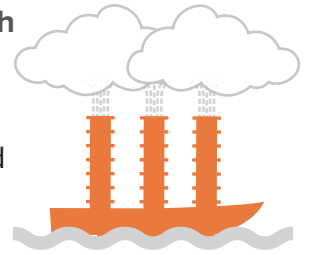


# Why do we need to govern emerging marine climate-altering techniques?

The IPCC says traditional mitigation techniques aren't enough to keep global warming below 1.5°C, and that the world must also remove vast amounts of CO<sub>2</sub> from the air.



Some scientists say additional new techniques may be needed to reflect more sunlight back into space to cool the planet.



Emerging ideas include ocean fertilisation, injecting CO<sub>2</sub> into the deep sea or seabed, brightening clouds, increasing reflectivity, or changing the ocean's alkalinity.

**None** of these techniques are **ready at scale**.

And all could pose **significant technological** and **governance challenges**.

Some could have **unequal effects**, across boundaries.



Marine carbon dioxide removal may have **permanence problems** with storage.

Their wider **environmental impact** is often uncertain.



The existing relevant international laws and frameworks contain **many gaps**.

**Initial field experiments** have recently occurred and **potential deployment** of new marine techniques could be **just around the corner**.

Policymakers need to consider their **governance today**.

How and in what processes would society govern the research, testing and deployment of marine climate techniques?

What new **national and international safeguards** might be needed?

How could society **monitor and assess their impact** on the Sustainable Development Goals?

