

# Good Practice Pilot Project

## Expansion of the share of bioenergy in district heating and electricity supply network of the city Grevesmühlen

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Part-financed by the European Union  
(European Regional Development  
Fund and European Neighbourhood  
and Partnership Instrument)



## Background and Objectives

The development of the district heating with bioenergy is one result of coordination of city, municipal energy supplier, joint waste management authority in a association "Stadt ohne Watt" (means city without not green electrical Watt)

The association understands itself as engine for organisation and conversion of a sustainable development of the city Grevesmühlen and their surrounding areas. The central task of the association is initiation, bundling and networking of necessary activities on all levels. The concrete exemplary beginnings in the city Grevesmühlen led to focusing to energy policy measures. Beyond that handling energy is the most important key of sustainability.

## Results

### Technical concept – Biogas plant

- stage of extension 2008
 

Biogas:	289 m <sup>3</sup> /Bh
electrical capacity:	716 KW
heat capacity:	600 KW
- stage of extension 2009
 

Additional 400 KW electrical power

### Supply in the district heating grid

length: 8 km, supplied households: 1,700

- build 2010 – new grid to the city centre, supply of: e.g. the City Town hall (savings 4,000 €/a)
- scheduled 2011 – extension: 1km. new supply of: e.g. office building of county of North West Mecklenburg „Malzfabrik" (savings 2,400 €/a)

Provides **50%** of the households with **heat**

### Supply in the electricity network

produced electrical power from

biogas:	ca. 6 000 000 KWh/a
wind:	ca. 3 700 000 KWh/a
photovoltaic:	ca. 520 000 KWh/a

