



**Report on an effluent treatment-cum-electricity generation option at
coffee estates**

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Abstract

In this report we discuss the environmental effects of the effluents discharged from coffee processing units and the feasibility of an effluent treatment process involving a bioreactor. The benefits from using such a method for wastewater treatment include: reduction in pollution of the surrounding area, recycling of water, and production of biogas that can be used with diesel to fuel a dual-fuel generator. A study of the feasibility of investment in this effluent treatment process is therefore warranted, particularly because of the importance of coffee production in South India. At present, penalties for effluent discharge have not been levied and the charges for water supply are low, hence financial returns on the bioreactor investment are obtained only through the avoided cost of the amount of diesel replaced by biogas. The estimates obtained from the case study indicate that this effluent treatment process is financially viable. If environmental policies were more stringent, this effluent treatment-cum-electricity generation option would be even more attractive.

Keywords: coffee effluents, wastewater treatment, biogas generation, bio-reactor, waste-to-energy

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