

„North Rhine-Westphalia – Regional Strategy and Implementation of „Green Buildings“

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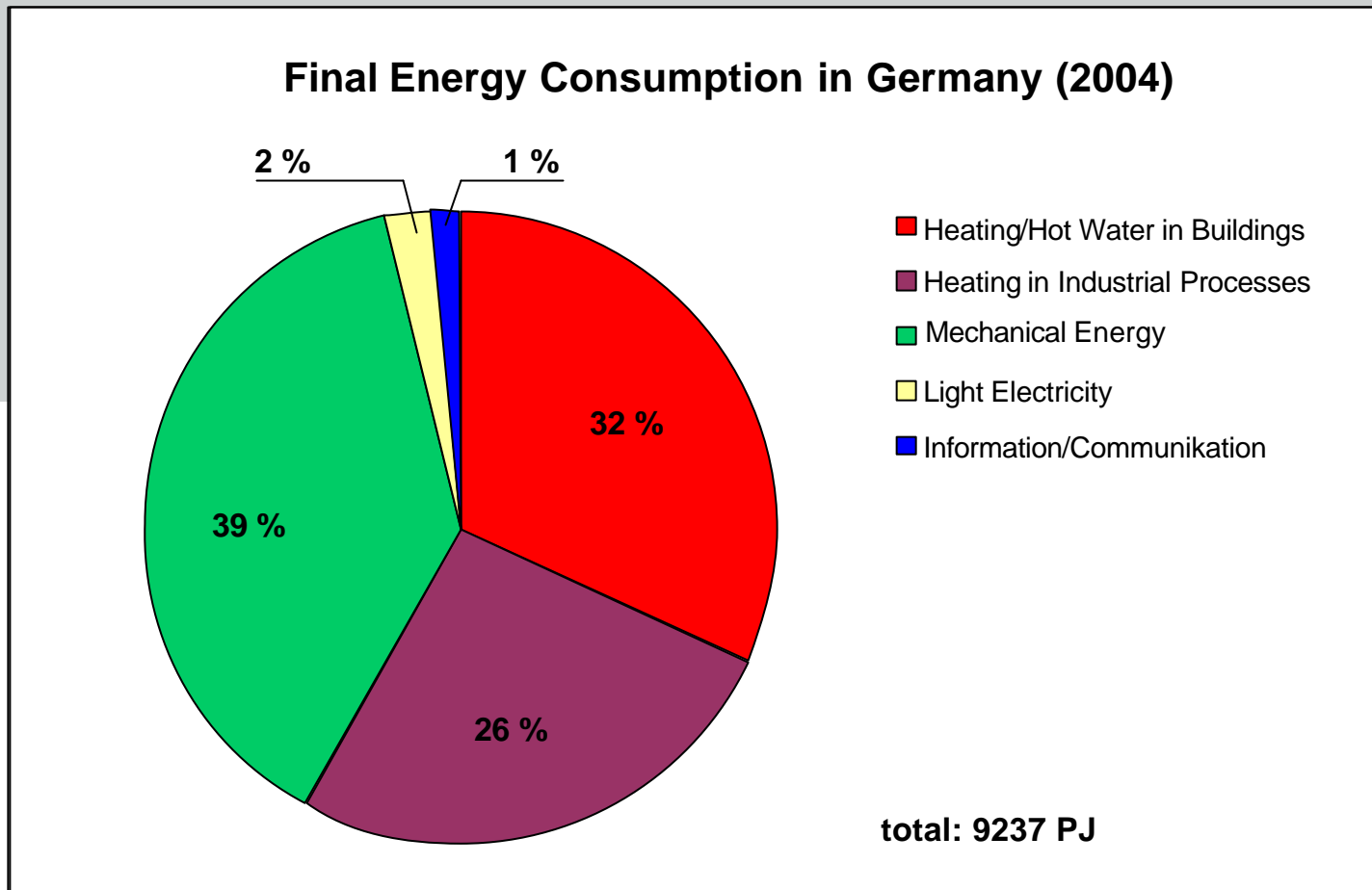
**Energy Efficiency in Buildings –
The Contribution to the Kyoto Mechanisms**

Bonn, 5 June 2008

Dates, Facts and Figures on „The Energy State“ NRW

- Highly industrialized region
- 18 million people
- High density of population
- 8,4 million living apartment units
- High percentage of multi-apartment buildings
- 396 municipalities
- 140 public utilities (electricity, natural gas)

Energetic Importance of the Building Construction Sector



Quelle: BWK Bd. 58 Nr. 1/2 2006

Energy Consumption and Energy Saving Potentials (Apartment Buildings)

