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Ocean Geo-engineering: Ocean Fertilization

In light of the serious and potentially irreversible consequences of climate change, consideration is being given to initiatives that may reduce the concentration of carbon dioxide in the atmosphere. One such technique is ocean fertilization.

In theory, the distribution of a nutrient, such as iron, over a nutrient deficient area of an ocean stimulates the growth of phytoplankton, converting carbon dioxide to organic matter through photosynthesis. Although much of the current research has focused on ocean iron fertilization, other nutrients, such as nitrogen, urea and phosphates, are also being considered.

Canada is engaged in deliberations on the potential control of this activity through its participation in the [London Convention/London Protocol \(LC/LP\)](#). In May 2008, the Scientific and Legal Working Groups of the LC/LP were tasked with evaluating the issue of ocean fertilization. They recommended proceeding toward regulation of the activity.

Canada supports the LC/LP resolution to not allow ocean fertilization, with the exception of legitimate scientific research. The application of the precautionary approach at this point in time is appropriate first because wide scale commercialized ocean fertilization may pose a risk of serious persistent change to aquatic ecosystems and secondly, because there is a lack of scientific certainty as to the effectiveness of the process.

Fisheries and Oceans Canada led a science-based peer review to critically examine Ocean Fertilization. The report can be found here: [Science Advisory Report on Ocean Fertilization](#).

DFO scientists working on geo-engineering science activities can be found [here](#).

