Activity Group 3
Study Tour for capacity building and training

Objective

Promote sustainable biomass and biofuels, particularly in developing countries

Through

Short courses on sustainable production and use of bioenergy

-foster exchange of information, skills and technologies through bilateral and multilateral collaboration

-discuss effective policy frameworks, taking into account the 24 GBEP indicators

Field visits: practical information on bioenergy technology and know-how

“Bioenergy Weeks”

Bioenergy Weeks

1st BW, 2013
BRAZIL

2nd BW, 2014
MOZAMBIQUE

3rd BW, 2015
INDONESIA

3rd Bioenergy Week

Medan, Indonesia, in 25-29 May 2015

hosted by the Government of Indonesia

in cooperation with the GBEP Secretariat and the support of the Governments of Brazil and Italy, as well as of the International Energy Agency, the Asian Development Bank and GIZ (Germany)

gathered 120 participants from all over the world

scientists, government officials, private sector representatives, mainly from Asia, have discussed on specific sustainability themes that of key interest for the region

3rd BW - Indonesia
THEMATIC SESSIONS

Bioenergy development and regulatory frameworks in Asia
Moderator: Mr Yandra Arkeman (Surfactant Bioenergy Research Centre - SBRC)

an overview regarding the role of bioenergy at the global level and in the Asian region

Social sustainability - Smallholder involvement and development opportunities
Moderator: Mr Andrea Rossi (FAO)

sharing best practices sharing and identifying capacity development needs related to social sustainability of bioenergy

Economic Sustainability - Increasing energy security and energy access
Moderator: Mr Do Trong Hieu (Viet Nam)

eight presentations aimed at sharing best practices related to economic sustainability of bioenergy (focus on increasing energy security and energy access

Environmental Sustainability - Mitigation and opportunities
Moderator: *Mr Shabbir H. Gheewala* (University of Technology Thonburi, Thailand)

best practices related to environmental sustainability of bioenergy

Field visit:

27 May 2015 - visit to nearby plants:

Palm oil mill PT Perkebunan Nusantara II (Persero)

- State-owned enterprise to process fresh fruit bunches (FFB) into crude palm oil.

Biogas POME-based power plant of PT Pasadena Engineering Indonesia (PEI).

- private national company and its plant is aimed to capture emissions generated by the decomposition of the wastewater from palm oil processing, known as Palm Oil

Mill Effluent (POME)

- methane gas can be utilized as fuel for power generation and cogeneration.

Iron and steel foundry PT Growth Asia producing electricity from wood residues

- a 15 MW plant, like others in in Medan and in Kalimantan

ROUND TABLES
among policy makers, business sector and international banks/funds

Opened by an **Introductory Session on the development opportunities in Asia**

Mr Simone Landolina (IEA) provided an overview related to advanced biofuels

Mr Badan Penelitian (Indonesia Agency for Agricultural Development and Research - IAARD) discussed the potential for agricultural production to meet the demand for food and energy

Round table – Advanced biofuels

Moderators: Mr *Gerard Ostheimer (SE4All Bioenergy) & Ms Michela Morese (GBEP)*

Divided into two sessions: aviation biofuels and cellulosic ethanol

Round table – Sugarcane based ethanol opportunities

Moderator: Ms Rosemarie Gumera (Philippine Sugar Regulatory Administration)

To share experiences in two Asian countries (Indonesia and the Philippines) to highlight commonalities and make best use of the lessons learned

Round table – Project financing

Moderator: *Mr Pjotr Schade* (Everest Energy Group)

To analyze the necessary steps to develop and finance bioenergy projects in Asia

MESSAGES & OUTCOMES

Environmental, Social and Economic Sustainability

A **Summary of the main challenges and opportunities**: focus on actions associated with modern bioenergy development

The **growing demand for liquid biofuels** can lead to benefits: new market outlet; agricultural & economic development with job creation, value added generation,; reduced dependence on fossil fuels and fossil fuel imports; and climate change mitigation

Opportunities were identified in relation to household level biogas systems

Challenges posed by bioenergy production and use are related to inadequate feedstock supply due to: low agricultural productivity, especially among smallholders; lack of adequate infrastructure/logistics; lack of robust supply chains; and market uncertainty and price volatility

Sustainability issues still requiring consideration: land-use change / GHG emissions / biodiversity; methane emissions from POME; low efficiency/productivity of feedstock production and processing; potential competition with other uses of crops and residues; and uncertain/insecure tenure rights

Implementation of **sustainability requirements and certification**: challenges, especially in relation to smallholder-based production

MESSAGES & OUTCOMES (cont.)

Key actions from the sessions : assess local needs and potentials; multistakeholder engagement; long-term policy frameworks; phase out fossil fuel subsidies; promote sustainable agricultural intensification; integrated production of food, feed, biofuels and biomaterials; methane capture and biogas production; efficient supply chains for biomass and residues; smallholders (supply chains, productivity and sustainability requirements)

Advanced biofuels

K**ey actions from the roundtable**: implement stable mandates; foster electricity from renewable sources; establish a fair profit sharing mechanism with local suppliers; penalize uncontrolled burning of agri-residuals on the field; provide governmental support to face feedstock supply risk; develop and implement integrated projects involving farmers, local investors, government and technology providers; invest in R&D programs to different biomasses; and improve logistics to increase access to feedstock.

MESSAGES & OUTCOMES (cont.)

Sugarcane-based ethanol opportunities

Vast opportunities for both 1st and 2nd generation ethanol production using sugarcane as feedstock, if certain enabling conditions are in place

Technology Cooperation

Areas with high potential for technology cooperation/transfer were identified: agronomic practices; biogas; 2nd generation ethanol; and transfer of technologies between Thailand and Indonesia

Countries such as Viet Nam, Laos and Cambodia: technology transfer should be adapted to their development levels

Regulatory Frameworks

Biofuel mandates with stepping up targets, but limited coordination among different decision-making levels. Effective implementing measures are still lacking in some cases

MESSAGES & OUTCOMES (cont.)

Bioenergy Sustainability

The main challenges are related to:

Land use change, deforestation and potential competition with food production; emissions and air, water and soil quality.

Compliance with sustainability regulations (governance fragmentation and lack of enforcement)

Implementation of voluntary sustainability standards (lack of local ownership and the difficulties faced by smallholders in complying with these standards).

Integrated markets push for developing sustainability standards and indicators.

Innovative approaches to sustainability were identified

Next Bioenergy Week

1st BW, 2013
BRAZIL

2nd BW, 2014
MOZAMBIQUE

3rd BW, 2015
INDONESIA

4th BW, 2016
EASTERN EUROPE!

THANK YOU

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