C203

Power generation from bio-mass gasification (wood-chips)

The utilization of bio-mass to replace oil in the generation of mechanical and electrical powers under local control can reduce the countries dependence on fossil fuels.

Here, it is essential t, identify the cheapest means fitting the future to reduce dependence on imported energy, and to preserve the environment.

Gasifier applications can be divided into three categories: namely, shaft poser applications, thermal power applications and chemical process applications. In shaft-power applications gas is utilized to operate an internal combustion engine providing prime movers for many uses. In this instance, the gas should be free from tar, dust and

other volatile. In order to clean this gas to an acceptable level, a cleaning system consisting of a cyclone, cloth filler, scrubbers and coolers are used.

The engines is started by the 12 –volt battery. Clean producer gas, air mixture was fed into the engine while diesel was reduced (controlled) by Hoffman's clip.

Generator system is composed of :

Diesel engine (Kirloskar) coupled with A/C generator, B.H.P.=28.5, 1500r.p.m kVA=22.5, 415V, Amp 315. Diesel savings ranged from 65.5%-87.55 for 16.5kw-9.5 kw load.

This producer gas is derived from wood chips a good alternative to fossil-fuel, and this method can help many developing countries to decrease fossil-fuels imports.