ExxonMobil

CONSULTATION

Gippsland Basin Decommissioning

Bass Strait Pipeline Network - Project Update

INFORMATION BULLETIN
January 2025

Esso is committed to engaging with the communities where we operate and helping our stakeholders to understand our business. This information bulletin has been developed as part of Esso's commitment to keep relevant persons and other stakeholders informed of pipeline decommissioning activities in Bass Strait and to provide them with sufficient information about the nature and scale of the activity so that they can make an informed decision as to whether their functions, interests or activities are affected.

Overview

Esso Australia Resources Pty Ltd (Esso) is a wholly owned subsidiary of ExxonMobil Australia Pty Ltd. Esso is the operator of the assets in Bass Strait that are part of the Gippsland Basin Joint Venture between Esso and Woodside Energy (Bass Strait) Pty Ltd (Woodside Energy) and the Kipper Unit Joint Venture (Esso, Woodside Energy, and Mitsui E&P Australia Pty Ltd). These assets comprise 19 platforms with approximately 400 wells, six subsea facilities and more than 800 kilometres of subsea pipelines.

After delivering energy to Australia for over 50 years, many of the Bass Strait fields are now reaching the end of their productive life. Subsequently, a number of pipelines in Esso's pipeline network no longer support oil and gas production and have entered the Cessation of Production or Stasis Mode stages of activity. Esso's decommissioning team is planning for the decommissioning of these non-producing pipelines as well as the eventual decommissioning of all producing assets in Bass Strait.

Most of Esso's offshore pipeline network is in Commonwealth waters, with eight pipelines extending to shore through State waters, that is within 3 nautical miles from shore. This equates to around 790 kilometres of pipelines in Commonwealth waters and some 50 kilometres in State waters.

Esso's offshore pipeline network consists of:

- 34 primary pipelines (~650 kilometres total length)
- 11 secondary pipelines (~190 kilometres total length)
- 13 umbilicals (~105 km total length)
- ancillary subsea property.

The pipelines vary in size from 65 millimetres up to 600 millimetres nominal diameter. The pipelines also vary in age with the oldest pipelines installed in 1968 and the most recent installed in 2021.

In accordance with Esso's regulatory obligations under the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2023 (Cth) and Offshore Petroleum and Greenhouse Gas Storage Regulations 2021 (Vic) and our own commitment to stakeholder engagement, we are seeking your continued involvement as we assess potential options for decommissioning the Bass Strait pipeline network. Whether you're an individual, business, or organisation, your involvement will assist Esso to better understand the impacts and risks that may arise from the various decommissioning options being considered, and to inform the identification of preferred option(s).

Activity location

Within Commonwealth waters, the offshore pipeline network is in water depths ranging from approximately 25 to 30 metres where it meets State waters. The deepest point is approximately 400 metres for pipelines located almost 90 kilometres from the Victorian coastline.

Regulatory requirements

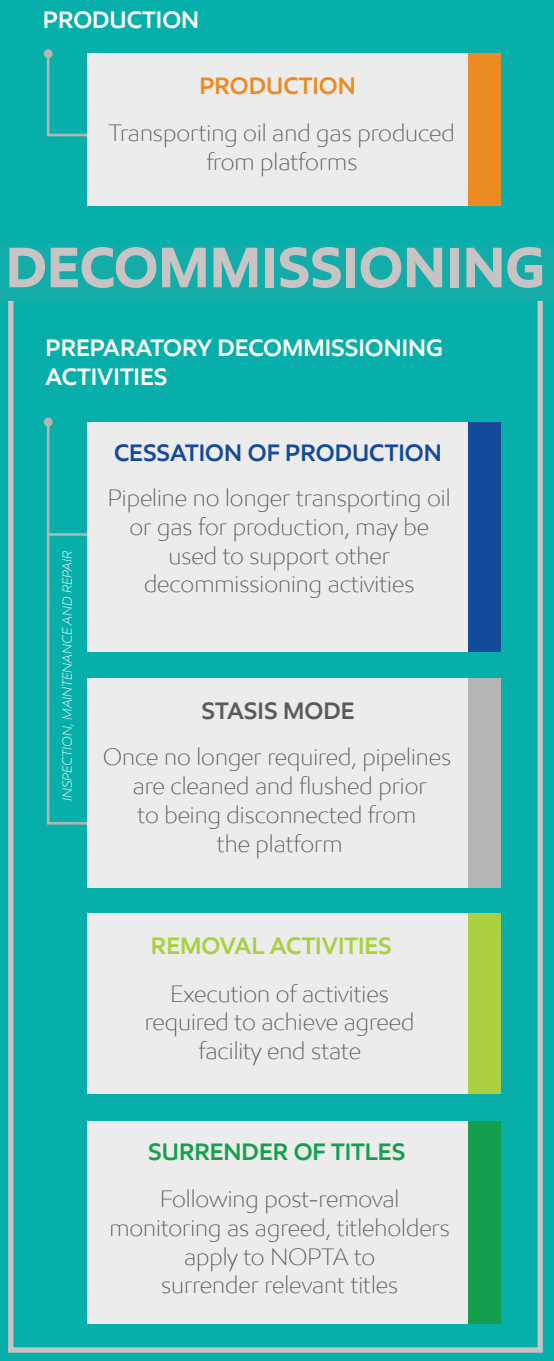
As Esso's pipeline network is located in both Commonwealth and State waters, both Commonwealth and State legislation applies to decommissioning of the pipelines, with both requiring development and approval of an Environment Plan (EP) before any petroleum-related activities can commence.

