

Thematic Working Group 3:

Carbon Substitution

1. Short overview

- Wood is a carbon-neutral material and a renewable resource. Traditional use of wood such as fuel wood is still dominant in developing countries
- Wood energy provides heat, electricity and transportation fuels.
- Accounting of harvested wood products (HWP) is an ongoing issue in climate change negotiations.
- Bioenergy production from forestry and substitution of fossil intensive products by wood products is an important strategy for mitigating climate change
- Economic, social and environmental benefits of wood energy in tropical countries would be high if they are produced in a sustainable way.
- Comparative advantages of wood-based (cellulosic) ethanol as its production has higher energy efficiency compared with corn and sugarcane-based ethanol
- Promotion of forest-based bio-fuels is an interesting possibility for climate change mitigation
- Wood has the lowest energy consumption and CO₂ emission compared to commonly used building materials such as cement, plastic and steel. Replacing one cubic meter of concrete or red brick with the same volume of timber can save around 1 ton of CO₂

2. Key issues

- Cost constraints in the production of wood energy, particularly the use of wood residues due to high transportation costs.

- Lack of comprehensive information on wood energy, substitution of wood, the role of harvested wood products in carbon accounting to address climate change – issues of accounting systems. Sharing information on wood energy is limited
- Knowledge of wood energy technologies is limited, in particular with regard to wood ethanol
- Lack of public awareness of the potential of wood energy and substitution of carbon intensive materials with wood products
- Limited demonstration projects to support the efficient use of wood energy
- Need to develop markets for various wood energy products
- Lack of forest-related policy framework to integrate wood energy production in achieving SFM
- Limited support and R&D to optimal use of all residues in forest and wood products industries. R&D for new technologies for the production of wood energy and capacity building for R&D
- Insufficient supporting incentives for the production of wood energy
- Potential for competition with the agriculture sector (food production, etc.)
- Monoculture fast-growing species plantations for energy production may negatively affect biodiversity, water and soils.
- Lack of comprehensive information on the use of wood in construction – LCA comparing different construction materials

3. Recommendations

The working group made the following recommendations for the attention of governments, ITTO and others, including intergovernmental institution as appropriate:

- Commission studies on life cycle assessment of wood products with a special emphasis on carbon in climate change mitigation

- Monitor the developments and exchange information in the area of wood biofuels. Assist countries in strengthening their capacity to assess, monitor and report on forest- and wood-energy-related information
- Promote R&D for the production of biofuels
- Develop public awareness programmes about the mitigation potential of wood-based bioenergy and wood products in addressing climate change
- Encourage the exchange of information on incentives and other measures to promote wood energy
- Study the potential of forest plantations for biofuels
- Conduct a study on accounting of harvested wood products in the context of climate change mitigation
- Encourage and assist governments, in partnership with the private sector and other stakeholders, to formulate and implement policies and strategies to promote the use of wood products in construction which are eco/carbon-friendly products as well as the use of wood energy;
- Encourage the development of community-based wood energy programmes;
- Identify suitable markets and support to stakeholders for wood-energy development;
- Contribute to the development of policies and guidelines which promote sustainable biofuel plantations in a way which is consistent with food production and security as well as environmental standards.