



CPF
Collaborative Partnership
on Forests

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Energy grows on trees: Global forest institutions highlight vital role of forests to cope with future demands for bioenergy, but call for balanced approaches

(Vienna, 7 November 2011) Rising prices of fossil fuel as well as global efforts to mitigate climate change and reduce greenhouse gas emissions from fossil fuel combustion, places an expanded use of renewable energy high on the political agenda. Wood energy, the most important source of bioenergy in the world, is seen as key to respond to growing demands for a potentially carbon-neutral supply of energy. Forest can play a vital role to respond to future bioenergy demands and help to create a more stable energy future, improve environmental quality and increase economic opportunities, highlighted members of the [Collaborative Partnership on Forests](#) (CPF) in the International Year of Forests 2011.

"Sustainable, well-managed forests can contribute to a switch-over to a greener economy and renewable energy systems with low impact on climate and environment", says Niels Elers Koch, President of the [International Union of Forest Research Organizations](#) (IUFRO), a CPF member, and chair of the [International Conference on the Future Role of Bioenergy from Tree Biomass in Europe](#), held from 6-11 November 2011 in Vienna, Austria.

Increasing demand for wood as source of energy

Global energy demand is projected to increase rapidly in the coming years as more people have access to energy and lifestyles become more energy demanding. "In the longer term, forest biomass has the potential to significantly lessen the strain on global energy supply when oil resources decline", says Elspeth MacRae from the Scion, the Forest Research Institute in New Zealand and member of the IUFRO Task Force on Forest Bioenergy. New opportunities for the efficient use of wood for multiple purposes may also arise from innovations in biotechnologies for the production of renewable and cost-efficient bio-products such as bioplastics, biofuels, biochemicals and other biomaterials.

Rolf Björheden, from Skogforsk, the Swedish Forestry Research Institute, states that the increased demand for wood as a source of energy must be balanced with other needs such as conserving biodiversity, storing carbon, ensuring livelihoods of forest-dependent communities and indigenous peoples, and the needs of conventional forest industries. "Development of regionally adapted technologies and methods for increased, economic, yet sustainable production and harvest of forest biomass for different needs is essential", the IUFRO Task Force Coordinator concludes.

In many parts of the world, policy makers have committed to a stronger use of bioenergy. For example, the European countries have agreed to achieve a 20 per cent share of renewable energy by 2020. Biomass for heat and power generation may come from agriculture, forestry and waste. The recently published [European Forest Sector Outlook Study II](#) indicates that wood is by far the largest potential source of renewable energy in Europe.

Need for accurate information

Wood energy is often being traded on informal markets. Therefore, it is difficult to assess its real contribution to national energy supply and consumption and its current and potential future removals from forests. In some countries, only 20 per cent of the current wood energy consumption is being reported by official statistics. The [Joint UNECE/FAO Wood Energy Enquiry](#) (JWEE) assists countries in accounting for these volumes and it helps keeping track of the fast progress of wood

energy production and consumption. It also facilitates cross-sectoral communication and understanding between energy and forestry.

Need to ensure energy security in developing countries

While the focus in Europe and other regions of the world is on enhancing the contribution of forests to renewable energy supply, the challenge in many developing countries is to better ensure energy security and reduce vulnerabilities of forest-dependent communities and indigenous peoples. In these countries, rural and urban communities are heavily dependent on biomass energy for household cooking and other heating needs. In Sub-Saharan Africa, wood fuel accounts for over 80 per cent of the primary energy demand. Thus, people in Africa are highly dependent on forests and trees outside forests as a source of energy.

Agroforestry, growing trees on farms, is one way of meeting local needs for fuel and, at the same time, taking pressure off forests and woodlands. In developing countries, much of the wood for cooking and heating is grown on farms. According to the [World Agroforestry Centre](#) that is promoting the integration of trees into farming systems, half the firewood burned in Thailand, more than three-quarters of the firewood in Indonesia, Java, Pakistan, the Philippines, Sri Lanka and Vietnam, and four-fifths of the firewood burned in Kerala, India, is cut from farmland and other non-forest areas. In humid Eastern and Central African countries – Burundi, Rwanda and Uganda, in particular – trees grown in home gardens meet most household needs for fuel and timber. In many cash-crop systems, trees grown for shade also eventually provide wood, for example, the silky oak grown in tea plantations in Kenya.

Need to understand impacts

Increasing demand for forest biomass may capitalize on the immense global potential for forest restoration. New analyses show that more than two billion hectares of the world's deforested and degraded landscapes – equivalent to half the size of Asia – offer opportunities for restoration. This potential holds promise not only for the expansion of forest biomass for bioenergy but also for carbon capture as a means to combat climate change.

Currently, the use of fuel wood and charcoal is a driver of deforestation and landscape degradation in many developing countries. To make fuel wood a source of sustainable and potentially carbon neutral energy in those countries requires major efforts and investments. This could and should become a major element in developing countries' climate change mitigation policies, such as those evolving under the Forest Investment Program (FIP) in the Democratic Republic of Congo.

The fact that solid biomass in the form of pellets or chips can be transported economically over long distances opens up opportunities for trade in biomass between countries. As a result, Gerhard Dieterle from the [World Bank](#) says, "imports from timber producing countries are likely to increase dramatically, potentially increasing pressures in these countries on land and local populations if sustainable production schemes are not adopted".

A growing use of forest biomass will also increase competition with conventional uses. Thus, adjustments in forest policy and management, and innovations in forest-based production are likely to be required. New technologies and new forest and bio-based products have the potential to provide responses to the growing and changing markets and the societies' expectations. "Yet, for benefits to materialize, particularly in developing countries, enhanced access to new technologies and finance streams, along with more transparent markets and improved forest governance conditions will be required to be in place in order to avoid that the emerging opportunities increase the pressures on primary forests, reverse the trade and market relations that impede the development of more inclusive business models, and facilitate a better distribution of economic benefits", says Pablo Pacheco, a scientist at [CIFOR](#).

"Research can make essential contributions to understanding bioenergy drivers, options and impacts on forest management and forest-based production in the future", says IUFRO President Niels Elers Koch, also in view of the [International Year of Sustainable Energy for All](#) in 2012.

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The Collaborative Partnership on Forests (CPF) is a voluntary arrangement among 14 international organizations and secretariats with substantial programs on forests. The CPF's mission is to promote the management, conservation and sustainable development of all types of forest and strengthen long term political commitment to this end.

CPF members:

- Center for International Forestry Research (CIFOR)
- Convention of Biological Diversity (CBD Secretariat)
- Food and Agriculture Organization of the United Nations (FAO)
- Global Environment Facility (GEF Secretariat)
- International Tropical Timber Organization (ITTO)
- International Union for Conservation of Nature (IUCN)
- International Union of Forest Research Organizations (IUFRO)
- United Nations Convention to Combat Desertification (UNCCD Secretariat)
- United Nations Development Programme (UNDP)
- United Nations Environment Programme (UNEP)
- United Nations Forum on Forest (UNFF Secretariat)
- United Nations Framework Convention of Climate Change (UNFCCC Secretariat)
- World Agroforestry Centre (ICRAF)
- World Bank (World Bank)