



ETC Group
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Comment on the Zero Draft

The Future We Don't Want

High-Risk Technologies Threaten to Derail Sustainable Development

While *technology* appears 24 times in the 18-page Zero Draft negotiating document for Rio+20, the crucial role of *technology assessment* is missing. Rio+20 should support the dissemination of appropriate technologies (ecologically sustainable and socially just) as well as policies that ensure public participation, oversight and access to information. Without assessment, we cannot wisely and democratically decide which technologies will help us move in the direction of sustainable development and which will not. Some technologies, like geoengineering, are so high-risk that a ban on testing and deployment is urgently needed. Rio+20 should adopt a strong statement against all unilateral attempts to intentionally modify the climate as a first step toward a comprehensive geoengineering test ban.

Why Technology Assessment?

The need for technology assessment was recognized 20 years ago in Rio's action plan on environment and development (Agenda 21, Chapter 34).¹ While little has been done since 1992, the urgency has increased because:

- the pace of scientific and technological development has accelerated;
- the capacity of governments to understand and regulate emerging technologies has declined;
- convergence in previously discreet fields of scientific inquiry has multiplied the impacts of resulting technologies: for example, the convergence of informatics, nanotechnology, genomics, and synthetic biology makes possible the creation of artificially engineered life forms, with far-reaching implications for sustainable development;
- a small number of large corporations control both technologies and resources and their power is augmented through intellectual property regimes;
- more and more of the natural world is seen as ripe for extraction and commodification, and new speculative financial instruments are undermining democratic decision-making.

What Must Be Included in the Outcome Document?

Science and technology is one of five areas for action identified in the Zero Draft under "Means of Implementation" (paras 118-120) and the commitments on technology in Agenda 21 are re-affirmed. However, there is no explicit reference to the need to assess technologies for their social, economic and environmental impacts. Rather, what is stressed is the need for "effective mechanisms, enhanced means, appropriate enabling environments, and the removal of obstacles to the scaling up of the development and transfer of technology to developing countries (para 119)." **At the very least, the "precautionary assessment of technologies for their social and environmental impacts" must be added to the list of needs.**

Geoengineering: Comprehensive Test Ban Urgent

Geoengineering – the large-scale, intentional, technological intervention in the Earth’s systems – is increasingly being discussed as a “Plan B” for climate change. Proposals range from altering ocean chemistry to try to increase absorption of CO₂ (ocean fertilization) to injecting sulfur dioxide into the stratosphere to reflect sunlight away from Earth (an example of so-called Solar Radiation Management). Artificial trees, biochar, cloud whitening and “sunshades” in space are among proposals being researched in OECD countries (US, UK, Canada, among others).

A small but influential group of scientists, with corporate backing and support from some governments, is pushing to *test* these planetary-scale technologies in the absence of international agreement, despite that the 193 Parties to the UN Convention on Biological Diversity adopted a moratorium on such activities in October 2010.² Furthermore, because these technologies – by definition – operate at the planetary scale, their testing is indistinguishable from their deployment. Testing them *is* geoengineering, and there is no “Planet B.”

Geoengineering is the antithesis of sustainable development. Here are 10 reasons Rio+20 should strongly oppose unilateral attempts to geoengineer the climate, as a first step toward a test ban:

1. Geoengineering cannot be tested (or deployed) safely or reliably.
2. We do not know enough about the climate to attempt recalibrating it.
3. Geoengineering will cause uneven and undesired trans-border impacts, including drought, ocean acidification, land use changes, etc.
4. Geoengineering is inherently conducive to militarization.
5. Geoengineering does not address the root causes of climate change.
6. Geoengineering takes attention and research money away from priorities already recognized by the international community, including reducing greenhouse gas emissions.
7. Geoengineering violates or undermines several international treaties.
8. Geoengineering creates technological dependence: once geoengineering has been deployed, it cannot be stopped without provoking catastrophic sudden warming.
9. It is not too late to stop geoengineering technologies from gaining ground.
10. The problem of climate change is political, not technological.

Rio+20 must confront the most urgent issues facing the planet. We need a coherent, cautious, collective approach that will support diverse endogenous and sustainable technologies, getting the right technologies to the countries that need them, while keeping the world safe from harmful technologies. Rio+20 must take bold steps to bring international technology policy into the 21st century by ensuring precautionary and participatory assessment and adopting a comprehensive test ban on geoengineering.

ETC Group has published several documents on issues related to Rio+20, including *Who Will Control the Green Economy?* and *Tackling Technology: Three Proposals for Rio (Submission to Zero Draft)*, available on our website: www.etcgroup.org/en/rio.

¹ 34.26. The international community, in particular United Nations agencies... should: (a) Build up technology assessment capacity for the management of environmentally sound technology, including environmental impact and risk assessment, with due regard to appropriate safeguards on the transfer of technologies subject to prohibition on environmental or health grounds.

² J. Tollefson, “Geoengineering Faces Ban,” *Nature* 468, pp. 13-14: <http://www.nature.com/news/2010/101102/full/468013a.html>. The decision is X/33, Biodiversity and Climate change, Paragraph 8 (w): <http://www.cbd.int/climate/doc/cop-10-dec-33-en.pdf>.