

Biofuels, Bioenergy, Biochar and the Technologies of the new Bioeconomy: Are we continuing to fuel Biodiversity Loss?

SBSTTA 16, Montreal, Canada, 30th April – 5th May 2012 *Related Documents: UNEP/CBD/SBSTTA/16/14*

Summary of issue

Industrial scale bioenergies, including biofuels are rapidly expanding, creating massive new demand for wood, vegetable oil and agricultural products. Already these demands are inflicting serious and irreversible impacts on forests and other natural ecosystems, soils and water resources. Expansion of industrial monocultures, including tree plantations, to meet this demand occurs at the expense of biodiversity and food production, while also contributing to “land grabs”, undermining the rights of peasant farmers and indigenous peoples, and hampering efforts to achieve food sovereignty and agrarian reform.

The CBD Secretariat's report rightly acknowledges many of these negative impacts. However, in line with COP10 decision X/37, it focuses predominantly on 'tools', i.e. standards and certification, to address the often complex direct and indirect negative impacts, without assessing whether those tools are credible instruments.

Standards and certification schemes *per se* have not been effective and are no match for countering the drivers of bioenergy expansion: targets, mandates and subsidies, especially in Europe and North America. To effectively address the negative impacts, those incentives need to be eliminated.

What is at stake?

The new bioeconomy

Biofuels and bioenergy generally are emerging as the energy basis of the “bio-economy”, including both liquid biofuels for transportation and burning biomass for electricity and heat. Industries including chemicals, plastics, steel and cement production, aviation and also the US military are increasingly seeking biomass alternatives for fossil fuels. They are also looking at ways to extract more valuable fractions from the biomass for different industrial uses. All this precariously assumes that unrealistic quantities of biomass are readily available and represents a serious, escalating threat to biodiversity.

Impacts on biodiversity

Demand for land and water to grow biomass feedstocks is resulting in the expansion of industrial agriculture, increased pressure on forests for woodchips and pellets, depletion and contamination of soils and waters and deliberate spread of invasive species. Many of those negative impacts are summarised well in the Secretariat's report to SBSTTA. Biofuel developments are also associated with risky new technologies including GE trees, algae and bioenergy crops as well as the development of synthetic organisms with the aim of overcoming the current negative energy balance from turning solid biomass into liquid fuel.

Industrial bioenergy competes with food production and worsens hunger

As confirmed by the High-Level Panel of Experts on Food Security and Nutrition, demand for biofuels has been responsible for most of the recent global growth in the demand for cereals and oilseeds and thus to significant extent is responsible for food price rises and volatility and thus increased hunger. Impacts on food security and sovereignty are complex, often indirect and in global markets cannot be addressed through standards.

Industrial bioenergy is fuelling global speculation and investment in land, resulting in a new era of colonisation and “land grabs”

According to a report published by the International Land Coalition, land 'transactions' involving at least 71 million USD and possibly as much as 203 million hectares worldwide were concluded between 2000 and 2010, particularly in Africa. Two-thirds of land transactions (for which details were available) were for biofuels. It is often claimed that large areas of “marginal, abandoned and degraded” lands are available, but those lands frequently are in use by pastoralists, small food producers, indigenous peoples and local communities. Conflicts and violent displacement of entire communities results. Future biofuels from algae and seaweed pose a threat to pastoralists (should plans to grow microalgae in deserts and semi-deserts go ahead), coastal communities and biodiversity, and fisherfolks.

Industrial bioenergy will accelerate, not mitigate climate change

The Secretariat's Report for the SBSTTA acknowledges that current biofuel policies are the wrong tool for reducing greenhouse gas emissions and that in many cases biofuels increase those emissions. It highlights that many of those impacts are indirect ones but fails to put forward a credible way for addressing them. This could only be achieved by limiting demand by removing or suspending targets and subsidies.

Biomass with Carbon Capture and Sequestration:

Despite all of the acknowledgments of the failures and serious negative impacts of biofuel policies, the report proposes that bioenergy with carbon capture and storage (BECCS) could remove greenhouse gases from the atmosphere, ignoring many strong challenges to the underlying assumption that bioenergy is 'carbon neutral'. Such support for BECCS also fails to recognize that CCS itself requires significant energy and remains unproven and potentially dangerous.

Standards are no match for subsidies

Bioenergy demand has already extended beyond what is sustainable, driven by government subsidies, targets and other incentives. Agriculture, forestry, energy, biotechnology and other industry sectors seeking profitable alternatives welcome these supports. Meanwhile, traditional community uses of biomass are increasingly criticized even as large scale industrial bioenergy is subsidized.

The negative impacts of bioenergy are often indirect, complex, difficult to assess or quantify, and inherent to globalized markets. These negative impacts cannot credibly be addressed by standards and certification. Supporting global standards for all agricultural commodities as a means to address indirect impacts of biofuels will only further delay action and fails to acknowledge the inherent limits of 'sustainable demand'. Currently, the EU has standards in place, however, 'social impacts', including human rights abuses are not directly addressed and no verification and auditing of companies' claims is being undertaken. While the effectiveness of standards in addressing direct, let alone indirect impacts of biofuels is unproven, the effects of biofuel mandates, subsidies and targets is real, proven and, as documented in the Secretariat's report to SBSTTA, very negative.

Proposals for SBSTTA 16 and beyond

We face an expanding population to feed, dwindling soil and water resources, and mounting impacts of global warming on agriculture, forests and biodiversity. Subsidy and target driven demands for bioenergy cannot be met sustainably in this context. Maintaining those while developing unproven, standards for which there is little basis for assuming they will be effective, contradicts the precautionary principle, to which Parties must adhere.

The Secretariat's report rightly highlights that biofuels are not carbon neutral, as is commonly claimed, notes the low energy density of biofuels and the implications for land-use, and contains some useful observations on indirect impacts, but the document is incomplete and requires substantially more work before it can credibly be presented to COP11.

Parties at SBSTTA 16 must:

- Invite more civil society responses, including from Indigenous Peoples and local communities affected by biofuel policies and production;
- Classify subsidies, targets and incentives driving industrial bioenergy as "perverse incentives" and eliminate them;
- Acknowledge that standards and certification criteria are not credible tools for addressing the negative impacts of biofuels and European and North American biofuel policies;
- Reaffirm that biodiversity and ecosystems resilience and restoration is fundamental and a priority over satisfying energy demands;
- Reject Bioenergy with Carbon Capture and Storage, and other unproven and potentially dangerous bioenergy related technologies.

Further information

Biofuelwatch: www.biofuelwatch.org.uk

EcoNexus: www.econexus.info

The Convention on Biological Diversity Alliance (CBD Alliance) is a network of activists and representatives from NGOS, CBOs, social movements and Indigenous People's organisations advocating for improved and informed participation in the CBD processes.

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