

TECHNOLOGY FACTSHEET

CO-GENERATION¹

Introduction

Cooling in one single Combined heat and power (CHP), also known as cogeneration, is the simultaneous production of electricity and heat from a single fuel source, such as natural gas, biomass, biogas, coal, waste heat, or oil. By installing a CHP system designed to meet the thermal and electrical base loads of a facility, CHP can greatly increase the facility's operational efficiency and decrease energy costs.

Technology Characteristics

Co- generation uses both electricity and heat and therefore can achieve an efficiency of up to 90% giving energy savings between 15- 40% when compared with the separate production of electricity from conventional power stations and of heat from boilers. It is the most efficient way to use fuel. The heat produced by co- generation can be delivered through various mediums, including warm water (e.g. for space heating and hot water systems) steam or hot air (e.g. for commercial and industrial use).

Country Specific Applicability and Potential

There is potential to generate electricity from agricultural wastes such as rice husks, bagasse in sugar and rice production industries in Kenya.

Status of technology in country

Co-generation technology is being implemented in several sugar factories in Western Kenya especially in Mumias Sugar Factory. The factory has initiated a 35 MW electricity generation project with bagasse being the main raw material.

¹ This fact sheet has been extracted from TNA Report – Mitigation for Kenya. You can access the complete report from the TNA project website <http://tech-action.org/>

Benefits to economic/social and environmental development

Co- generation helps save energy costs, improves energy security and creates jobs. The country also saves on foreign exchange for importing fossil fuel

Climate change mitigation benefits

Has high potential to reduce GHG emissions

Financial requirements and costs

High investment costs. The Mumias Sugar Factory Project will cost US\$ 20 million for a 26 MW plant