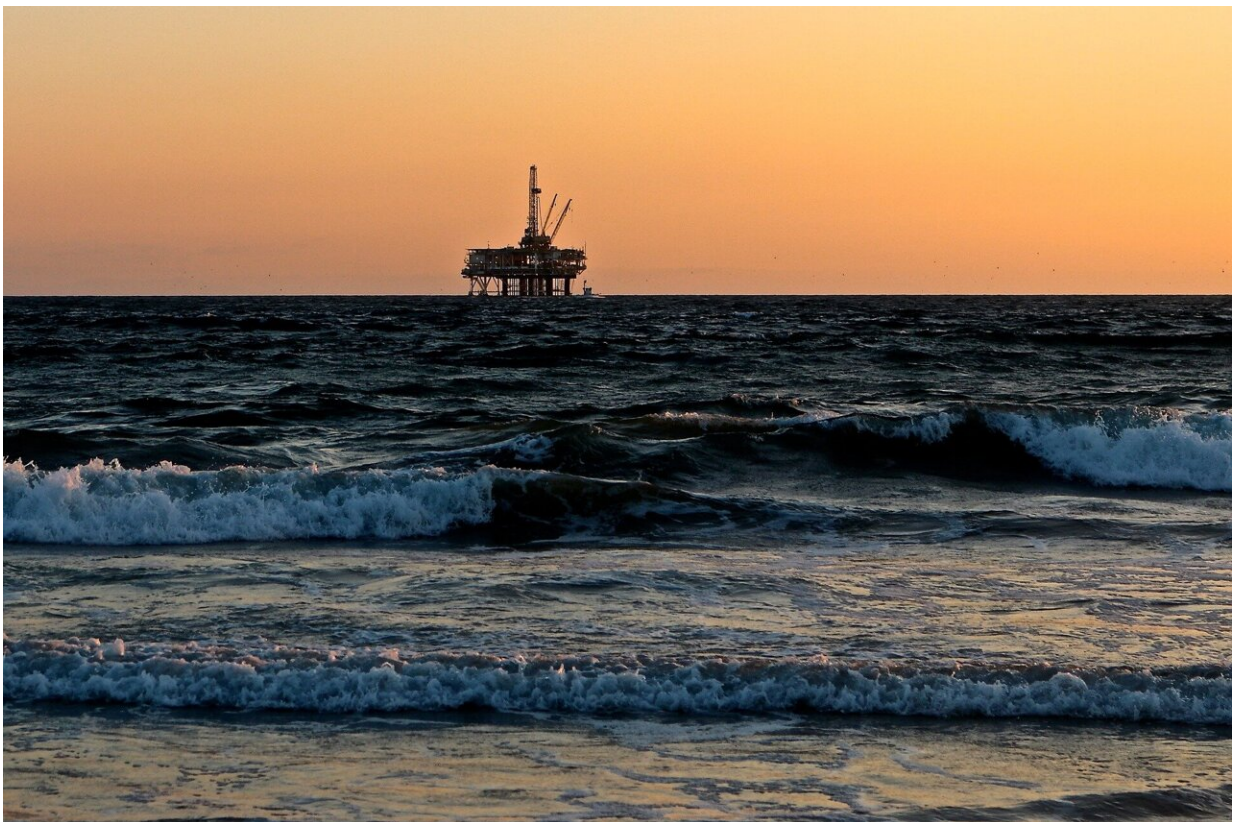


Study calls for action to explore potential impacts of decommissioned offshore structures

May 9 2023, by Alan Williams



Credit: Pixabay/CC0 Public Domain

Making uniform decisions to justify the decommissioning of offshore artificial structures at the end of their lives could pose significant

environmental challenges, a new study has said.

In line with the global decarbonization agenda, governments and industries worldwide are exploring how best to expand the use of renewable energy technologies to replace fossil fuels.

