

Climos Code of Conduct for Ocean Fertilization Projects

27 September 2007

v1.0

Background

- There has recently been an increase in interest in large-scale ocean fertilization as a tool for sequestering significant amounts of carbon dioxide from the atmosphere.
- Along with the growing interest in this field, however, concerns have been raised about the potential risks to the marine environment that such activities might pose. Although the weight of scientific evidence indicates that these concerns can be addressed through appropriate project design measures, there is a clear need to move forward carefully in light of the sensitivity of marine ecosystems. Concerns have also been raised about the risks that might be posed by unscrupulous operators that do not adhere to minimum scientific or regulatory standards, about the lack of clear global regulatory guidance applicable to these activities, and about the difficulty of applying regulatory standards to ocean-related activities that necessarily take place, for operational reasons, on the high seas in areas beyond national jurisdiction. In addition, concerns have been raised about the efficacy of iron fertilization and the permanence of CO₂ sequestration from this technique.
- In response to these concerns, Climos has offered a draft Code of Conduct that sets minimum environmental and operational standards for iron fertilization activities. An important goal of this effort is to encourage a broader process involving stakeholders from multiple sectors.

Proposed Elements for Best Practices and Code of Conduct

The Code of Conduct would require operators to adhere to minimum standards relating to (1) protection of the marine environment; (2) methodological rigor in accounting for carbon credits; and (3) transparency and openness. The Code of Conduct will be periodically updated as researchers learn more about the impacts and benefits of iron fertilization over time.

1. Projects will adhere to high environmental protection standards, including:
 - **Permits.** Notwithstanding the ambiguity about whether iron fertilization activities legally fall within the scope of the London Convention or London Protocol, a permit will be obtained from authorities with regulatory jurisdiction over each cruise. Permits will adhere to minimum information requirements consistent with the requirements of the London Protocol. Operators also commit to identifying and

complying with all applicable international, national and sub-national laws and policies.

- **Environmental Impact Assessment.** Should be provided in advance for each cruise. Operators commit to take measures to identify the risk of adverse environmental impacts and to minimize those risks, and to conduct appropriate post-cruise monitoring of sites.
 - **Avoiding Sensitive Ecosystems.** Projects should be conducted at least 500 km from shore and in waters at least 2000 meters deep. Projects should also avoid proximity to marine protected areas or ecosystems deemed sensitive.
 - **Purity.** A materials report for the iron compound used will be provided, which shall include an analysis of the material purity.
2. Projects that generate GHG reduction credits will adhere to high standards for ensuring the integrity of reductions, including:
 - **Published, Validated Methodology.** Projects should be performed according to a published CDM (or equivalent) methodology that has been validated by a well-respected third-party verifier. A PDD (Project Description Document) should be provided for each project.
 - **Independently Verified.** A reputable third party verifier should evaluate each project according to a validated methodology.
 - **Permanent.** At least 100-year minimum time-length permanence should be established, determined by measuring flux in water with at least 100 year residence/ventilation time.
 - **Additional.** No other economic benefit or policy requirement should be satisfied by the seeding.
 - **Calculated Baseline.** A baseline of normal productivity and sequestration for the surrounding area should be measured during the project and subtracted from the claimed reductions.
 - **Known Leakage.** The Global Warming Potential of secondary gases such as N₂O and CH₄ should be measured and deducted from claimed CO₂ reductions. All emissions incurred in operations and through inputs to the process should be subtracted from claimed CO₂ reductions.

- **Tracked and Registered.** A unique serial number should be issued to each offset and it should be tracked and independently registered to prevent double counting.
- **Measurement Techniques.** Measurements should be made using currently accepted techniques for each variable as determined by the oceanographic community.
- **Level of expertise.** Measurements should be made by technicians trained by the oceanographic community.

3. Projects should be transparent and open:

- **Transparency.** All project specifications, including location, size, iron application, pre- and post-seeding conditions and observed responses, including measured export, should be published in an open format, such that results are accessible

to the public. Measurement techniques and raw data should also be provided if possible.

- **Peer reviewed and Published.** Project results should be submitted for peer review and published in a timely manner.
- **Scientific Collaboration.** Projects should encourage participation from the broader oceanographic community.
- **Adherence to Code:** Operators should also monitor, evaluate and report on the Code's application to their activities.