

Hudson Valley Grass Energy

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Background

The Lower Hudson – Long Island Resource Conservation and Development Council states that they are interested in generating economic growth in New York that is environmentally and socially sustainable. This statement has influenced an interest in farming and energy markets. In order to raise the local New York economy by using farming practices and energy markets, the Lower Hudson – Long Island RC&D developed a non-profit organization known as Hudson Valley Grass Energy. This non-profit project is supported by a wide array of entities.

Hudson Valley Grass Energy is involved in furthering all aspects of the grass energy market. This means the Hudson Valley Grass Energy does everything from on site pre-assessment to helping to farmers sell their pellets. One of the most notable accomplishments for HVGE is their operation of one of the nation's first mobile pelletizing mills. Hudson Valley Grass Energy enlisted the help of SUNY Cobleskill students to design and build a mobile pelletizing mill.

Driving Forces

Hudson Valley Grass Energy was started to help farmers grow biomass for heat. Growing biomass for heat would help the farmers make additional profit on their land, by preventing further urban development. Preventing this urban development would help farming to continue to be a viable economic profession. A large part of the Hudson Valley Grass Energy project was the development of a mobile pelletizing mill. With a mobile pelletizing mill, farmers are able to pelletize on site. Pelletizing on site allows for the elimination of the middleman and leaves the farmers with more profit.

Farmers have found that precious farming land is being bought up by developers. Businesses are turning the land into housing developments. While this may be good for the economy, it is counterintuitive for an area that thrives on the farming community. This means the farmer will need to make additional income for their land to be worth more than a developer would be willing to pay. With the additional income Hudson Valley Grass Energy is hoping that farmers will be able to secure land for farming instead of housing developments.

Economics

The use of a mobile pelletizing mill eliminates the need for a middleman to transport and pelletize the crop. After HVGE transports the mill to the crop field, the product is pelletized and left with the grower. This allows the farmer to make a decision about what they do with their end product. This style of pelletizing leaves the farmer with a higher profit than would have been seen selling their crop to pelletizing plant.

To receive funding for the project, Hudson Valley Grass Energy applied for a grant from the New York Farm Viability Institute. The New York Farm Viability Institute awards grants to projects that help increase the profits farmers receive. HVGE received the grant for the

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USDA – Rural Development

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Soil & Water Conservation Districts

Ulster, Dutchess, Orange, and
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New York Farm Viability Institute

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exploration of switchgrass, reed canary grass, pellet production research, and developing a business plan. The business plan resulted in Hudson Valley Grass Energy hiring two full time employees, a project manager and a pellet mill operator. This business plan is an important part of making a self sustaining mobile pelletizing mill.

During the project it was estimated that farmers would generate enough product to sell directly to commercial and residential customers. Hudson Valley Grass Energy also developed the idea of farmers selling their product to local energy supply companies. This would benefit the local economy because local businesses have lost pellet business to large pellet supplying companies. Selling both directly to customers and to suppliers would provide a steady stream of additional income that would benefit the local economy.

While the project has had forward movement in the past, current movement has slowed. This has been due to various factors. After the development of the mobile pelletizing mill, their project manager moved on to graduate school. With the lack of a project manager, Hudson Valley Grass Energy found it difficult to efficiently allocate volunteers' time. This is problematic because some of these volunteers work for water districts.

In late summer of 2011 the Hudson Valley area of New York experienced a large amount of flooding. These floods kept the water district volunteers busy, which meant they had less time to put into the HVGE project. Since the project consists of mostly volunteer members and does not currently have a project manager, they are in the process of hiring a new project manager.

Production and Utilization

The mobile pelletizing mill was designed and fabricated by Agricultural Engineering students and professors at SUNY Cobleskill. The SUNY Cobleskill students and professors built the mill using a 240 kw diesel generator, a refurbished dual speed California Pellet Mill 150, Schette Buffalo 1340 hammer mill, a cooling tower, a 20 ton trailer with air breaks, and electrical equipment. All this is located on a trailer which is pulled by a diesel truck.

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After the construction of the mobile mill it was tested by Hudson Valley Grass Energy in outdoor conditions. When operating the mill outside, HVGE found that cold and wet weather affected the operation of the mill. Both of these factors complicated the production of the biogass pellets and affected the growing of the grasses.



HVGE's Mobile Pelletizing Mill built by SUNY Cobleskill.

In the late summer of 2011 the Hudson Valley area of New York experienced a wet season. This wet season soaked the farmers' grasses which reduced profits. After testing Hudson Valley Grass Energy has realized that it is better to start with grass that is dry. They found that removing water from the feedstock is harder than adding it. These factors have influenced Hudson Valley Grass Energy to make modifications to their mobile pelletizing mill.

The first modification was a fines recycling system which would allow for more efficient pellet production. The second modification was the installation of a safety rail to the trailer in order to prevent falling accidents. The third modification was a roof. Hudson Valley decided the addition of a roof on the trailer would allow the mobile mill to run on wet days. Currently in the works is a unit to preheat water going into the steam generator, this will allow better pellet production.

Sources

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