



AUSTRIAN ENERGY AGENCY

# Österreichische Energieagentur

## Renewable Energy Sources in Austria at a glance

**Christian Oberleitner**

Austrian Showcase - Vilnius, März 2009

# Austrian Energy Agency

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- Austria's national energy agency (\*1977)
- 90 employees and 7 Million € annual turnover
- Independent Think Tank:  
from basic decision-making to the implementation

President:  
Minister of Environment  
Nikolaus Berlakovich



Vice -President:  
Minister of Economy  
Reinhold Mitterlehner



Vice-President:  
Governor of Vienna  
Michael Häupl



# Austrian Energy Agency

- Austria's national energy agency (\*1977)
- 50 members from policy & economy:
  - Austrian ministries (environment, economy)
  - Federal provinces
  - Energy companies (e. g. gas, electricity)
  - many Interest groups
  - Scientific organisations



**independent think tank &  
energy competence centre**

## Main working areas

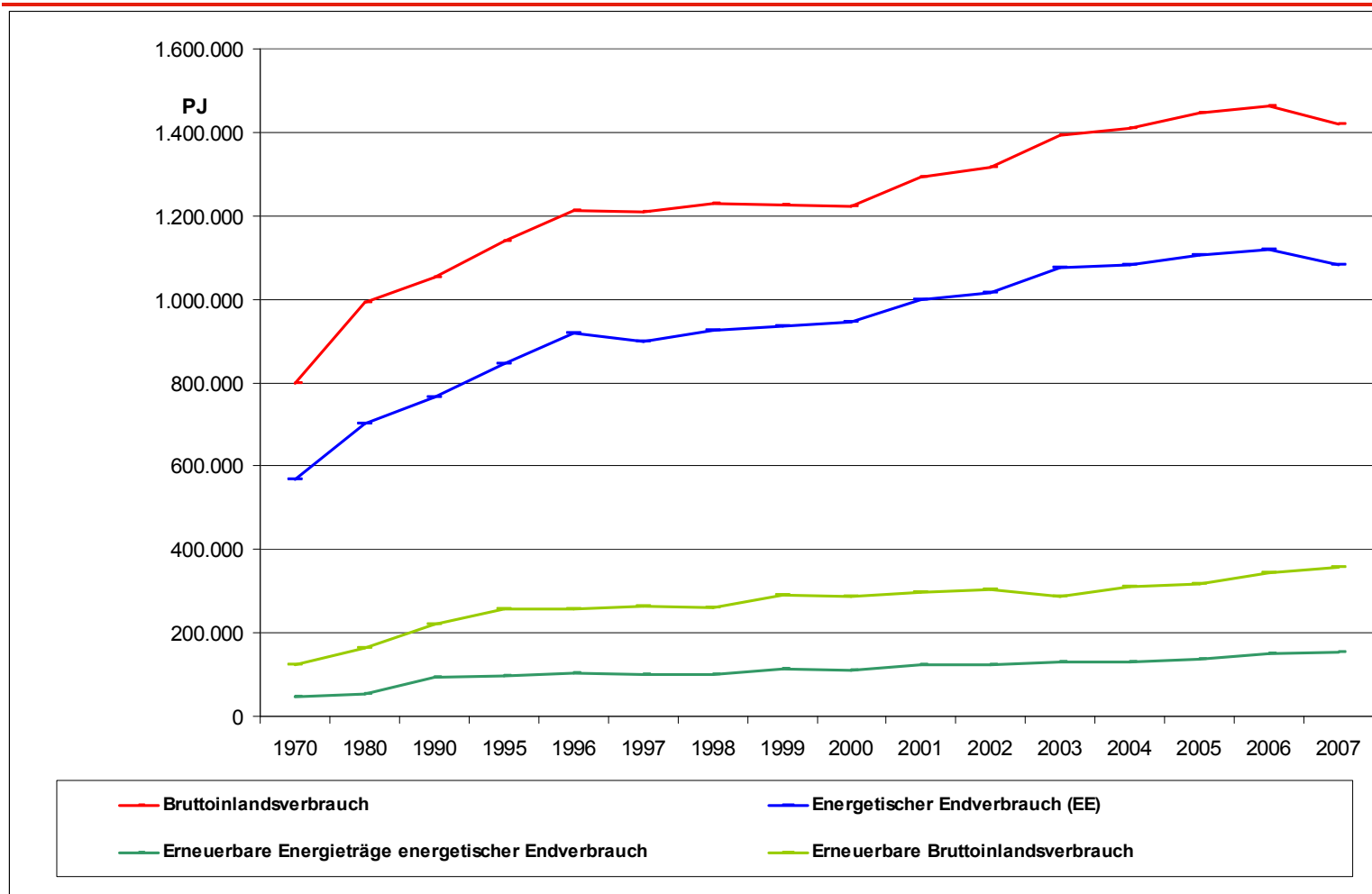
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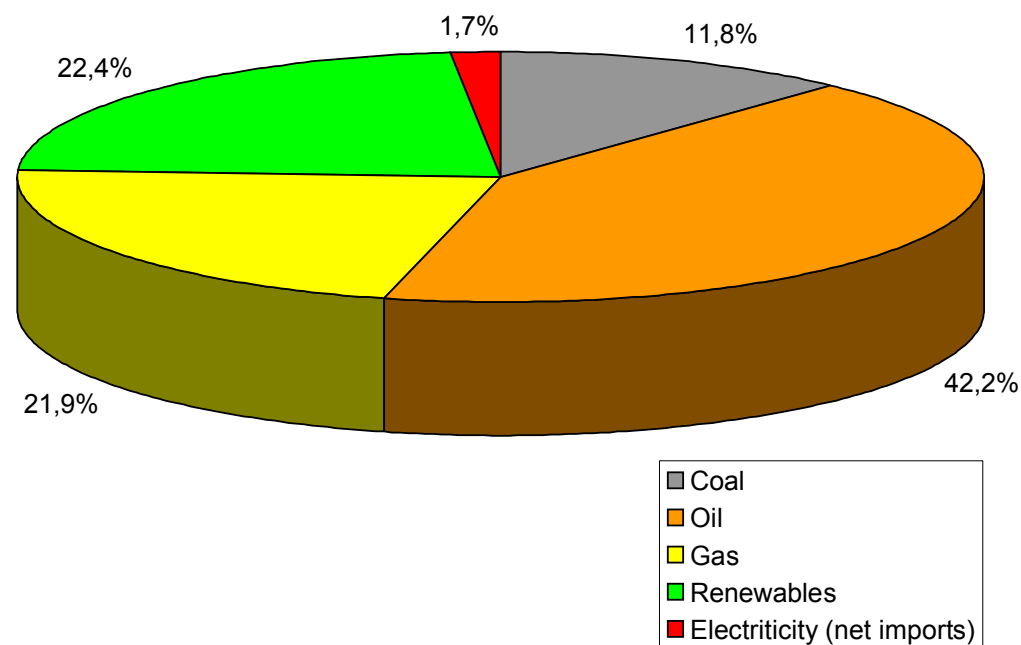
- **sustainable and secure energy systems**
- **efficient and thus environmentally friendly production, conversion and use of energy**
- **renewable energy sources**
- **innovative energy technologies**

