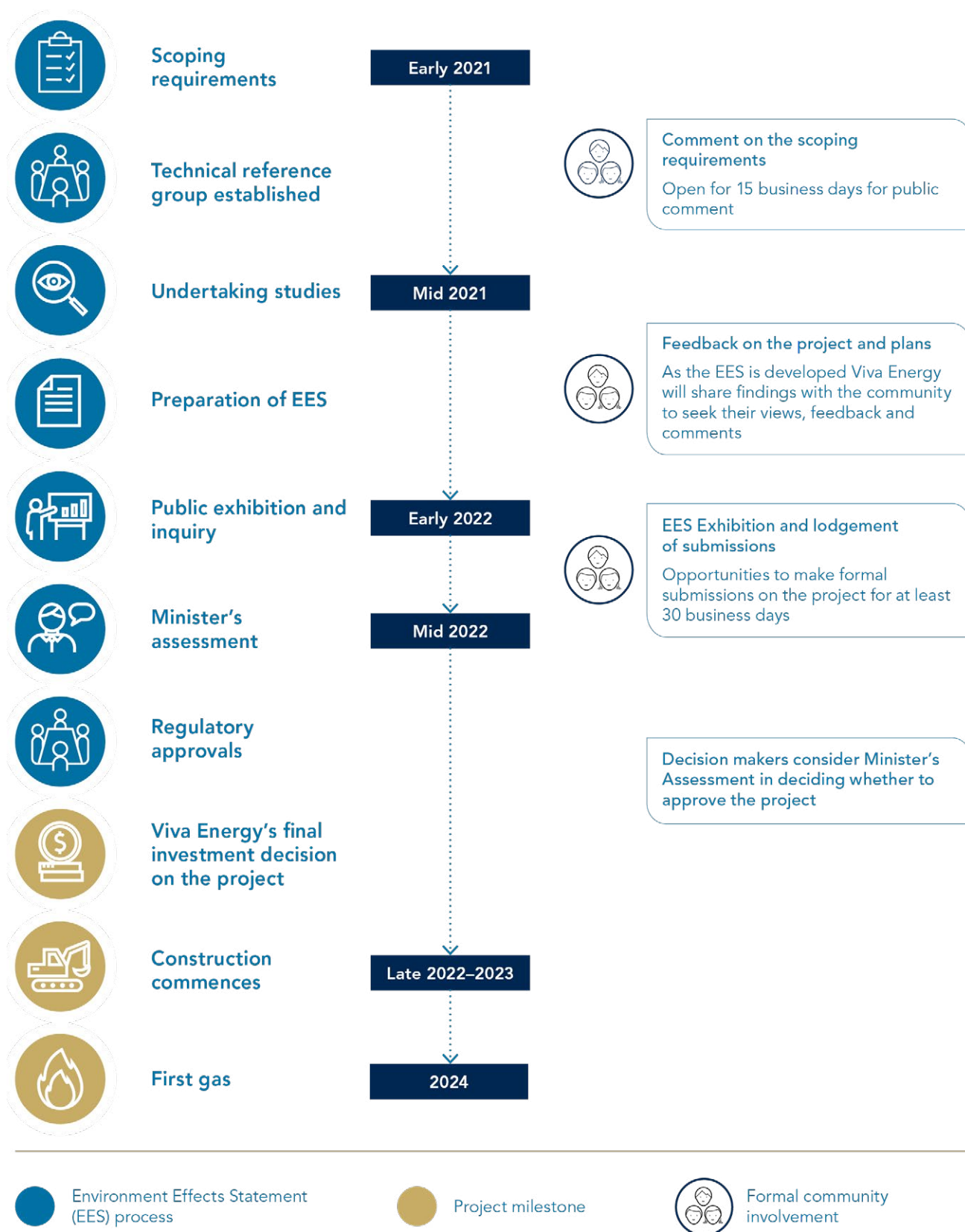
[www.vivaenergy.com.au/investor-centre](http://www.vivaenergy.com.au/investor-centre)

Further information of Viva Energy's commitment to sustainability is discussed in Chapter 15: *Sustainability*.

