

OCEAN DUMPING OF CARBON DIOXIDE – no solution to climate change

Why are there proposals to dump carbon dioxide at sea?

Burning fossil fuels such as coal, oil and gas, releases greenhouse gas pollution that causes global warming. Carbon dioxide comprises the bulk of these greenhouse gases. Instead of reducing our reliance on fossil fuels, which would cut the problem at its source, many in industry and government want to be able to keep burning fossil fuels, and so are pushing to find ways of storing or “disposing” of CO₂. Dumping it at sea is their latest idea.

How do they plan to dump it?

The concept of carbon dioxide disposal at sea is based on compressing the CO₂ until it forms a liquid. Then, it would be pumped to the ocean floor where it would be released. Theoretically, at a depth of more than 3000m, the pressure of the ocean would keep the CO₂ in liquid form, which the proponents hope, will remain there as an undersea lake of liquid CO₂. A second approach involves pumping CO₂ to an intermediate depth (500-3000m) where it would supposedly dissolve into the ocean and conveniently “disappear”. At these depths, CO₂ is expected to exist as a positively buoyant liquid and disperse as droplets. In Norway there is a proposal to dump CO₂, this summer, at 800m, the depth of the seafloor in that region. The supporters of ocean dumping assume that CO₂ dumped in the sea would not make its way back to the atmosphere for thousands of years. The complexity of ocean systems mean that models and experiments will never be able to confirm that dumped CO₂ will not be re-released much more rapidly.

What is wrong with dumping CO₂?

1. The sea is not a dumping ground. Dumping industrial waste CO₂ at sea from ships and platforms is illegal under current international law. The nuclear and chemical industries have been forced to stop dumping at sea for good reasons. It is totally unsustainable. Dumping waste CO₂ from fossil fuel combustion is no different.
2. Ocean dumping is not a solution to the problem of climate change. It will never be possible to guarantee that we are not creating a climate time bomb for future generations – using the sea as a temporary dump for our emissions, only for the gases to be re-released into the atmosphere at a later date.
3. This experiment is not about better scientific understanding – it’s about vested interests attempting to ensure that the fossil fuel industry has a secure future. Research into ocean dumping is taking money and attention away from the real solutions to climate change – phasing out the fossil fuels, which release greenhouse gases, and replacing them with renewable energy such as solar and wind power.

What’s wrong with doing an experiment to test this technology? How will we know if this works unless we try it?

Proposed experimental releases of CO₂ are planned for the Norwegian Sea in July to August 2002. While some further knowledge would be gained regarding the short-term behavior of CO₂ released at depth, the experiment would reveal nothing about the long-term fate of the CO₂ released. Neither would it reveal much about the potential adverse impact on marine ecosystems of large scale dumping.

In fact, the releases are not set up to test the safety of the technology, but are specifically designed as a “proof of concept” for this disposal technology, paving the way for large-scale ocean dumping.

A precautionary approach to the development of climate change solutions – driven by science rather than fossil fuel industry policy - should consider at the outset the environmental sustainability of a proposed technology,

including its full environmental impact, effectiveness in reducing overall CO₂ generation and likely impact on development of other alternatives. Seen in this context, ocean dumping of carbon dioxide is fundamentally flawed technology that should not be developed.

Allowing the technology to be tested perpetuates the fossil fuel industry's illusion that greenhouse gas emissions do not need to be reduced and a transition made towards supplying renewable energy from sources such as solar, wind and tidal power. At best ocean dumping buys some time, but it does nothing to address the problem of reducing the amount of greenhouse pollution released to the atmosphere.

This experiment would cost a lot of money, which would be much better spent on improving renewable energy technology.

We don't know what the impact of pumping CO₂ into the ocean will be – it could be very harmful. But we do know that much of the CO₂ that is dumped into the sea will eventually make its way back to the atmosphere. It could be thousands of years, or it could be almost immediately.

Who is behind this?

It's not surprising that the countries behind this proposal include those that are doing the most in the political arena to derail the Kyoto Protocol – the international mechanism to address climate change. A scientific consortium of research institutions from Norway, Japan, Australia, the USA and Canada are proposing to undertake the first large scale CO₂ ocean dumping experiment from late July to early August 2002, in the Norwegian Sea. The test has been funded from government bodies in these countries, as well as from ABB Corporate Research

Why has no one tried this before?

Tests have been scheduled previously for deep waters off the Kona Coast of Hawaii in 2001. On this occasion the tests were cancelled due to opposition by the local community. The US Environmental Protection Agency did not issue the proposed Hawaii test an approval. The only reason it is allowed to happen in Norwegian waters is that the Norwegian Pollution Control Authority has granted permission – primarily because Norway is one of the sponsors of the project.

Is this legal?

Dumping from ships or platforms at sea of industrial waste CO₂ from fossil fuels, either in the water or beneath the seabed, would contravene the London Convention (1972) that governs dumping at sea, as well as more broadly the provisions of United Nations Law of the Sea. It is also contravenes the OSPAR Convention and cannot be used as an emission reduction mechanism under the Kyoto Protocol, so countries could not claim it against their emission reduction targets.

Greenpeace opposes the current tests because they open the door to illegal dumping of CO₂. If Norway approves this test it will be a first step in Norway breaking its international obligations under these conventions.

Find the Greenpeace report on ocean dumping of CO₂ at
<http://www.greenpeace.to/pdfs/co2dump.pdf>

Find information on the campaign by to stop CO₂ dumping in Hawaii at
<http://www.pacificwhale.org/alerts/CO2.html>

Find information on the OSPAR Convention (Convention for the Protection of the Marine Environment of the North-East Atlantic) at
<http://www.ospar.org/eng/html/welcome.html>

Find information on the London Convention (Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter, 1972) at
<http://www.londonconvention.org/>