

**GBEP Working Group on Capacity Building
for Sustainable Bioenergy**

ACTIVITY GROUP 4

Towards sustainable modern wood energy development

27 November 2013

Introduction

During the 2nd meeting of the GBEP Working Group on Capacity Building for Sustainable Bioenergy (WGCB), Rio de Janeiro, HSBC Arena, 19 June 2012, UN Foundation informed the Working Group about an exchange of views with FAO and UNEP regarding the possible creation of a further Activity Group to be focused on woody bioenergy.

The Working Group initially invited the UN Foundation, FAO and UNEP to continue discussing this matter with a view to developing a proposal/scope of work to be submitted to the next WGCB. In preparation of the GBEP's meeting in Rome (November 12-16, 2012) several draft proposals and changes (e.g. by the US, NL and GE) were merged into a paper which was discussed at the Rome meeting on November the 14th.

Justification and Overall Goal

Wood energy currently makes up more than 65 percent of the global share of renewable energy, with trees and woody plants providing more than 80 percent of this biomass. Traditional use of such woodfuel is the dominant source of energy for cooking and heating in developing countries. Yet, this practice is in most cases not sustainable; often it is energy-inefficient, takes up tremendous amounts of time of women and children collecting firewood, brings on considerable health hazards through indoor air pollution, contributes to climate change through emissions of short-lived climate pollutants, and contributes to deforestation and related adverse climate, biodiversity and other environmental impacts. Recent important initiatives have been put in place to address the challenge related to traditional use of woody biomass, including the Global Alliance for Clean Cookstoves¹ and the Climate and Clean Air Coalition². Despite these initiatives, the IEA projects that the poor in developing countries will continue relying on woody bioenergy in the next decades due to the lack of affordable alternatives.

In industrial and emerging countries, woodfuel is also important to produce heat through combustion and increasingly in combined heat and power (CHP) and/or electricity generation, either through co-firing with coal or in dedicated biomass plants³. Biopower

¹ www.cleancookstoves.org/

² <http://www.unep.org/ccac/>

³ There is also rising interest in solid biomass for advanced liquid biofuels, and cascading or multiple uses (e.g. biorefineries), but this is at an early stage of development.

capacity globally increased from 66 GW in 2010 to 72 in 2011⁴. In Europe, while the vast majority of woodfuel will be used for heat production, bioelectricity is expected to double until 2020. In North America bioelectricity is expected to triple by 2030. Countries such as China, India and South Africa, among others, are also considering large-scale woodfuel co-firing.

The increase in the demand for woodfuel for modern energy services is driven, in OECD countries, mainly by the need to reduce CO₂ emissions and other air emissions, fulfilling renewable energy mandates, and diversifying energy supplies. In response, there is great interest from the private sector in modern wood energy development already. In 2010, trade of solid biomass fuels (excluding charcoal) amounted to 18 million tonnes (300 PJ); more than 90% of this total consisted of pellets (120 PJ), wood waste (77 PJ), and fuelwood (76 PJ).⁵ Although the majority of current trade is between OECD countries, the possibility of increased global demand for woody biomass has raised concerns among international stakeholders. In some developing regions, such as ECOWAS, where the main drivers are the need to improve energy access and security and to enhancing local livelihoods there is concern that increased global demand could compete for local use of woody resources. Pressure from woody biomass for energy is seen as potentially adding to existing pressures from traditional wood based industries

This surge brings up some important challenges related to, inter alia:

- sustainable and secure woodfuel production, including environmental, social, and economic considerations;
- carbon balance⁶ of wood bioenergy;
- soil quality, water quality and land ownership, and role and impacts of planted forests.
- direct competition for raw material, and ultimately land and water, and impacts on food security;
- energy efficiency and transfer and development of technologies (including South-South) and organize and disseminate technical information;
- Energy access from sustainable woody bioenergy in developing countries.

Some of the above challenges require further research and discussion, while others can be addressed more readily through promotion of good practices. Supportive policy and institutional environments are required to enable the sustainable development of this sub-sector, and foster effective public-private partnerships. Given its experience in developing and evaluating indicators of sustainable bioenergy production and use GBEP can provide a platform for dialogue and exchange of good practices among experts and interested stakeholders, and foster a common understanding that could lead to the development of a

⁴ Ren21 – Global Status Report.

