

# Pollution Substitution? Scrubbers and the Law of the Sea

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# Introducing the problem

- The use of hydrocarbons-based fuels in shipping causes substantial air pollution (SO<sub>x</sub>, NO<sub>x</sub>, PM) and GHG emissions.
- The IMO has attempted to address the problem of air pollution in various ways in MARPOL Annex VI, including by placing caps on sulphur limits in fuel for ships.
- The current general sulphur limit for fuels is 0.50%, and 0.10% for Sulphur Emission Control Areas (SECAs)(MARPOL, Annex VI, reg 14).
- To comply with this standard, ships have a choice:
  - Use fuel oil with low sulphur content or,
  - Continue to use high sulphur content fuel **BUT** Install an Exhaust Gas Cleaning System (EGCS, i.e., scrubber) to remove sulphur, as approved by the national maritime administration issuing the SO<sub>x</sub> Emission Compliance Certificate (MARPOL, Annex VI, reg 4(1)-(2)).
- ECGS produce environmental impacts, in particular a new form of marine pollution from toxic and acidic scrubber washwater discharged at sea.
- The new form of marine pollution raises issues of consistency with the United Nations Convention on the Law of the Sea, 1982 (UNCLOS).

# Impact on the marine environment

- Scrubbers are either open loop or closed loop:
  - Open loop: large amounts of washwater are discharged.
    - Chemical character: acidic, toxic
    - Contents: polycyclic aromatic hydrocarbons (PAHs), particulate matter, nitrates, nitrates, metals (nickel, lead, copper, and mercury).
    - Effect: adverse impact on marine ecosystems, wildlife and water quality.
  - Closed-loop scrubbers: emit the same pollutants in lower volumes, but higher concentrations; residue is to be discharged to port reception facilities.
- CO2 uptake in the ocean is inhibited, limiting ocean offsetting of global climate change.
- Scrubber use produces higher amounts of CO2 and black carbon than marine gas oil.

# The UNCLOS factor

- Major multilateral convention negotiated in 1973-1982, UNCLOS is widely regarded as the constitution for the world's oceans (Koh, 1982).
- UNCLOS has 168 States Parties; no reservations are allowed.
- Very few key IMO Member States are not States Parties to UNCLOS (e.g., US). The US considers much of UNCLOS to be customary international law binding on all States.
- UNCLOS enjoys a generally higher order than other marine conventions:
  - Specific environmental obligations assumed by States under special marine environmental conventions should be carried out in a manner consistent with the general principles and objectives of UNCLOS (art 237(2)).
  - Expectation of compatibility of other agreements with UNCLOS (art 311(2)).

# How is UNCLOS relevant?

- Art 1: Definition of pollution of the marine environment:
  - "pollution of the marine environment" means 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".

# UNCLOS relevance continued

- Art 192: States have the obligation to protect and preserve the marine environment.
- Art 194: States have a duty to take individual or joint measures to prevent, reduce and control pollution of the marine environment from any source.
- Art 195: States are to take measures in a manner that do not “transfer, directly or indirectly, damage or hazards from one area to another or transform one type of pollution into another”.
- Art 196: States have an obligation to take measures to prevent, reduce and control marine pollution from technologies under their jurisdiction or control that may cause significant and harmful change.
- Art 211: States, acting through the IMO or diplomatic conferences, “shall establish international rules and standards to prevent, reduce and control pollution of the marine environment from vessels”.

# How is scrubber washwater an UNCLOS compliance issue?

- MARPOL Annex VI Regulations 4 and 14 *per se* are not necessarily inconsistent with UNCLOS.
- The legal issue is the use of scrubbers as an alternative compliance mechanism authorized by national maritime administrations (as guided by IMO 2015 EGCS Guidelines, especially Part 10 on discharge).
- The consequential discharges into the marine environment from scrubbers are inconsistent with the obligations of IMO Member States under several UNCLOS provisions.

# What treaty law principles should guide resolution of the issue?

- Vienna Convention on the Law of Treaties, 1969:
  - “Every treaty in force is binding upon the parties to it and must be performed by them in good faith.” (Art 26)
  - “A treaty shall be interpreted in good faith in accordance with the ordinary meaning to be given to the terms of the treaty in their context and in the light of its object and purpose.” (Art 31(1))
- UNCLOS Art 303: “States Parties shall fulfil in good faith the obligations assumed under this Convention ...”
- UNCLOS Art 237(2): States’ obligations under environmental agreements “should be carried out in a manner consistent with the principles and objectives” of UNCLOS.
- MARPOL Art 9(2): “Nothing in the present Convention shall prejudice the codification and development of the law of the sea by the United Nations Conference on the Law of the Sea ...”



# Conclusion: Rectifying UNCLOS non- compliance

- IMO Member States certifying EGCS systems are recommended to take steps to comply with their UNCLOS obligations to prevent pollution of the marine environment from scrubber washwater.
- The IMO is in a position to assist Member States meet their UNCLOS obligations by revising the 2015 EGCS Guidelines to support compliance with UNCLOS.

Thank you!