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Scientists urge deeper dive into ocean afforestation and seaweed as a carbon storage solution

In recent times, the idea of seaweed as a natural carbon storage solution to offset emissions and alleviate climate change has been gathering momentum, but scientists say there is more complexity to what, on the surface, seems like a simple solution.

Two new studies led by Institute for Marine and Antarctic Studies (IMAS) scientists provide an approach for accurately assessing the carbon storage capability of seaweed before it is factored into carbon offset initiatives, and highlight the need for further research into the impact of extending seaweed forests offshore into oceanic ecosystems.

A FORENSIC APPROACH TO SEAWEED CARBON OFFSETS

An IMAS-led international team have developed a new framework for accurately assessing the carbon dioxide removal (CDR) capability of seaweeds growing in natural coastal and aquaculture systems, and seaweeds planted in the open ocean, called ocean afforestation.

[Published in the Journal of Phycology](#), the new forensic carbon accounting system can be used by

using seaweeds for carbon credits and offsets

OFFSHORE ECOSYSTEMS: PROCEED WITH CAUTION

In another IMAS-led international study published as [Perspectives in Nature Ecology & Evolution](#), scientists explored the ecological impacts of ocean afforestation, which is where natural seaweed (macroalgae) beds and seaweed aquaculture systems are purposefully extended to drift offshore into the open ocean.

carbon dioxide removal (CDR) approaches that rely on spatial upscaling and on enhancing or accelerating rates of naturally-occurring

But adding coastal species of macroalgae to open-occur there, can introduce biological threats to these offshore ecosystems, including altering ocean chemistry, biological invasions, phytoplankton as they compete for scarce resources