



Multi- Purpose Use of Biogas

(From Human Excreta)



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MULTI-PURPOSE USE OF BIOGAS FROM HUMAN EXCRETA



Biogas Kitchen –

Cooking is the most efficient use of biogas. Biogas is available in a wide range of capacity ranging from 8 cft to 100 cft per hour. It burns with a blue flame and without soot and odour.

Mantle Lamps –
Biogas mantle lamps consumes 2-3 cft per hour having illumination capacity equivalent to 40W electric bulbs at 220 volts.



Body warming –

Biogas can be used directly as a source of heat during winter for body warming.

BIOGAS GENERATOR



Biogas generator – Dual fuel operation with ignition by pilot fuel injection

Motive power can be generated by using biogas in dual fuel internal combustion (IC) engine. Air mix with biogas is aspirated into the engine and mixture is then compressed, raising its temperature to about 350°C which is self-ignition temperature of diesel. Therefore, in order to initiate combustion of the charge, a small quantity of diesel is injected into the cylinder just before the end of compression. The charge is thus ignited and the process is continued smoothly. At optimum condition only 20% diesel is required rest 80% is substituted by biogas. Biogas consumption by engine is 15 cft/BHP/hrs.

Operation on gas alone with spark ignition – converting the existing diesel engine into a 100% biogas with spark ignition engine for single fuel operation has resulted in complete independence from petroleum fuel and is more useful in far and remote areas. Sulabh has modified the dual fuel engine to biogas engine, that does not require diesel at all. Thus, a lot of diesel is saved through the technology developed.



Biogas generator - Operation on gas alone with spark ignition.

A public convenience visited by about 2000 persons per day would produce approximately 60 cum. of biogas, which can run a 10 Kva genset for 8 hours producing 65 units of power.