Cooperation within projects and networks on national, EU and international level

# Energy Consumption in Austria 2007: 1421 PJ

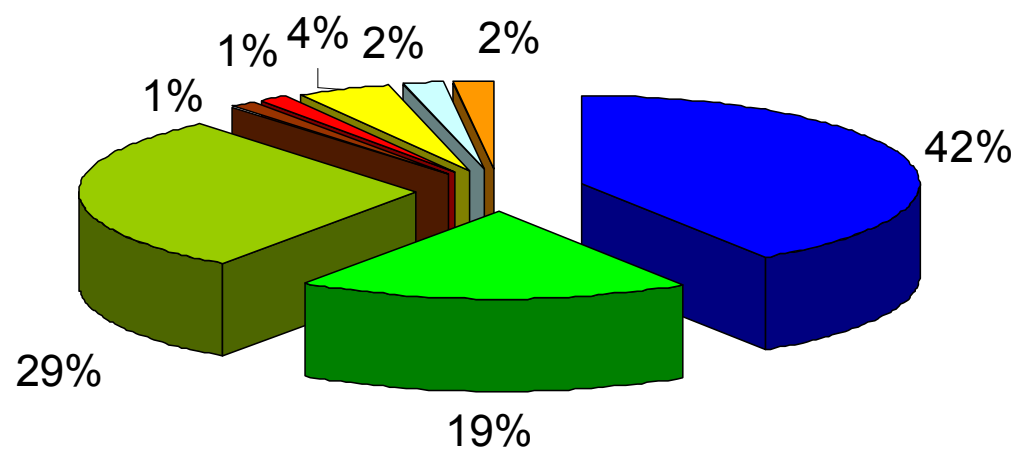


## Energy Consumption in Austria (2006: 1.442 PJ)

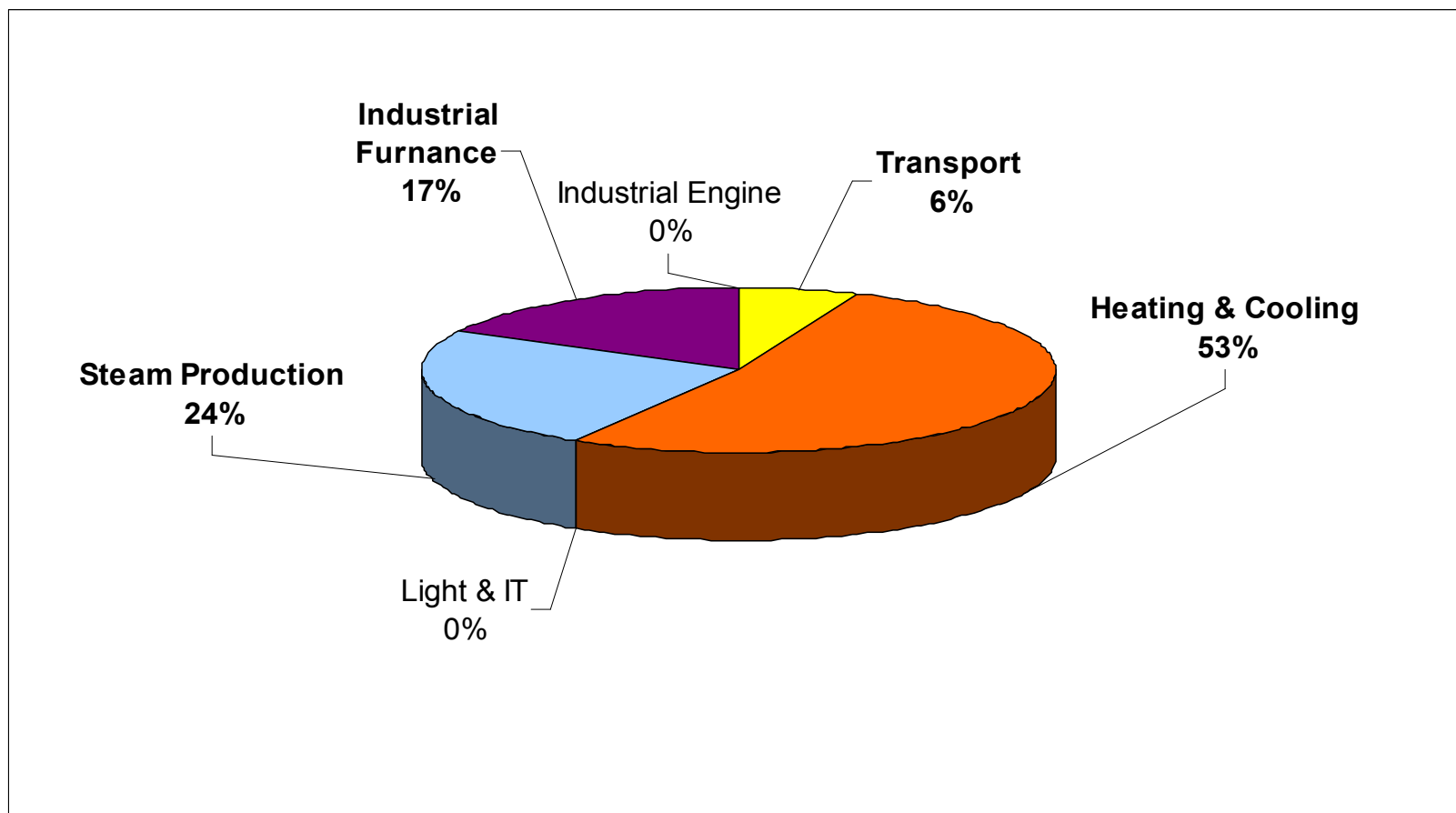


**EU energy & climate change package  
Target: increase share of renewables  
