1. Introduction

- Mauenheim, near Tuttlingen, has 430 inhabitants living in 100 households.

- Construction of a biogas plant in the year 2006 by the KCH GmbH. Run by renewable resources.

- The biogas plant produces in combined heat and power (CHP) 3.8 million kWh electricity and 3.5 million kWh rejected heat.
1. Introduction

- The produced amount equals the eightfold need of electricity of Mauenheim.

- With the aid of the civil corporation solarcomplex AG a district heat supply system was built. Using the rejected heat of the biogas plant to heat the local buildings.

- By an additional wood-chip heat production the total heat demand is covered through biomass.

2. Project objectives

- Climate protection in rural areas. Target: Saving of 2800 t CO\textsubscript{2} each year!

- The complete energy supply (heat and electricity) of the village by biomass origin.

- Assigning the energy concept to other municipalities.
3. Technical facts

- connection of 66 households at the district heat supply system.
- Length of the district heat supply system two times 4000 m.
- Heat production
  - Biogas block-unit heating power plant 460 KW
  - Woodchip boiler 900 KW.

3. Economic facts

- total investment 3.100.000 Euro.
- Energy price for heat 4,9 Ct/KWh
- contract period 20 years
- inflationary adjustment 2,5%.
- minimum purchase 15,000 KWh/a
- building cost subsidy 3000 Euro.
3. Economic facts

Mauenheim citizens

Bioenergie KG

Construction of the district heat supply system

4.9 Cent/KWh

Heat supply free

KCH

Statutory undertaker

Pays CHP-bonus

Pipe trench in Mauenheim
4. Request to guarantee communal implementation

- Openness of community and mayor for the innovative project.

Communal assistance:

- fair franchise agreement to provide financing.
- consent for construction.
5. Advantages for the environment

- 70 % less CO₂ – emissions: due to renewable resources and CHP
- 70 % less mineral fertiliser, and less input of pesticides, fungicides and herbicides in agriculture.

6. Advantages for citizens

- low heating costs for citizens and industry.
- independence of oil and gas price fluctuations.
- secure employment in agriculture and forestry.
7. Advantages for the region

Regional added value through:

- high investments.
- more business for regional contractors.
- granting of loans by regional banks.

Thank you for your attention!