

Several projects underway around the globe are turning manure into renewable energy

Going Green

BY ESTHER MARR

As the economy continues to slump and concerns over the cost of energy are running high, several groups worldwide have begun working on going “green” with horse manure disposal projects that will convert equine waste into renewable energy. The idea of turning something wasteful into a beneficial resource in the Thoroughbred industry is like a breath of fresh air.

Recently, MaxWest Environmental Systems and the Florida Thoroughbred Breeders’ and Owners’ Association announced a partnership to complete the muck-to-power mission. Signed June 19, the partnership will reduce horse waste while generating “green” energy for the Ocala/Marion County community, which is home to 431 Thoroughbred breeding and training farms covering more than 70,000 acres.

The disposal of horse/stall waste is a problem that has drawn the attention of state and local government agencies, as it contains pollutants that can contaminate surface and ground water supplies when disposed improperly.

“This will just keep our farms in business because we’re running into an issue,” said Richard Hancock, executive vice president of the FTBOA. “You can stack (manure) or keep it on the farms, and if there’s no place to take it, or no market for it, they’ll be out of business.”

MaxWest’s gasification technology will provide FTBOA members with a convenient, environmentally safe method of horse manure disposal, while producing renewable thermal energy that will be used to produce “green” electric power for sale to the power grid. The facility is expected to convert upwards of 100,000 tons of stall and wood waste per year into approximately 7.2 megawatts of exportable energy daily. That’s enough to power more than 1,400 homes.

Hancock said they chose to pursue a gasification project over other energy conversion methods due to the ability to get a permit and the absence of harmful air emissions.

The FTBOA also had to wait for an energy bill to get passed to provide power companies with more incentive to do renewable energy. Hancock said the project may end up costing \$30-\$35 million. He said it is his goal for the project to pay for itself. It will be initially funded in part by federal guaranteed loans, but most of its coverage will depend on the FTBOA’s power agreement with the local utility companies.

“Everybody’s pretty excited,” said Hancock. “The county didn’t really want to tackle this problem; they’re happy we’re doing it. It’s been a tough process because there are so many (waste-to-energy) programs out there. This certainly is not a done deal until it’s built, but we know the process works.”

Meanwhile, companies in France and Sweden are launch-

ing similar energy-producing projects.

The Chantilly region of France, in which more than 4,000 horses reside, is one of the largest European-based training sites for Thoroughbreds. With each horse creating around one ton of manure per month, and each ton costing around €15 to dispose, area officials began researching ways to deal with the waste. According to *American Trainer* magazine, the Chantilly-based project will cost around €10 million and is slated to be in operation by the end of next year. Using a process of methanization to convert the waste into electricity, once it is changed over, the electricity will be purchased by the French Electricity Board to be used locally.

American Trainer describes methanization as “an anaerobic fermentation process through which the waste is decomposed by bacteria in an air-free environment.”

In Sweden, a company called SWEBO Bioenergy has partnered with Luleå University of Technology to complete several years’ development of a combustor called the Swebo BioTherm

that extracts energy from horse manure. According to SWEBO Bioenergy’s Web site, manure and other material from horse stalls is burned in the combustor like ordinary biofuel.


SWEBO BioEnergy statistics claim manure management costs around 7,100 Swedish kronor (about \$1,115) per year for an average horse. SWEBO BioEnergy officials say bio-energy solutions have always been considered one of the most environmentally friendly energy alternatives, because they do not increase carbon dioxide emissions.

Taking bio-energy a step further, all by-products, such as straw bedding and manure, can be burned by the SWEBO BioTherm to produce clean energy and the ash can be used as a fertilizer for the forestry industry.

Mattias Lindgren, managing director of Swebo BioEnergy, said it was difficult to compare the SWEBO BioTherm to the project in Florida, however. While both projects have the same basic goal of converting manure to energy, they use completely different equipment to accomplish the task.

The Florida project is also being done on a much larger scale, while the SWEBO BioTherm is designed to serve individual farms and facilities. The combustor units, which range in size and price, can handle waste from 20 to 1,000 horses.

“What we do is take bad materials and use them for fuel—we heat facilities, use them for steam, and at the beginning of next year, we will produce electricity from the same unit,” said Lindgren.

While there are currently SWEBO BioTherm units in Sweden and Norway, plans call for the equipment to be installed at farms in Ireland and the United States. 



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