## 1.2.2 Project timeline

The timeline for the planning, design, construction, and operation of the project is shown in **Figure 1-2**. This timeline is subject to receiving required approvals within certain timeframes.





These are target dates, creating an indicative timeline.  
Dates are subject to change and dependent on relevant approvals.

Figure 1-2 Project timeline

## 1.3 Environment Effects Statement

*Victoria's Environment Effects Act 1978 (Vic)* ('Environment Effects Act') sets out the process under which the Victorian Minister for Planning may require the proponent of a project to prepare an EES. This section discusses the requirement for an EES, the EES's purpose and the approach to the EES for the project.

### 1.3.1 Requirement for an EES

The project was referred by Viva Energy to the Minister for Planning under the Environment Effects Act on 11 November 2020.

On 28 December 2020, the Victorian Minister for Planning issued a decision determining that an EES was required for the project due to the potential for a range of significant environmental effects. The Minister identified several primary areas of potential environmental impact requiring consideration, namely:

- The project has the potential for significant adverse effects on the marine environment of Corio Bay including marine water quality. Sediment mobilisation and water discharges may impact on the marine ecosystem, including seagrass and other habitat for listed fauna species, some of which are listed under the *Flora and Fauna Guarantee Act 1988 (Vic)* and *Environment Protection and Biodiversity Conservation Act 1999 (Cth)* ('EPBC Act'). The potentially significant effects from construction and operation of the FSRU will occur within Corio Bay and potentially the Port Phillip Bay (Western Shoreline) and Bellarine Peninsula Ramsar site.
- The project has potential for contributing to greenhouse gas emissions which warrant further investigation of the nature and extent.

The Minister also identified a number of secondary areas of potential environmental impact to be addressed through integrated assessments, namely:

- Other potential effects of the project on air quality, noise, land use, Aboriginal and historic heritage, native vegetation, groundwater, traffic and transport, as well as visual amenity.

On the basis of the Victorian Minister for Planning's decision identifying primary and secondary issues for assessment, this EES addresses all potential environmental impacts but with an emphasis on the substantive matters raised.

The project was also referred to the Commonwealth Department of Agriculture, Water and Environment (DAWE) under the EPBC Act.

On 21 January 2021, the delegate for the Commonwealth Minister for the Environment determined the project to be a controlled action. The EPBC Act states that 'controlled' actions, being actions that are determined as likely to have a significant impact on a matter of national environmental significance (MNES), are subject to assessment and approval under the EPBC Act.

The Minister considered the project to be a controlled action due to potential significant impact on the Port Phillip Bay (Western Shoreline) and Bellarine Peninsula Ramsar wetland, listed threatened species and ecological communities and listed migratory species.

The Victorian EES will serve as the accredited environmental assessment process for the purpose of the EPBC Act under a Bilateral Assessment Agreement between the Commonwealth and Victorian governments.

The main steps in the EES process and the statutory approvals required for the project are shown in **Figure 1-3**.