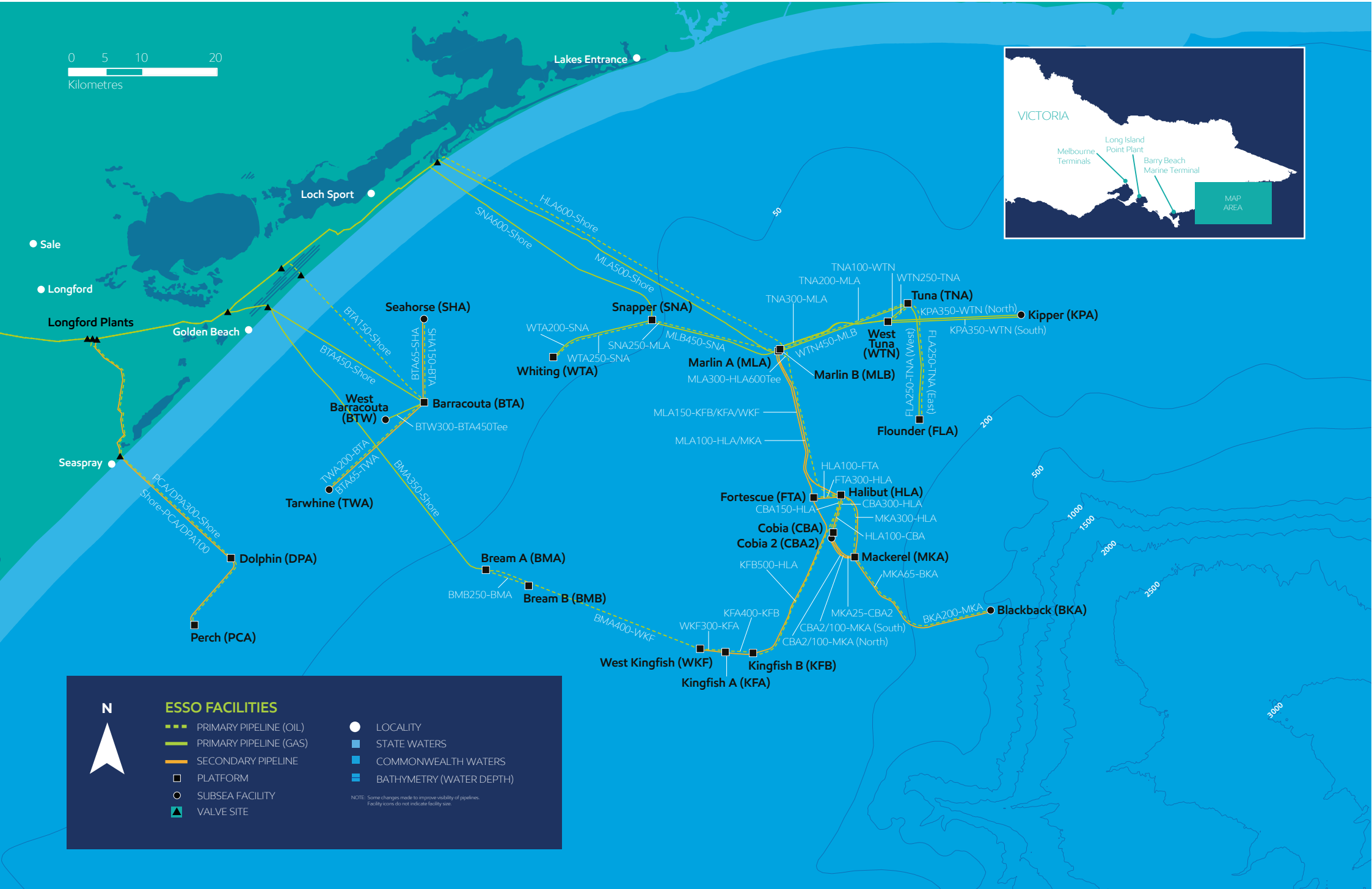
An EP is a comprehensive document that describes the existing environment, including relevant persons, and how Esso will undertake the activities to avoid, minimise or manage potential environmental impacts to As Low As Reasonably Practicable (ALARP) and meet regulatory acceptability level criteria.