from 23% in 2005 to 34% in 2020**

# Renewable Energy in Austria (309 PJ in 2006)



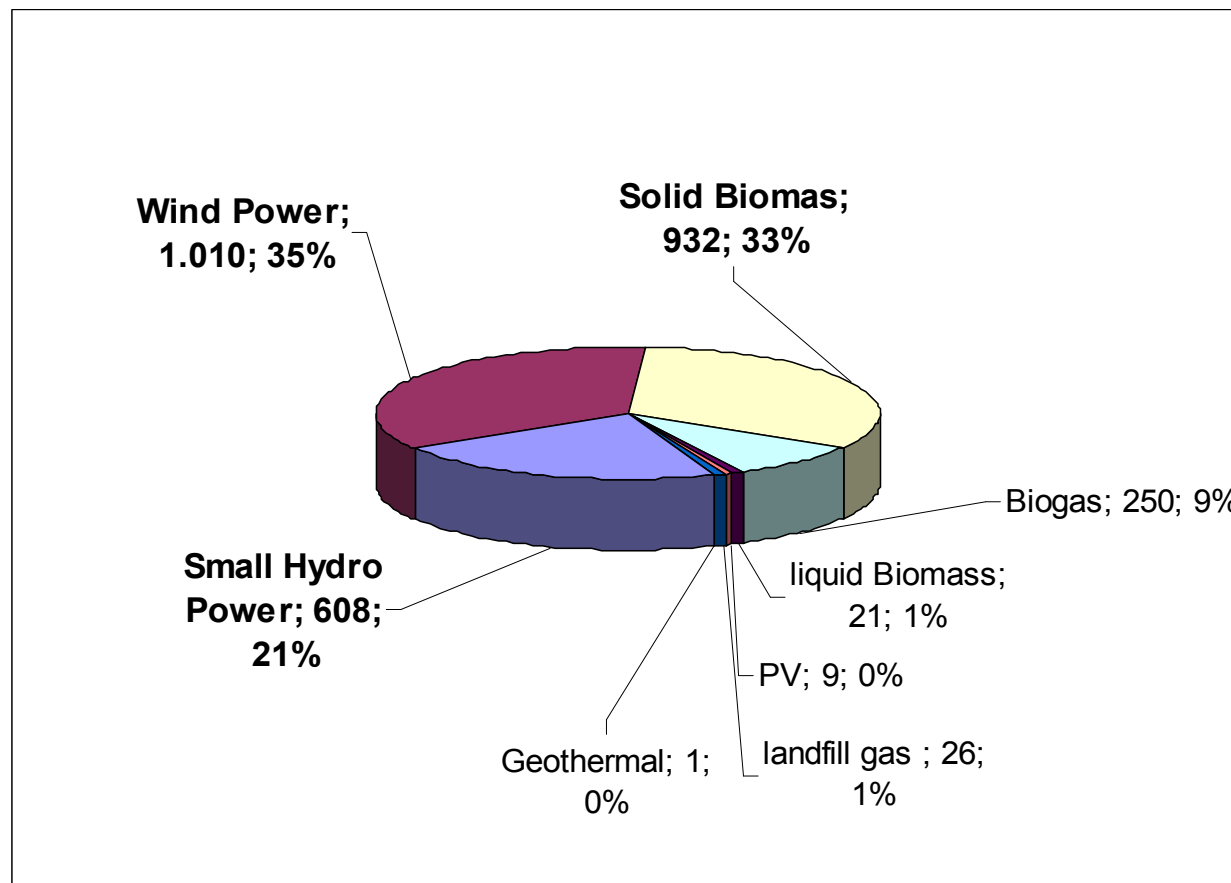
# Use of Renewable Energy in Austria without electricity





# Eco-electricity generation (with feed-in tariffs; Q 1 – Q 2 2008)

electricity  
generated  
01/2008 – 06/2008  
[GWh]



