

**Plenary Session IV/B:
Policies for Renewable Energy Market
Development – Heat and Transport**

Wednesday, 2 June, 11.00 – 12.30 h

Venue: Plenary Hall IKBB

Internationale Konferenz
für Erneuerbare Energien, Bonn
International Conference
for Renewable Energies, Bonn



SESSION REPORT

Mr. Freddie Motlathledi, Director Energy Affairs, SADC

Strategies for Biomass Energy. The SADC Programme for Energy Conservation (ProBEC)

Biomass accounts for

- 80% of RE worldwide
- 70 – 90 % of the energy used in sub-Saharan Africa
- Significant health impacts through indoor air pollution, largest work burden of women, and land degradation

Biomass energy is low cost, ready to be used, and locally available

In spite of this, biomass is sidelined in energy policies.

More efficient technologies would improve the situation. New stoves, such as clay stoves (€5), rocket stoves (<€20), and vesto stoves would reduce fuel consumption for cooking with up to 50%, as compared to open fire cooking. Already, some 10,000 improved clay stoves have been disseminated. Impacts of more energy efficient cooking include: additional jobs and income, empowerment of women, reduction in respiratory diseases and infant mortality, – all corresponding to the Millennium Development Goals. Other policies aim at use other renewable sources of energy and to produce wood sustainably

Actions needed include:

- Raising awareness
- enhancing business opportunities for stove suppliers (through marketing campaigns, lobbying, and networking)

Recommendations to RE 2004:

- Recognize sustainable biomass energy as an inherent part of renewable energy
- Integrate biomass energy into all energy policies and strategies
- Give a higher priority and long term support to efficient and sustainable use of biomass energy

Biomass energy - used efficiently - is a viable option to fulfil the energy needs of the majority of Africa's population of today and tomorrow! “We have to act now!”

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Mr. Jürg Hofer, Director Office for Environment and Energy, Basel

Successful instruments of Basel's Energy Policy

Basel adopted an Energy Saving Act in 1992, and a new promotion tax in 1999. The present comprehensive approach has four pillars:

- Conventional regulation (covering insulation standards of roofs, walls and windows, and boiler efficiency)
- promotion levy on energy (introduced in 1994) creates a fund which is used to help finance energy efficiency measures and renewable energy, demonstration plants. New project: Geothermal combined heat and power; various campaigns for EE/RE, 50 Mio Euro leveraged by 6 Mio public sources
- consumption levy (introduced in 1998) that increases energy prices, however, returning the funds collected on a per customer basis.
- solar power exchange: obligation for local industrial companies to purchase a certain quantity of solar power, increase each year by 300 kW,

Greenpeace awarded a price to the city of Basel for its energy policies.

Mr. Sundar Bajgain, Executive Manager, Biogas Support Program, Nepal

Mr. Felix ter Heegde, SNV Nepal / Vietnam

Domestic Biogas: Capturing the Market

To meet a family's energy needs for cooking and lighting with biogas, at least 2 cattle or 7 pigs are needed; Investment is € 200-300 for a brickwork construction, life > 15 yrs. The slurry is an important high quality fertilizer

Benefits:

- reduced family expenditures for fuel,
- improved waste management,
- reducing deforestation and
- reduced GHG emissions;
- reducing workload (2-4 hours),
- improve sanitation,
- reducing indoor air pollution;

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- slurry improves agricultural yield (10-40%),
- biogas facilitates local acceptance of animal husbandry.

115,000 plants have been built; 95% in operation

44 private companies, 80 MFIs (finance institutions), 36 NGOs (promotion)

Reasons for Success:

- Policy commitment by Nepali Government;
- Focus on dissemination; (stimulation of private sector involvement);
- Put quality first!, investment support (subsidy 25% of investment), long-term support

Mr. Emilio La Rovere, University of Rio de Janeiro

The Brazilian Biofuel Policy

Since it was first launched in 1975, the Brazilian Ethanol Program remains to date the largest commercial application of biomass for energy production and use in the world.

Brazilian car production in 2002 was 1.5 million and

5.5 billion liters of ethanol was used in a 22 to 25% blend with gasoline. In 2003 3 million vehicles powered by hydrated alcohol using 4.9 billion liters/year. In

2003-2004 the “Flex fuel” cars were launched in the market allowing for changes in fuel composition. Over the last 22 years, hard currency savings amounted to 1.8 billion US dollar/year with the replacement of approx. 200,000 barrels of gasoline/day.

In 1999, production cost of alcohol was still higher than price of gasoline manufactured from imported oil at just below US\$ 20/barrel (½ of its international price in 1980). This was the main reason for the financial difficulties faced by the program.

Impressive technological progress has been continuously reducing ethanol production costs, but oil prices still required to be around US\$ 30 per bbl for ethanol to be cost-effective, in terms of standard economic accounting.

The ethanol programme:

- Served as a mechanism for transfer of subsidized public funds (a total of US\$ 10 billions) to a few important industrialists
- Created 720,000 direct jobs and 200,000 indirect jobs in rural areas
- Avoided emissions of 10 Mio tons of carbons per year (incl. bagasse usage)
- Caused local air pollution problems during harvesting season

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- Reduced atmospheric pollution in large Brazilian cities avoiding to release in the atmosphere significant amounts of CO and HC
- With “high” oil prices at US\$ 40/barrel there are economic incentive for programme expansion, With “low” international oil prices (below US\$ 30/barrel), programme growth will depend on putting value on its contribution to curb the increase of the greenhouse effect
- continuity (30 years) and demand pull (rather than supply push) is essential, stakeholder engagement through government leadership; incidents for massive production are critical

Summary of the Session

Central result: modernised use and production of biomass offers significant benefits

1. more efficient use of solid biomass for cooking: stoves etc.
2. ethanol for gasoline substitution
3. use of residues for heat and power generation

In the wider context of modernisation of biomass, we heard of the implementation of new stoves in SADC and biogas in Nepal. Many objectives reached with the same measure, like energy, environment, health, and fertilizers.

2. Ethanol is the first step of using sugar cane and a good example for modern use of biomass, long running experiences with the large scale ethanol programme; various impacts on economy, environment, social conditions. Ethanol is the first energy carrier to be produced from sugar cane, cogeneration of heat and power from residues (bagasse) will be the next.

3. These projects have in common that they deliver not just energy but significant multiple benefits related to social conditions, economy, environment and health, climate change mitigation, and energy security.

4. These benefits and reduced costs are typically not reflected in market conditions, and the projects came about through government interventions. These examples truly represent best practices.