

Growing Energy on the Farm

There was a day when farm waste did not pose a problem. After all, manure made great fertilizer so farmers simply spread it on their fields to help boost the next year's crop. This was when farms were small and the amount of waste was manageable. Today, many of the farms are specialized and much larger, some even owned by corporations. These "farm machines" are designed to produce in bulk and the farm waste problem began to mount. So much animal waste was being spread that it began to runoff into nearby stream, rivers, and other water supplies. Other problems that began to appear was the threat of passing disease from the farm animals to people or other animals.

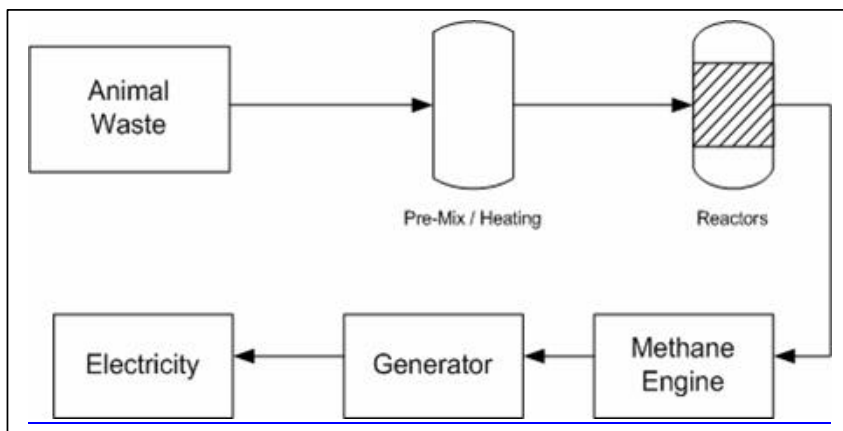


In conjunction with these problems associated with farm waste and what do with all of it, some people began to realize how much energy is wrapped up in the waste. The anaerobic digestion of animal waste produces "biogas". Biogas is typically made up of 70% methane

and 30% carbon dioxide. Since methane is easily combusted, it makes for a good source of energy.


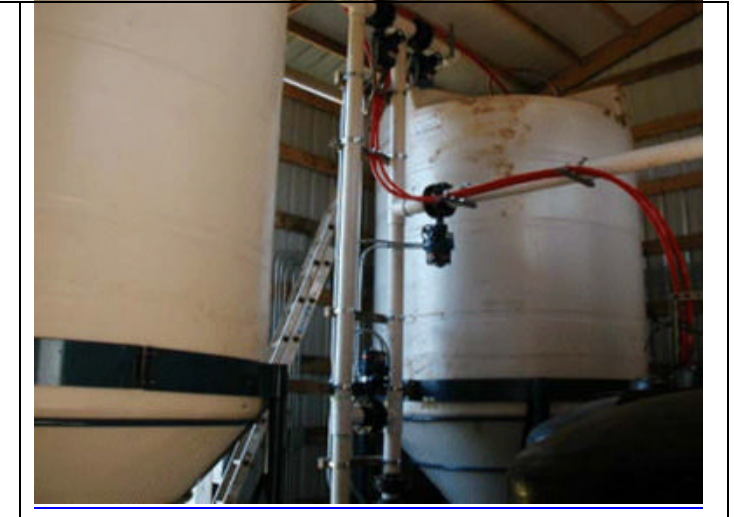


There are many ways to produce biogas from farm waste, whether the waste come from pigs, chickens, or cows. But, what do you do with this energy on a farm? Is it cost feasible to construct a miniature plant to make the biogas? If the energy can be used and the price tag can be justified and it solves a waste disposal problem, then making biogas appears to be a great option for farmers. In fact, the U.S. Congress may not allow solving the problem to remain "optional" much longer as the pollution issue become more visible.

One U.S. company thinks that they may have found a way to solve this problem. Enviro-Energy Corporation of Spokane, WA has completed construction of the their first biomass-to-energy facility on a farm in Oregon. Enviro-Energy uses the biogas to ultimately produce electricity, fertilizer, and other soil additives. Here is how their system works:



First, the farm waste is feed to pre-mixing tanks where it is heated to 100 °F (38 °C) which is the optimal temperature for the digestion (or breaking down) of the waste to take place. Next, the feed is sent to reaction tanks where the waste is broken down and gives off biogas. The methane from the reactors is used to power an engine which turns a generator to produce electricity.

So, just when you thought that animal waste was just.....waste, it turns out that innovative thinking can turn waste into energy and perhaps more importantly, solve a real pollution problem in the process. Below are some photographs from Enviro-Energy's first installation. To get more photos, visit their website at: www.enviro-energycorp.com

	
<p>Animal Waste</p>	<p>Premix/Heating Tanks</p>
	
<p>Top View of Reactors</p>	<p>Generator</p>