

Cane co-products as a sustainable bioenergy Resource portfolio

*Presentation at the joint workshop
Durban, south Africa
19-21 august 2002*

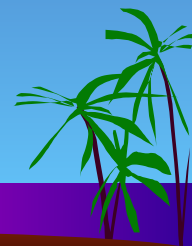
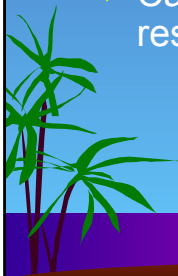


EUROPEAN COMMISSION
Research Directorate-General



Resources-Potentials

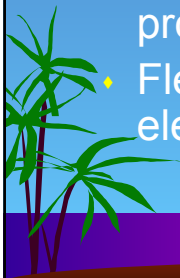
- ♦ Sugarcane is the most important agricultural resource of biomass
- ♦ It is a DC resource as its growth is limited to tropical/sub-tropical regions
- ♦ The development of bioenergy is still very small compared to the use of cane for sugar
- ♦ Cane is highly underutilised as bioenergy resource





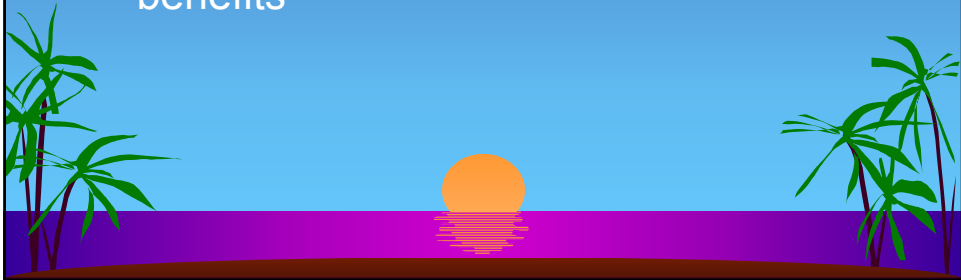
Resources-Potentials

- ♦ Cane resources to produce a variety of commercial products -market locally, regionally and internationally
- ♦ role of food, feed, fiber and energy producer.
- ♦ Most economically significant co-products: ethanol and electricity
- ♦ Flexible production –sugar, ethanol and electricity



Benefits

- ♦ Sugarcane offers the potential to support sustainable development and offer local, national, regional and global benefits



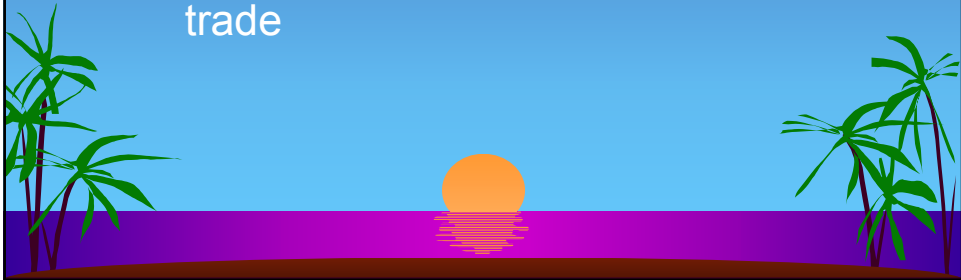
Local Benefits

- ♦ Stimulating rural development
- ♦ Income generating activities for small farmers
- ♦ Providing capital for farmers to invest in modern farming techniques
- ♦ Production of surplus electricity



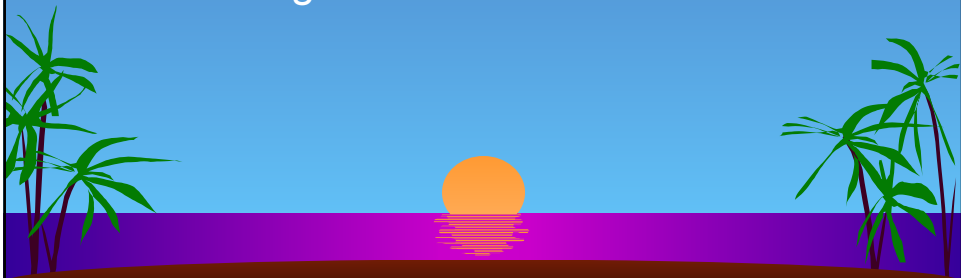
National Benefits

- ♦ Environmental+; IPP to export electricity to the national grid
- ♦ Clean burning ethanol fuel, an option for sustainable transport
- ♦ Ethanol opportunities for regional trade



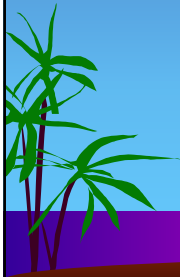
National Benefits

- ♦ multipurpose plant □ flexibility in production
- ♦ Reduced dependence on oil imports
- ♦ Savings in FOREX



