



How a market for sustainable bio-energy is being developed

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In 2006 the government of the Netherlands instituted a commission to study how a market for sustainable bio-energy can be created. On 26 April 2007 the commission handed over their final report ([downloadable pdf version written in Dutch](#)) to the Dutch Minister of Housing, Spatial Planning and environment. The general concept of the advice is to institute a trading scheme for sustainable bio-energy, in the form of certification with stringent sustainability criteria. Looking at what is happening now, it seems very likely that the Dutch Government will incorporate the criteria in this advice into the new subsidy scheme for sustainable energy. Especially since the woman that chaired the commission on criteria for sustainable bio-energy, Prof. Dr. Jacqueline Kramer, recently became the Dutch Minister of Housing, Spatial Planning and environment, and therefore handed her own report over to herself on 26 April.

The main leverage for the government will be that companies that obtain subsidies related to bio-energy need to comply to the sustainability criteria, otherwise their subsidy will be withdrawn. The commission worked in a bottom-up approach in formulating the criteria, with people involved from universities, companies, the government and non-governmental organisations. Thanks to this approach, broad support has been gained to make the criteria work. In addition, during the process there has been continuous communication with the United Kingdom whom are developing a similar system. The European Commission is closely watching what is happening in the Netherlands and the United Kingdom, in the hope of steering other member states in the future to adopt a similar system. This promising development is worthy of further study, so what criteria did the commissions report contain?

1. The balance of greenhouse gas emissions in the production chain and application of biomass needs to be positive

Criterion 1.1, The reduction in emission of greenhouse gasses should be at least 50% to 70% for electricity production and at least 30% for bio-fuels, calculated by means of a mathematical framework. Furthermore, the commission sees it more than fitting to strive for a greenhouse gas emission reduction of 80% to 90% within ten years with respect to current fossil references. A report on how to calculate the emission reduction with respect to bio-energy [can be found here in PDF](#).

2. Biomass production should not come at the cost of important carbon reservoirs in the vegetation and the soil.

Criterion 2.1, The plantation of new biomass production units will not take place in areas in which the loss of above ground carbon storage cannot be regained within a period of 10 years of biomass production.

Criterion 2.2, The plantation of new biomass production units will not take place in area's with a

3. Biomass production for energy may not endanger the supply of food and local biomass applications (energy supply, medicines, building materials)

Criterion 3.1, A report can be issued when requested by the government regarding changes of land use in the region, included future developments.

Criterion 3.2, A report can be issued when requested by the government regarding information on changes in the prices of land and food in the region, including future developments.

4. Biomass production will not harm protected or vulnerable biodiversity and wherever possible will enhance biodiversity

Criterion 4.1, The relevant national and local rules will be upheld regarding land ownership and usage rights, forest and plantation management and exploitation, protected areas, hunting, spatial planning, management of the wild, national rules that originate from ratification of international conventions CBD (Convention on biological Diversity) and CITES (Convention on International Trade in Endangered Species).

Criterion 4.2, Biomass production will not take place in recently developed areas that have by the government been marked as "gazetted protected areas", or in a zone of 3.11 miles around these areas.

Criterion 4.3, Biomass production will not take place in recently developed areas that by all involved parties have been classified as "High Conservation Value" (HCV) areas, or in a zone of 3.11 miles around these areas.

Criterion 4.4, When development of new biomass production areas is initiated, 10% of the area should be set aside to remain in the historical state to prevent the shaping of large monocultures. In addition, an indication should be given regarding in what land use zones the biomass production unit resides, how fragmentation is being prevented, whether the concept of ecological corridors is being applied and if there is any concern regarding the recovery of already degraded areas.

Criterion 4.5, Good practices will be applied on and around the biomass production area to enhance and strengthen biodiversity, to take ecological corridors into account and to prevent fragmentation of biodiversity as much as possible.

5. When producing and processing of biomass the quality of the soil will be maintained or enhanced

Criterion 5.1, The relevant national and local rules and laws will be upheld regarding waste management, usage of agrochemicals (fertiliser and pesticides), mineral management, prevention of soil erosion, environmental effects report and company audits. At the utmost minimum the Stockholm convention (12 most harmful pesticides) must be upheld, even when the relevant national laws are missing.

Criterion 5.2, The formulation and application of a strategy aimed at sustainable soil use to prevent and combat erosion, to retain the balance of nutrients, to retain organic matter in the soil and to prevent soil salination.

