

# SIMPLY WASTE ?

*A monthly newsletter on waste*



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**800+**

Biogas plants installed



**22,995**

Tons of CO2 offset every year



**547**

Tons of LPG substituted every year



**28.8**

Lakh liters of organic manure generated every year



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## Lakshmi Siddarth's Innovative Biogas Plant Reduces Carbon Footprint in Her Home



In a remarkable effort to combat climate change and promote sustainable living, Lakshmi Siddarth - Administrator TMS Eye Hospital, Salem, Tamil Nadu, is successfully operating a biogas plant in her home for the past one decade. This visionary initiative has not only provided a green solution for waste management but has also significantly contributed to reducing the household's carbon footprint.

Lakshmi Siddarth's biogas plant is specifically designed to process food waste and paper waste, which are commonly generated in households. This waste is efficiently converted into biogas, a renewable and environment-friendly energy source. The biogas handler responsible for managing the plant has praised its user-friendly operation and high safety standards, making it an ideal choice for domestic use.

The installed biogas plant has an impressive capacity to process up to 10 kg of food waste daily, yielding approximately 5 kg of LPG (liquefied petroleum gas) per day. Lakshmi Siddarth and her family are committed to the cause, feeding at least 1 kg of food waste into the plant every day, ensuring a steady supply of clean energy.

Biogas is primarily composed of methane ( $\text{CH}_4$ ) along with other gases such as carbon dioxide ( $\text{CO}_2$ ) and trace amounts of hydrogen sulfide ( $\text{H}_2\text{S}$ ). When biogas is utilized as a fuel, methane is burnt, resulting in the production of carbon dioxide and water vapor. While methane itself is a potent greenhouse gas, burning it as fuel in biogas significantly reduces its impact on the environment. Methane, being a much more potent greenhouse gas than carbon dioxide, is about 28-36 times more effective at trapping heat in the atmosphere over a 100-year period. By converting methane into  $\text{CO}_2$  through controlled combustion, the net greenhouse effect is substantially reduced, mitigating global warming and its associated consequences.

Lakshmi Siddarth's commitment to sustainable living and her exemplary biogas plant serve as an inspiration for the community, highlighting the positive impact individuals can make in the fight against climate change. It is hoped that her success story will encourage more households and communities to adopt eco-friendly practices and harness the power of renewable energy sources for a greener future.