

# From Swear Word to Energy Source

Stephan Wollenburg

On May 31st, Jordan Family Farms of Rutland, MA cut a cow-spotted ribbon to celebrate the newly installed anaerobic digester on the farm. The digester uses a liquefied cow manure and food stock mixture to produce methane gas, which in turn is converted into electricity or “cow power”. What we once considered smelly waste is now proving to be a clean energy source that promotes our local agricultural economy!

Mass Energy, the Bostonian sister organization of People’s Power & Light in Providence, contributes to the success of this project by purchasing green power through the project’s RECs (Renewable Energy Certificates), which helps the Jordan family to fund the digester’s installation and operation. Mass Energy attended this ribbon-cutting ceremony to get a closer look at how manure can power Massachusetts homes. Our tour started off with the stars of this initiative—the dairy cows. The Jordan Family Farm has a herd of about 300 dairy cows. Their waste collects in the basement of the largest barn of the farm and pumps into the digester. Manure is about 50 percent of the mixture or slurry. The other 50 percent is from liquefied organic materials brought from food processors.

The digestion process lasts about 30 days, and the biogas, similar to natural gas, is converted to heat and electricity on the farm with a 300kW generator. The electricity generated will make enough electricity each year to power 300 homes.

Cow power benefits the environment in many ways. First, the project captures and combusts methane, a greenhouse gas 21 times more potent than carbon dioxide, which would otherwise be emitted into the atmosphere. Second, the digester does not deplete nutrients in the slurry, so it can be recycled again and used as a natural fertilizer for the farm’s fields after the biogas is extracted. Third, the digester’s clean energy production replaces power from fossil fuels, reducing the reliance of the farm and community on an expensive commodity. And fourth, the Jordan digester will divert over 16 thousand tons of food scraps from landfills each year, instead creating clean energy, fertilizer and cow bedding as



The Jordan Family Farm power hard at work. Photo: People’s Power & Light.

byproducts!

Governor Patrick and Congressman Jim McGovern were key speakers at the ribbon-cutting event in May, supporting the farm’s proactive and innovative approach to creating clean energy. Patrick spoke of how this project emphasized the importance of strong community, exemplary support from the state of Massachusetts and assistance for the local agricultural economy. Congressmen McGovern echoed these points and also told the crowd that successful projects such as this are what persuade the federal government to continue funding for small farms and clean energy projects.

The future of clean energy was also in attendance at the Jordan Family Farms this day. Sixth graders from a local middle school toured the plant, representing future participants in the clean energy movement. In an adjacent barn, Mass Energy staff were also lucky to witness the birth of a calf—a future producer of clean energy! Mass Energy’s investment in this incredible project was made possible by its New England GreenStart<sup>SM</sup> members, who buy green power from this and other green power projects.

Mass Energy celebrated the project by visiting the farm again in October. 60 people came to visit the cows, go on hayrides and tour the digester. Aside from this great cow power project, Mass Energy will soon announce several new wind power additions to its portfolio. Stay tuned to [massenergy.org](http://massenergy.org) for opportunities to visit, support and keep learning about green power projects in New England!

~ Stephan Wollenburg is the green power manager with People’s Power & Light and Mass Energy.

## Go Deeper!

Mass Energy runs two programs that support clean, local renewables; New England GreenStart<sup>SM</sup> and New England Wind<sup>SM</sup>. Visit [www.massenergy.org](http://www.massenergy.org) to sign up for green power and to learn more about our programs.



Staff gather in front of digester. Photo: People’s Power & Light.