Demonstrating ALARP requires a titleholder to implement all available control measures where the cost is not grossly disproportionate to the environmental benefit gained from implementing the control measure.

↑ Cover: Marine communities established along a section of the BMB250-BMA pipeline

↗ Pipeline lifecycle stages of activity




0 5 10 20
Kilometres
Lakes Entrance
Loch Sport
Sale
Longford
Longford Plants
Golden Beach
Seaspray
Dolphin (DPA)
Perch (PCA)
RCA/DPA300-Shore
Shore-PCA/DPA100
Seahorse (SHA)
BTA150-Shore
BTA450-Shore
BTA65-SHA
SHA150-BTA
West Barracouta (BTW)
Barracouta (BTA)
BTW300-BTA450Tee
TWA200-BTA
BTA65-TWA
Tarwhine (TWA)
BMA350-Shore
Bream A (BMA)
BMB250-BMA
Bream B (BMB)
HLA600-Shore
SNA600-Shore
MLA500-Shore
Snapper (SNA)
WTA200-SNA
SNA250-MLA
MLB450-SNA
WTA250-SNA
Whiting (WTA)
Marlin A (MLA)
MLA300-HLA600Tee
Marlin B (MLB)
WTN450-MLB
TNA100-WTN
TNA200-MLA
WTN250-TNA
TNA300-MLA
Tuna (TNA)
KPA350-WTN (North)
Kipper (KPA)
KPA350-WTN (South)
West Tuna (WTN)
FLA250-TNA (West)
FLA250-TNA (East)
Flounder (FLA)
MLA150-KFB/KFA/WKF
MLA100-HLA/MKA
HLA100-FTA
FTA300-HLA
Fortescue (FTA)
Halibut (HLA)
CBA150-HLA
CBA300-HLA
MKA300-HLA
Cobia (CBA)
Cobia 2 (CBA2)
HLA100-CBA
Mackerel (MKA)
KFB500-HLA
MKA65-BKA
BKA200-MKA
Blackback (BKA)
MKA25-CBA2
CBA2/100-MKA (South)
CBA2/100-MKA (North)
KFA400-KFB
WKF300-KFA
BMA400-WKF
West Kingfish (WKF)
Kingfish A (KFA)
Kingfish B (KFB)
50
200
500
1000
1500
2000
2500
3000
VICTORIA
Melbourne Terminals
Long Island Point Plant
Barry Beach Marine Terminal
MAP AREA
N
ESSO FACILITIES
PRIMARY PIPELINE (OIL)
PRIMARY PIPELINE (GAS)
SECONDARY PIPELINE
PLATFORM
SUBSEA FACILITY
VALVE SITE
LOCALITY
STATE WATERS
COMMONWEALTH WATERS
BATHYMETRY (WATER DEPTH)
NOTE: Some changes made to improve visibility of pipelines. Facility icons do not indicate facility size.

To meet EP requirements, Esso will develop an Execution EP for the decommissioning of the pipeline network in Commonwealth (NOPSEMA) and State (DEECA) waters. The Execution EP will outline removal activities required to achieve the accepted end states. An End State EP will be developed where an alternative decommissioning end state with equal or better environmental outcomes than full removal can be demonstrated. This will be submitted to the relevant regulator.

In accordance with regulatory obligations, Esso is required to consult with relevant persons during the preparation of an Environment Plan and demonstrate measures (if any) that the titleholder has adopted or proposed to adopt because of consultations.

