



## Fact Sheet

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# Sustainability and the Gas Terminal Project

# Sustainability



One of the first major steps towards the refinery becoming a mixed energy gateway for Victoria involves a Floating Gas Terminal adjacent to the Geelong refinery site. The Gas Terminal would bring liquefied gas from various locations in Australia and overseas providing a reliable supply of gas for customers ahead of projected gas shortages in south-east Australia.

Gas Terminal Project components			
Floating Gas Terminal	Refinery Pier extension	Treatment facility	New pipeline
A vessel which receives, stores and converts LNG back into natural gas. The Floating Gas Terminal (known as a Floating Storage and Regasification Unit or FSRU) would be continuously moored at Refinery Pier. LNG ships – one every 7-10 days – would berth alongside to deliver their cargo.	To accommodate the LNG ships and moor the Floating Gas Terminal, the existing Refinery Pier would be extended by approximately 570m. To allow the ships to safely berth and turn, some localised dredging would be required.	All of the gas entering our terminal would go to the treatment facility located within the refinery boundary. At this location, an odorant would be added to the gas, to give it its distinctive smell and nitrogen would be added as required to meet Australian specifications.	Approximately 7kms of pipeline would be constructed to transport the gas from the terminal. About 3km of the pipeline would be above ground and located on the pier and refinery land. About 4km would be underground and within existing pipeline corridors.

Viva Energy is currently seeking approval to develop a gas terminal. As part of this approvals process, we are undertaking an Environment Effects Statement, the most rigorous environmental assessment process in Victoria. The draft EES will be on public exhibition in March 2022.

Right from the start of the Gas Terminal Project, reflecting the business’ sustainability approach to new projects, Viva Energy looked at all aspects of the terminal design, construction and operation to find opportunities to improve the project’s sustainability performance. To support this we applied a Safe and Sustainable Engineering for Asset Lifecycle (SEAL) approach to the design ensuring that sustainability was a key consideration during design and the decision-making process. Key opportunities to embed sustainability in the project and to reduce environmental impacts, including minimising carbon emissions, were identified during the project’s conceptual phase and finessed during the EES process. Sustainability practices will continue as the project evolves.

The approach, and outputs are outlined on the following page. This sustainability assessment, used for the Gas Terminal, will be adapted for future Viva Energy projects.





## Health and Safety

At every stage of planning for the gas terminal, safety has been a priority.

Safety hazard and risk assessments have been carried out on all aspects of the planned terminal operation. These studies show that the Gas Terminal can operate safely.

Viva Energy will continue to undertake Safety assessments and studies throughout the Project lifecycle.

Like the Geelong Refinery, the floating gas terminal will be a Major Hazard Facility and WorkSafe Victoria must issue a licence to operate such a facility. Other regulators and agencies will include Energy Safe Victoria, EPA, Maritime Safety Victoria and Ports Victoria.

It is important to note that Liquefied Natural Gas (LNG) has been safely produced and transported across the world since the 1960s – over 135,000 voyages have been completed covering over 100 million kilometres, without there ever being a significant spill, loss of cargo, or environmental incident.

The Gas Terminal and LNG ships contain modern safety systems equivalent to those found within industry across the globe, including the Geelong Refinery. This includes process monitoring, leak detection, automatic shutdown and firefighting systems. The ships are also operated by highly trained and skilled crews.



## Our Community

The Geelong Refinery has been part of the local landscape since 1954 and been a major part of the local community. Today we supply more than half of Victoria's fuel needs, have a workforce of around 700, spend more than \$200 million each year locally in wages and services and support many local community groups and programs.

Community engagement is a key element of the project. From the outset Viva Energy has been open and transparent with the local community on the Gas Terminal project and how it fits into Viva Energy's broader Energy Hub vision.

Communications activities related to the EES phase of the project included: 10 community events, 24 information sheets, 25, adverts, 180+ meetings, website and social media.

Through this program, the Viva Energy Team were able to address community questions and respond to feedback, prior to placing the EES on public exhibition.



## Climate Change and Future Energy

Viva Energy plans to offset the greenhouse gas emissions from the Gas Terminal proposed for the Geelong Refinery site.

Certified carbon offsets will be purchased for Scope 1 and Scope 2 emissions which are directly related to the construction and operation of the terminal.

Viva Energy has actively sought out opportunities to minimise greenhouse emissions from the proposed Gas Terminal, at every stage of design and planned operations.

