

EZOB Technology, Biomass Gasification, and Microcogeneration Unit

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Abstract : This paper deals with the issue of biomass and sorted municipal waste gasification and cogeneration using hot air turbo set. It brings description of designed pilot plant with electrical output 80 kWe. The generated gas is burned in secondary combustion chamber located beyond the gas generator. Flue gas flows through the heat exchanger where the compressed air is heated and consequently brought to a micro turbine. Except description, this paper brings our basic experiences from operating of pilot plant (operating parameters, contributions, problems during operating, etc.). The principal advantage of the given cycle is the fact that there is no contact between the generated gas and the turbine. So there is no need for costly and complicated gas cleaning which is the main source of operating problems in direct use in combustion engines because the content of impurities in the gas causes operation problems to the units due to clogging and tarring of working surfaces of engines and turbines, which may lead as far as serious damage to the equipment under operation. Another merit is the compact container package making installation of the facility easier or making it relatively more mobile. We imagine, this solution of cogeneration from biomass or waste can be suitable for small industrial or communal applications, for low output cogeneration.

Keywords : biomass, combustion, gasification, microcogeneration

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