Separate approvals under the *Environment Protection (Sea Dumping) Act 1981* (Cth) (Sea Dumping Act) may be required from the Department of Climate Change, Environment, Energy and Water (DCCEEW) where full removal is not undertaken for certain items. Additional consultation will be undertaken at a later date for any Sea Dumping Act approvals, if required.

Project update

Plans are being progressed to remove some pipelines, including shallow buried umbilicals and flexible flowlines in Commonwealth waters, commencing in 2028/2029. Umbilicals are specialised cables or lines that connect subsea equipment to a platform. They include electrical conductors, hydraulic lines and fibre optic cables to support power supply, fluid transfer and communications. Flexible flowlines are flexible pipes made up of several intertwining layers of stainless steel and special polymers.

Development of an Execution EP for this work has commenced. Further information on the removal of this property will be provided in a separate information bulletin.

Multi-Criteria Decision Analysis (MCDA)

As part of the development of the End State EP, Esso is using a Decommissioning Options Assessment process based on MCDA to evaluate feasible pipeline end state options against stakeholder informed criteria. In addition to the MCDA process, environmental risks and impacts associated with the decommissioning of the pipeline network will be assessed to ensure they can be managed to ALARP and are of an acceptable level.

Esso is partnering with expert researchers, academics and environmental consultants on the MCDA process.

Environmental surveys

Esso is also undertaking offshore environmental surveys to examine fish, marine mammals, epibenthic and infauna communities that use the pipeline network and surrounding areas. These ecological surveys are supported by additional technical studies such as materials degradation and removals technique assessments to support decommissioning end state evaluation.

Stakeholder input

Stakeholder Forums held in September and October 2023 helped inform screening criteria, identify additional end state options, and provided further insights into associated impacts to stakeholder functions, interests and activities.

	Commonwealth 3 nautical miles from coastline to international waters	State Within 3 nautical miles from shore
Regulation	*Offshore Petroleum and Greenhouse Gas Storage Act 2006* (Cth)	*Offshore Petroleum and Greenhouse Gas Storage Act 2010* (Vic)
Regulator	National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA)	Department of Energy, Environment and Climate Action (DEECA)
Decommissioning obligations	Remove all structures, equipment and other property no longer used for oil and gas operations unless an alternative decommissioning end state with an equal or better environmental outcome to full removal can be demonstrated and is approved by the regulator	Remove all structures, equipment and other property no longer used for oil and gas operations unless otherwise directed by the relevant Minister
Environment Plan required	✓	✓

↗ Table of Commonwealth and State waters primary legislation

Proposed criteria covering short and long term ecological, socioeconomic, cultural and health and safety impacts, risks and benefits were considered.

Information gathered was provided as input to an end state option MCDA Screening Workshop held in November 2023 with independent scientists and academics to determine short and long term decision criteria for each pipeline decommissioning end state.

From the Stakeholder Forums and MCDA Screening Workshop, Esso has identified the following end states to progress to concept:

- reuse for other offshore operations
- full removal to shore
- partial removal
- leave in situ (buried or unburied)
- trench below seabed
- combinations of above.

Further work is being undertaken to understand the short and long term risks, impacts and benefits to the environment, cultural heritage and socioeconomic aspects.

The End State EP will provide a detailed assessment of the impacts and risks of each of these end states and present the preferred option for each infrastructure type for NOPSEMA. Esso will continue to undertake risk and impact assessment workshops and consult with stakeholders while developing the End State EP and any works-specific Execution EP(s).

How are pipelines decommissioned?

All pipelines, irrespective of decommissioning end states, are internally cleaned and flushed using specialist techniques to target:

- Residual hydrocarbons (all pipelines): a device called a pig, is inserted into a pipeline to push any residual material along the pipeline so that it can be removed. The process uses water treated with additives to remove hydrocarbons to a residual level that is environmentally acceptable and ALARP. The flushing water is processed/treated before being discharged to the environment.
- Residual mercury (only if detected): specialty chemicals are flushed through a pipeline to remove mercury from the pipe wall to a residual level that is environmentally acceptable and ALARP. Flushing fluids are captured, processed and not released to the local environment.
- Naturally Occurring Radioactive Material (NORM): are materials containing radioactive substances that occur everywhere in the natural environment including in soil, rocks, water, air and vegetation. NORM is also present in the human body and all living tissue. During the production of oil and gas it can present as scale on the inside walls of pipes. Esso will assess and safely manage NORM as part of decommissioning activities in the same manner as was undertaken throughout the production phase of the lifecycle.

