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## **The Geoengineering Moratorium** *under the UN Convention on Biological Diversity*

On 29 October 2010, the Tenth Conference of the Parties (COP 10) of the United Nations Convention on Biological Diversity (CBD) adopted a decision that amounts to a *de facto* moratorium on geoengineering and, almost as importantly, affirmed the UN's leadership in addressing these issues. Since then, many commentators (both those opposed to and supportive of geoengineering) have circulated erroneous statements concerning the import of the decision. In this note, ETC Group addresses some of the misunderstandings about a decision we consider to be an extremely important step forward.

**Moratorium:** (*Who cares?*) Although governments and commentators often use the word "moratorium" (or "*de facto* moratorium") when speaking of the geoengineering decision, this language does not appear in formal texts within the UN Convention on Biological Diversity. But the decision carries considerable political clout. The 193 State Parties of the CBD are unanimously urging themselves and the world's three UN members who are not Parties to the Convention to invoke the precautionary approach and prohibit geoengineering activities at least until a number of conditions are met: The prohibition applies (1) as long as there is no "science based, global, effective, transparent control and regulatory mechanism"; (2) in keeping with the precautionary approach and the obligations of Article 14 of the Convention;<sup>1</sup> (3) until there is an adequate scientific basis to justify geoengineering and (4) appropriate consideration of risks to the environment, biodiversity as well as social, economic and cultural impacts. The only exceptions that are specifically provided for are small-scale scientific research studies that would meet four specific conditions<sup>2</sup>. Much of the geoengineering research currently underway (computer modeling, for example) would be allowed under this exception but virtually no open field trials of geoengineering technologies could meet all 4 conditions.

Of course, all agreements emanating from a Conference of the Parties are by consensus (except in unusual circumstances where a government requests a reservation) but it is rare for the COP to reach a consensus position on such a politically controversial issue. In recent years, for example, other proposals for moratoria on genetically modified trees or GM fish – proposals that are supported by the majority of the world's governments – have failed to achieve the necessary consensus. The new moratorium is particularly

strong and unique because of its breadth – encompassing geoengineering on land, sea, and air (although it does not include weather modification or Carbon Capture and Storage).<sup>3</sup>

Governments adopted the moratorium carefully and in close consultation with their capitals. The CBD's member governments have been discussing geoengineering in the form of ocean fertilization (stimulating the growth of algae to absorb CO<sub>2</sub>) and/or solar radiation management (blocking sunlight) since SBSTTA13 (the intergovernmental Subsidiary Body on Scientific, Technical and Technological Advice) met in Rome in February 2008. Following its recommendation, COP 9 adopted the moratorium on ocean fertilization in Bonn in May 2008. When, in February 2009, two Ministries in the German government clashed over an experiment that contravened the moratorium, the international community publicly and privately expressed its diplomatic displeasure. The failure of the German experiment to demonstrate ocean fertilization's efficacy strengthened commitment to the moratorium and, when the issue of ocean fertilization came up again on the agenda at COP 10, no government spoke against that moratorium.

The CBD's scientific subcommittee (SBSTTA 14) met again in Nairobi in May 2010 and discussed the possibility of broadening the moratorium to all forms of geoengineering. As a result of their deliberations, a draft proposal for a moratorium was forwarded to COP 10. Indeed, at COP 10, geoengineering was on the agenda under three different items: New and emerging issues, Marine and coastal biodiversity, and Biodiversity and climate change. Heading into the two-week conference, the CBD secretariat, among others, described geoengineering as one of its most significant agenda items.

**Implications for CBD non-Parties:** (*Can the moratorium be ignored?*) Andorra, the Holy See and the USA are the only UN members that have not ratified the Biodiversity Convention. Despite the fact that the USA normally has one of the largest delegations attending CBD meetings and it is a signatory to the Convention, it is technically under no obligation to honour the moratorium. Having signed the treaty and declared its intention to ratify, however, the U.S. government typically adheres to CBD decisions. Certainly, such a strong expression of international will cannot be easily ignored.

**Enforcement:** (*Does the COP carry a stick?*) Formally, the CBD has the intent but not the capacity to enforce the *de facto* moratorium. This is true of the majority of intergovernmental agreements (other than trade agreements and some military treaties). Informally, however, governments that have participated in establishing a consensus decision try hard not to violate such decisions and they risk their credibility and diplomatic reputations if they do so.

Decisions of the CBD are, in fact, decisions of its member governments. Those decisions then apply in every intergovernmental forum. One hundred and ten states were represented at COP 10 by Cabinet-level Ministers of Environment – very often the same Ministers and many of the same negotiators that will meet under the UN Framework Convention on Climate Change (UNFCCC) in Cancun at the end of November.

