

Cow Power

STACEY DELIKAT,
Correspondent:



The northeastern part of the United States is home to thousands of dairy farms. In Vermont there are more than 1500. Most are family owned like the Pleasant Valley Farm outside of Burlington. That means it is both a business and a home for Mark and Amanda St. Pierre and their children Jamie, Bradley and Megan.

MEGAN ST. PIERRE, daughter:

I think its really cool. When my mom first came to me and said yeah we're going to make energy from cow manure, I was like, ok that's really weird. But then I did a science project on it. It's really amazing that people came up with it.

STACEY DELIKAT:

Cow power works by turning manure into fuel for a small electric power plant. It helps the environment by reducing the amount of coal and oil burned in Vermont to generate electricity. And it helps get rid of a problem for the farmer – manure.



A cow produces about 30 gallons of waste each day. There are 1500 dairy cows here. That comes to 45,000 gallons of manure daily – enough to fill a medium sized backyard swimming pool.

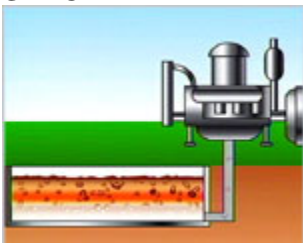
Cow power mimics the cow's digestive process to break down the manure into energy and environmentally friendly byproducts.

What are we standing on? What's underneath us?

DAVID J. DUNN, Central Vermont
Public Service Corporation:

This is what is called the anaerobic digester. It's that swimming pool you were referring to that you would never want to swim in.

STACEY DELIKAT:



Here's how it works. The manure is sent to a giant tank for 21 days. During that time good bacteria breaks it down into harmless liquids and solids, giving off heat and methane gas.

They're not bringing new bacteria into the farm and they're not actually injecting bacteria into the digester; it's naturally occurring. Cows spend basically a day with the process of digesting the feed. The digester itself spends another 21 days with it.

DAVID J. DUNN:

STACEY DELIKAT:



DAVID J. DUNN:

During those 21 days the methane bubbles to the surface. The gas is collected and piped to an engine that runs on methane instead of natural gas.

The methane burned is carbon from above the ground. When we're pulling fuel oil, coal, or natural gas out of the ground, we're adding carbon that was in the environment millions of years ago. We're recycling carbon that is from the solar carbon cycle.

STACEY DELIKAT:

So it's good for the environment. But what makes cow power really work is that it is also good for business.

The cow power plant produces more electricity than the St. Pierre's need. The surplus is sold to the electric company. So now instead of spending money for electricity, the St. Pierre's are making a profit.

MARK ST. PIERRE:



To power our farm our bill recent has been about \$200 a day. Now we're selling close to a thousand dollars a day in electricity.

In other words, the St. Pierre's used to spend around \$73,000 a year for electricity. Now they are earning close to \$365,000.

Another environmental plus is that almost all of the solid and liquid waste is recycled from the digester. The solids act as bedding for the cows and the liquids gets used as fertilizer in the fields.

STACEY DELIKAT:

We used to buy \$5000 to \$6000 a week on bedding and now that bill, most of it, has gone away.

MARK ST. PIERRE:

That's a savings of more than \$250,000 a year. The St. Pierre's are using that money, plus their new-found earnings, to pay for the cow power plant.

STACEY DELIKAT:

We've made a huge investment for our family. With this digester helping us with the cash flow, and bringing in some income, it will definitely make things a little bit smoother in the future.

AMANDA ST. PIERRE, mother:

DAVID J. DUNN:



What was once considered a waste is now a resource for the farm. So we're saving money and kind of helping that farm look at ways to stay in business, keep people working the land, and keeping Vermont looking the way it does.

MEGAN ST. PIERRE:

It's definitely good to be able to save the environment.

STACEY DELIKAT:

This is Stacey Delikat, for *the.News*