



# CTA-065-Rigs to Reefs-World's Oceans

Join us to save coral reefs

Liberty Cast

The World Federation for Coral Reef Conservation 281.971.7703 P.O. Box 311117 Houston Texas 77231

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## Rigs to reefs: is it better to leave disused oil platforms where they stand?

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Can undersea oil rigs become homes? US Bureau of Ocean Energy Management

## Rigs to reefs: is it better to leave disused oil platforms where they stand?

The global offshore oil and gas industry has installed a wide variety of infrastructure throughout our oceans, including tens of thousands of wells, thousands of platforms and many thousands of kilometres of seabed pipelines.

Many of these structures have been in service for several decades and are approaching retirement. The North Sea, for example, has more than 550 platforms and undersea production facilities, virtually all of which are [set to be decommissioned in the next 30 years](#).

In Southeast Asia, the issue is even bigger: almost half of the region's 1,700 offshore installations are [more than 20 years old](#) and approaching retirement.

## What happens to old offshore oil and gas infrastructure?

After decommissioning and cleaning a platform, seabed structure or pipeline, its operators are faced with a choice: dismantle and remove it completely; leave it in place; or remove some of it while leaving the rest behind.

The choice depends largely on what is technically feasible, as well as what is desirable from an environmental, economic and societal perspective, and of course what is legally allowed.

The earliest relevant international law, the [1958 Geneva Convention on the Continental Shelf](#), requires the complete removal of disused marine infrastructure. But the [United Nations Convention on the Law of the Sea](#), which has largely superseded it, is more lenient. It [states](#) that decisions should take into account "generally accepted international standards established ... by the competent international organisation" – in this case the [International Maritime Organisation \(IMO\)](#).

The IMO's [1989 guidelines](#) allow structures to be left in place on a case-by-case basis. Due consideration must have been given to safety of navigation, rate of deterioration, risk of structural movement, environmental effects, costs, technical feasibility and risks of injury associated with removal.

The guidelines also refer to the possibility of "new use or other reasonable justification" for *in situ* disposal. This opens up some possibilities for how offshore platforms might take on a new life without being removed.

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## Is complete removal worthwhile?

Europe has so far tended to favour complete removal of offshore infrastructure, in line with international law. Safely recovering these ageing and vast structures from harsh environments is technically challenging, and the industry has developed some impressive technology such as the [Pioneering Spirit](#), a specialized vessel constructed to lift steel platforms from the North Sea.

Impressive... but also expensive. [kees torn/Wikimedia Commons](#), [CC BY-SA](#)



Complete removal is expensive, both to oil and gas companies and the taxpayer. It also leaves operators facing the problem of what to do with the recovered material. While some parts of the topsides of platforms can be refurbished if structurally sound, most of the material is not reusable. Some elements can be recycled, but much of it will inevitably end up in landfill.

From an environmental perspective, the notion of returning the seabed to its original state is undoubtedly born of the right intentions. But when engineered structures have been part of the marine environment for several decades, might it do more harm than good to remove them?

## A new life for platforms

[Artificial reefs](#) are often deliberately placed in our oceans to provide habitat for marine life or sites for recreational diving. But many offshore oil and gas structures also fulfil these functions – for instance, by providing breeding sites for fisheries. Removing them might therefore harm these ecosystems.

Despite this, European law only allows artificial reefs to be created from new materials, rather than decommissioned infrastructure.

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The World Federation for Coral Reef Conservation 281.971.7703 P.O. Box 311117 Houston Texas 77231 The United States, which has national laws that allow offshore infrastructure to be left in place, has an established a ["rigs to reefs" program](#) administered through the Bureau of Safety and Environmental Enforcement. Under this program, more than 400 decommissioned rigs have been converted to permanent reefs since 1986.

Rigs cannot simply be left to rust in the ocean; projects like this require rigorous assessment before being approved. But the assessment criteria are different and typically less stringent than for the earlier production phase of the rig's life, largely because there is no longer a risk of spills after decommissioning.

During their initial operating life, marine structures and pipelines must meet strict criteria that limit movement or deformation. This is to ensure that machinery operates correctly and containment systems do not release hydrocarbons into the marine environment. Strict regulations also apply to the removal of hydrocarbons and residues from the system during decommissioning and cleanup.

But once decommissioned, all that is required is that the structure is sufficiently stable on the seabed and will not break apart in ways that would harm the environment or pose a danger to shipping.



Leaving disused infrastructure in the ocean also raises the critical question of who bears ultimate responsibility for it. Should ownership stay with the original operator, or be transferred to the government? This raises issues of liability for any damage that might occur in the future, and who should bear that risk remains a live question for debate

and discussion.

Will it have a role after retirement? [CSIRO](#), [CC BY-NC-SA](#)



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## What should Australia do?

Australia's offshore oil and gas industry is less mature than those in Europe and the United States. As a result, the fate of decommissioned offshore infrastructure is still an emerging issue.

Australia's [current regulations](#) favour complete removal. But the [National Offshore Petroleum Safety and Environmental Management Authority](#) is exploring the possibility of supporting an [in situ decommissioning policy](#).

This would involve amending the law to allow certain new uses, as well as to resolve issues of decommissioning standards, safety and risk, liability and ownership. The lack of any established practice gives Australia a unique chance to show innovative leadership on this issue.

Developing an Australian version of the "rigs to reefs" policy would require input from engineers, natural scientists, environmental managers, oil and gas economists, lawyers and others, to work out precisely what is possible and preferable in different locations.

There is little doubt that pressures on the ocean environment will only increase. Growing populations will increase demand on fisheries and probably lead to the development of large offshore aquaculture projects, as well as escalation of shipping and ocean-based transport. Similarly, the demand for energy may drive broad implementation of wave energy and other marine renewables.

With the growing variety of industries set to use the oceans in future, now is the right time to take a wide-ranging look at how best to handle the structures that are already there.

<https://theconversation.com/rigs-to-reefs-is-it-better-to-leave-disused-oil-platforms-where-they-stand-63670>

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*The only thing necessary for the triumph of evil is that good men do nothing"....Edmund Burke*

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