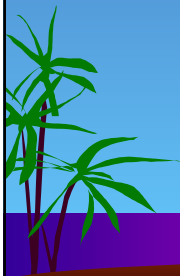
Regional Benefits

- ♦ At urban level, improving local air pollution (lead substitution/ethanol)
- ♦ Industrial Competitiveness. The emergence of new technologies to exploit cane residues has created new opportunities to diversify into renewable energy products and expand sugarcane use



Regional Benefits

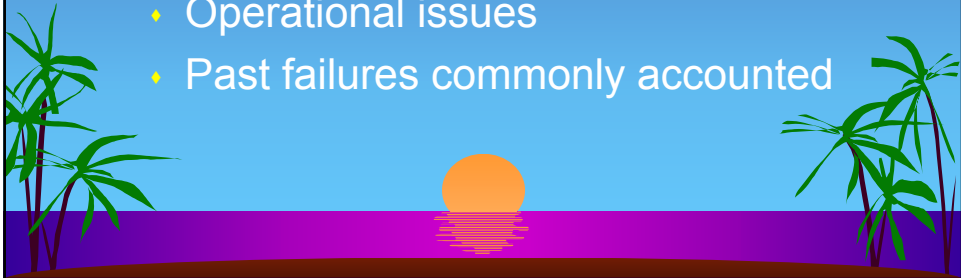
- ♦ Enhancing trade opportunities
- ♦ Sugar factories facing competitive pressures: saturated demand, strong competition, international sugar mkt
Diversification decreases risks posed by sugar price fluctuations



Global Benefits

South –South Co-operation

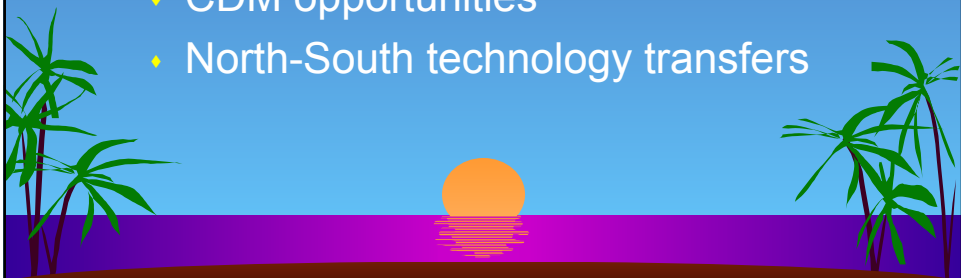
- ♦ Attractive South-South cooperation
- ♦ Transfers of South-South technologies
- ♦ Scientific exchanges
- ♦ Operational issues
- ♦ Past failures commonly accounted



Global Benefits

North –South Co-operation

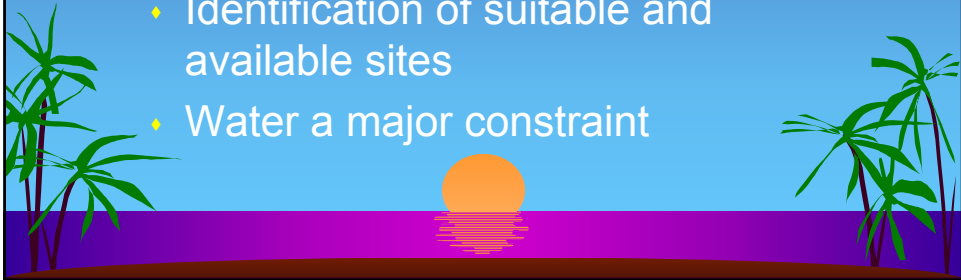
- ♦ Expanding the use of renewable energy source mainly in DC is appealing to international efforts to reduce carbon emissions
- ♦ CDM opportunities
- ♦ North-South technology transfers



Challenges

Socio-Environmental Side

- ♦ Energy crops fit into existing land-use systems
- ♦ Competition for land between energy and food
- ♦ Identification of suitable and available sites
- ♦ Water a major constraint



Challenges

- ♦ Local markets difficulties (accessibility) for distribution or transport of goods
- ♦ DC offer great opportunities for cheap land and labour
Mechanisation □ offset rising wages



Barriers/Constraints

- ♦ Local involvement and investment
 - Participation
 - Land tenure and resource custody
 - Gender
- ♦ Need for local capacity and information

Creating a sustainable resources portfolio from sugarcane must be environmentally and socially compatible with the particular area where the development is taking place

Different parts of the world have a different focus on co-products. The choice of the various products widely varies world wide, i.e.

India: cogeneration and particle board

Brazil: Ethanol

Venezuela: Potable ethanol

Colombia: sugar

South Africa: Furfural



Development questions

Can sugarcane production help relieve the deep structural problems of rural poverty and underdevelopment?

Does bioenergy in fact produce more jobs and more income than alternative land uses?

