

Criteria for Sustainable Use of Biomass Including Biofuels

Position of International Network for Sustainable Energy – Europe

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Background

Renewable energy must be supported in order to enter the energy markets, but the support must be limited to renewable energy that is produced in sustainable ways. Regarding biomass it is evident that it must be produced in ways, where the source is renewed, but also criteria should be applied to limit eventual negative environmental and social effects; and maybe also reward solutions with special positive environmental and social effects. This should be integrated in the support mechanisms for renewable energy.

The increasing trade with biomass, including import from 3rd world countries makes it increasingly difficult to evaluate the sustainability of biomass supply. Specific cases of unsustainable production of biomass has been presented recently such as the replacement of virgin rainforest in Malaysia and Indonesia with monoculture farming of oil palms. Also cases of social unacceptable effects of biomass projects has been published such as the Brazilian Plantar scheme producing wood for the steel industry in monoculture eucalyptus plantations.

In addition, the use of biomass in energy should be as efficient as practical possible with a gradual conversion to best available technologies. Biomass is increasingly used in co-firing with other solid fossil fuels on existing power plants. This is in some cases far below best available technology and limit the benefits of using biomass. The use of co-firing should only be used as a transition solution.

Finally, biomass must be used in installations that can do not pose local environmental problems. This is mostly a problem in areas with many users of small biomass installations, such as ovens for heating. With increased use of biomass cleaner combustion must be introduced.

Likewise biofuels for transport cannot replace increased energy efficiency of vehicles nor energy optimisation of the modal split of transport or phasing-out of transport that is not cost-effective when external costs of transport are included.

Criteria for Biomass

The criteria for biomass supply that we recommend are:

- The biomass source must be renewed. Forest products must come from forests that are replanted and the use of biomass must not contribute to deforestation. This is essential also in a climate perspective as CO₂ released from biomass use leading to deforestation is as harmful to global climate as CO₂ from fossil fuel use. Similarly agricultural products must not come from agricultural practices contributing to desertification or degradation of the land. For this the developers and farmers should make land-use plans that guarantee sustainability in the given situation and should the plans regarding fertilization, water use, crop rotations etc.

- The Biomass production must have a substantial positive energy balance of the energy to produce it compared relative to its energy content. The energy output should be substantially larger than the energy input.
- The biomass energy production must not lead to increased pollution. This includes generally that biomass production must not increase the use of chemical fertilizers or pesticides, compared with the land-use that it replaces. To avoid spreading of GMO¹s, bio-energy crops should not include GMO plants.
- Biomass energy production must not lead to decrease of biodiversity, compared with the land-use that it replaces. This includes general biodiversity as well as habitats for endangered species.
- Biomass energy production must not contribute negatively to the livelihood of local people using the land or being neighbours to the land used for biomass for energy. Particular care should taken regarding the livelihood of indigenous populations. Affected people and potentially affected such as neighbours and people sharing the same watershed should be involved in decision-making and in certification schemes.

The criteria should be the basis for a certification scheme for solid and liquid biomass from all sources. For biomass from residues, the extraction should be compared with the most widespread alternative uses or disposals.

For forestry products is suggested that the certifications follow FSC² certification as far as possible, eventually becomes a part of FSC.

For agriculture, products from certified organic agriculture according to IFOAM³ should be accepted.

Use of Criteria for Exclusion

Only solid and liquid biomass that fulfil the criteria should be supported by the support mechanisms for renewable energy including tax exemptions for biofuels.

Only solid and liquid biomass that fulfil the criteria should be counted towards reaching EU renewable energy targets.

For biomass used within the same area where it is produced and not processed chemically no proof of criteria should be required.

Imported Biomass

The criteria should also apply to imported solid and liquid biomass. A certification system should guarantee this.

To make this possible, imported biomass should have a certificate of origine, also when traded among EU countries.

In case, the European Commission would propose a specific bio ethanol import code it should immediately prepare a Bio Ethanol Fuel Market Regulation or link bio ethanol for bio fuels to the existing Alcohol Market Regulation in order to provide rapid and effective instruments to avoid market disturbance by imports.

¹ GMO, genetically modified organisms

² FSC, Forest Stewardship Council, see www.fsc.org

³ IFOAM, International Federation of Organic Movements, see www.ifoam.org

Support levels and tax exemptions for imported biofuels should be set to give the same market incentive for imported and EU biofuels, also when they have different costs for sustainable raw material input for their production. This can lead to lower tax exemption rates for imported biofuel with lower production costs. This is additional to regulation of support according to greenhouse gas reduction effects. Such a reduction of the support is in line with the “overcompensation rule”, i.e. tax reductions shall be adjusted to avoid overcompensating for the extra costs biofuels (EU state aid rules and energy tax directive).

Because of the uncertainty of production methods of imported biomass, a country should have the opportunity to exclude biomass imported from outside EU&EEA⁴ countries from renewable energy support mechanisms and tax exemptions.

Because of the environmental problems and the need to develop a European market and related industries, biodiesel and other diesel substitutes from imported vegetable oils should be excluded from support mechanisms for a period of ten years and should not count towards meeting the 2010 renewable energy target.

Efficient use of Biomass

Given the limited resources of biomass in Europe, it is important that they are used efficiently, if they are to cover a large share of energy demand. The use of facilities with low efficiency, such as old power plants with biomass co-firing, is not a long-term solution. It can be accepted as a transitory solution to speed-up the establishment of biomass markets, but should be followed by replacement of the obsolete technologies with high-efficient technologies.

Therefore is proposed that feed-in tariffs for renewable energy and renewable energy support for biomass is limited to:

- plants using best available technology, and
- plants temporarily using biomass, while the owners of the plants are preparing the change to best available technology within a reasonable timeframe not exceeding 10 years.

Clean Use of Biomass

Biomass installations with a low emissions should be promoted and more polluting installations should gradually be phased out.

This should be supported by EU minimum standards and optional higher standards for countries with larger use of biomass. Countries with many biomass users in concentrated areas need high standards for the individual installations.

The standards should be supplemented with:

- A labeling program for environmental impacts of biomass installation to promote development of cleaner equipment
- Installation subsidies should be limited to the cleanest equipment
- Regular inspections,
- User information on clean use of biomass

⁴ European Economic Area countries such as Norway and Switzerland should be regarded as EU members in this respect