Renewable Natural Gas

JOHN DAVIS: The use of clean, domestic natural gas as highway fuel in place of imported oil is growing in popularity with fleets and trucking companies. While natural gas from underground deposits is arguably a limited resource, there is a renewable, eco-friendly resource that we have right here in the U.S.A. And we're here now to give you the straight poop!

Every family, farm animal and food processing plant in America produces organic waste that creates a mix of methane, CO2 and other elements called bio gas when it decomposes. Rotten vegetables, moldy bread, last night's leftovers --- they all break down when our garbage gets to the land fill. Incredibly, for years the majority of these gases have been simply vented into the atmosphere or flared off to get rid of them.

But bio gas can easily be converted into clean natural gas and used for generating electricity, heat, or transportation fuel. And a growing number of forward-thinking projects are doing just that.

Thousands of U.S. landfills, both active and long-closed, are producing bio gas in significant volume. For decades, Waste Management, the nation's largest recycler, has been capturing landfill gas to generate both electricity and fuel at over a hundred locations. This landfill in Livermore, California takes in 3,500 tons of waste a day but also recovers enough gas to power 300 refuse vehicles.

Organic materials can account for up to 60% of a landfill's intake, but diverting biomass elsewhere to produce energy can have immediate results:

Quasar Energy, an Ohio-based waste-to-energy company, has developed an innovative anaerobic digestion system that breaks down organic materials such as food processing waste, sewage, grease, fats, and oils to make renewable natural gas as well as a natural soil conditioner to replace chemical fertilizers. Everything from expired potato chips to off-spec dog food has energy value and no longer gets thrown away as trash.

This facility in Columbus, Ohio takes in ten to twelve truckloads of bio solids each day. The material is pumped into large oxygen-free silos where micro-organisms break down the waste and release biogas. This site alone produces about 3,600 gasoline gallon equivalents of natural gas each day… enough to generate its own electrical power and routinely fuel 30 trucks at its on-site CNG filling station.

Quasar is looking to install digester systems on-site at food processors, wastewater treatment plants or farms to reduce trucking costs and return the energy right back to its source. This model mimics a long-standing practice in Germany, where in a space the size of Montana, local farm co-ops have built more than 6,000 gas and fertilizer-producing digesters. But there are 8,000 dairy or swine farms in the U.S. large enough to support digester operations of their own.

One example, Indiana's Fair Oaks Farm, harnessing the renewable energy output from 30,000 cows. Manure is processed and fed into this 18-foot-deep underground anaerobic tank. The resulting biogas is used for local power generation and yields enough CNG to fuel its fleet of 42 milk delivery trucks, displacing 2 million gallons of diesel fuel each year.

MARK STOERMANN: So we can recycle and reuse and maintain a renewable energy from what was a waste. And so we're not using food for fuel, we're not putting up things that people have objections to. We're taking a thing that people have an objection to and actually using it in a way to produce renewable energy...It's very exciting.

JOHN DAVIS: The importance of producing and using energy locally cannot be overlooked. Renewable fuels could potentially displace 10 billion gallons of oil annually. And that will certainly moooove us towards a clean driving future!