



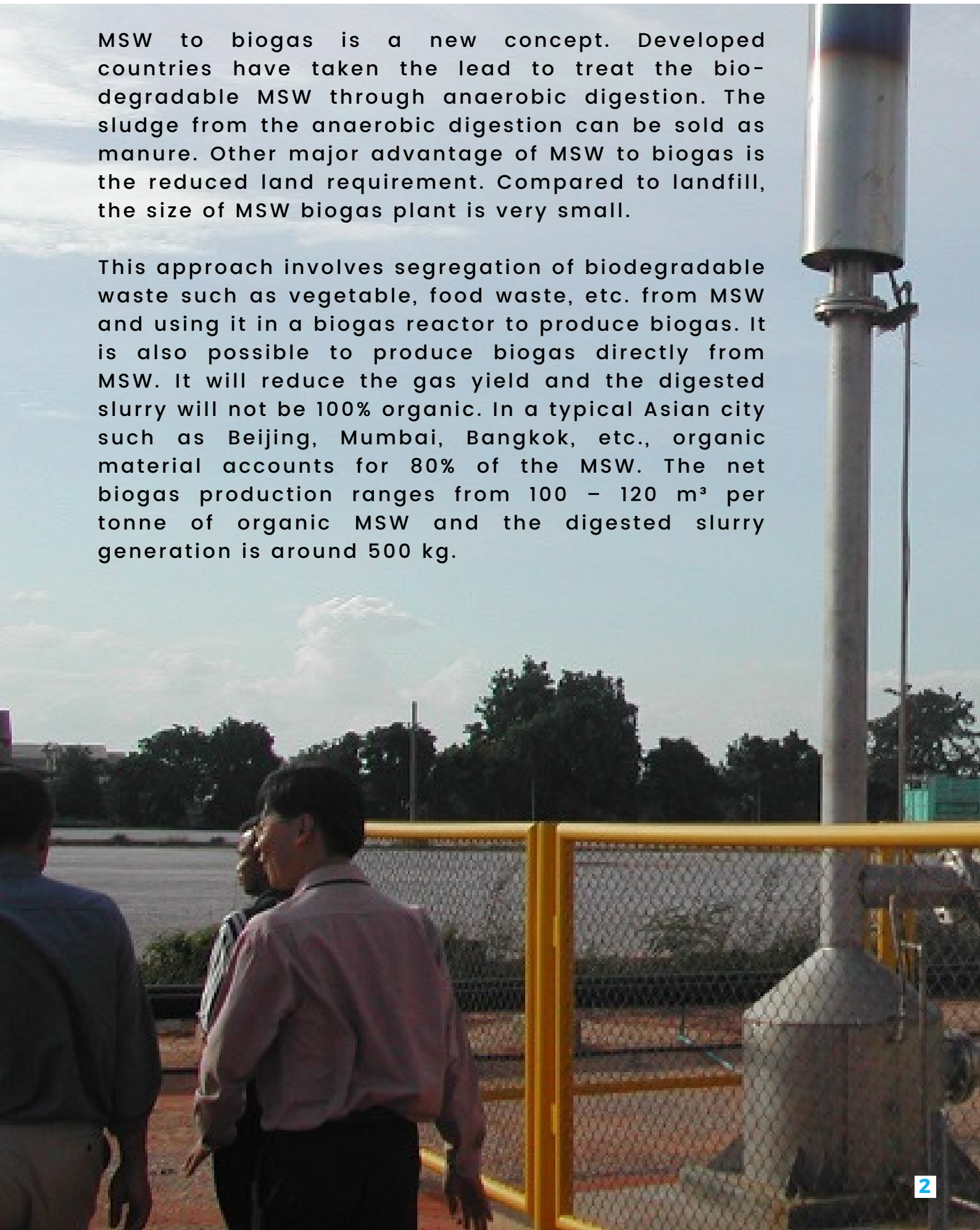
MSW BIOGAS POWER

CASE STUDY/INSIGHT


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MSW to biogas is a new concept. Developed countries have taken the lead to treat the biodegradable MSW through anaerobic digestion. The sludge from the anaerobic digestion can be sold as manure. Other major advantage of MSW to biogas is the reduced land requirement. Compared to landfill, the size of MSW biogas plant is very small.

This approach involves segregation of biodegradable waste such as vegetable, food waste, etc. from MSW and using it in a biogas reactor to produce biogas. It is also possible to produce biogas directly from MSW. It will reduce the gas yield and the digested slurry will not be 100% organic. In a typical Asian city such as Beijing, Mumbai, Bangkok, etc., organic material accounts for 80% of the MSW. The net biogas production ranges from 100 – 120 m³ per tonne of organic MSW and the digested slurry generation is around 500 kg.



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Separate MSW collection system from vegetable and fruit markets will be helpful in the separation of biodegradable waste for biogas generation. Awareness should be created among public, to separate the waste into bio-degradable and non-biodegradable wastes at the source level. MSW to biogas plants have ferrous and glass removal systems before the biodegradable waste enters the digester.

H₂O, CO₂ and moisture has to be removed if the biogas is to be used in engines for power generation. If the biogas generation is expected to fluctuate, then it is better to have a gas holder.

As of now, the total investment cost is on the higher side. The revenue generation from the sale of electricity alone is not sufficient to make the project commercially attractive. Tipping fee and other government supports are needed to make the project commercially attractive.