

The NAS Committee on America's Climate Choices -
Request for Written Input on Geo-engineering:
RESPONSE

Environmental consequences of geo-engineering projects: legal issues

Geo-engineering projects that are likely to affect the marine environment must comply with the environmental requirements of the United Nations Convention on the Law of the Sea (LOSC).

Much of the LOSC, including the environmental provisions, is considered to be customary international law and applicable to non-parties. Consequently *all* states must ensure that their nationals, companies, ships flying their flag, and other entities operating under their legal jurisdiction or control comply with these provisions.

Article 192 unqualifiedly requires states to protect and preserve the marine environment.

States must combat pollution of the marine environment, defined as:

...“the introduction by man, directly or indirectly, of substances or energy into the marine environment, including estuaries, which results or is likely to result in such deleterious effects as harm to living resources and marine life, hazards to human health, hindrance to marine activities, including fishing and other legitimate uses of the sea, impairment of quality for use of sea water and reduction of amenities.” (Art. 1(1)(4).)

States must take *all* measures necessary to prevent, reduce and control marine environmental pollution *from any source* (Art. 194 (1) and (3)) and must minimize to the fullest possible extent the release of toxic, harmful or noxious substances, from land-based sources, from or through the atmosphere, or by dumping (Art. 194 (3)(a), 207, 212 and 210, respectively).

States must ensure that activities under their jurisdiction or control do not cause damage by pollution to other states and their environment, and that pollution arising from such activities does not spread outside those areas (Art. 194(2)).

States must take the measures necessary to protect and preserve rare or fragile ecosystems as well as the habitat of depleted, threatened or endangered species and other forms of marine life (Art. 194(5)).

States must adopt and enforce the necessary laws and regulations (e.g., Arts. 207, 208, 210, 212-214, 216-222).

States must assess whether activities are likely to pollute the marine environment, “keep under surveillance” the effects of any activities permitted, and report the assessment results (Arts. 204-206).

Art. 195 unqualifiedly requires:

"In taking measures to prevent, control and reduce pollution of the marine environment, states may not transfer, directly or indirectly, damage or hazards from one area to another or transform one type of pollution into another."

Applied to geo-engineering projects designed, e.g., to sequester carbon dioxide in the ocean, Art. 195 prohibits transferring, directly (e.g., by injection) or indirectly (e.g., by fertilization), damage or hazards (e.g., excessive atmospheric greenhouse gases (GHG) from one area (the atmosphere) to another (the ocean) or transforming one type of pollution (e.g., potentially harmful atmospheric GHG concentrations) into another (e.g., potentially harmful concentrations of GHG in the ocean).

Not only geo-engineering projects, but also GHG-emitting activities must satisfy the LOSC's environmental requirements. The adverse effects on the marine environment of increased anthropogenic atmospheric GHG emissions are such that GHG should qualify as "pollution" under the LOSC and its environmental requirements should be interpreted as obliging states to prevent, reduce and control GHG emissions *at source*.

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