

On the road to a energy self-sufficient community – practical experience

27.05.2013



Transnational Conference
Opava, Czech Republic



EUROPEAN UNION
EUROPEAN REGIONAL
DEVELOPMENT FUND



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27.05.2013



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Practical experience in the preparation and implementation of climate protection concept

overview

- A. Creating of the climate protection concept in the community of Niestetal
- B. Status of the implementation of climate action plan
 - I Selected Measures of the Climate Action plan 2012-2014
 - II funding - climate and regional value
 - III Craftsmen Energy Forum - experience and training
- C. Possible projects of a registered energy cooperative
 - I. PV Park
 - II wind sites
 - III. Including the renovation of existing buildings in the delivery purpose

Portrait of Niestetal

- Located in north hesse near the city of Kassel
- 10.600 inhabitants
- area: 2.215 acres
- 2 districts

- 200 community-employees (hall and field offices)
- municipal facilities:
 - kindergardens (5)
 - swimming pools (2)
 - library
 - Cemeteries
 - Sports fields with artificial turf





Heiligenrode

Sandershausen

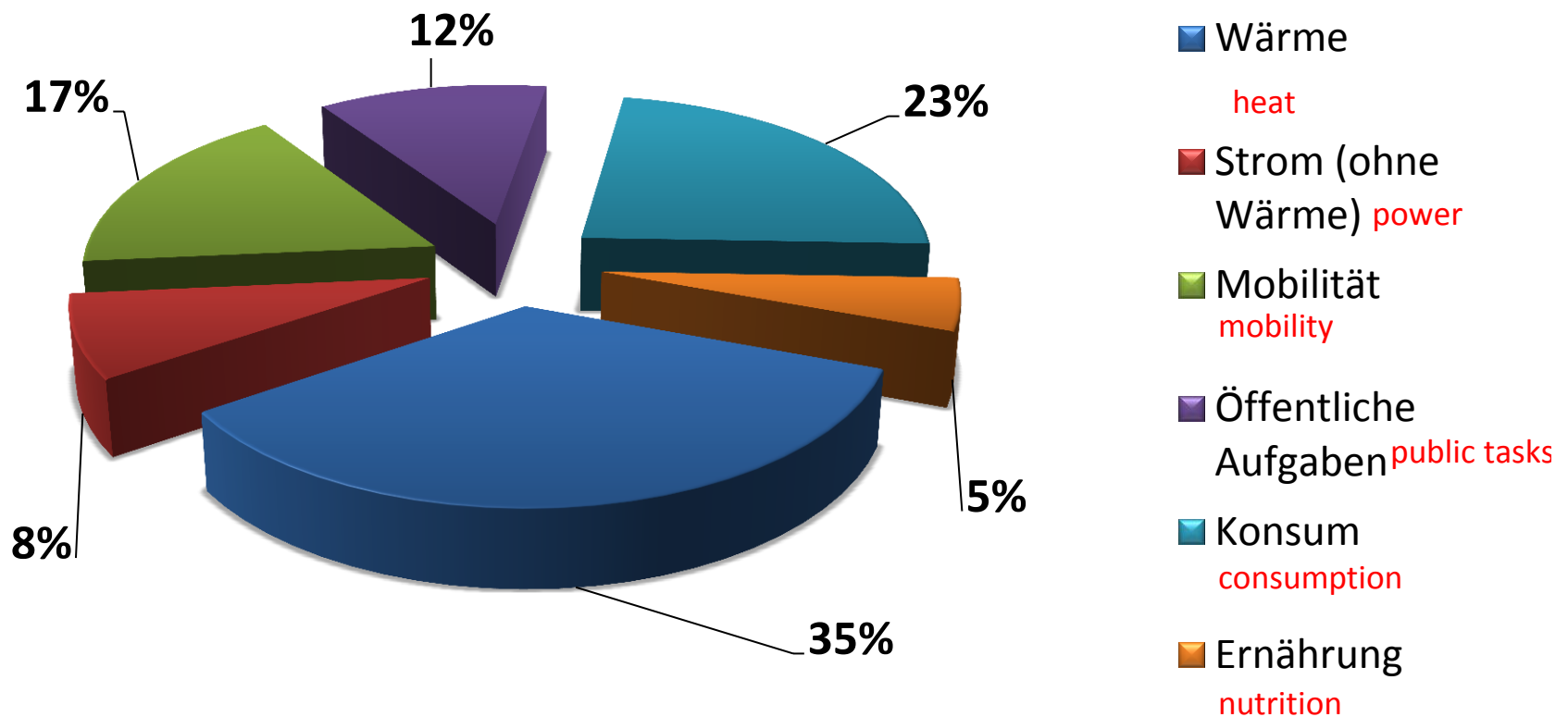
A. Creating the climate action plan in the community

