GEELONG GAS TERMINAL PROJECT

Protecting Ramsar wetlands

Port Philip and Bellarine Ramsar

The Port Phillip Bay (Western Shoreline) and Bellarine Peninsula Ramsar site is an internationally recognised wetlands of ecological significance.

Located on the western shoreline of Port Phillip Bay between Melbourne and Geelong and on the Bellarine Peninsula, the site covers 22,650 hectares, and provides habitat, refuge and feeding grounds for migratory bird species.

The closest point within the Ramsar site to the Viva Energy Geelong Refinery and the proposed Gas Terminal is around Limeburners Bay, at a distance of approximately 1.3 kilometres.

Protecting sensitive environments

While the proposed terminal is outside the Ramsar site and there will be no operations or pipelines within the Ramsar zone, the Ramsar wetlands have been identified as a sensitive environmental area and a priority watch point for the project team.

The Viva Energy Geelong Refinery has safely operated for almost 70 years in harmony with the wetlands - current licence conditions and monitoring are in place to continue to ensure this sensitive area is protected

We recognise the value of this sensitive area and are working closely with the regulators who oversee the wetlands, other environmental experts as well as consulting with local recreational users to ensure the risk of any impacts from the new terminal will be minimised.

A careful approach to planning and construction

While we believe that the Project will have minimal impact on the ecological character of the wetland, a comprehensive Environmental Effects Study (EES) will assess all potential impacts including marine discharges, new pipeline construction and seabed sediment dredging and disposal activities during design, construction and operation. External experts will undertake monitoring and detailed assessments of marine ecology, water quality and potential impacts on wildlife. The studies will inform comprehensive plans to manage and mitigate any potential impacts.

The Corangamite Catchment Management Authority (CCMA) and the Department of Environment, Land, Water and Planning (DELWP), who are responsible for the management of the Ramsar site, are represented on the EES Technical Reference Group (TRG) and are providing direct input into our plans and technical studies.

Map of the Ramsar site showing Geelong refinery location (approximately 1.3 km at the closest point)

Minimising impacts on migratory birds

The Port Philip Ramsar site supports large populations of migratory birds, including shorebirds and waders from the northern hemisphere.

The proposed terminal will not be built inside the designated Ramsar site and its bird life habitat will not be directly impacted by construction or operations. However, the EES is a thorough process which will examine the potential for both direct and indirect impacts. Expert assessments will be conducted to ensure there are no unintended indirect impacts on birds, for example, from water discharges affecting the food stocks needed to support the bird population.

A shorebird survey along the coastline of Corio Bay and Limeburners Bay started in March 2021, to understand the presence of bird species within the study area. Activities underway include marine fauna ecological sampling and video surveys, surveys of listed threatened and/or migratory bird species, including shorebirds and surveys of terrestrial flora and fauna. Studies will also focus on assessing the potential impact on the food chain, such as plankton and larvae sampling.

If you have any questions or feedback please contact us on:

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A comprehensive Environmental Effects Study (EES)

A comprehensive program of technical studies will be undertaken to assess any potential impacts of the new terminal operations. DELWP is the regulator overseeing the EES process. Government approvals for the project will only be granted if the EES demonstrates that potential impacts on the Ramsar site and other environmental values are acceptable.

Targeted environmental data collection and marine monitoring programs have been underway since November 2020 and will continue in 2021. These include data collection on currents and water temperature and sampling of plankton and larvae in Corio Bay.

This is part of a testing program assessing the potential for impacts to the marine environment from seawater use in terminal operations, including through entrainment of tiny organisms such as plankton in the seawater intake. Testing and sampling will include the areas around the seawater intake and throughout Corio Bay.

The EES will also encompass the potential impacts on water quality from temporary sediment disruption. Modelling of the potential movement of sediment plumes including from dredging and disposal of the dredged soil will look at the potential for sediments and pre-existing contamination in the sediments to impact Ramsar values. Water and seabed testing is being undertaken at a number of locations throughout Corio Bay, the seawater discharge area, the dredging site and Point Wilson (potential dredged soil disposal site).

Modelling and assessments conducted will inform measures to mitigate and manage any potential impacts on the marine environment that are identified.

The results of environmental and ecological studies will be available to the public via the EES consultation process, which is detailed on our website. Experts will be available at community meetings to discuss issues of concern which are planned to be held at various locations around Geelong on a regular basis throughout the EES process.

Seawater recycling and reuse

The design of our Project helps to minimise the potential for any impacts of Terminal operations on the marine environment.

Seawater will be drawn from Corio Bay to warm the cold liquid gas, as LNG is processed aboard the floating gas terminal. Seawater is currently used for cooling within Geelong refinery operations under an EPA licence. Our proposed approach is to recycle seawater needed for the floating gas terminal through the refinery, as the two systems use a similar amount of water.

Assessments will also be conducted based on traditional floating terminal operations, where seawater would be directly discharged into the bay in the event that discharging seawater into the refinery was interrupted or unavailable at any time.

Seawater is chlorinated as it is taken into the floating terminal, to prevent marine growth as flows through pipes, valves and heat exchangers. The chlorination process uses electrolysis to convert chloride ions, naturally present in seawater salt, into chlorine oxidants. The chlorine level decays rapidly, and the residual chlorine concentration will be significantly reduced by the time it is discharged from the floating terminal.

Chlorination of seawater is already part of refinery processes. Data from water testing carried out over many years shows that the level of chlorine in water discharged to the bay is extremely low - in fact less than half the chlorine level of ordinary household tap water. As we are planning to maintain overall seawater use at close to current levels, we are evaluating whether the discharge of water to the bay can continue to be managed under our existing EPA licence once the gas terminal is operational.

Viva Energy has long-term water temperature data from its existing refinery discharge points. The temperature of the water as it goes back into Corio Bay from the refinery will continue to be closely monitored, and initial modelling shows it will be closer to ambient seawater temperature than is currently being discharged and permitted under our Refinery EPA licence.

Sediments and water quality monitoring

EES technical assessments will examine potential impacts from sediment plumes resulting from construction activity and ongoing operations. Only localised dredging is needed to accommodate the new berth and ship turning. Dredging is a routine part of Port operations/maintenance, and will be carefully planned and executed in conjunction with the Geelong Port and VRCA. No dredging will be needed in the shipping channel to accommodate the LNG ships.
Based on studies of previous dredging in Corio Bay, we expect that sediments mobilised into the water would be short lived and localised, assisted by the low currents experienced in Corio Bay.

LNG and shipping safety

Around one LNG ship every 10 days would visit the Gas Terminal – a small percentage of total shipping in the Port of Geelong. The LNG industry including LNG carriers and floating gas terminals have an excellent safety record around the world. LNG is a clean fuel, and as an LNG carrier runs on gas and does not carry large volumes of petroleum products or bunker oil, it presents a low risk to the environment from a potential marine spill. Viva Energy is liaising within the GeelongPort and the VRCA on emergency management plans and safe operation of shipping in Corio Bay.

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