Year of Building	[kWh/m ² a]	Saving Potential
before 1900	230-425	approx. 80 %
1900-1918	200-350	approx. 65 %
1919-1945	200-375	approx. 75 %
1945-1959	150-320	approx. 70 %
1960-1969	180-275	approx. 55 %
1970-1976	150-200	approx. 40 %

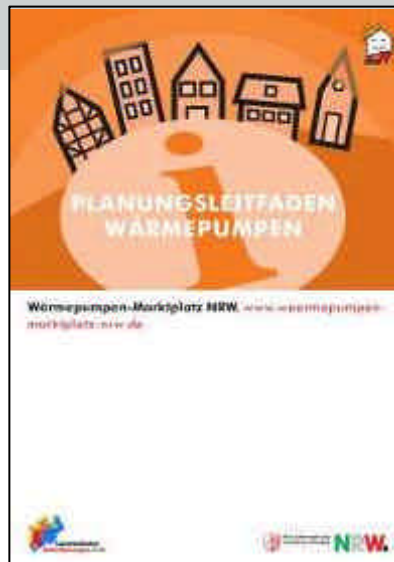
NRW-Strategy, Focal Points

- Campaigns for the implementation of climate friendly heating systems:
 - Heat Pump Market Place
 - Campaign for Wood Pellets
- Campaign „My home saves...“
- Project „50 Solar Energy Housing Estates“

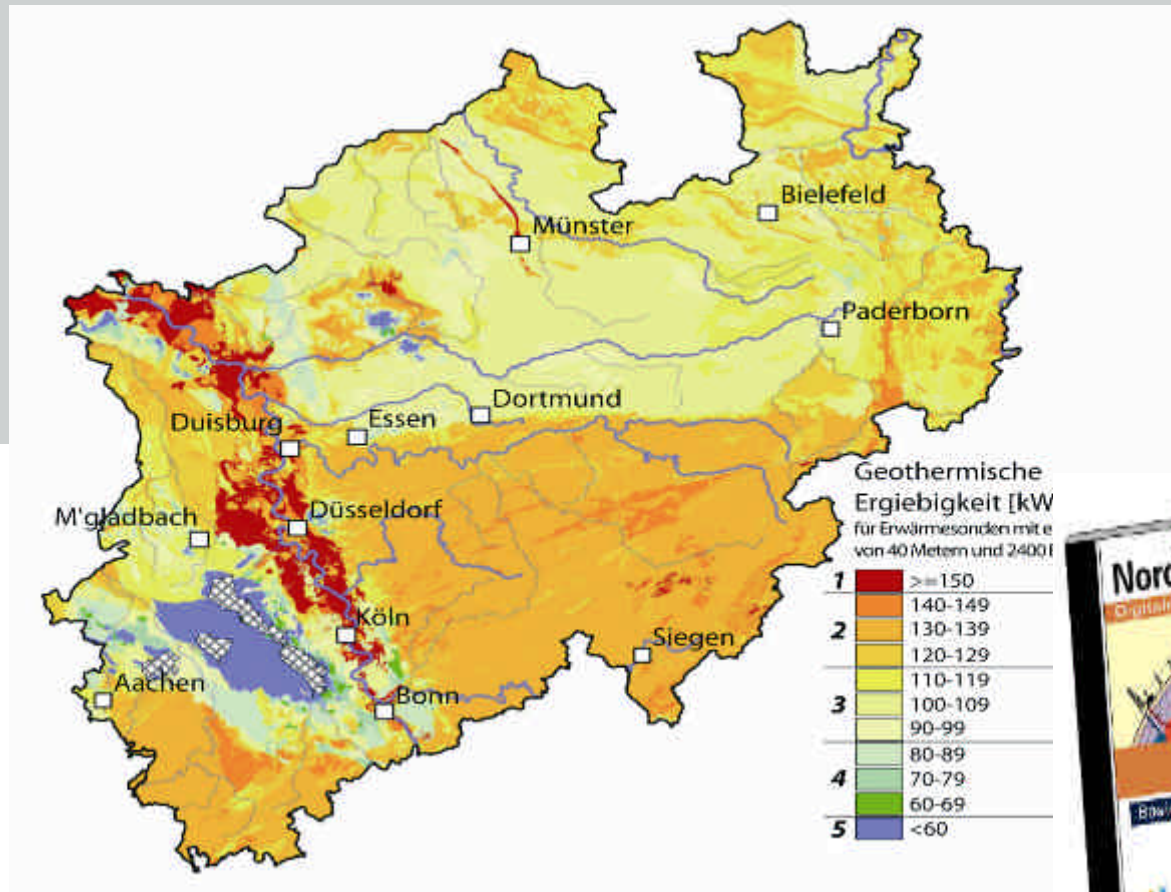


Heat Pump Market Place

- Press and public relations
- Internet
- Advertisement
- Trade fairs and information events
- Planning materials



