



Energy Farm Agroväst, Sweden

Summary

The objective for the programme “the Energy Farm” is to facilitate the transition of the energy system in Region Västra Götaland to increased use of renewables. It is to be a gathering and pushing force, with a local producer and user perspective, in the development of renewable energy production for the west Swedish agriculture. The aim for the Energy Farm is that in the year 2020, the Region Västra Götaland has taken care of 25 percent of the potential for renewable energy production at 20 TWh.

Main funder is Region Västra Götaland and the project has a broad range of partners, including stakeholders in all the chain from the producer (farmer) to the end user of energy.

The programme is supporting the agricultural enterprises by information, guidance, education, technical development as well as business development. Common for all these activities are that the Energy Farm is building networks, initiating projects, communicating, doing feasibility studies and transfer experiences.

End-user area

- New buildings
- Refurbishment of buildings
- Transport and mobility
- Financial instruments
- Industry
- Legal initiatives (regulations, directives, etc)
- Planning issues
- Sustainable communities
- User behaviour
- Education
- Other: Agriculture

Target Audience

- Citizens
- Households
- Property owners
- Schools and universities
- Decision makers
- Local and regional authorities
- Transport companies
- Utilities
- ESCOs
- Architects and engineers
- Financial institutions
- Other: Agricultural Industry

Technical

- Energy efficiency
- Heating
- Cooling
- Appliances
- Lighting
- CHP
- District Heating
- Solar energy
- Biomass
- Wind
- Geothermal
- Hydro power

Context

The agriculture can get a very important role in the necessary transition of the Swedish energy system from fossil to renewable energy. The farmers industries can produce renewable and environmentally friendly energy as bio energy (from energy crop as grain, Salix, Reed-Canary Grass and hemp as well as by taking care of the bi-products as straw and manure), wind energy and small scale hydro power.

Calculations of the potential shows that the agriculture in Region Västra Götaland can produce 5,2 TWh renewable energy without decreasing animal or other food production. This is enough to replace almost 20 % of the fossil fuels and the electricity in the household and service sector.

Based on this the Energy Farm was started to be a catalyst for development of production of renewable energy from the agriculture in Region Västra Götaland.

Objectives

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Energigården

Energy Farm Logo



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Process

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The main agricultural stakeholders, Hushållningssällskapet (The Rural Economy and Agricultural Societies), LRF (the farmers organization) and Lantmännen (organization for food, energy and agricultural industry) developed a common platform and aim for the

project. As a second step other stakeholders were invited to join the initiative. This process ensures that the aim of the project is relevant and needed as well as it ensures that all the partners share the same vision for the project.

The target group is all the actors in the chain from the farmer to the end user, in this case often municipalities as energy producers.

- **Information.** The Energy Farm is providing information to facilitate development of renewable energy from agriculture at its web page as well as organizing regional seminars. The project is also giving technical and environmental guidance. The project provides publications in the field.
- **Education.** The Energy Farm is promoting educations in the agricultural field. The aim is also to initiate educations about energy. The project is a partner in the planning of a good education infrastructure in the energy field in Region Västra Götaland.
- **Business Development.** The Energy Farm is giving guidance and advice for business development as well as process support. The Energy Farm is also helping projects to find financing. An important work is as well the contacts with decision makers to facilitate the development of renewable energy from agriculture.
- **Technique development.** The Energy Farm is supporting research and development in the field of renewable energy from the agriculture. The project supports demonstration facilities and tests.

Financial resources and partners

The Energy Farm runs from spring 2006 to the end of 2008. The total cost of the project is 5,4 million Euros. Sources of funding are KY education (8 %), Swedish Board of Agriculture (10 %), efforts from the participants (25 %, in time), Region Västra Götaland (4 %) and sources not yet confirmed (52 %). Region Västra Götaland is the main funder of the base activities.

Partners at the beginning of the project were Hushållningssällskapet (The Rural Economy and Agricultural Societies), LRF (the farmers' organization), Lantmännen (organization for food, energy and agricultural industry) as well as Region Västra Götaland. After this, partners, agreeing with the common platform have been invited. Now the partners are the above mentioned as well as BYS (Advanced Vocational



Both technical and market solutions are sought



Harvesting of Salix



Education), Fjäderfäcentrum (poultry industry organisation), JTI - Swedish Institute of Agricultural and Environmental Engineering, SP Technical Research Institute of Sweden, Sötåsen (agricultural school), SLU (Swedish University of Agricultural Sciences), IVL Swedish Environmental Research Institute, the Energy Network Green4u, LRF Konsult (consultant), KanEnergi (consultant) and ÄFAB (consultant).

Results

Among the results from the Energy Farm the following can be mentioned:

- Coordination of all current actors in the energy field in the four activity areas described under "Process".
- Establishment of network between the actors in Region Västra Götaland.
- Coordination of farmers, energy advisors/consultants and researchers to find out what is needed to be done in the technical area to make it possible for the farmers to produce different types of biomasses.
- Coordination for common applications to possible financiers.
- The first common project programme was approved by the Swedish Board of Agriculture in February 2006.
- A project web page.
- In September 2007 a project were initiated to create meeting points "Energy Farms" at seven agricultural upper secondary schools in Region Västra Götaland.
- For the spring 2008 it is planned to do an inventory of farms that have interesting energy projects and possibility to receive study visits.

Lessons learned and repeatability

Energy Farm leads to deepened cooperation between the agricultural stakeholders of Västra Götaland. The cooperation is focused on problem solving and facilitating for business development. Secondary effects of the project are therefore faster development of renewable energy from agriculture, including increased work opportunities and less climate impact.

In this kind of projects, where there is not much direct financial gains or large budgets, it is crucial that a win-win situation is created. By starting the process with agreeing on a common aim for the projects this was ensured. The focus of the activities of the project has also been decided by the group to ensure the engagement of the members. Some of the stakeholders are members of the board. They are also taking part in the practical work ensuring their knowledge of the activities.

The Energy Farm has its seat in the town Skara, situated in a rich agricultural part of Västra Götaland. To ensure that the initiative is not seen as a project only for this part, effort has been put in including the other parts by for example localizing meetings in these parts.

This project can be repeated in all agricultural regions where there are stakeholders sharing the same vision of agricultural development.

Contact for more information:

Project Web Site: www.energigarden.se
Organisation / Agency: Agroväst
Main contact: Kent-Olof Söderqvist
Address: Box 234, S-532 23 Skara, Sweden
Tel: +46 511-672 84
E-mail: kent-olof.soderqvist@agrovast.se
Web Site: www.agrovast.se