



Wood and straw energy plant AGROénergie, France

Summary

In 2002, two farmers Jacques and Charles Schneider contacted the Nuclear Energy public body CEA in French to propose them to produce and sell them heat energy from straw. These two farmers set up a Limited Liability Company SARL in French called AGROénergie. Its business consisted in producing and selling energy from farming by-products and obtained from neighbouring farms the implementation of a straw gathering system. This company has built the plant and the network, operates the installation and organize straw deliveries. The wood and straw energy plant has a 5MW capacity and is wood and straw fuelled. The company has signed a 12 year contract with the CEA (a public research institute), which committed itself to buy at least 20.400 MWh per year at a defined and revisable price, all included (fuel purchase, repairs, maintenance, installations depreciation).



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

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

Technical

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

Context

In 2002, in a context more and more in favour of renewable energies, two farmers Jacques and Charles Schneider contacted the Nuclear Energy public body CEA in French to propose them a supply contract of heat energy from straw, the principal aim of the operation being to develop the outlet of this raw material. These so called Schneider Father & Son set up a Limited Liability Company SARL in French called AGROénergie. Its business consists in producing and selling energy from farming by-products. They have designed and created the whole project.

Objectives

The principal aim and the origin of the operation is the will to perpetuate locally the commercial outlet of straw. The solution of mixing wood has cropped up in connection with this initial project of straw used as fuel. This has double advantages: the diversification of resources and the reduction of problems due to straw ashes fusion. Sawmill wastes add up to the energy efficiency of shredded straw and are securing the production, if any delay occurs in deliveries.

In terms of assessed objectives, AGROénergie signed a heat energy supply contract which will be valid for 12 years, with the French CEA who committed themselves to buy at least 20.400 MWh each year.



Process

The project encountered multiple difficulties it had to overcome. First of all, numerous players have to be convinced of the reliability of the project. The first operation was mounted in 2003, the heatwave and drought year in France. Charles Schneider had to argue with local farmers, local authorities and funds providers to convince them of the project viability. Further to the severe rise in fuel price - which went twofold in two years- the new situation helped to go over hesitations. Then the French CEA accepted the proposal, motivated by the ecological quality and the project cost which was lower than the domestic fuel coming from Switzerland which was used for heating. "This was also the opportunity to enter into the network of this rural area", specified the CEA, which has some 1.300 employees on the site, of which 300 work in subcontracting.

Then in autumn 2005 it was relevant to organise a local supplying system. Since then the wood plant delivers 2/3 of CEA energy use through an underground secured circuit.

Financial resources and partners

The global cost of the construction is estimated at 2.350.000 € taxes excluded.

The company made loans and the capital was brought by Schneider Father & Son. This operation was subsidized by the CE as renewable energies development, by ADEME and by the Regional Council of Bourgogne, in the frame of the environment, energy conservation and waste regional programme and also by the General Council of Côte d'Or as rural development and electrification.

The objective of the company was to mobilize on this project a maximum of local firms.

Results

The new wood and straw energy plant makes it possible to cover 2/3 of needs of French CEA for an energy supply of at least 20.400 MWh on the period of heating.

To ensure part of deliveries, AGROénergie entered into supplying s contracts on three years with two local farmers who could deliver 2.000 tonnes of wood per year.

The operation of this company has positive consequences on local employment in the matter of consolidation and creation. In fact, straw supply makes it possible to create a new activity for 10 local plants, which are situated in the surrounding 10 km. The keeping of the plant's outdoors allowed also to consolidate a job partly paid by the community. Finally, the operation of the wood/straw energy plant led to full time jobs.

In the matter of environment, the use of mixed wood and straw helps to reduce GEG emissions: each year more than 6.000 tonnes of GEG from fossil fuel and 29 tonnes of sulphur are no longer discharged in the atmosphere.

Lessons learned and repeatability

The company created by the two men produces and sells energy from farm by-products such as straw and wood. The boiler delivers practically 2 thirds of the energy needs of CEA Valduc site, at 1.400 m from there.

Straw is bought in the neighbouring 25 km. The wood itself comes from neighbouring sawmills in order to avoid transport. This project makes local people live there. In fact, during the installation of the wood/straw energy plant, an amount of 514.000 € was spent on works ordered to firms situated at 45 km from there.

Supplying this plant gives an extra outlet for straw at 10 local farms. A job has been created and the keeping of the outdoors of the plant allows to maintain a job paid partly by the community. It is worth mentioning that this installation will save 1.950 toe of import, by recycling 6.070 tonnes of biomass/year, that is to say 6.390 tonnes of GEG from fossil fuel and 29 tonnes of sulphur will no longer be discharged in the atmosphere each year.

At least, the success of this operation lies in the partnership developed between these two farmers and the other local one, which represents a good illustration of the diversification of resources and energy supply.



Contact for more information:

Organisation / Agency: AGROénergie

Main contact: Charles Schneider

Address: Echalot- 21580 Salives- France

Tel: +33 3 80 35 11 02 Fax: +33 3 80 75 63 03

E-mail: agroenergie@wanadoo.fr

Printed reports or other literature available: Magazine "Energie Plus"- Number 366 (15 May 2006)

Title: "Biomasse: Paille et bois chauffent le CEA de Valduc" (page 31 to 34)

Cost: 15 €