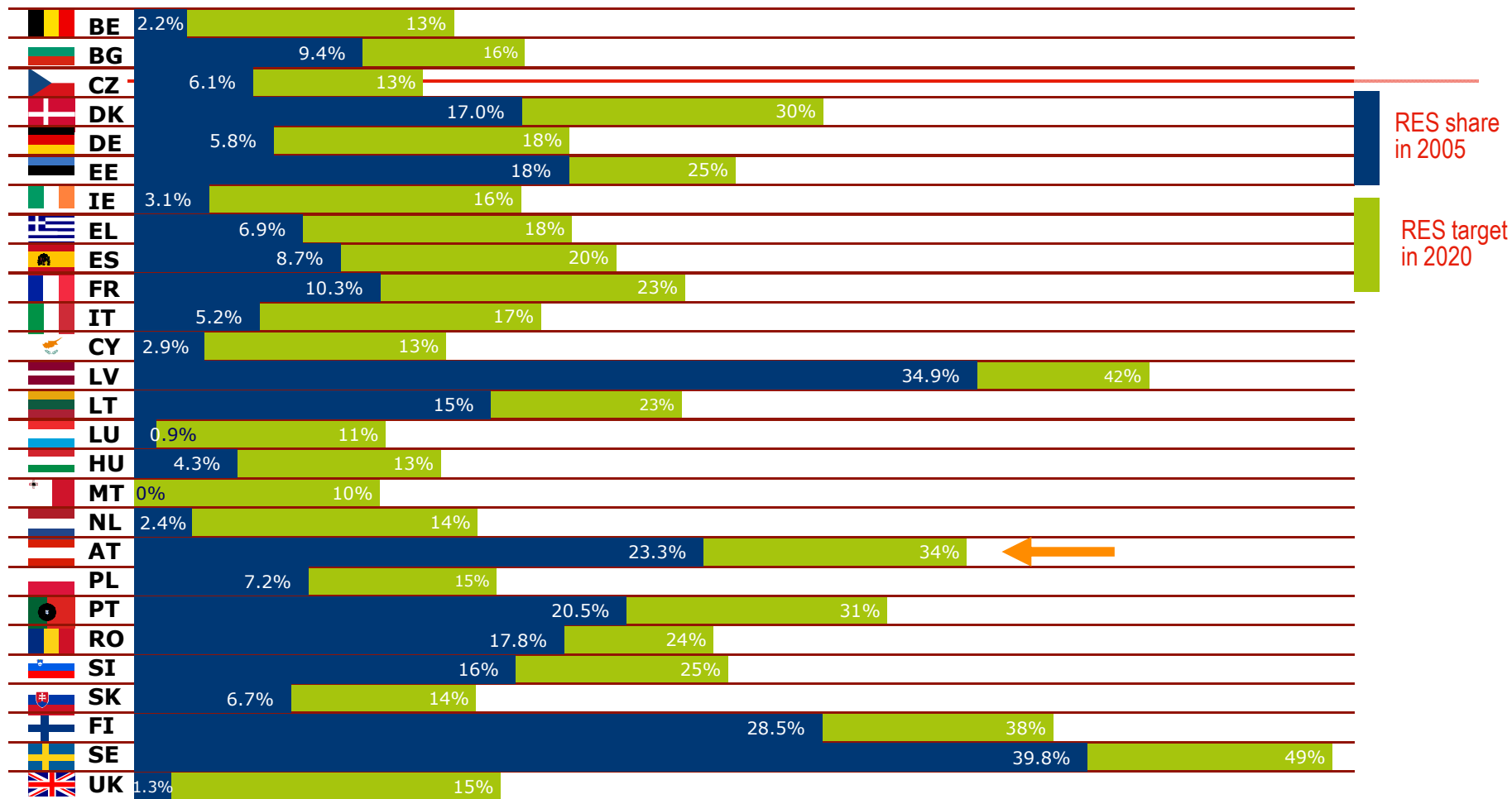
# Renewable Energy in Austria

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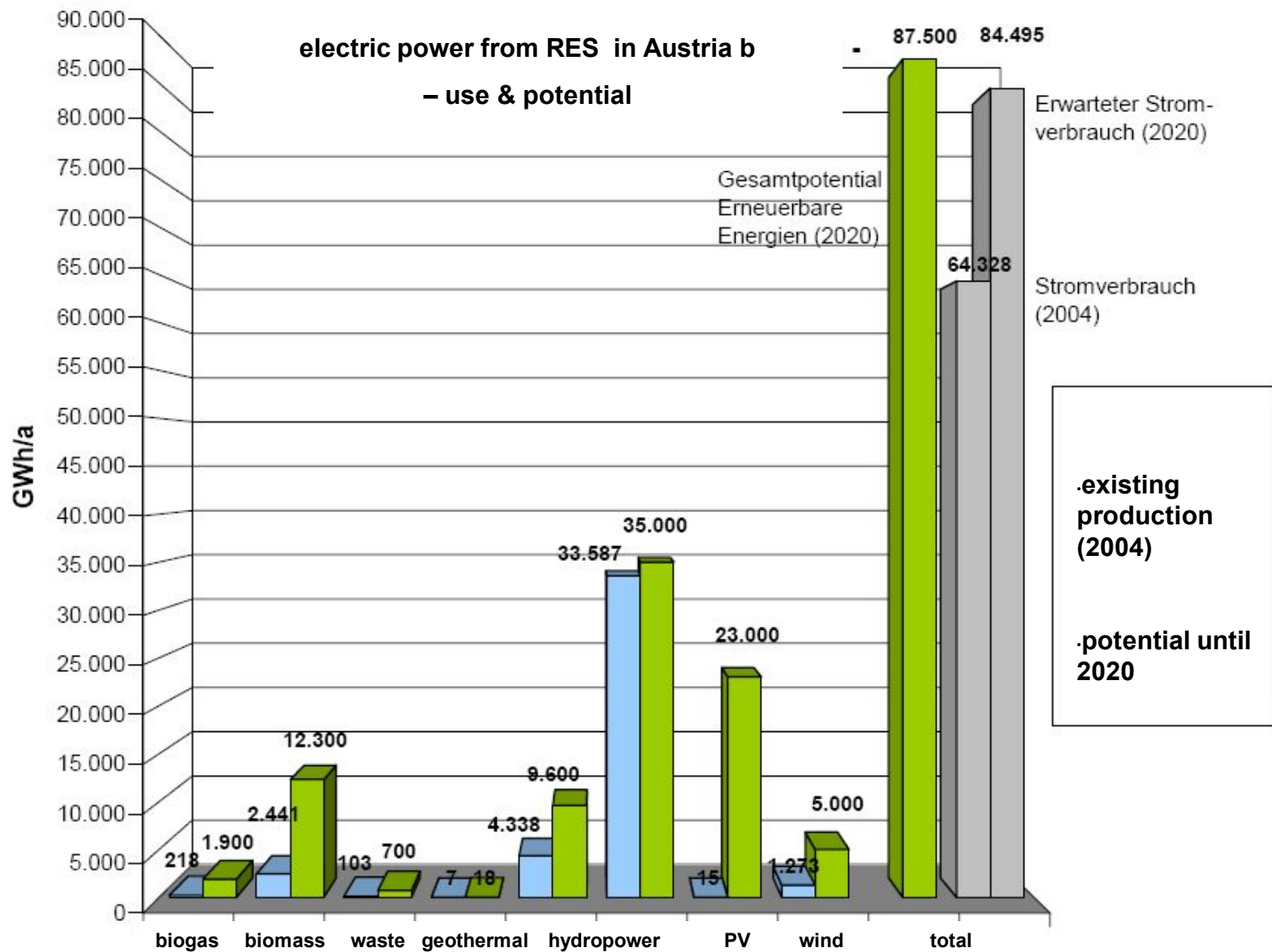
- First place in the share of renewable energy for electricity production in EU-27 (2005: 64,2% **Target: 78,1% in 2010**)
  - Generation is dominated by large hydro power plants
  - Promotion system for green electricity since 2003
- Fourth place in the share of renewable energy of total energy consumption in EU-27 (2005: 21,2%)  
**Target: 34 % in 2020**