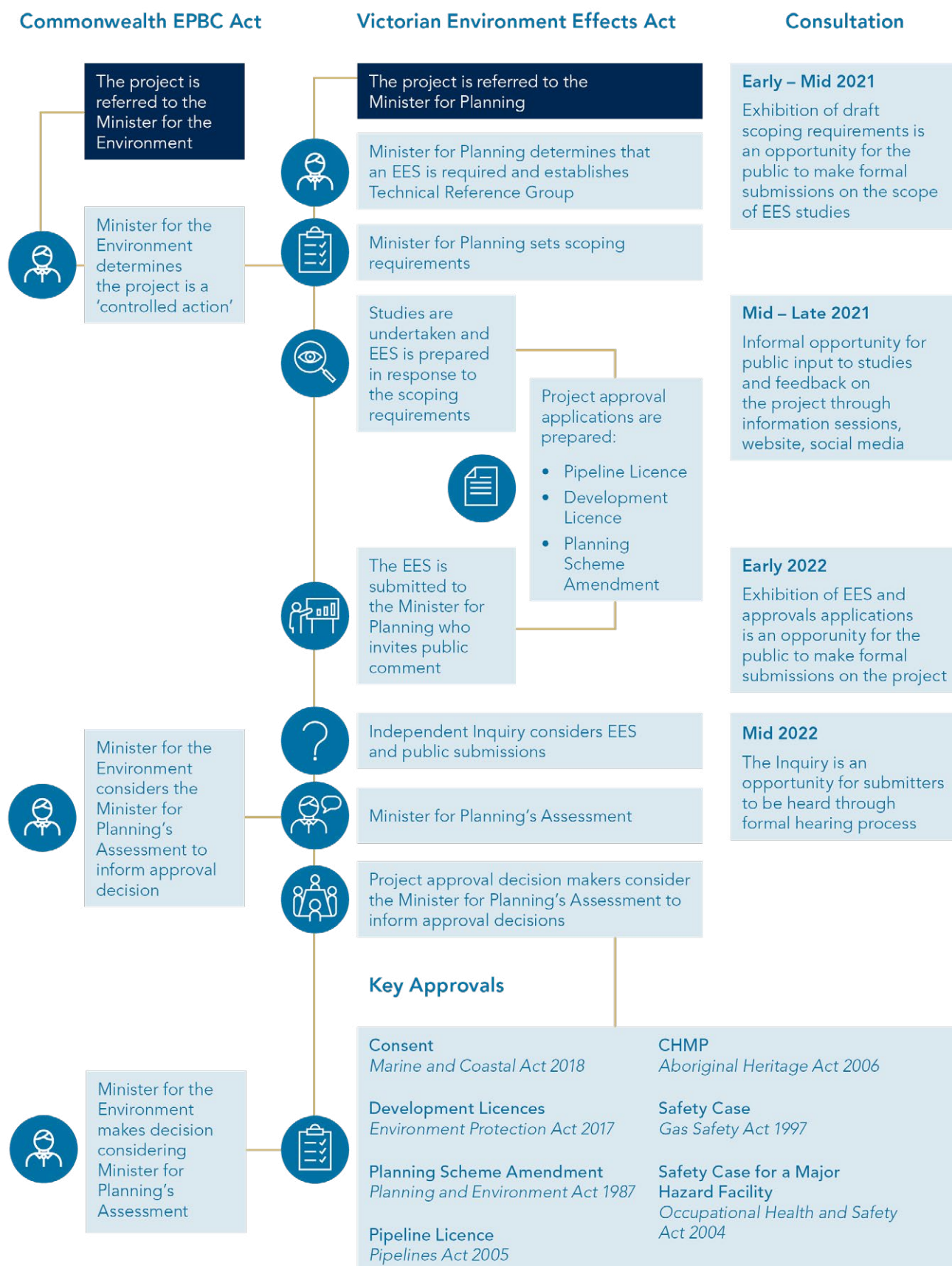


Figure 1-3 EES process and statutory approvals



### 1.3.2 Purpose of this EES

The purpose of the EES is to describe the project and its potential environmental effects in detail to allow the Victorian Minister for Planning to make a final assessment on the acceptability of the project.

The EES process is not an approval in itself, but an assessment by the Minister as to whether the project is considered acceptable or otherwise in terms of potential environmental impacts. The EES informs regulatory authorities on whether or not the project should proceed, and if so, under what conditions. Statutory approvals for a project being assessed under the Environment Effects Act cannot be considered and issued by regulatory authorities until the Minister's Assessment of the EES is made.

Further information on statutory approvals required for the project is provided in Chapter 5: *Legislative framework and approval requirements*.

The EES is required to:

- Describe the project and its proposed components
- Describe project alternatives considered
- Assess the project's potential effects on the environment
- Evaluate the significance of potential environmental effects
- Assess alternative design and operational options to meet the draft evaluation objectives
- Recommend approaches to avoid, mitigate or manage adverse effects
- Assess the project's residual environmental effects
- Assess the anticipated performance of the project
- Outline an Environmental Management Framework (EMF) that will set out a clear framework for how environmental effects and risks associated with the project will be avoided, mitigated, and managed.