WHAT DOES FULL REMOVAL TO SHORE INVOLVE?

Stasis Mode

- Pipelines are internally cleaned and flushed to an acceptable level, then disconnected from the production facilities.

Removal Activities

- Pipelines are prepared for removal and depending on the removal method, may involve dewatering of the pipeline to reduce its overall weight and unburial of some or all sections of buried pipe.
- Pipelines are then removed from the seafloor onto a vessel, for transport to shore.
- Marine life attached to pipelines is removed with the pipelines.
- The removed pipeline is then transported to shore to be recycled where possible or disposed of in accordance with regulations.

WHAT DOES LEAVE IN SITU (BURIED OR UNBURIED) INVOLVE?

Stasis Mode

- Pipelines are internally cleaned and flushed to an acceptable level, before being disconnected from the production facilities.

Removal Activities

- Small sections of the pipeline may require burial to reduce snag risk from commercial fishing operations.
- Pipelines slowly break down over hundreds of years.

WHAT DOES PARTIAL REMOVAL INVOLVE?

Stasis Mode

- Pipelines are internally cleaned and flushed to an acceptable level, before being disconnected from the production facilities.

Removal Activities

- Partial removal involves a combination of full removal to shore and leave in situ as described above, for different sections of a given pipeline. This may be dependent on factors such as location, degree of burial, water depth, and the associated environmental considerations.

How are pipelines removed?

Different pipelines may require different methods for their removal depending on the type of pipe, location of the pipe, depth of water, and the buried or unburied status of the pipe.

Esso is undertaking technical studies to identify the most effective and efficient method(s) to remove pipelines, including buried pipes that need to be unburied with consideration being given to the use of mass flow excavation and controlled flow excavation tools. Seabed disturbance and hence sediment dispersion will occur using either tool.

The volume of sediment disturbed is determined by pipeline diameter, unburial depth (the depth pipeline is covered by sand), and the method used.

Once a pipeline has been uncovered it is removed using one of the following removal methods:

- cut and lift
- reverse reel-lay
- reverse S-lay.

↑ The TRS2 Controlled Flow Excavation tool (Source: Rotech)

WHAT DOES TRENCH BELOW SEABED INVOLVE?

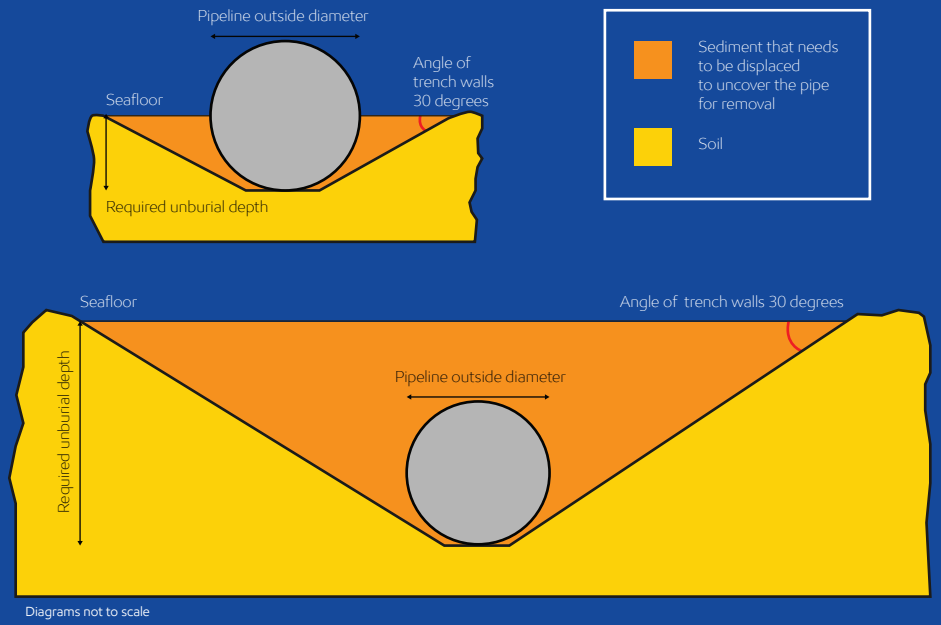
Stasis Mode

- Pipelines are internally cleaned and flushed to an acceptable level before being disconnected from the production facilities.

