European Network for Rural Development

Åsbo Gård – using biogas to produce electricity and heating

EAFRD-funded projects

A dairy family farm in Sweden invested in a biogas powered generator and a storage facility for substrates in order to become self-sufficient through the use of green energy.

SWEDEN

Greenhouse Gas & ammonia emissions

Location
Jämtland

Programming period
2014 – 2020

Priority
P5 – Resource efficiency & Climate

Measure
M06 – Farm & business development

Funding (EUR)
Total budget 142 945
EAFRD 25 217
National/Regional 31 071
Private 86 657

Project duration
2015 – 2017

Project promoter
Åsbo Gård

Contact
tel. 070-333 75 90

Website
n/a

Summary

Åsbo Gård is a family dairy farm located in Jämtland, north Sweden. In 2014, the farm constructed a biogas plant to cover part of its heating needs. In 2015, the farm began to work with the biggest cooperative of dairy producers in Sweden - Arla Jämtland. As part of their collaboration, Arla provides the Åsbo Gård farm with whey, which it uses to produce biogas on site.

The abundance of this raw material has enabled the farm to increase its production of biogas. However, in order to take full advantage of the new potential, the farm sought RDP support to construct a biogas powered generator and storage for substrates.

Results

Today 75% of the farm's electricity needs are met by the generator and only 25% of the electricity used is bought in.

The substrate created from mixing the whey from Arla with manure produced on the farm produces 25% more energy when transformed to biogas, compared to the use of manure only.

The storage facility enables the farm to store whey and use it all year round, as needed, to produce biogas.

ENRD Contact Point
Rue de la Loi, 38 Boîte n.4 - 1040
Brussels, Belgium
Tel. +32 2 801 38 00
email: info@enrd.eu
website: http://enrd.ec.europa.eu/

Funded by the European Commission

Context

Åsbo Gård is a family farm located in Jämtland, north Sweden. The farm has 125 cows and it mainly produces milk. In 2014, the farm constructed a biogas facility which covers part of its needs for heating. In 2015, Åsbo Gård began to work with Arla Jämtland. Arla is a cooperative run by farmers and is the biggest dairy producer in Sweden bringing together some 10 300 milk producing farmers. Åsbo Gård receives whey from Arla to be used for biogas production. The abundance of organic raw material enabled the farm to increase its biogas production, but to take advantage of the full potential of the biogas plant, the farm decided to invest in a biogas powered generator and a storage facility for substrates.

Objectives

The objective of this investment project was to increase the use of green energy by the farm to reduce its energy costs, while contributing to climate change mitigation.

Activities

In 2016, the biogas powered generator was built and can generate 50kW of electricity and 80kW of heating. At the same time the farm owners constructed the storage facility for substrates of sanitised organic waste (whey) for the biogas production. The storage facility was built next to the manure culverts so that it would be easy to handle and add the whey to the manure. The whey from Arla contains proteins, which are relatively energy rich compared to carbohydrates. The use of protein rich waste can produce more biogas if added to organic waste. Whey is therefore mixed with the manure to create more effective biogas production. The storage building has a capacity of 10 m3. Both the power generator and the storage facility were completed and became operational in the summer of 2016.

Main results

Today 75% of the farm's electricity needs are met by the generator and only 25% of the electricity used is bought in.

The substrate created from mixing the whey from Arla with manure produced on the farm produces 25% more energy when transformed to biogas, compared to the use of manure only.

The storage facility enables the farm to store whey and use it all year round, as needed, to produce biogas.

Since the farm's need for energy varies depending on the season, some of the electricity produced is sold during high-producing periods. The goal of the farm is to become 100% self-sufficient in the future.

Additional sources of information

n/a

Funded by the European Commission