# Target Sharing Renewable Energy



Quelle: Europäische Kommission  
2008; AWO 2008



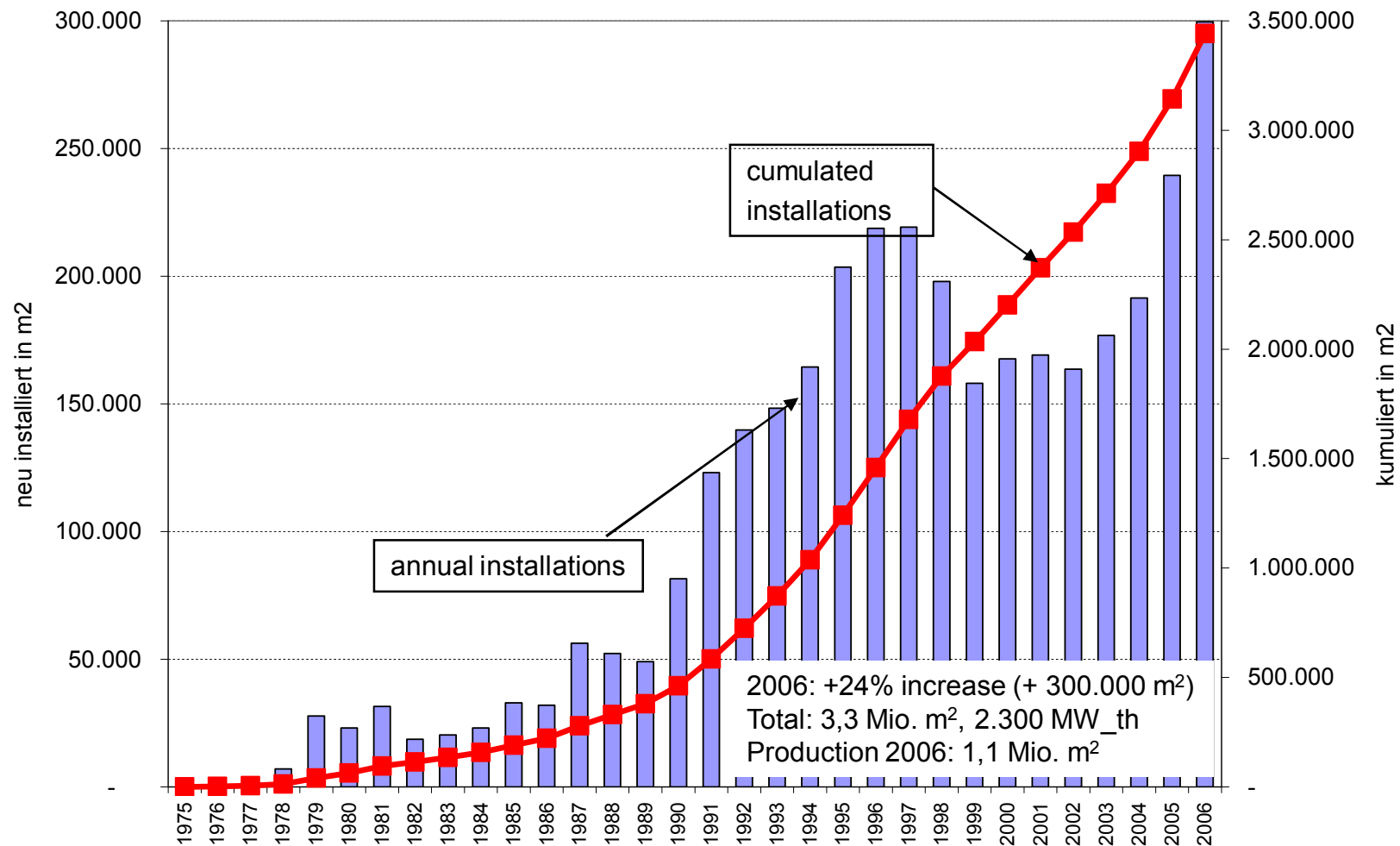
Quelle: Technologie-Roadmap für Photovoltaik in Österreich; H. Fechner et al.; Berichte aus Energie- und Umweltforschung 28/2007, BMVIT Wien

# solar energy for...

- increasing pool temperature
- water heating
- solar heating systems
- industrial use
- power generation (PV)
- solar cooling



# Solar hot water production ... strong growth by numbers



## Eco-electricity from wind power Example of Austrian Wind Power (AWP)

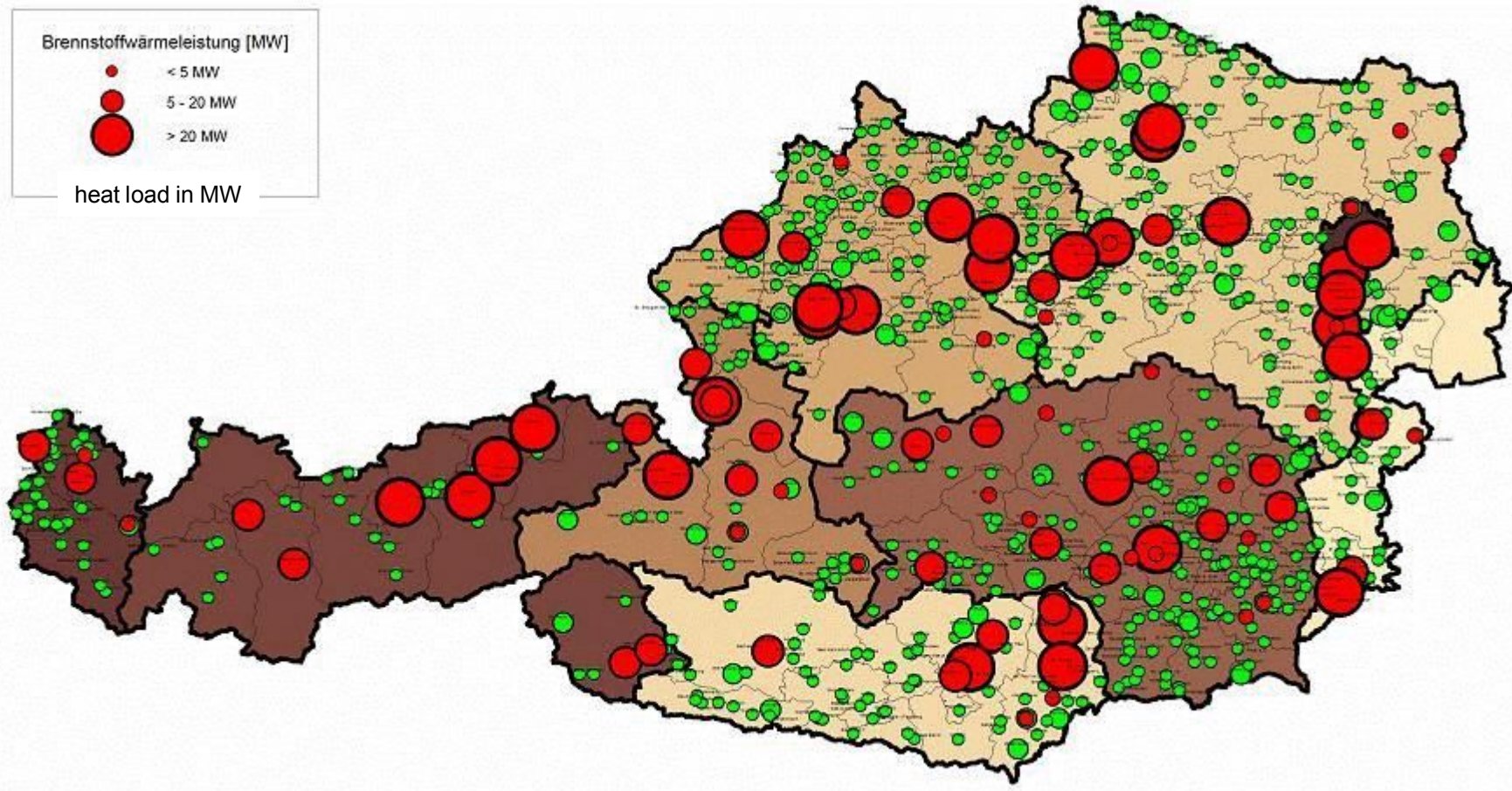
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- Austrian Wind Power (AWP)  
100% owned by BEWAG, a regional electr. supplier
- 139 plants,  
242 MW,  
about 500 GWh