⁵ Ren 21 – Global Status Report

⁶ Current GHG accounting systems assumed that CO₂ emissions produced when woody biomass is burnt for energy are accounted as zero, resulting in what is referred to as the 'carbon neutrality' assumption. However this is not always correct. Studies show that neutrality of emissions reductions that are achieved by substituting bioenergy for fossil fuels use are time-dependent, that is, they change over time. While it is clear that all sources of woody bioenergy from sustainably-managed forests will produce emission reductions in the long term, depending on assumptions regarding forest growth and management regimes, supply chain carbon emissions, and fossil fuels replacement, different woody biomass sources have various impacts in the short and medium terms.

framework for sustainability assessment and promotion of best practices. Given this background, a GBEP Activity Group is seen as potentially an appropriate mechanism to engage such collaboration.

Proposed approach and activities

While recognizing both the differences and the connections between traditional and large-scale use of wood energy, it is proposed that GBEP works on this topic starts with a focus on *sustainable production and use of wood energy for household energy access and productive local uses - primarily in developing countries*.

Issues related to this topic would include:

- How to incorporate sustainability into local/small scale supply chains?
- How to build on good practices in forest management, including planted forests?
- How to improve efficiency of charcoal production, and further disseminate improved stoves?
- How to improve energy access in DCs with sustainable woody bioenergy?

GBEP sustainability indicators provide a useful way to structure this work. As a starting point Partners could organize meetings where positive experience from all over the world would be presented as examples that fulfill relevant GBEP sustainability indicators. Linking experience to the GBEP indicators would fulfill two purposes:

- Allow for a rapid strength and weakness assessment of existing wood energy initiatives using GBEP sustainability indicators;
- Facilitate understanding the application of the GBEP sustainability indicators to the case of wood energy.

This work would entail improvement on knowledge and capacities related to sustainable local production and use of wood energy. It could also prove useful to inform large-scale wood energy producers and users willing to invest in wood energy operations in developing countries on how their business plans should take into account local circumstances, in those countries, in particular regarding local needs, constraints, opportunities and good practices related to sustainable production and use of woody biomass for energy mainly for local energy supply in DCs.

The Activity Group will start collaborating on the following initial activities:

- A stock taking paper regarding successful initiatives on solid biomass development in developing countries – including lessons learned and sustainability impacts – This would cost around USD 20,000 and the three lead agencies (FAO, UNEP and UNF/GACC) are exploring the possibility to fund this work;
- A lessons learned workshop that would build on the above-mentioned paper and also bring other initiatives in the discussion. This would be a two day event with an estimated minimum cost of USD 50,000. Funds are needed for this activity. Partners and Observers are invited to contribute.

Modus of Operation

- The AG4 will be open to GBEP Partners and Observers and to relevant experts and private sector actors involved in sustainable woody bioenergy issues or affected by its unsustainable uses.
- The AG4 will closely collaborate with other international agencies and initiatives, on information exchange and joint workshops.
- The AG4 will closely coordinate with other AGs with regard to capacity building and indicators implementation activities, in order to avoid duplication of efforts within the partnership.
- Given the amount of information and experience - both within GBEP and outside the Partnership – that is already available on this topic tracks, a major principle would be to build on such knowledge to avoid “reinventing the wheel”. A major theme of GBEP activity on the topic of woody bioenergy would be to partner with experts and interested stakeholders, including academics, industry, governmental and non-governmental agencies. Possible “change agents” will be clearly identified and outreach activities will be planned. In order to optimize lessons learned from the activities, members of Activity Group 4 will share their experience as work progresses.
- Activity Group 4 will regularly report to the Working Group on Capacity Building on the experience and understanding gained from the implementation of their work;
- We anticipate meetings of the activity group to be held in conjunction with the plenary GBEP meetings;
- Given the extensive knowledge available through FAO, IEA and UNEP as well as many GBEP Partners (e.g. EU, Germany, the Netherlands, Sweden, USA, Brazil, Vietnam, ECREE), a broad inclusion of actors is envisaged.

The options for (co-)chairing the AG will be discussed after the overall acceptance of the new AG, and its scope.