Provides **100%** of the households with **electricity**



Figure 3 pipes for the new grid

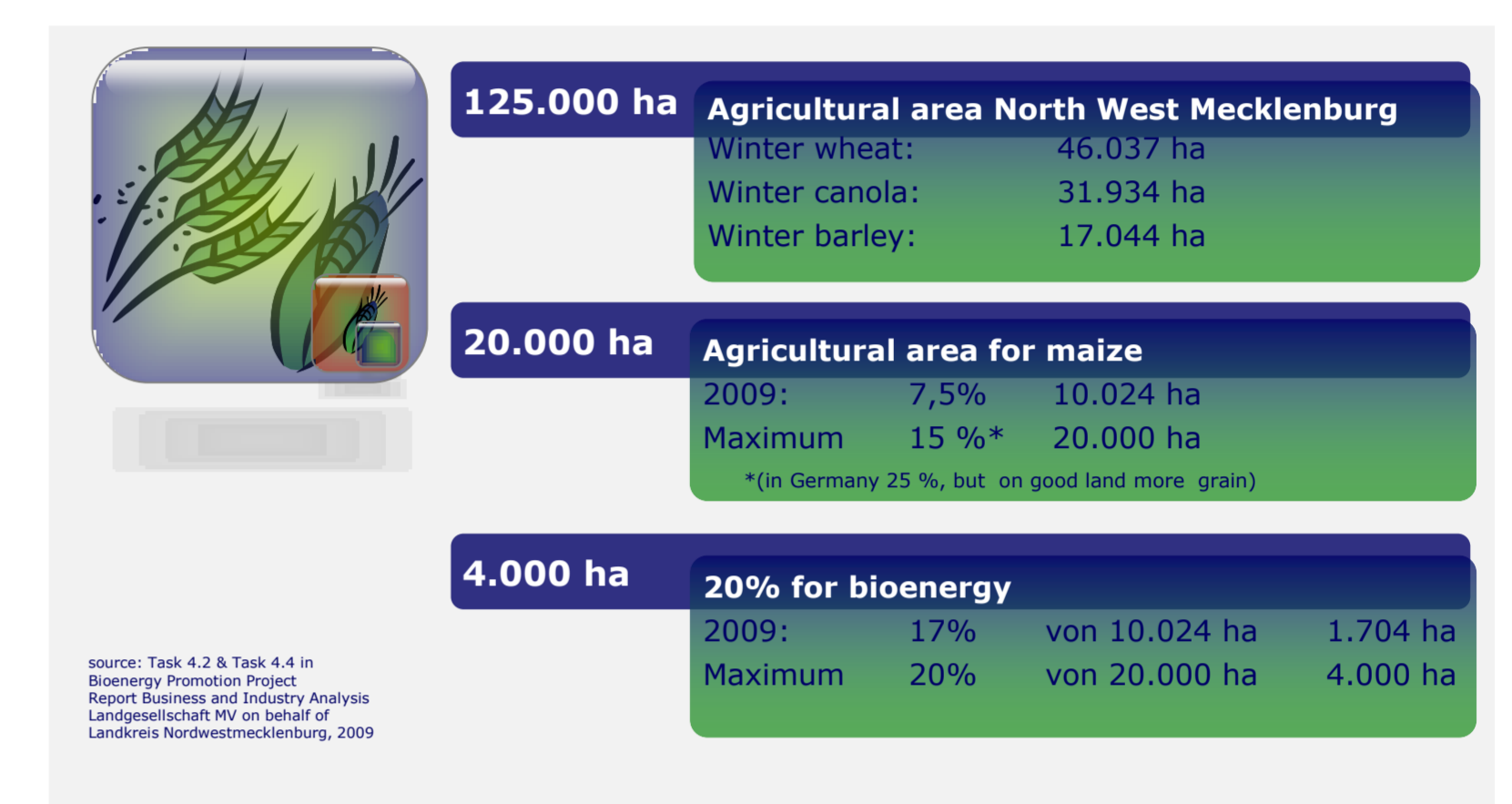


Figure 1. Biomass potential of NWM

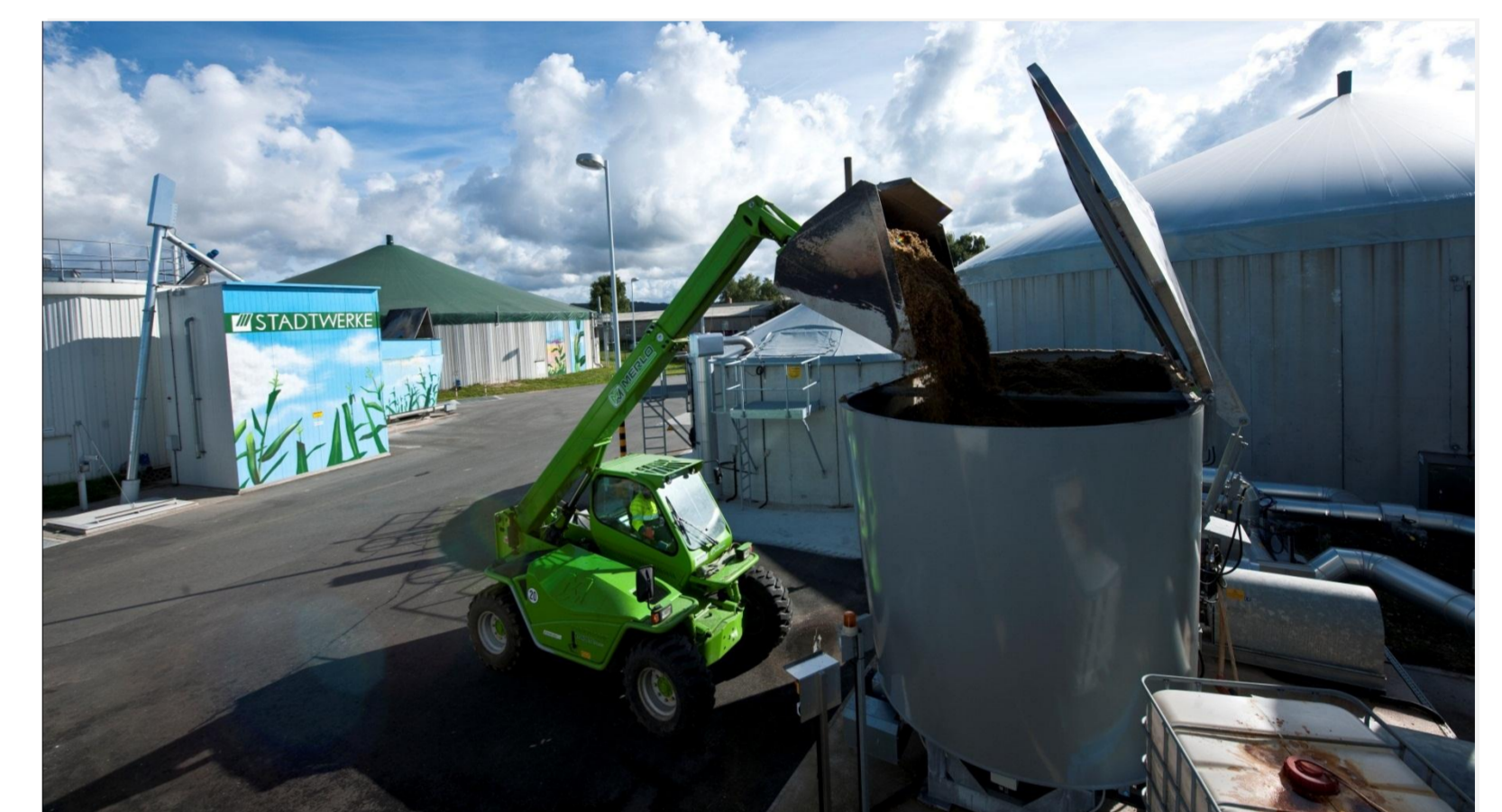


Figure 2. feeding the biogas plant

## Conclusions

This Project shows, that even small towns in a rural area can use advantages of bioenergy! Due to the municipal owning of the energy supplier and the joint waste management authority a coordinated development of the town is easily manageable by means of the association "Stadt ohne Watt".