This EES was prepared in accordance with the Victorian Minister for Planning's decision, the scoping requirements for this EES issued by the Victorian Minister for Planning in July 2021, and the *Ministerial guidelines for assessment of environmental effects under the Environment Effects Act* (Ministerial Guidelines).

Sixteen technical studies have been undertaken to inform the EES, with the findings of these studies presented as technical reports attached to this EES and summarised in Chapters 8 to 13. In accordance with the Victorian Minister for Planning's decision requiring an EES, the level of investigation and proposed mitigation measures outlined in the technical studies and chapters reflect the Minister's view that several areas should be primary areas of assessment with others requiring a secondary level of assessment. The EES has assessed potential impacts on the environment from the project construction, operation and decommissioning and recommended mitigation measures to address potential impacts, which has informed the EMF prepared for the project (see Chapter 14: *Environmental Management Framework*).

The EES was prepared in close collaboration with the project design team which resulted in a number of design and operational refinements which avoided or minimised potential environmental impacts associated with the project which are outlined in Chapter 15: *Sustainability*.

The EES also aims to inform the public and stakeholders about the project, its potential impacts and how these impacts would be avoided, minimised or managed throughout the project life cycle. Community members and stakeholders are able to provide feedback on the EES and associated approvals applications during the public exhibition period.

### 1.3.3 Approach to the EES

#### Scoping requirements and evaluation objectives

Scoping requirements set out the matters to be investigated and documented within an EES. The scoping requirements for the EES were issued by the Victorian Minister for Planning in July 2021. The purpose of the scoping requirements is to ensure that the EES:

- Appropriately responds to the decision made by the Victorian Minister for Planning that an EES is required
- Identifies potential significant environmental effects of the project
- Explains how the environmental effects of the project are proposed to be avoided, mitigated or managed for the different stages and aspects of the project
- Provides sufficient and appropriate information to allow the Victorian Minister for Planning to assess the environmental effects of the project under the Environment Effects Act.

Draft scoping requirements were exhibited by the Department of Environment, Land, Water and Planning (DELWP) for public comment on 26 April 2021. Following consideration of public submissions, the Victorian Minister for Planning issued final scoping requirements in July 2021. This EES has been prepared in accordance with the final scoping requirements. The EES may also address other significant issues not identified in the scoping requirements that have emerged throughout EES technical studies and the consultation process.

Evaluation objectives for the EES were established in the final scoping requirements and are outlined below in **Table 1-1**. These evaluation objectives identify key topics to be addressed in the EES. The purpose of the evaluation objectives is to provide a framework to guide an integrated assessment of environmental effects and for evaluating the overall implications of the project.

**Table 1-1** Evaluation objectives

Evaluation objectives	
<b>Energy efficiency, security, affordability and safety</b>	To provide for safe and cost-effective augmentation of Victoria's natural gas supply having regard to projected demand and supply in context of the State's energy needs and climate policy.
<b>Biodiversity</b>	To avoid, minimise or offset potential adverse effects on native flora and fauna and their habitats, especially listed threatened or migratory species and listed threatened communities as well as on the marine environment, including intertidal and marine species and habitat values.
<b>Water and catchment values</b>	To minimise adverse effects on water (in particular wetland, estuarine, intertidal and marine) quality and movement, and the ecological character of the Port Phillip Bay (Western Shoreline) and Bellarine Peninsula Ramsar site.
<b>Cultural heritage</b>	To avoid or minimise adverse effects on Aboriginal and historic cultural heritage.
<b>Social, economic, amenity and land use</b>	To minimise potential adverse social, economic, amenity and land use effects at local and regional scales.
<b>Waste</b>	To minimise generation of wastes by or resulting from the project during construction and operation, including dredging and accounting for direct and indirect greenhouse gas emissions.