The Gas Terminal will operate primarily in 'open loop' mode. This means that the terminal uses seawater to warm up and re-gasify the LNG rather than using heaters which burn fuel. As a result, greenhouse gas emissions will be about four times less than the alternative 'closed loop' scenario.

The use of fossil fuels in the construction and operations of the Gas Terminal were identified as the major sources of emissions for the project. Mitigation measures were identified and these have included local procurement and employment to reduce emissions associated with travel, and the selection of fuel-efficient plant and equipment for construction.

An energy management system will also be implemented and externally certified against the internationally recognised ISO 50001 framework to improve energy efficiency and reduce greenhouse gas emissions during the operational life of the terminal.

The Gas Terminal is one component the Geelong Energy Hub, which is focused on Future Energy.



## Our People

A Viva Project team of nine has led the project through early development. Seven of these team members were existing Viva Energy employees, providing them with an opportunity to build their skills and development.

An additional Approximately 80 external team members (Viva Energy's and third party contractors were engaged for specialised skills and expertise) during the study, design and development phase.



## Ethical Conduct and Transparency

Viva Energy's core business values – integrity, responsibility, curiosity, commitment and respect – are the foundation of how the company approached the Gas Terminal. This also demonstrated practical application of Viva Energy's Business Principles and Code of Conduct.



## Environment

Over 15 months Viva Energy completed numerous studies and 17 technical reports for the EES.

The primary studies included

- Marine ecology (monitoring larvae, plankton, temperature, chlorination, sediment)
- Offshore contamination (includes dredge area and disposal ground)
- Terrestrial and freshwater ecology
- Air emissions and Greenhouse gases

Environmental outcomes included to re-use and recycle seawater used in the floating gas terminal in the refinery operations. This delivers a unique environmental outcome where the water temperature of the discharge will be close to ambient and chlorine levels will be largely unchanged from current refinery operations.

Ecological studies and modelling undertaken as part of the EES show that the healthy marine life in Corio Bay will continue to flourish.

The proposed local dredging area was halved, following maritime simulation and modelling. Dredging will be timed to avoid the breeding season for micro-organisms and thus minimise potential impacts on the marine environment.

The proposed pipeline route was selected to minimise the use of greenfield sites and to minimise impacts on sensitive land uses including the need to disturb existing native vegetation.

A number of environmental commitments for the project have been declared.



## Economic Contribution

Approximately two million Victorian households and 65,000 businesses rely on gas. The gas terminal will help provide reliable gas to these homes and businesses. This is particularly important given the forecast shortage of gas in south-east Australia in the coming decade.

A reliable and affordable supply of gas is critical for industry and manufacturing, supporting employment and economic growth. 50 percent of gas supplied to Geelong is used by large commercial and industrial businesses, including Viva Energy's Geelong refinery.

Sustainable procurement has been a key consideration throughout the assessment process. At the end of the project life, the floating gas terminal and project infrastructure would have the potential for alternate use elsewhere.

The gas terminal will employ 150-200 people during construction and create 50-70 permanent jobs and new skills in Geelong,

Important initiative for the Geelong refinery which contributes \$200 million each year to the local economy.



## United Nations Sustainable Development Goals

Where our sustainability initiatives align with the UN SDGs, they have been noted below:



The project will meet the forecast demand for providing reliable and affordable energy while acknowledging the need to transition away from fossil fuels in the long term.



The project has planned for minimal vegetation clearing, minimal use of greenfield property and impacts on sensitive landuses by the use of the existing industrialised setting of the Refinery Pier avoiding the construction of large onshore gas infrastructure; and using the existing pipe track and within or adjacent to already disturbed easements or licensed road reserve areas held by Viva Energy within the existing infrastructure corridor.



The project would allow for the re-use of seawater from the floating gas terminal within the Geelong Refinery, enabling the temperature of the existing refinery seawater discharge to be reduced, and therefore reducing the change in temperature from ambient conditions within the mixing zone. The synergy with existing operations would enable the project to reduce the potential impact of the floating gas terminal seawater discharge on the marine environment.



At the end of the project life, the FSRU (which is a repurposed LNG carrier and would remain a sea-faring vessel) would have the potential for alternate use elsewhere. Sustainable procurement and potential re-purposing of the FSRU and project infrastructure is an important aspect of Viva Energy's net zero goals.



Viva Energy has committed to a range of mitigation measures to reduce greenhouse gas emissions and offsetting the residual Scope 1 and 2 GHG emissions associated with the construction and operational emissions.



**If you have any questions about the Project,  
please contact Viva Energy's Project Team**

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