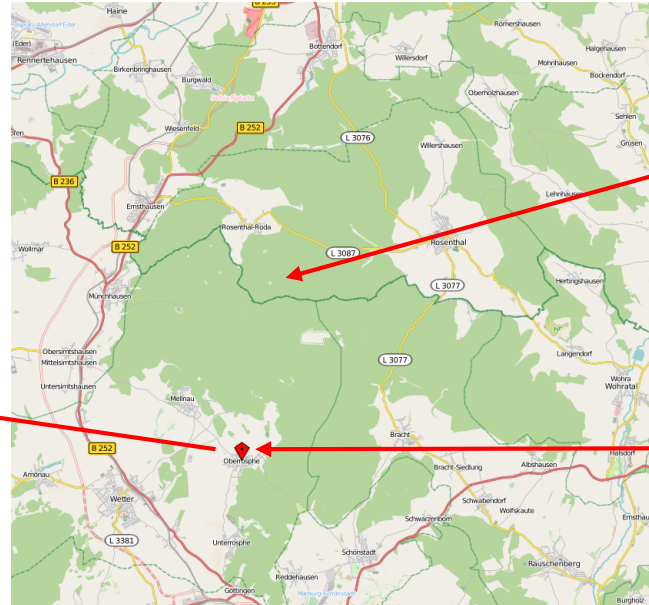
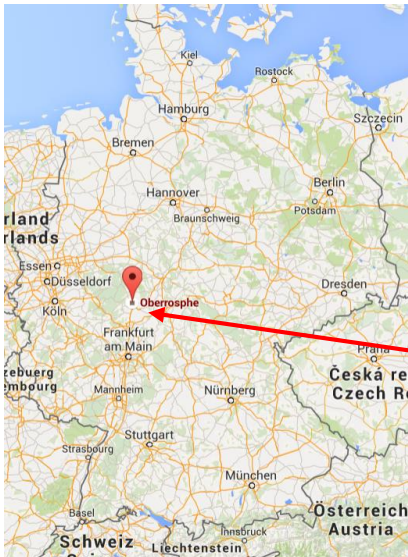


Oberrosphe

A village is getting rid of oil and gas

Presented by Ulrich Pfeiffer

Oberrosphe



Burgwald
(200 km² forest)

Oberrosphe
belongs to
Wetter in Hesse

- 830 inhabitants, 240 houses
- School, church, museum, village hall
- Social life and voluntary work is established. Oberrosphe has 22 clubs
- Since 2007: Bioenergy Village Oberrosphe

Initial Situation



Abb. 2: Überschwemmungen Deutschland 2006



Abb. 3: Hitzewelle in Deutschland 2006

- Unpredictable energy prices
- Limited resources of fossil fuel
- Climate warming
- Natural catastrophes
- Dependency on oil exporting countries

How all started ...



End of 2005

- Discussion among pastor and forester

2006

- Presentation of idea at village council and village-hall meeting
- Initiation of the project team and working groups
 - Technology
 - Financing
 - Legal form
 - Public relation

Feasibility Study



Feasibility study

- Executed by an engineering office
- pre-financed (16 000 €) by the city of Wetter and the developing group „Region Burgwald“
- Details
 - Question forms to all house owners
 - Each house (of 240) should have the possibility to be connected
 - Planning of the pipeline network (7 km)
 - Planning of the location for the heating plant
- Result:

The project is profitable with at least 120 houses connected to a wood chips fired heating plant

Legal Form



Foundation of a cooperative in Feb 2007:
Bioenergiedorf Oberrospe eG

- 85 members (117 at go-live)
- Management board 3 members
- Supervisor board 9 members

Everybody is working voluntarily

Motivation



Motivation for joining the cooperative

- Contribution to climate protection
- Being energy autarcic
- Keep the money local
- Longer-term saving money

Motivation



Reasons for not joining the cooperative

- No money (6 000 € to 12 000 € needed)
 - *Building association offered cheap loans*
- Oil heating is very new
 - *Offer to buy heatings up to 15 years old*
- Don't trust the project
 - *Face-to-face meetings organized*
- Problems among people
- One very active unfair opponent

Financing



Investment 3.8 Mio. €

- Own capital 0.7 Mio. €
- Government grant 0.2 Mio. €
- EU grant 0.8 Mio. €
- Dept capital 2.1 Mio. €

Raw Material

What can be used?

- All trees growing arround
- Waste wood
 - Branches and crowns
 - Cap timber
 - Trees and bushes cut from roadsides



Raw material aquisition

- Various vendors for wood chips
- Green waste gathering place

Implementation



Start of construction: April 2008

- 6 Months implementation time:
 - Pipe net
 - Heating plant
 - Storage hall



Go-live: Oktober 2008

Advantages



Contribution to climate protection

Yearly reduction of the CO₂-emission
saving 300 000 l heating oil => 900 t CO₂

Advantages for each household

- No costs for heating maintenance and repairs
- No fees for the chimney sweeper
- No fees for oil tank inspection
- No savings for new oil fired heating boiler (depreciation)
- No dependencies on oil and gas prices
- Cellar space for boiler and oil tank is free
- No noise and oil smell
- Increase the value of the property

Success Factors

Success factors

- Motivated project team
- Strong leader team driving the people and pushing the project forward
- Feasibility study
- Competent engineering office
- Support of authorities
- Subsidies
- Legal form cooperative
- Volunteers keeping the plant running
- Social events (X-mas party etc.)

After Go-Live



Power Generation

- **2008:** 77 kWp Photovoltaic modules on the roofs of the power plant and storage hall
- **2009:** 78 kWp Photovoltaic modules on rented roofs in Oberrosphe



After Go-Live

- **2012:** A farmer builds a biogas plant for electric power generation with CHPs (combined heat and power) and feeds the waste heat into Oberrospe's heating plant.
 - That halves the usage of wood chips
 - The boiler can be shut down from May to September



After Go-Live



- **2015:** Foundation of a cooperative „BioEnergieService Marburger Land e G“
 - Cooperation of 7 bioenergy villages
 - Centralized purchase of wood chips
 - Common use of machines and services
 - Disposal of ashes
 - Exchange of experiences
- **2008 to 2015:** members from 117 to 128
- **2016:** 3 more members in planning



Thanks for your attention

Q & A