Criterion 5.3, The use of agrarian rest products will not come at the cost of other essential function to maintain the soil quality (such as organic matter and mulch).

6. When producing and processing biomass, soil and surface water will not be

exhausted and the water quality will be maintained or enhanced

Criterion 6.1, The relevant national and local rules and laws will be upheld regarding the usage of water for irrigation, the usage of soil water, the usage of water for agrarian purposes in flow areas, water purification, environmental effect reports and company audits.

Criterion 6.2, A strategy focusing on sustainable water management regarding efficient water usage and responsible use of agrochemicals will be formulated and applied.

Criterion 6.3, Water irrigation for the processing of biomass will not originate from non sustainable sources.

7. When producing and processing biomass the air quality will be maintained or enhanced

Criterion 7.1, The relevant national and local rules and laws will be upheld regarding air emissions, waste management, environmental effect reports and company audits.

Criterion 7.2, A strategy focused on minimising air emissions regarding production and processing and waste management will be formulated and applied.

Criterion 7.3, Burning of land is a practice that will not be used when developing or managing biomass production units unless in specific situations, such as described in ASEAN guidelines or other regional good practices.

8. Production of biomass will add to the local welfare

Criterion 8.1, A report will be written which describes the direct added value to the local economy, the policy, practice and budget regarding local suppliers of biomass, the procedure for the appointment of local personnel and the share of local senior management. This will be based on the Economic Performance Indicators 1,6 & 7 of the GRI (Global Reporting Initiative).

9. The production of biomass will add value to the welfare of the employees and local population

Criterion 9.1, The tripartite declaration of principles concerning multinational enterprises and social policy, as established by the international labour organisation, will be upheld

Criterion 9.2, The Universal declaration of human rights from the United Nations will be upheld

Criterion 9.3, No land will be used without the consent of sufficiently informed original users. Land use will be described in detail and officially registered. Official ownership, usage and rights of the domestic population will be acknowledged and respected.

Criterion 9.4, A report will be written describing the programmes and practices initiated to determine and manage the effects of business activities on the local population. This will be based on the Social Performance Indicator SO1 of the GRI (Global Reporting Initiative).

Criterion 9.5, A report will be written describing the amount of training and risk analysis to prevent corruption and the actions that will be taken to respond to cases of corruption, This will be based on the Social Performance Indicator SO2, SO3 and SO4 of the GRI (Global Reporting Initiative).

Many of these criteria still need to be worked out in further detail regarding how to monitor their compliance by bio-energy companies. A preliminary system with less stringent criteria will come into effect in the course of 2008 when the new subsidy scheme for sustainable energy of the Dutch Government will start to function. After that several years of development and testing will

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take place, as to put the full system of criteria with the relevant indicators/monitoring systems in place in 2011. By then, the European Commission probably will have proposed a similar system for the entire European Union.

There is still a very large problem that remains in the short run. What certification system should be put into place as to create the largest impact possible, in the sense that many more countries will join to apply a similar system? In the commissions report three systems are proposed.

First, a track and trace system, in which certification for sustainable biomass is only given when the biomass can be traced completely to the source, the certified biomass will be completely separated from non certified biomass during the entire production process and in which all companies in the sustainable biomass chain need to operate under certification. This system is already applied with fair trade and biological products.

Second, a mass balance system in which biomass needs to be partially traced to the source, the certified biomass may be mixed with non certified biomass during the production process and in which all the companies in the sustainable biomass chain need to operate under certification. This system is already applied with the FSC trademark in the paper industry.

Third, a system of tradable certificates (book and claim) in which biomass does not need to be traced to the source, the end user will buy certificates that guarantee the production of a certain amount of sustainable biomass and only the farmer/forest manager needs to be certified. This system is already applied in the trading of green electricity in the Netherlands.

This issue of the system of certification is also related to the problem of compliance with the criteria when no subsidies are involved. This situation could very well develop in the near term future when fossil fuel prices rise further. In this case, the government no longer has leverage over the relevant companies. The only way to make sure that biomass production does not impair any of the criteria might be to enforce compliance by making it obligatory. However, given the emphasis on market liberalisation, the direction that is taken instead is one of seducing companies by free will to enact the criteria as best as possible. I have my doubts, whether companies will do so.



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