

## Economic Evaluation of Biogas and Biomethane from Animal Manure

**Authors :** Shahab Shafayyan, Tara Naderi

**Abstract :** Biogas is the product of decomposition of organic materials. A variety of sources, including animal wastes, municipal solid wastes, sewage and agricultural wastes may be used to produce biogas in an anaerobic process. The main forming material of biogas is methane gas, which can be used directly in a variety of ways, such as heating and as fuel, which is very common in a number of countries, such as China and India. In this article, the cost of biogas production from animal fertilizers, and its refined form, bio methane gas has been studied and it is shown that it can be an alternative for natural gas in terms of costs, in the near future. The cost of biogas purification to biomethane is more than three times the cost of biogas production for an average unit. Biomethane production costs, calculated for a small unit, is about \$9/MMBTU and for an average unit is about \$5.9/MMBTU.

**Keywords :** biogas, biomethane, anaerobic digestion, economic evaluation

**Conference Title :** ICABBBE 2014 : International Conference on Agricultural, Biotechnology, Biological and Biosystems Engineering

**Conference Location :** Paris, France

**Conference Dates :** January 23-24, 2015