

QUICK- FUEL

Vartika Srivastava, Dr. Anchal Sharma

A new technique for turning food waste into a source of energy uses a two step process that extracts all of the energy from the waste. Converting food waste into an energy source, it involves anaerobic digestion where bacteria slowly break down the organic matter and the resulting methane is captured and used as fuel. The technique developed at Cornell first utilizes hydrothermal liquefaction to essentially pressure cook the food scraps to make a bio-oil that can be refined into a bio-fuel. The food waste that remains after removing the oil is a watery liquid. This is fed to an anaerobic digester to convert the waste into methane over a few days. This two-step approach quickly produces a usable energy source that can be used to generate electricity or heat and doesn't let any go to waste.

Anaerobic digestion, takes weeks to turn the food waste into energy, “The aqueous product from hydrothermal processing is much better than anaerobic digestion than using the raw biomass directly. Combining hydrothermal processing and anaerobic digestion is more efficient and faster. Food waste makes up the largest share of what one-third of the world's food is lost or wasted. While finding ways to prevent food waste is incredibly important, having a way to keep the food from being waste in the end is also very valuable, this processing instead producing clean energy could go a long way to reducing our carbon footprint and reliance on fossil fuels.