# 5. POWER FORM RENEWABLES

CONTENTS

Go to Page No: Prev 14 15 16 17 18 19 20 21 22 23

## COUNTRY'S FIRST 87 ATA/515°C BAGASSE CO-GENERATION PROJECT AT M/S KAKATIYA CEMENT, SUGAR & INDUSTRIES LTD. IN ANDHRA PRADESH

An important milestone reached during the year was the commissioning of the 17 MW co-generation power project set up by M/s Kakatiya Cement Sugar & Industries Ltd., at Peruvancha village, Kallur Mandal, Khammam District, Andhra Pradesh. The project is the first of its kind for a sugar mill. A high pressure boiler of 87 ata./515 deg C has been installed, which ensures high energy efficiency & better utilisation of bagasse resulting in more steam and hence more electricity.

The project envisages generation of power to meet captive sugar plant requirements, cement plant requirements and export of about 10.85 MW of surplus power during season and 14.70 MW during off-season, to the State grid. The project uses bagasse generated from the crushing operations of the sugar mill during season, and stored bagasse, cane trash & coal during off-season.

The project was completed in a record period of 18 months and has already supplied about 84.90 million units to the State grid. It has achieved a PLF of around 90% in the very first year. The cost of the co-generation project was Rs.50.17 crore. IREDA has extended a term loan of Rs.36.60 Crore under ADB line of credit and MNES provided an interest subsidy of Rs.4.09 Crore. The technology used was indigenous, except for the turbo-generator, which was imported. The project has generated direct employment opportunities to about 100 persons and has also contributed to economic development of the area.

## BIO-MASS BASED POWER PROJECT AT M/S NAGARJUNA GREEN POWER LTD. IN ANDHRA PRADESH

The 8 MW Biomass based Power Project with export of 7.20 MW of surplus power after meeting 0.80 MW for in-house auxiliary consumption has been set up at Patancheru in Medak District of Andhra Pradesh. The project utilises a variety of agricultural wastes and industrial wastes for generation of power, such as sugar cane trash, coffee shells, toor dal stalks, corn cobs, ground nut shells, poultry manure, jowar husk, waste crops, juliflora, eucalyptus, cotton stalks, saw dust, wood husk, rice husk and bagasse.

The project was commissioned in February 2002 and in a record period of 11 months and has already supplied 38.43 million units to the State grid. A PLF of 90% has been achieved in the first full year of commercial operation. The technology used is totally indigenous with the Boiler supplied by M/s Walchandnagar Industries Limited.

The company has tied up with M/s AP Forest Development Corporation Limited for developing fast growing clonal euclayptus plantations in about 500 acres of barren land for fuel supply to the plant. The Plant has generated direct employment to over 110 persons, and has also contributed to the economic development of the region.

**Biomass Gasifier Programme**

**5.44** Biomass gasifiers convert solid biomass (woody and non-woody) materials such as wood, agricultural residues and agro-industrial wastes etc. into producer gas through thermo-chemical gasification process. The producer gas could be either burnt directly for thermal applications, or used for replacing diesel oil in dual-fuel engines for mechanical and electrical applications. Biomass gasifier systems from 3 kW up to 500 kW unit capacity which use wood, non-woody and powdery biomass, have been developed indigenously. Conversion of dual-fuel engines to 100% producer gas engines has also been achieved under R&D Projects. A total of 1806 biomass gasifier systems aggregating to 53.16 MW have been commissioned in 22 States and UTs of the country.

**5.45** The programme has been restructured and modified to promote and encourage development of viable application packages; deployment of gasifier systems for different end-use applications and higher capacity utilisation; and to bring about greater market orientation and commercialisation. Additional features that have been included in the programme include demonstration of indigenous 100% producer gas engines coupled with gasifiers for power generation, and retrofitting of existing diesel based power plants in the North Eastern Region with biomass gasifiers for power generation.

**Objectives:**

**5.46** The objectives of the Programme in the 10$^{th}$ Plan, which commenced in 2002-03, are given below:

- To demonstrate an integral approach of biomass production, gasification and utilisation.
- To promote R&D on biomass production, briquetting, gasification and producer gas engines.
- To develop and promote commercialisation of technologies for various end-uses in rural and urban sectors.
- To intensify electrification of remote villages.
- To take up demonstration projects for 100% indigenous producer gas engines coupled with gasifiers for power generation.
- To expand manufacturing capacity, decentralised service facilities and introduce testing and certification.
- To support and thus enlarge activities through awareness creation, publicity measures, seminars/ workshops / business meets/training programmes etc.

TOP

CONTENTS

Overview | Policy, Planning & Public Awareness | Rural Energy | Solar Energy | Power from Renewables | Energy from Waste I New Technologies | Specialisied Technical Institutions | IREDA | International Cooperation | Industrial Infrastructure I North Eastern Region | Vigilance Activities