Niestetal - Experiences

- not publicly funded
- created by an external consultancy in the years 2008-2009
- accompanied by a parallel control group to prepare the desired focus
- One result was: gathering information was very difficult
- Result: Strategy paper with Energy balance, potentials of energy saving and RES and catalogue of measures
- one measure recommends requiring a Climate Protection Manager

Annual energy requirement in Niestetal: 412 Gigawatthours (GWh)

Share of total energy demand



Objectives derived from the Climate Action Plan

- Sustainable contribution to climate protection
- Possible impact on energy prices
- Independence from fossil fuels and nuclear power

Overall objective: CO₂-neutral by 2035



Setting of the Climate protection manager

Experiences

It took

two years

- because of application and
- funding by the german government (65 % of the staff costs)
- **It represents great time and bureaucracy effort**

B. Status of the implementation of climate action plan

Selected Measures of the Climate Action Plan 2012-2014

- Setting climate protection manager (December 2011) ✓
- Funding climate change (decision in December 2011, in force since February 2012) ✓
- Energy Report 2008-2010 - Public priority list of buildings (completed December 2012) ✓
- Energy package Niestetal: action weeks, counseling, energy table, seminars, open days, etc. (since March 2012 ongoing) ✓
- First open spaces "solar parc Sanderhäuser Berg" - about 800 kWp (on grid since the end of September 2012) ✓
- Facility energy forum for craftsmen (Nov 2012) ✓
- Establishing of the registered energy cooperative in April 2013 after 9 month working on it ✓
- Expansion of renewables: wind farm Niestetal (process runs for 2 windmills built in 2013 and expected 3-11 more in 2014-2015)

How far are we with some of the technical measures?

Area	Requirements from the Climate Action Plan	Resulting aim	Implemented after 15 months (30.04.2013)
Energetic refurbishment	All homes to 100 kWh / m ² year level	Renovation rate about 4% / yr	Partially redone 4.4 % (see Federal: 0.75%)
Replacement of oil and gas plants	Replacement of all boilers to 2034	Renovation rate about 4% / yr	2,30%
Using wind power	Installation of 8 wind turbines each of 2 MW in two steps(5/3)	2012/2015	building 2 wind turbines in 2013, each 3 MW, max. 3-11 turbines till 2015
installation of pv plants	installation of 65.000 m ²	annually 2.200 m ²	(built till 2011 15.600 m ²) 5.500 m ²
installation of solar thermal plants	installation of 11.600 m ²	annually 450 m ²	(built till 2011 1.250 m ²) 240 m ²
Special loans and funding for a CO2 neutral Niestetal	Laying of a flanking CO2 savings promotion program		new funding since 2012

Funding climate change in houses

practical environmental protection and regional value

New houses

Eligibles from 500 – 2.500 € each for

overall energy quality, using of renewable energies, sustainable building materials, ventilation systems with heat recovery and combined heat and power plants

Existing houses

Eligibles from 500 – 1.500 € each or 10 % of the investment costs for

Energy efficiency of buildings / Efficient Heating

Component-based rehabilitation, based on the investment costs for individual measures, using of renewable energies, sustainable building materials

How far are we with some of the technical measures?

