



Government of India
Ministry of New and Renewable Energy



INVESTMENT OPPORTUNITIES IN BIO-ENERGY
15 FEBRUARY, 1630 – 1745HRS | EVENT REPORT

This session focussed on three major areas of bio-energy namely the bio-refineries for production of ethanol and other value added products, biomass power and bagasse co-generation. A brief of each of the six presentations made in the Session is given below:

- i. **Second generation bio-ethanol plants in India** by Mr K Krishan, Chairman, CVC (India) Infrastructure Ltd.: stressed the need to reduce emission of brown carbon being caused by the burning of biomass and highlighted that a 2 lakh tonnes biomass based bio-refinery for production of about 60,000 tonnes bio-ethanol per annum can lead to GHG mitigation of about 1.95 lakh tonnes of CO₂ per year besides preventing emission of brown carbon.
- ii. **Development of Second Generation ethanol and PROESA Technology** by Mr Pierluigi Picciottim, Business Development Director Asia Pacific, Beta Renewables, Italy: Mr Pierluigi presented the status of PROESA Technology for production of ethanol and other value added outputs, and its application at various full scale plants including the one in Italy, which is based on paddy straw and has been in operation for more than 18 months.
- iii. **Reliance Biofuels Strategy by Shri Ajit Sapre, Group President R&T, Reliance Industries Ltd:** He presented the work being carried out by Reliance Industries on Jatropha and Algae and felt that both these areas were appearing to be highly promising and within a foreseeable future they look forward to commercialising both these applications thus leading to creation of immense investment opportunities. He expressed his preference for production of kerosene and other drop-in fuels rather than ethanol.
- iv. **First and Second Generation Technologies for 20% Ethanol Blending Petrol Programme in India** by Mr Atul Mulay, Executive Vice President, Praj Industries Ltd.: He presented the work being done by them on first and second generation technologies for production of ethanol and stated that second generation technologies were necessary for meeting the target of 20% blending of petrol with ethanol. He also stated that the technologies are now available for this application and present enormous opportunities for investment in this area.

- v. **Investment Opportunities in Bagasse co-generation in India** by Shri Devin Narang, MD, Sindicatum India: He presented status of bagasse co-generation in India and stated that co-generation is expected to be a major driver of the Indian Sugar Industry in the future. He called for a re-look at the government policies for tapping the potential for generation of about 8000 MW that exists in the co-generation power sector.

- vi. **Investment Opportunities in Biomass Mission** by Mr S. Venkatachalam, President, Indian Biomass Power Association: He presented the potential of converting agro residues as well as municipal solid wastes for generation of large amounts of power which could be of the order of about 20000 MW. He also highlighted the flow of additional income to the farmers and large rural employment generation by this sector. He stated that with recent changes in the government policies this sector has emerged as a high potential area for investments in renewable energy sector.

In the intense discussions following the above presentations, it emerged that there was immense potential for generation of power in addition to the production of large quantities of gaseous and liquid fuels which could also be used for blending with conventional transport fuels. The generation of income and employment for farmers and the rural economy was considered a significant add-on thus making bio-energy an attractive investment sector for India.