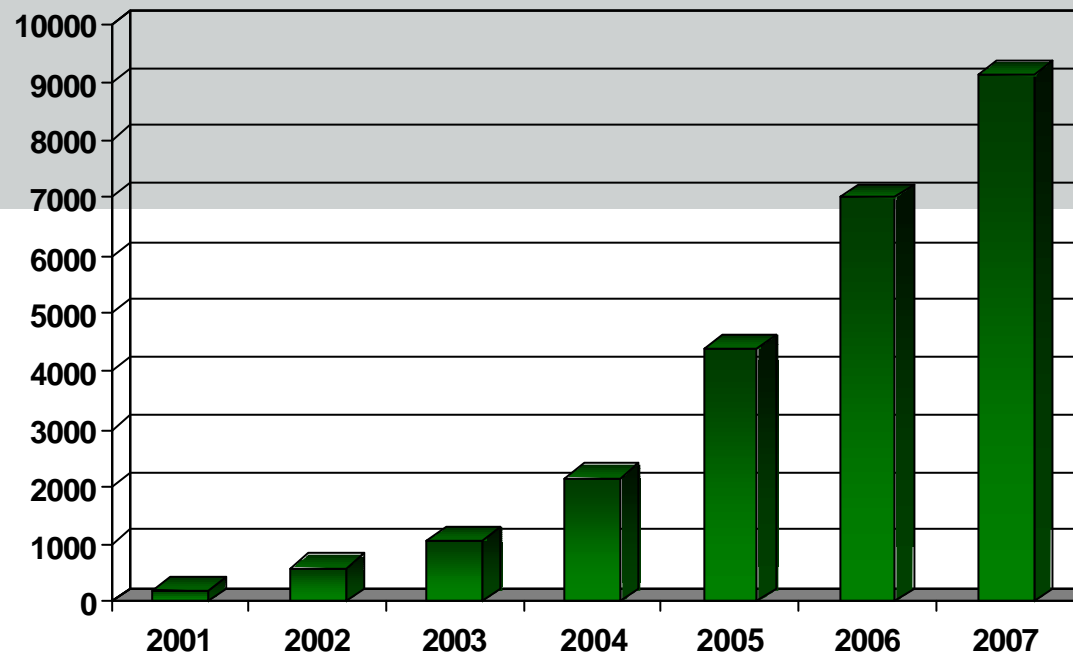
Near Surface Geothermal Potentials





Campaign for Wood Pellets

- Press and public relations
- Internet
- Advertisement
- Trade fairs and information events



Development of wood pellet heating systems in NRW

Campaign "My Home saves..."

Instruments:

- Information-Hotline, 0180/319 00 00
- Information Broschure
- Internet:
www.mein-haus-spart.de
- Information events and training
- Distinction of refurbished buildings
„Energiesparer NRW“



50 Solar Energy Housing Estates in NRW

Aims of the Project:

Combination of Energy Efficient Buildings with Solar Energy

1. energy efficiency increase by reduction of heat demand of the buildings (urban design and architecture)
2. use of solar energy (active/passive) for electric power and domestic hot water

Coordinated by: Energy Agency NRW,
a service agency of the NRW state government

Financial support: NRW State Government (Energy Ministry)