In 15 months were renovated/ new built:

existing buildings: 125

new buildings: 2

Eligible: 165,000 Euro

Investment costs: 2,025,000 Euro

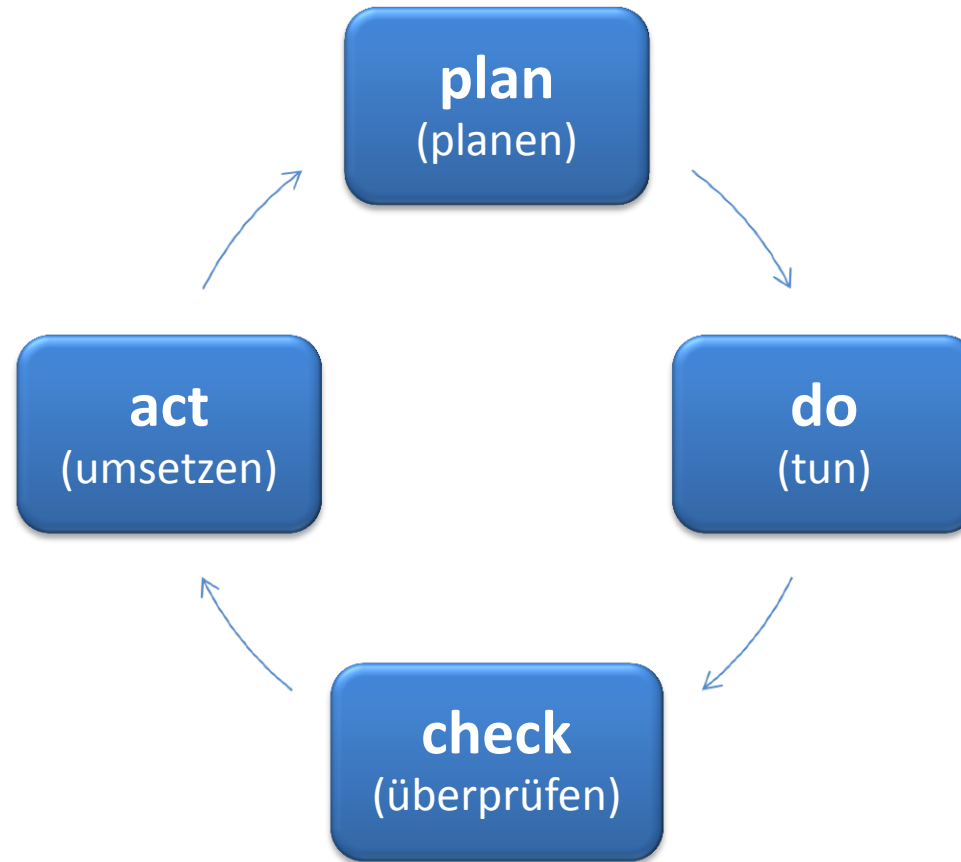
Wow: 4,4 % of all houses

That means: 1:12

**But: Only 50 % of the
craftsmen are from Niestetal**

Permanent controlling

In Climate Action Plan there is foreseen some controlling instrument:
PDCA-cyclus (plan, do, check, act)



Craftsmen Energy Forum - experience and training

06. 11.2012



27.05.2013

C. Possible projects of a registered energy cooperative

Preparation of founding
19.09.2012



27.05.2013

C. Possible projects of a registered energy cooperative

PV plant Sandershäuser Berg (Städtische Werke Kassel AG)



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C. Possible projects of a registered energy cooperative

PV plant Sandershäuser Berg (Städtische Werke Kassel AG)