Removal Activities

- Trench below seabed involves pipelines/umbilicals being permanently buried to a minimum depth of cover.
- A trench is excavated on the seafloor by a plough or water jets and the pipeline is pulled or sinks into the trench and is backfilled as required. This option may not be feasible in some locations e.g., environmental considerations, rocky seabed areas and locations where pipelines/umbilicals cross over each other.

UNCOVERING BURIED PIPELINES



Source: Ternan Energy

CUT AND LIFT

The cut and lift method works on any diameter or length of pipeline. It involves cutting the pipeline into sections using remotely operated cutting equipment, and the sections are then recovered to a surface vessel using an onboard crane.

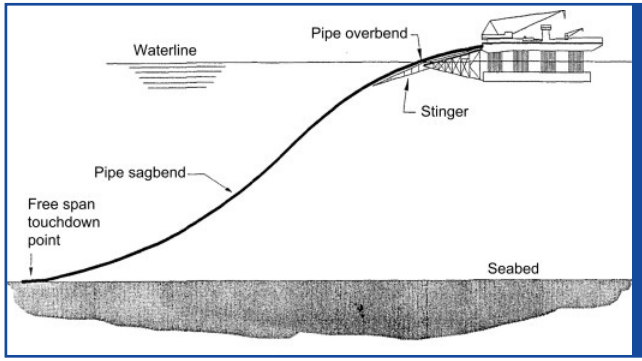
↑ Example of the cut and lift removal method (Source: Utility ROV Services Ltd)

REVERSE REEL-LAY USING A VESSEL

Reverse reel-lay is often used for smaller diameter pipelines that are not concrete weight coated. This is a reversal of the reeling installation process.

In this method the pipe is reeled onto a specialist reel vessel and is plastically deformed so that it sits on the recovery reel. The length of pipeline that can be recovered is limited by the size and capacity of the reel. Once the pipeline is on the reel it is taken to a shore-based facility and removed by reversing the process. Due to the nature of the reeling and unreeling process, it is unlikely that a rigid pipeline recovered using this method could be reused.

↑ Example of the reverse reel-lay removal method (Source: Subsea7)



REVERSE S-LAY USING LAY-BARGE

This method is suitable for large diameter and concrete coated pipes whereby the end of the pipe is picked up and brought onto a specialist S-lay vessel. The vessel then moves along the pipeline route, stopping at a suitable point where a cut is made to remove a section of pipe.

The recovered pipeline sections are transferred onshore for recycling, where possible, or disposal.

↑ Example of the reverse s-lay removal method (Source: Subsea Engineering Handbook, 2010)

Next steps

Further stakeholder input will be sought in 2025 on the decommissioning options that Esso is taking forward in its planning process.

This information will inform the second MCDA Screening Workshop about end state options that will be recommended in regulatory submissions.

Further information bulletins will be provided as the project progresses and new information becomes available.

Consultation

Esso is committed to ongoing engagement with the communities where we operate. Your functions, interests and activities may mean you, your business or your organisation are a relevant person for these activities. Your participation will help Esso to better understand the impacts and risks that may arise from the activities. As such, we're seeking your feedback on the activities outlined in this bulletin.

Your feedback and our response will be included in our EP(s) for the proposed activities, which will be submitted to NOPSEMA for acceptance in accordance with the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2023 (Cth) or to DEECA for acceptance in accordance with the Offshore Petroleum and Greenhouse Gas Storage Regulations 2021 (Vic).

Please let us know if your feedback is sensitive and we will make this known to the relevant regulator upon submission of the EP(s), for this information to remain confidential to the relevant regulator.

If you would like to comment on the proposed activities or would like additional information, please contact us.

Acknowledgement of traditional owners

Esso acknowledges the Traditional Custodians of Country, and the land and sea upon which our operations are located.

We recognise the Traditional Custodians continuing connection to land, sea, culture and community, and pay our respects to Elders past and present.

ExxonMobil

How to contact us

For more information, visit our Consultation Hub using the QR Code below, or contact our Consultation team at:

T: +61 3 9261 0000

E: consultation@exxonmobil.com

W: www.exxonmobil.com.au

Scan to access the Consultation Hub and Esso Consultation Questionnaire