

Biomass: the zero-emission myth

Time for change in climate policies

The Kyoto Protocol rules for working out carbon emissions consider biomass, including biofuels for transport, to be zero-emission renewables - unlike fossil fuels. This makes biofuel use very attractive. However, zero emissions are a reality only on paper - and the current rules hide the adverse impacts of some biofuels on local people, biodiversity and climate change.

In fact, biomass production and use is never zero-emission. Although little notice is taken of the fact, the transport of biofuels, and the use of fertiliser and pesticides to grow them, all lead to high emissions – which can be very significant for a biomass like palm oil, for instance. And even less account is taken of the huge emissions caused by cutting down rainforests and draining carbon-rich peat swamps to set up biofuel plantations.

All this often occurs in developing countries that have no targets for reducing greenhouse gas emissions. But it's not just these countries that are failing to recognise the problem. These kinds of emissions are currently not even accounted for by the countries that signed the Kyoto Protocol. This system of ignoring the emissions caused by biomass production masks very real environmental costs.

Wetlands International calls for a new way of calculating emissions from biomass production in post-Kyoto policies.

In the meantime, governments should only support the use of biomass for fuels if they are proven to be considerably cleaner than fossil fuels.

Biomass and the Kyoto Protocol

The Kyoto Protocol lays down no explicit rules to govern biomass or biofuels, but does draw a rigid distinction between fossil fuels and all other forms of energy. Carbon dioxide emissions from fossil fuels are counted as greenhouse gas emissions. And, to tackle these worldwide, the Protocol sets reduction targets for developed countries and the clean development mechanism (CDM) for other countries. However, because emissions from energy types other than fossil fuel are not counted, no incentives are provided to reduce emissions from biofuels.

The palm-oil example

The demand for biofuels is one of the major driving forces behind the expansion of palm-oil production. Indonesia and Malaysia alone produce 90% of the world's palm oil. Unfortunately, however, up to 20% of plantations in South-East Asia are on peat soils, which until recently were covered by peat swamp forests.



Peat soils need to be drained to a depth of at least 70 centimetres before oil palm can be grown. But in practice they are drained to over one metre. Draining peat triggers an oxidation process. Under tropical conditions, this leads to yearly emissions of 70–100 tonnes or more of carbon dioxide per hectare. So, as Indonesia has over 1.5 million hectares of palm oil plantations on peat, drainage for palm oil there is likely to cause emissions of up to 150 million tonnes of carbon dioxide in just one year.

In fact, logging and drainage are rapidly destroying the peat swamp forests of both Indonesia and Malaysia, resulting in annual emissions of 2000 megatonnes (million tonnes) of carbon dioxide: 600 from decomposition and 1400 from fires. This is an amount equal to 8% of all global fossil-fuel emissions per year.

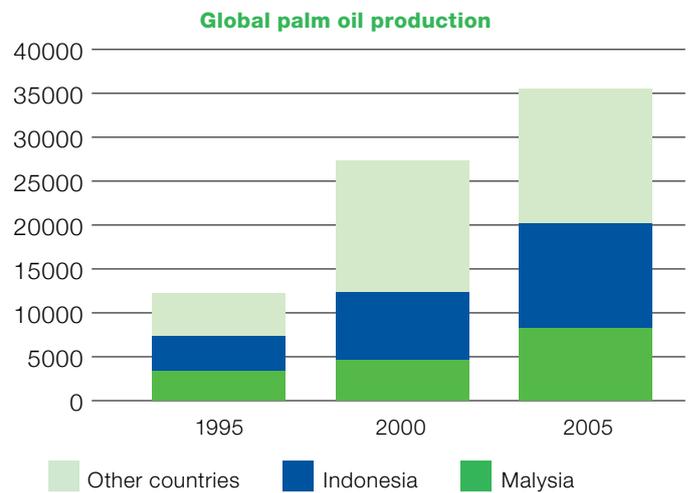
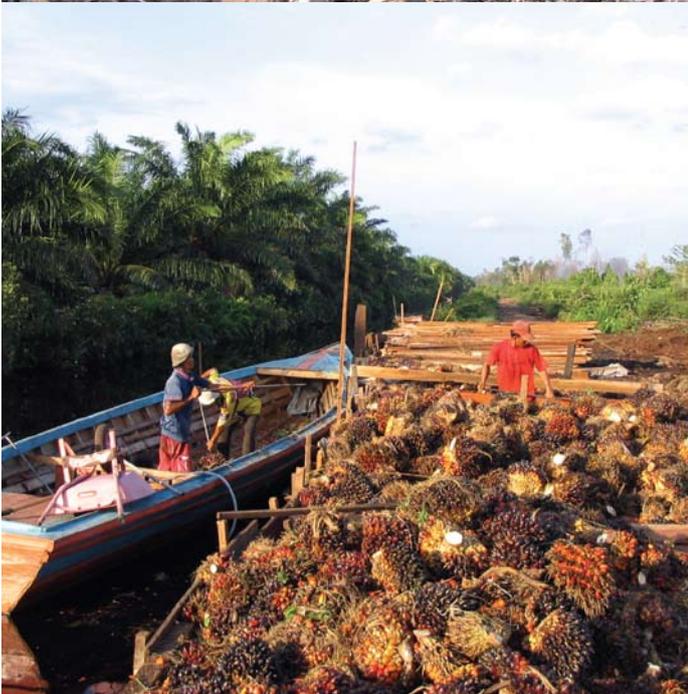
The demand for palm oil will double in the next two decades. The mandatory target of 10% biofuel use for transport in the EU by 2020 has already had a huge impact. As a result, large new plantations are being planned without considering the wider consequences. In Indonesia, more than 50% of these concessions are planned for peatlands.

Post Kyoto: act now

A global greenhouse gas accounting system should be developed for biomass. This system should be used to count up all greenhouse gas savings or emissions over the life cycle of biomass production and use.

Certification scheme

In the absence of a global UNFCCC system to include emissions from peat, a clear certification scheme is essential that makes it possible to distinguish between biofuels originating from peatlands and other biofuels. Importing countries should not support biomass use in any way unless there are obvious advantages compared with fossil fuels and it's shown to have only limited adverse social or ecological impacts.



Source: Aid Environment, 2006

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