## Next steps

In the town exists a public plan for development. All projects related to energy are discussed by different stakeholders in the association. The district heating grid will be expanded and consolidated as well. Cooperation between partners and even little villages around Grevesmühlen are possible.

### More information

<http://www.stadt-ohne-watt.de>  
<http://www.stadtwerke-gvm.de>



# Good Practice Pilot Project

## Independently of fossils - Citizens build a solar supported biomass heating system in Stellshagen

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## Background and Objectives

In 2010 inhabitants and interested landlords built a central heating station, to supply their village with heat and warm water.

As a first step the cooperative "HWS HolzWärme Stellshagen eG" (wood heat Stellshagen) was founded in 2009 .

With a committed consultation and a credit by the GLS bank the project could be carried out like planned.

Due to heat production on basis of wood chips, supported by a thermal solar system and distribution via their own local heating net, the connected residents are supplied centrally with heat since November 2010.

In the 1st stage of development 14 customers get supplied with approx 2 000 m<sup>2</sup> of apartments and business premises.

Despite the high investments at the beginning, the long term calculation is profitable, shown by the reached parameters of power and the economically figures so far.

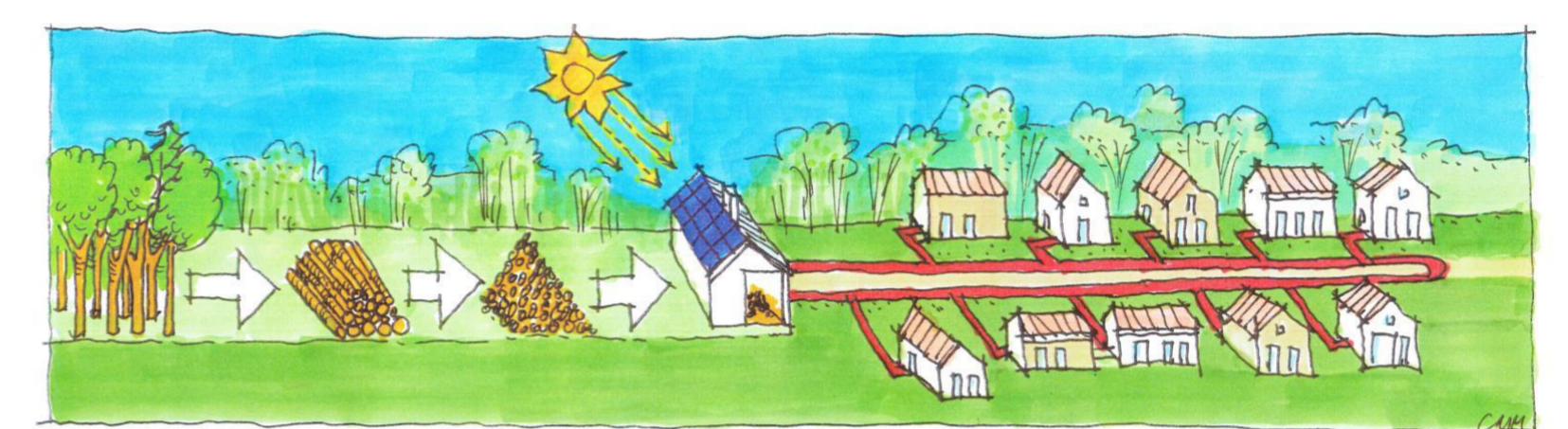


Figure 1. Idea of biomass using in Stellshagen



Figure 2. Wood chip heating station with storage room (2010)

## Results

### Chronological data

Establishment cooperation „Holzwärme Stellshagen GbR“:	August 2008
Begin planning:	August 2008
Establishment cooperative:	March 2009
Building permission for the station:	July 2009
Installation heating grid:	2008/2009
Finishing station:	September 2010
Launching heating system:	October 2010

### Technical data

Length heating grid:	1,089 m
Wood chip boiler:	190 kW
Wood chip storage:	100 m <sup>3</sup> / 50 m <sup>2</sup>
Heat storage tank:	2 x 3,000 l
Solar thermal system:	67 kW
on the roof of the heating station	100m <sup>2</sup>
Transfer stations:	15 - 45 kW

### Financial data

Heating grid:	73,621 €
Heating station:	106,000 €
Heating system inclusive conveyor equipment and storage:	121,232 €
Transfer stations (13 pcs.):	42,000 €
Solar plant :	27,163 €
Overall Costs: 370,016 € (net, w/o additional charges)	



Figure 3 Installation of the heating grid

## Conclusions

The citizens of Stellshagen are the first in the region, who are able to supply themselves with central heat made of local wood chips owned by them. They adduce evidence, that it is possible to build and operate a sustainable local heating system in a rural area.

## Next steps

Thus the project "HWS Holzwärme Stellshagen eG" is the first good practice for our initiative "(Bio)Energy Villages MV", while not coached by the initiative, but developed by the citizens itself.

### More information

Cooperative  
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