# Location of biomass CHPs (2006)





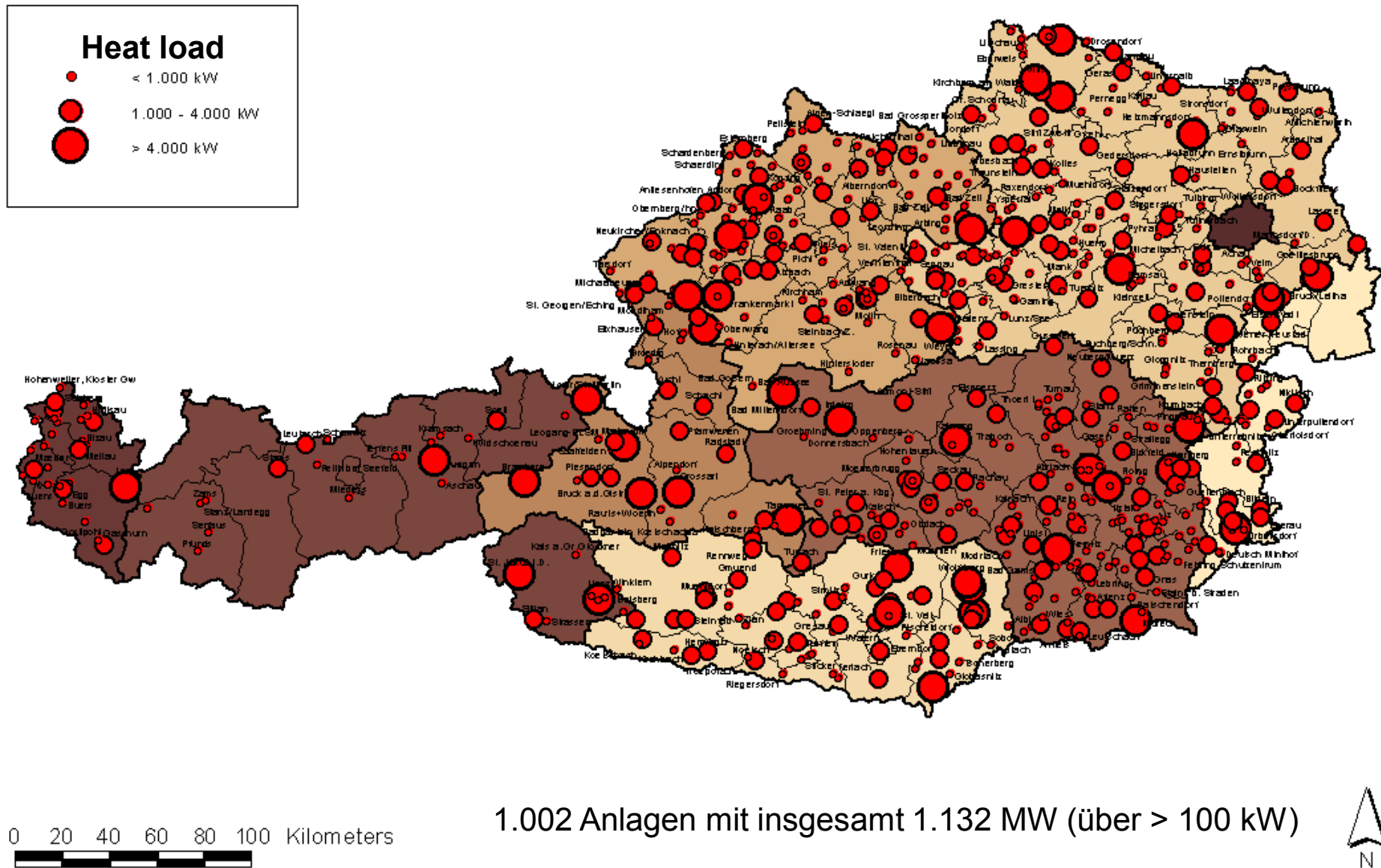
# Eco-electricity biomass power plant Example of Wien Energie

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- investment  
52 Mio. €;  
66 MW heat load,  
15 MW/25 MW<sub>el</sub>
- Fuel demand  
600.000 m<sup>3</sup>/year  
190.000 t/year resp.



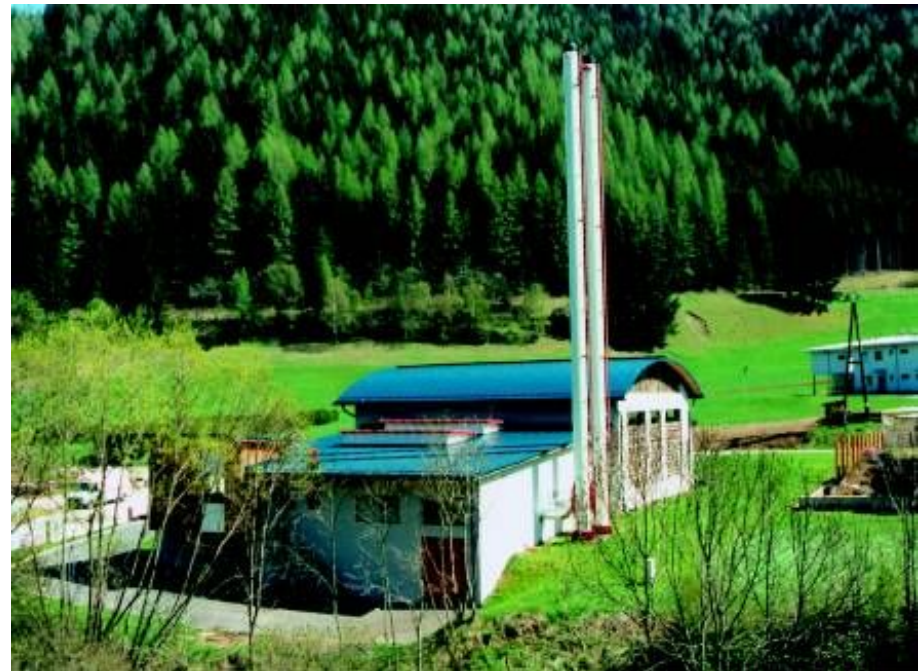
# Location of biomass heating plants (2005)