Commentators who have suggested that the CBD decision is irrelevant appear to know little about intergovernmental relations and even less about climate change negotiations.

**Review/Rescind:** (*Can it be overturned?*) Any future COP could choose to review and either strengthen or rescind the moratorium. However, any alterations must be unanimously accepted by all governments. The moratorium against “Terminator technologies” (seeds that are genetically modified to be sterile) established at COP 5 in 2000 was aggressively challenged by, among others, Canada and New Zealand, in 2005 and 2006. Despite considerable pressure, governments reaffirmed the moratorium in Curitiba in 2006, prompting the Brazilian President to declare the defense of the moratorium as one of COP 8’s major victories. Indeed, the *de facto* moratorium draws much of its strength from the negotiating governments’ recognition that – once established – it will not easily be removed.

**Language:** (*Omelette not Hamlet?*) The exact language of any CBD decision is the result of long, laborious (and, usually, late-night) negotiation among delegates, the majority of whom do not have any of the six UN languages as their mother tongue. As the skilled Austrian chair of Working Group 1 at COP 10 acknowledged, the result is not poetry. Due to the complexity of international legal interpretations, there’s a tendency to fix as many subordinate clauses to a single sentence as possible and to attach as many concepts within a single paragraph as can be managed. The result is decidedly inelegant. Governments participating in negotiations, however, understand the intent.

**Next Step – ICENT:** (*Time for a Policy climate change?*) A moratorium invoking the precautionary principle is essential when gaps in knowledge are substantial, the risks are considerable, and the need for preventive action is imminent. In the absence of other timely mechanisms, moratoria represent a responsible and effective tool of international governance. In many instances, moratoria are UN member states’ best defense against unilateral action by powerful countries or corporations. In the 16 years since the CBD came into force, ETC Group has promoted three moratoria on new technologies: COP 5 (2000) adopted a moratorium on Terminator technologies; COP 9 (2008) agreed to a moratorium on ocean fertilization; and, now, COP 10 (2010) has approved a moratorium on all forms of geoengineering.

It should be evident to all Parties that another approach is preferable. The United Nations system needs a monitoring and evaluation mechanism that would allow it to review and comment on new technologies as they move from discovery to diffusion and before commercialization. An authoritative, transparent and participatory mechanism established with credible and predictable processes would reduce risk both for science and economies as well as for society and the environment.

Governments should recall that the United Nations had some of the necessary building blocks to perform this function until 1993 when, after heavy lobbying from transnational corporations, it effectively abolished both the UN Centre for Science and Technology for Development (UNCSTD) and the UN Centre on Transnational Corporations (UNCTC)

one year after the adoption of Agenda 21 at the United Nations Conference on Environment and Development in Rio de Janeiro (the Rio Earth Summit).

ETC Group proposes that the UN establish an International Convention for the Evaluation of New Technologies (ICENT). The current moratoria – and others that may arise at the CBD or in other UN bodies concerning nanotechnology and synthetic biology, for example – make it clear that it is time for a “political” change in climate. The Rio +20 Summit to be held in Brazil in May 2012 should formally launch negotiations that lead to ICENT. In the months ahead, ETC Group and its partners will offer specific suggestions to facilitate ICENT negotiations.

## **CBD Moratoria Texts**

### **COP 5 (2000) Decision on Terminator seeds (GURTS)<sup>4</sup>:**

Recommends that, in the current absence of reliable data on genetic use restriction technologies, without which there is an inadequate basis on which to assess their potential risks, and in accordance with the precautionary approach, products incorporating such technologies should not be approved by Parties for field testing until appropriate scientific data can justify such testing, and for commercial use until appropriate, authorized and strictly controlled scientific assessments with regard to, inter alia, their ecological and socio-economic impacts and any adverse effects for biological diversity, food security and human health have been carried out in a transparent manner and the conditions for their safe and beneficial use validated.

### **COP 9 (2008) Decision on Ocean Fertilization<sup>5</sup>:**

Requests Parties and *urges* other Governments, in accordance with the precautionary approach, to ensure that ocean fertilization activities do not take place until there is an adequate scientific basis on which to justify such activities, including assessing associated risks, and a global, transparent and effective control and regulatory mechanism is in place for these activities; with the exception of small scale scientific research studies within coastal waters. Such studies should only be authorized if justified by the need to gather specific scientific data, and should also be subject to a thorough prior assessment of the potential impacts of the research studies on the marine environment, and be strictly controlled, and not be used for generating and selling carbon offsets or any other commercial purposes...

