

DISTRIBUTED ELECTRICITY GENERATION FROM BIOMASS GASIFICATION AS A SUSTAINABLE ENERGY OPTION FOR RURAL MYANMAR

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ABSTRACT

Myanmar is known for her natural diversity and abundance in agricultural and forestry products. Major biomass residues available include paddy husk, straw, fuelwood and bamboo. These renewable energy sources have great potential to be utilized for power generation, considering the fact that the country experiences shortage in electricity supply, especially in rural areas. In this paper, a demonstration project for sustainable development of biomass energy sources to fulfill energy demand of remote villages in Myanmar is presented. A biomass gasifier, coupled with an engine-generator system has been deployed to supply electricity to a local community with a demand of about 100 kWh/day. An installed capacity of 50 kW is believed to be sufficient for current and future domestic use. The gasification and electricity generation system, as well as line distribution and connection to households have been successfully demonstrated. The electricity cost has been estimated to be in the range between \$0.12-0.23/kWh (150-300 kyat/kWh) in comparison to \$0.60/kWh (800 kyat/kWh) from an existing diesel system.