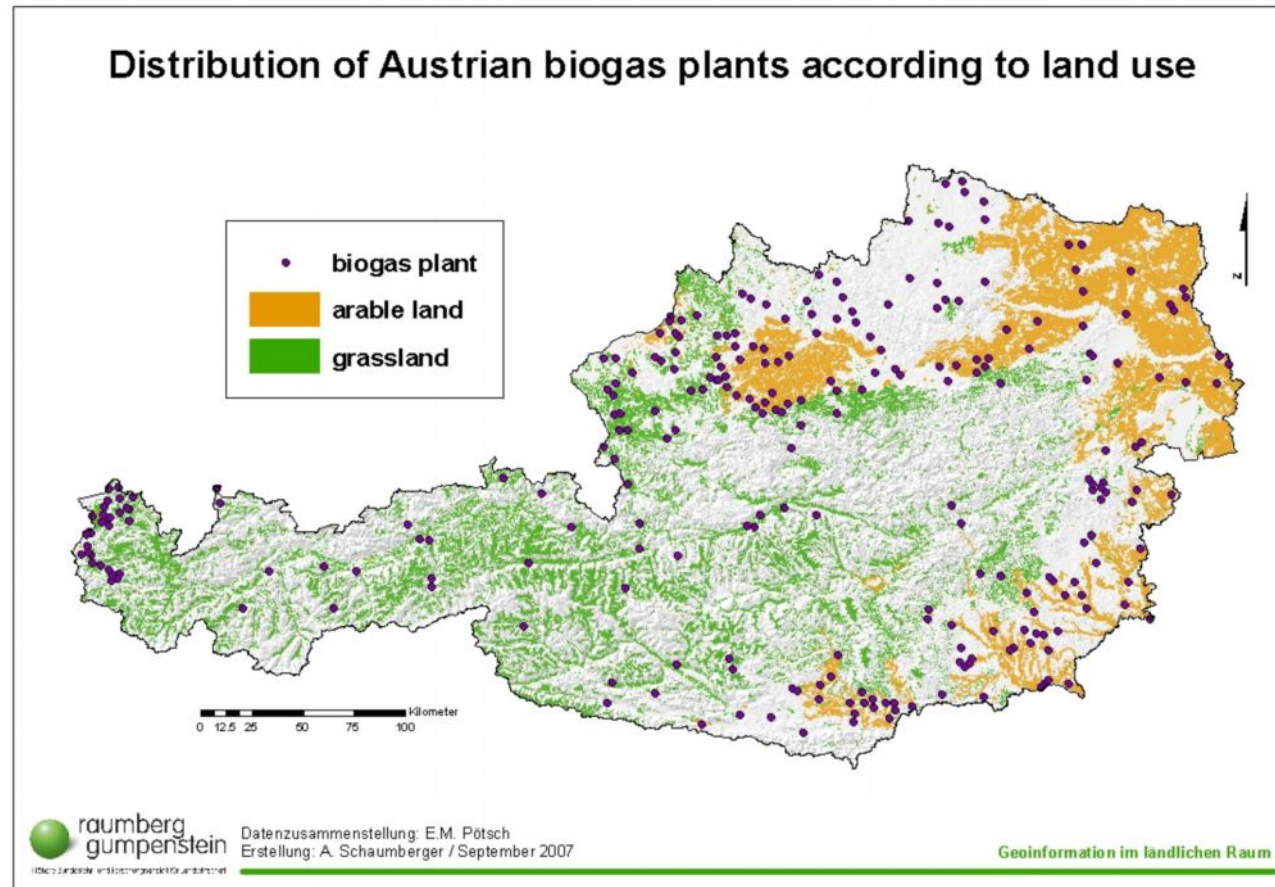
# Heat production with biomass: District heating

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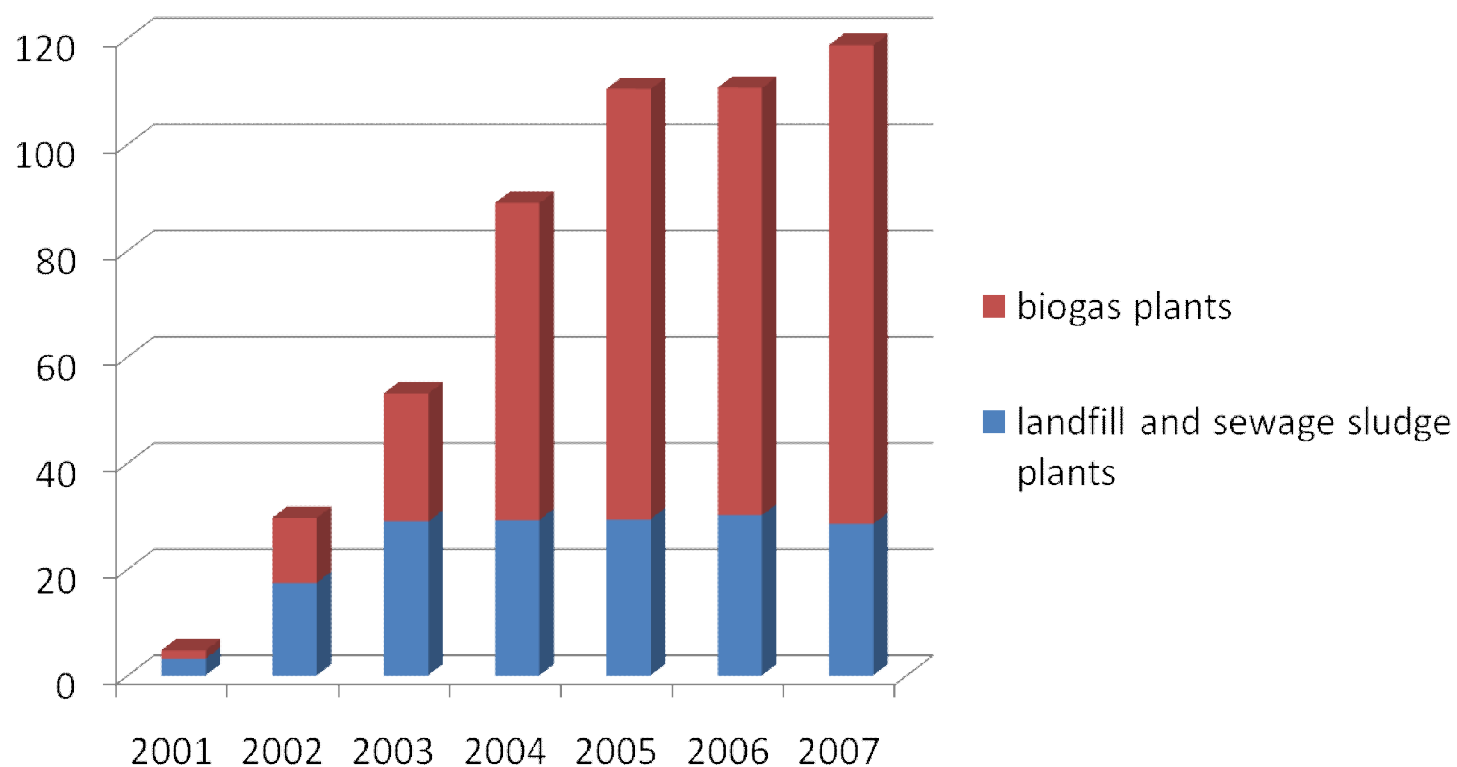
- 500 kW - 30 MW
- distribution with hot water pipes
- modern flue gas cleaning
- since 1980 more than 1.000 plants, 1.000 MW heat load
- mostly based on local initiatives
- Investment subsidies 30 % (in specific cases up to 50%)