## Environmental impact assessment

To ensure that all key issues identified in the scoping requirements were addressed in the EES, 16 specialist technical studies were undertaken to evaluate the potential environmental effects of the project design, construction methodologies and operational requirements.

Each technical study assessed how potential adverse environmental effects could be avoided, minimised and managed. The findings of these studies are provided in the technical reports attached to this EES and summarised in Chapters 8 to 13.

An initial risk-based screening was applied to identify potential risks and impacts requiring assessment in the EES. The assessment framework applied in each of the technical studies is outlined in Chapter 7: *Assessment framework*.

## Mitigation measures

An initial set of mitigation measures to minimise effects on the environment from project construction and operation were developed by technical specialists in each of the 16 technical studies as part of their impact assessment. The purpose of mitigation measures is to reduce the identified environmental effects of the project as far as reasonably practicable, or to levels where statutory compliance is achieved and where the proponent believes that the EES evaluation objectives have been satisfied.

The initial set of mitigation measures identified in the specialist technical studies were refined to a set of mitigation measures that have been adopted as commitments by the proponent as part of an iterative process aimed at achieving compliance with statutory requirements and achieving acceptable environmental outcomes.

Additional mitigation measures were developed where the initial assessment of impacts was considered not to be consistent with the draft evaluation objectives.

The approach adopted for developing and refining mitigation measures is outlined in Chapter 7: *Assessment framework*.

Mitigation measures proposed for the project are listed in Chapter 14: *Environmental Management Framework*.

## Environmental Management Framework

The EMF is a framework that outlines the environmental requirements of the project and how environmental effects would be managed. The EMF sets out the mitigation measures that would be implemented by the proponent to mitigate potential adverse effects of the project and identifies the

relevant statutory approvals that will give effect to these measures. Roles and responsibilities of key stakeholders are defined in the EMF to ensure that there are clear accountabilities for the implementation of the environmental management requirements.

The mitigation measures set out in the EMF have been developed in this EES to avoid and minimise adverse environmental effects. The mitigation measures would assist in informing the conditions which may be required by relevant statutory authorities. Viva Energy and their contractors would be responsible for implementation of mitigation measures and conditions imposed by statutory authorities. Contractual arrangements with contractors responsible for construction, operation and decommissioning of the project will include requirements for contractors to adhere to specified mitigation measures.

The proposed EMF and mitigation measures are presented in Chapter 14: *Environmental Management Framework*.

## Consultation

Viva Energy is committed to proactively engaging and consulting with the community and other stakeholders throughout each stage of the project life cycle.

A consultation plan for the project was developed in response to the requirements of both the *Environment Effects Act and the Pipelines Act 2005* (Vic) ('Pipelines Act'). The consultation plan guided how Viva Energy informed and consulted with the public and stakeholders during the preparation of the EES and how the proponent consulted with owners and occupiers of land about the proposed pipeline.

Under the Pipelines Act, the delegate for the Minister for Energy, Environment and Climate Change approved the pipeline consultation plan on 26 November 2020, and subsequently approved the integrated consultation plan for the project on 5 May 2021.

Throughout the consultation process, community members and other stakeholders were able to raise issues of concern which helped inform the EES technical studies and design of the project.

Community consultation and stakeholder engagement would continue to be undertaken during construction of the project. This consultation program is described in Chapter 6: *Stakeholder and community engagement*.



## 1.4 EES structure

Under section 8B(5) of the Environment Effects Act and the Ministerial guidelines for assessment of environmental effects under the Environment Effects Act 1978 (Ministerial Guidelines), the Minister's decision on the scope of the EES identified primary and secondary requirements for assessment of potential impacts in the EES.

Primary and secondary issues were identified by the Minister to inform the level of assessment required in the EES. The primary issues for assessment are considered to represent the potential impacts of most concern for the project that require detailed assessments in the EES. Secondary issues are considered to be potential impacts which may be of lesser significance for the EES as a result of aspects such as the project elements and location in an industrialised port setting. Notwithstanding, all secondary issues have been thoroughly examined in the EES.