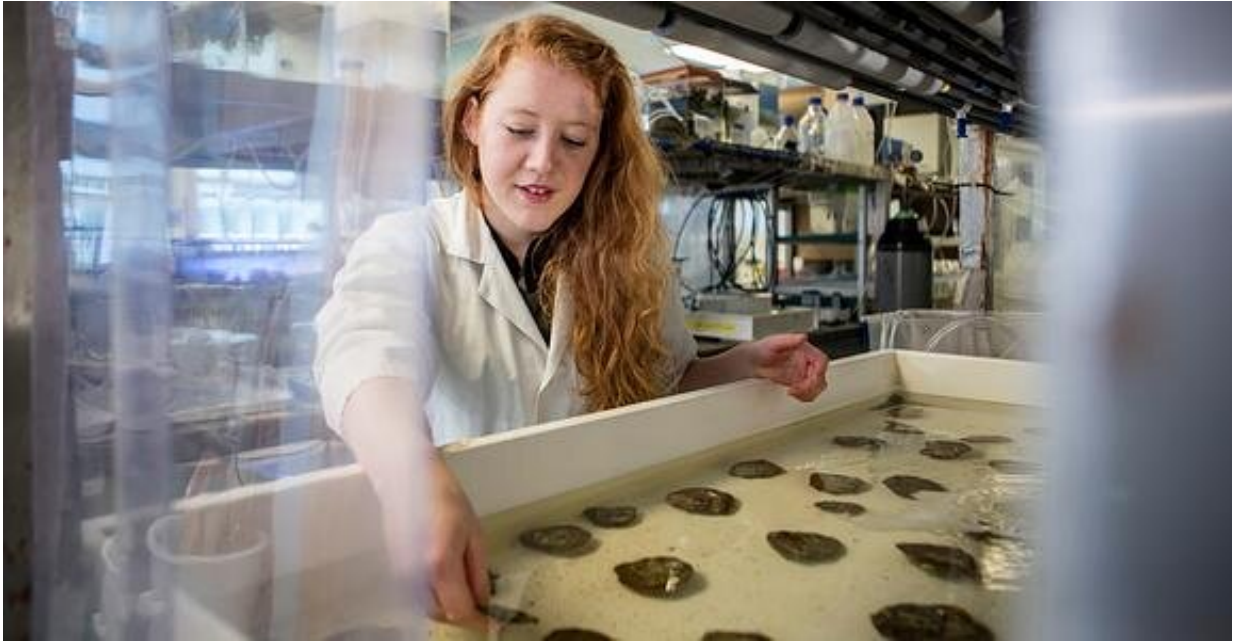
This means that worldwide, an increasing number of structures such as wind turbines are being sited on land and in the sea, while oil and gas infrastructure is reaching its end-of-life and requiring decommissioning.

Writing in *Trends in Ecology & Evolution*, researchers say evidence is limited as to how best to manage such structures when they reach the end of their lives, with some arguments that any artificial structure should be removed in entirety and others proposing structures be repurposed.

To counter that, scientists have called for urgent global action so that the construction of future artificial structures—or the decommissioning of existing ones—doesn't create an additional ecological burden on areas of the planet already being severely impacted by the effects of climate change.

The study was carried out by researchers at the University of Plymouth, Plymouth Marine Laboratory and the UK Government's Center for Environment, Fisheries and Aquaculture Science (Cefas).

It formed part of the Decommissioning—Relative Effects of Alternative Management Strategies (DREAMS) project.



Dr Anaëlle Lemasson. Credit: University of Plymouth

Dr. Anaëlle Lemasson, post-doctoral research fellow at the University and the study's lead author, said, "Through our research, we only found around 50 studies worldwide that have provided direct evidence of how the decommissioning of offshore structures is impacting the [marine environment](#). Most of these were off the coast of the U.S. or in the North Sea, which primarily focus on what happens to fish or invertebrates when structures are removed, but ignore consequences for other features. Clearly, this leaves a lot of gaps from both a geographical and environmental perspective."

Given an estimated 1,800 offshore [wind turbines](#) likely to require decommissioning by 2030, the need for consensus on future approaches has never been more pressing.

This is the latest study involving the University of Plymouth to examine

the potential ecological impacts of both the construction and adaptation of coastal and ocean structures.

Dr. Antony Knights, associate professor in marine ecology and co-principal investigator on the DREAMS project, added, "Despite the current evidence being minimal, the last few years have seen a surge in the number of studies looking at this issue. It highlights the global recognition, within the [scientific community](#) at least, that efforts are critically required to prevent this from becoming a major environmental concern. We know that industry, national and international governments are keen to ensure that structures are decommissioned most effectively and efficiently. However, the evidence required to underpin best-practice decision-making and develop environmental policy that benefits both nature and society remains disparate with our knowledge of how best to tackle the issue falling short of what is required."

More information: Anaëlle J. Lemasson et al, Challenges of evidence-informed offshore decommissioning: an environmental perspective, *Trends in Ecology & Evolution* (2023). [DOI: 10.1016/j.tree.2023.04.003](https://doi.org/10.1016/j.tree.2023.04.003)

Provided by University of Plymouth

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