### **COP 10 (2010) Decision on Geoengineering<sup>6</sup>:**

Ensure, in line and consistent with decision IX/16 C, on ocean fertilization and biodiversity and climate change, in the absence of science based, global, transparent and effective control and regulatory mechanisms for geoengineering, and in accordance with the precautionary approach and Article 14 of the Convention, that no climate-related

geoengineering activities\* that may affect biodiversity take place, until there is an adequate scientific basis on which to justify such activities and appropriate consideration of the associated risks for the environment and biodiversity and associated social, economic and cultural impacts, with the exception of small scale scientific research studies that would be conducted in a controlled setting in accordance with Article 3 of the Convention, and only if they are justified by the need to gather specific scientific data and are subject to a thorough prior assessment of the potential impacts on the environment...

\* Without prejudice to future deliberations on the definition of geoengineering activities, understanding that any technologies that deliberately reduce solar insolation or increase carbon sequestration from the atmosphere on a large scale that may affect biodiversity (excluding carbon capture and storage from fossil fuels when it captures carbon dioxide before it is released into the atmosphere) should be considered as forms of geoengineering which are relevant to the Convention on Biological Diversity until a more precise definition can be developed. Noting that solar insolation is defined as a measure of solar radiation energy received on a given surface area in a given hour and that carbon sequestration is defined as the process of increasing the carbon content of a reservoir/pool other than the atmosphere.

## Endnotes

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<sup>1</sup> Article 14 reads:

1. Each Contracting Party, as far as possible and as appropriate, shall:
  - (a) Introduce appropriate procedures requiring environmental impact assessment of its proposed projects that are likely to have significant adverse effects on biological diversity with a view to avoiding or minimizing such effects and, where appropriate, allow for public participation in such procedures;
  - (b) Introduce appropriate arrangements to ensure that the environmental consequences of its programmes and policies that are likely to have significant adverse impacts on biological diversity are duly taken into account;
  - (c) Promote, on the basis of reciprocity, notification, exchange of information and consultation on activities under their jurisdiction or control which are likely to significantly affect adversely the biological diversity of other States or areas beyond the limits of national jurisdiction, by encouraging the conclusion of bilateral, regional or multilateral arrangements, as appropriate;
  - (d) In the case of imminent or grave danger or damage, originating under its jurisdiction or control, to biological diversity within the area under jurisdiction of other States or in areas beyond the limits of national jurisdiction, notify immediately the potentially affected States of such danger or damage, as well as initiate action to prevent or minimize such danger or damage; and
  - (e) Promote national arrangements for emergency responses to activities or events, whether caused naturally or otherwise, which present a grave and imminent danger to biological diversity and encourage international cooperation to supplement such national efforts and, where appropriate and agreed by the States or regional economic integration organizations concerned, to establish joint contingency plans.
2. The Conference of the Parties shall examine, on the basis of studies to be carried out, the

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issue of liability and redress, including restoration and compensation, for damage to biological diversity, except where such liability is a purely internal matter.

<sup>2</sup> They (1) are conducted in a controlled setting; (2) would not have impacts beyond national jurisdiction (in keeping with CBD Article 3) ; (3) are justified by the need to gather specific scientific data and (4) are subjected to thorough prior environmental impact assessment.

<sup>3</sup> On these definitional issues, see ETC Group, [Geopiracy: The Case Against Geoengineering](#), November 2010, pp. 4-7. Bolivia in fact commented on that exclusion in a footnote, stating: “The exclusion of carbon capture and storage from this definition is not to be interpreted as an endorsement of carbon capture and storage technologies under this Convention, pending a full consideration by the Conference of the Parties of its impacts on biodiversity in general.”<sup>3</sup>

<sup>4</sup> Annex 3: Decisions Adopted by the Conference of the Parties to the Convention on Biological Diversity at Its Fifth Meeting, Nairobi, 15-26 May 2000UNEP/CBD/COP/5/23 p. 88, available online at [www.cbd.int/doc/decisions/COP-05-dec-en.pdf](http://www.cbd.int/doc/decisions/COP-05-dec-en.pdf)

<sup>5</sup> COP 9, Decision IX/16.C Ocean Fertilization under Biodiversity and climate change, available at <http://www.cbd.int/decision/cop/?id=11659>

<sup>6</sup> Convention on Biological Diversity, Advance Unedited text, 2 November 2010, Biodiversity and Climate Change, Decision as adopted available online at <http://www.cbd.int/nagoya/outcomes/>

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See also our new report [Geopiracy: The Case Against Geoengineering](#)

ETC Group news release: [Geoengineering Moratorium Agreed at UN Ministerial in Japan](#)