Technical studies undertaken for the EES have been identified as either a primary or secondary area of assessment, with the level of assessment commensurate with the potential impacts and in accordance with both section 8B(5) of the Environment Effects Act and the Ministerial Guidelines. The level of detail of investigation for the EES technical studies is consistent with the approach set out in the scoping requirements and is also adequate to inform an assessment of the significance and acceptability of the project's potential environmental effects.

**Table 1-2** identifies which technical studies are considered primary or secondary areas of assessment.

**Table 1-2** Technical study areas of assessment

Primary areas of assessment	Secondary areas of assessment
<ul style="list-style-type: none"> <li>• Marine ecology and water quality impact assessment</li> <li>• Dredged sediment spoil disposal options assessment</li> <li>• Greenhouse gas impact assessment</li> </ul>	<ul style="list-style-type: none"> <li>• Terrestrial ecology impact assessment</li> <li>• Energy demand and market statement</li> <li>• Surface water impact assessment</li> <li>• Groundwater impact assessment</li> <li>• Contamination and acid sulfate soils impact assessment</li> <li>• Air quality impact assessment</li> <li>• Noise and vibration impact assessment</li> <li>• Landscape and visual impact assessment (including potential light spill impacts)</li> <li>• Transport impact assessment</li> <li>• Land use impact assessment</li> <li>• Social and business impact assessment</li> <li>• Safety, hazard and risk assessment</li> <li>• Maritime and port operations safety</li> <li>• Aboriginal cultural heritage impact assessment</li> <li>• Historic heritage impact assessment</li> </ul>

The EES is structured around these primary and secondary areas of assessment, with primary areas of assessment forming chapters in Part 2 of the EES and secondary areas of assessment being combined to form broader chapters in Part 3 of the EES. The structure of this EES is shown in **Figure 1-4**.

## EES Executive Summary

### EES Chapters

#### Part 1

#### Understanding the Viva Energy Gas Terminal Project

Ch. 1	Introduction	Ch. 5	Legislative framework and approval requirements
Ch. 2	Project rationale	Ch. 6	Stakeholder and community engagement
Ch. 3	Project alternatives and development	Ch. 7	Assessment framework
Ch. 4	Project description		

#### Part 2

#### Primary areas of assessment

Ch. 8	Marine environment	Ch. 9	Greenhouse gas emissions
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#### Part 3

#### Secondary areas of assessment

Ch. 10	Land environment	11-5	Social and business
10-1	Terrestrial ecology	11-6	Land use
10-2	Land and water values	Ch. 12	Safety
Ch. 11	Amenity and environmental quality	12-1	Maritime and port operations safety
11-1	Air quality	12-2	Hazard and risk assessments
11-2	Noise and vibration	Ch. 13	Heritage
11-3	Landscape and visual	13-1	Aboriginal cultural heritage
11-4	Transport	13-2	Historic heritage

#### Part 4

#### Key findings and environmental commitments

Ch. 14	Environmental Management Framework	Ch. 16	Key findings
Ch. 15	Sustainability		

### EES Technical Studies (Technical Reports)

A: Marine ecology and water quality impact assessment	F: Groundwater impact assessment	L: Social and business impact assessment
B: Dredged sediment disposal options assessment	G: Contamination and acid sulfate soils impact assessment	M: Land use impact assessment
C: Greenhouse gas impact assessment	H: Air quality impact assessment	N: Safety, hazard and risk assessment
D: Terrestrial ecology impact assessment	I: Noise and vibration impact assessment	O: Aboriginal cultural heritage impact assessment
E: Surface water impact assessment	J: Landscape and visual impact assessment	P: Historic heritage impact assessment
	K: Transport impact assessment	

### EES Attachments

I: Energy demand and market statement	V: Development Licence Applications
II: Risk to the project from climate change	VI: Pipeline Licence Application
III: Legislation and policy report	VII: Draft Planning Scheme Amendment
IV: Matters of National Environmental Significance	

Figure 1-4 EES structure