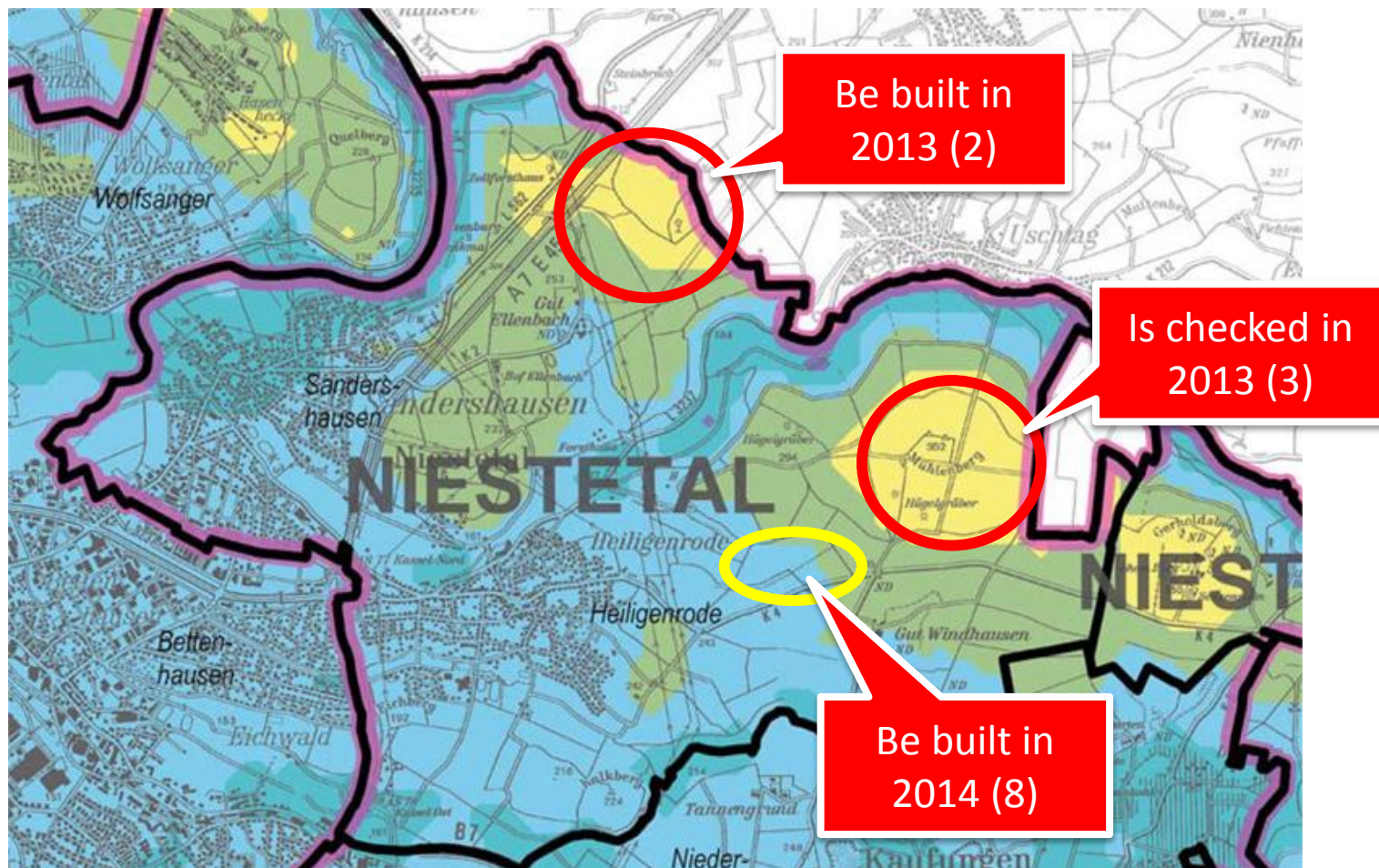


On grid at
28.09.2012

27.05.2013

C. Possible projects of a registered energy cooperative

Location for wind turbines



C. Possible projects of a registered energy cooperative

Location for wind turbines (Städtische Werke Kassel AG)



visualization: location Schanze

Conclusion

- the work is a full time job (20 h a week)
- it requires a qualified person, who can do the "networking"
- citizens must be taken (by the hand)
- intensive public work required
- Working together with:
 - Schools, kindergartens, clubs, companies
- But always:

step by step

Conclusion

- For example: **our way to self-sufficiency**
- Create an Climate Action Plan (Europe: Sustainable Energy Action Plan) – funded by government (or EU) 65 %
- Setting of an Climate Protection Manager – funded by government – 65 % - 95 % staff and promotion costs
- Establishing of an funding programme for inhabitants or using national or other fundings
- Integration of the citizens into energy production
- Increasing added value
- Getting more and more autonomous
- **Reaching self-sufficiency**

Many thanks for your attention!

www.niestetal.de

www.klimaschutz-niestetal.de



KLIMASCHUTZ Niestetal