Project Gelsenkirchen-Bismarck



Size:
72 terraced houses

Project Gelsenkirchen-Bismarck



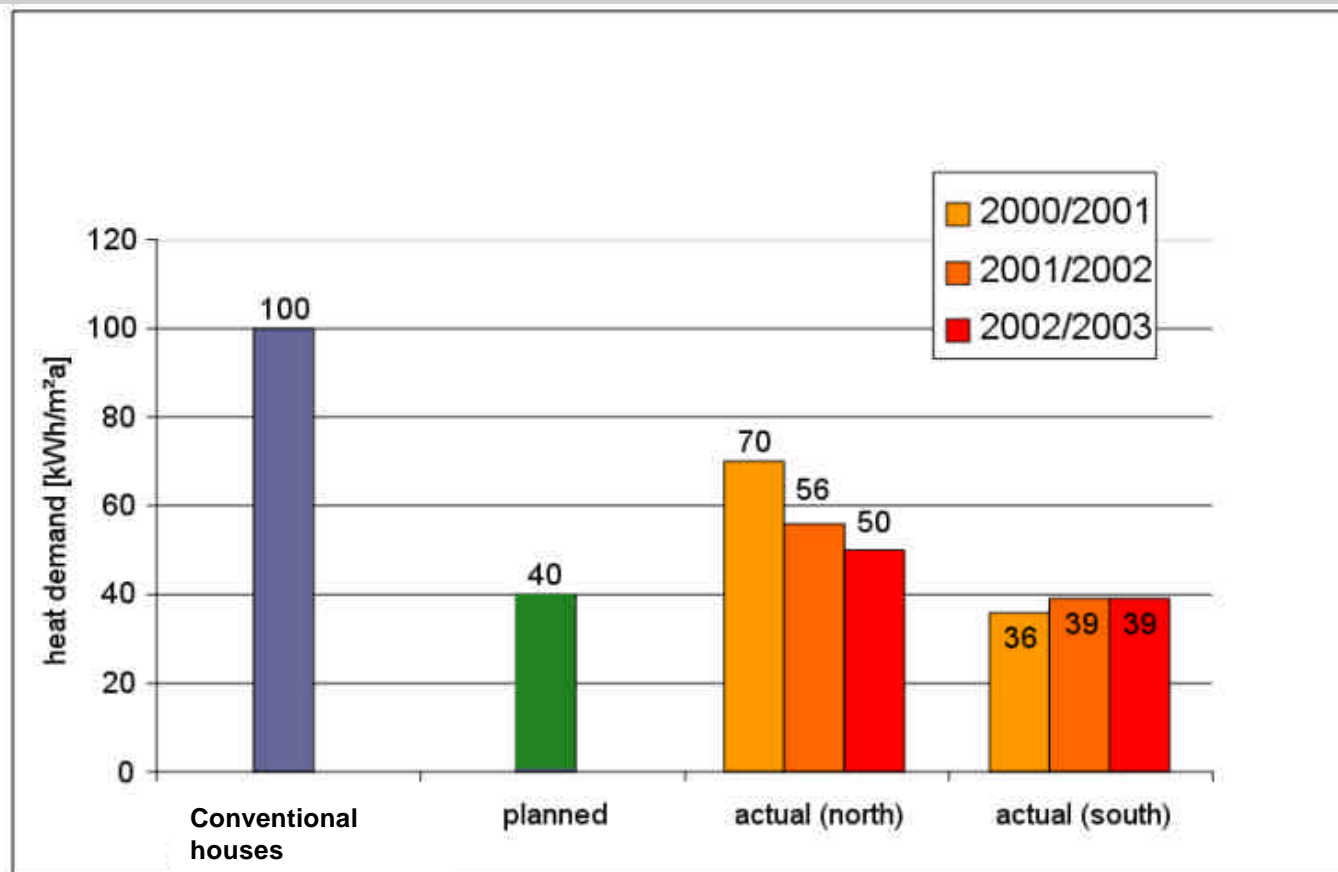
southern area: partly centralized heating system

Energy concept:

- good heat insulation
- domestic hot water
partly via solar
thermal collectors
(surface around 380 m²)
- grid-connected
photovoltaic systems
(85 kW_p)

Project Gelsenkirchen-Bismarck

Measurement of Heat Consumption in Gelsenkirchen



Project Köln-Bocklemünd

Housing Associations: Landesentwicklungsgesellschaft NRW
and Antoniter Siedlungsgesellschaft

Size: 640 apartments



before renovation (LEG-buildings)

Project Köln-Bocklemünd



source: Slawski, Essen



source: ECOFYS, Köln

Energy Concept:

improvement of thermal insulation, reduction of heat demand: 55 %
photovoltaics 1.580 m² (158 KW_p), partly integrated in envelope,
solar thermal collectors (112 m²)

Conclusion

50 Solar Energy Housing Estates

Status in April 2008:

21 estates realized
18 projects under construction
8 projects in planning stage

Advantages:

- for the environment via CO₂-reduction
- for the inhabitants because of thermal comfort, sunlight in the rooms, low energy costs in the future
- for the public because of saving energy particularly from fossil sources
- for housing associations/landlords because of fully rented objects in opposite to the situation before renovation
- for the owner because of stable value of the building



www.50-solarsiedlungen.de

EnergieAgentur.NRW

Locations

50 Solarsiedlungen in
NRW

completed
under construction
in the planning stage

