

AEBIOM statement

Biomass delivers climate change benefits

The biomass sector has been acknowledged as a significant contributor to climate change mitigation. Recently, a controversial debate has been taking place regarding the timing of the carbon savings of biomass, associated with a concept of carbon payback time or carbon debt.

Bioenergy systems can have an impact on terrestrial carbon stocks - in both positive and negative ways. However, recent attention has been almost exclusively focused on scientific papers that have not sufficiently evaluated actual sustainable harvesting and biomass feedstock utilization practices and the positive role biomass can play in ensuring healthy and productive forests. The experiences on certification of bioenergy are also ignored. Bioenergy can and must contribute to climate change mitigation.

Bioenergy has a closed carbon cycle unlike fossil fuels

Carbon emissions and sequestration into biomass are part of a closed cycle, with exchanges between terrestrial and atmospheric carbon pools. As a forest grows, the atmospheric carbon decreases, and vice versa, without any net change in carbon in the cycle. With fossil fuels the situation is radically different. When fossil fuels are mined and burnt the carbon that would otherwise have been stored in earth's crust is suddenly released to the atmosphere. This permanently increases the amount of carbon in the cycle, raising global temperatures for millennia to come, thus creating a real carbon debt for future generations. It is strange to suggest that biomass would be worse than coal on account of its carbon cycle. Preferring fossil fuels over biomass is counterproductive to society's ambitions to mitigate climate change.

Biomass improves forest management resulting in carbon credit

Biomass stimulates forest development. Wood demand generates investments in forest management and new forest plantations. The forest stock in Europe is steadily increasing. In the last 20 years, the European carbon stock increased by 26% (FAO) due to an increased forest area (an additional 3.5 million hectares between 2000 and 2010, EUROSTAT) and harvesting at levels well below the annual growth (only 63% of the annual growth is harvested, UNECE). Statistics show steadily growing forests, although the use of bioenergy has been increasing at the same time. The situation in South East USA is similar (increase from 701 Mt CO₂eq in 1990 to 922 Mt in 2010, or 31,5% in 20 years, EPA) This means a significant carbon stock has been built up. Without wood demand and income for forest owners, forests would be neglected with smaller productivity due to maturation and higher risks of forest fires. Forest management and thinnings are vital for forest health, productivity, and fire and pest prevention.

Feedstock for bioenergy

Biomass relies on sustainable forest management and does not mean over-exploitation of the forests, nor the use of high value round wood. Most forest biomass is produced from material that would have no other use such as sawmill residues, forest thinnings and forest wastes such as tops, branches, and low quality logs left over after higher quality logs have been removed. Now, instead of being wasted, forest biomass is used to replace fossil fuels, and in doing so delivers socio-economic benefits in rural communities.

It is incorrect to suggest that increased bioenergy adoption will lead to increased harvesting of our forests. Bioenergy uses waste and residue streams from well established sustainable harvesting practices. It is not economically feasible for the energy sector to cut down trees in order to turn them into pellets or chips, and this is not expected to change in the foreseeable future.

The way forward - sustainable biomass use – healthy forests, healthy income

Our society depends on forests for the products they generate and, of course, the jobs and economic benefits we derive from them. It is reasonable that protected areas should be set aside, but there must always be a working forest to produce materials and energy. Our responsibility is to ensure that forest biomass is produced sustainably according to strict principles that can be independently verified.

AEBIOM believes that it is essential to ensure that forests are sustainably managed and harvested so as to keep the forests healthy, to respect biodiversity requirements and to maintain carbon stocks. Over-exploitation of this resource with annual harvest levels above annual growth is a non-sustainable short-term practice that will drain the forest resource over time. Sustainable forest management involves silvicultural practices which improve forest growth and prevent fires, insect attacks and other disruptive events - and it can also involve harvesting in forest areas killed or heavily affected by such disruptive events. Such practices maintain or improve overall carbon stocks.

Sustainable biomass can and must make a meaningful contribution if society is to achieve its ambitions on renewable energy and climate change mitigation. Choosing fossil fuels over biomass does irreversible damage to our climate and limits society's opportunities to switch to renewable energy. Leaving unmanaged forests, however, is a poor option as it would deepen the carbon debt created by prolonged burning of fossil fuels and will not develop local sustainable industries and jobs.

AEBIOM is open for constructive debate with all stakeholders on how biomass sustainability is best managed in a credible and efficient manner.

For further information, contact us:

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