# Use of Biogas



# El.capacity of biogas plants with approbation Austria (in MW)





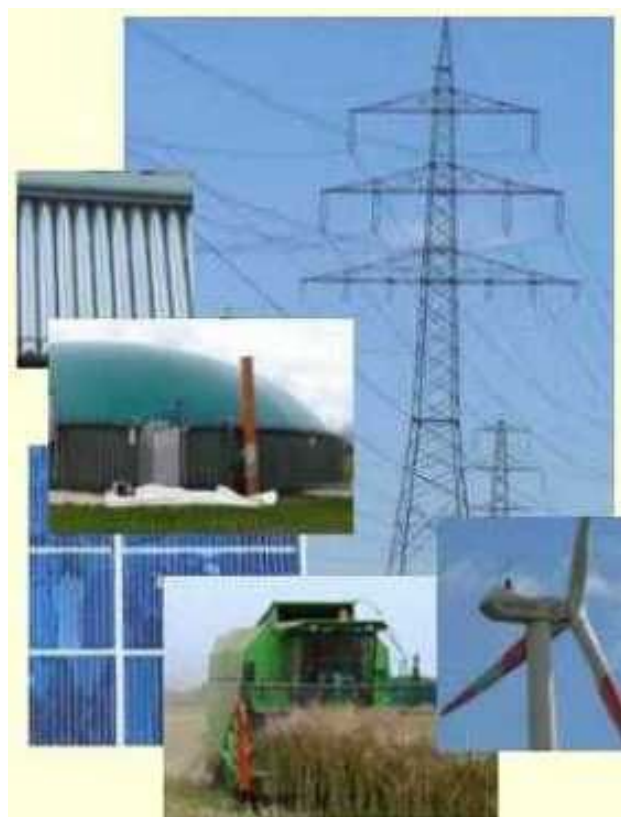
# Subsidies, funding and promotion

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- Feed-In tariffs
- Federal funding for technologies
- KLI:EN Fonds
  - 150 Mill € / year for RES
  - (e.g. PV, EE, transport,..)
- R & D projects

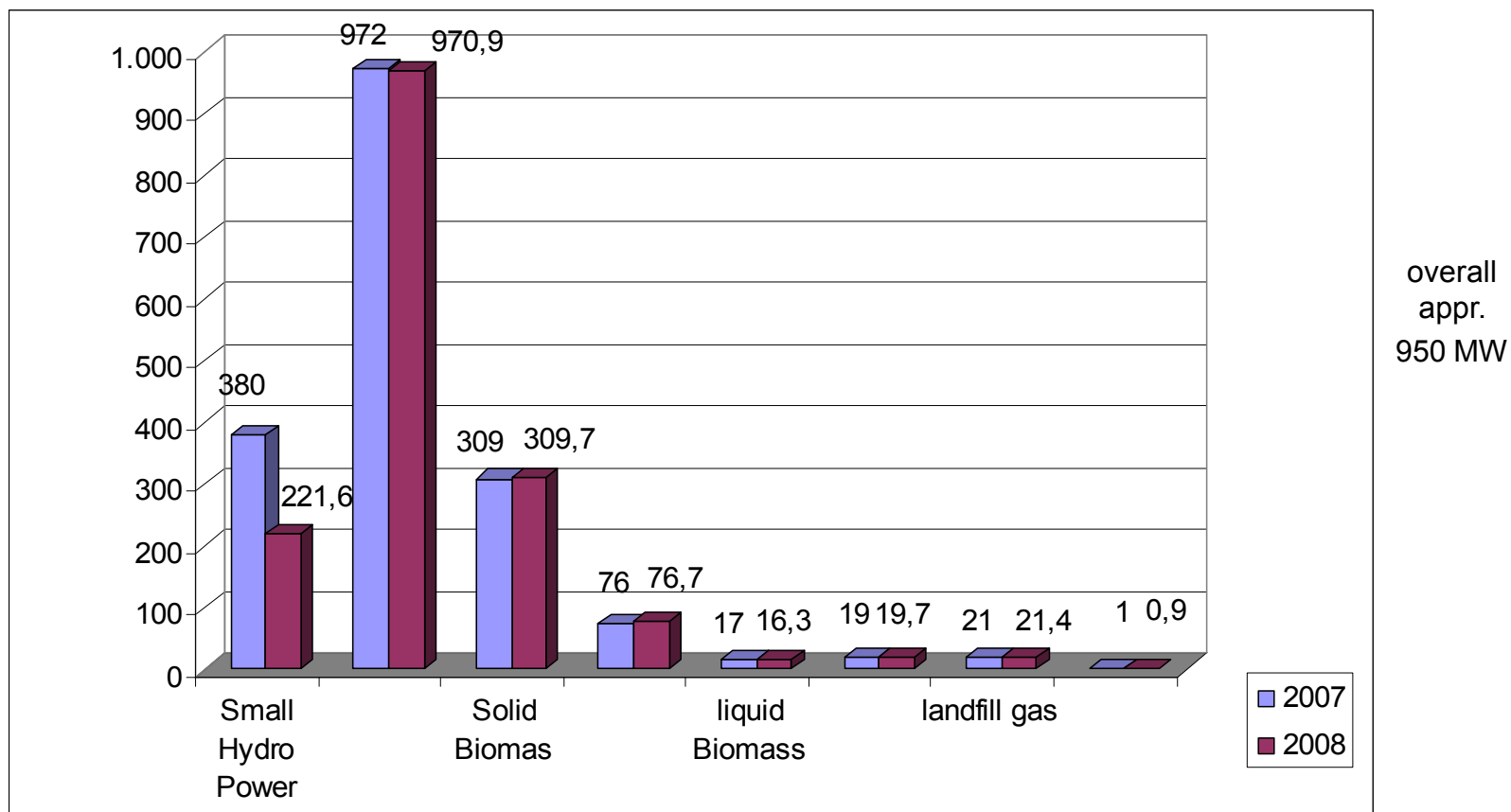


# Feed-In tariffs



01/2008 - 06/2008	number of powerplants	installt capacity MW	generted electricity GWh	average feed-in tariff c/KWh
<b>Small Hydro Power</b>	1.818	221,6	608,38	5,77
<b>Wind Power</b>	136	970,9	1.010,18	7,78
<b>Solid Biomass</b>	114	309,7	931,90	13,58
<b>Biogas</b>	294	76,7	249,58	15,84
<b>Fluid Biomass</b>	51	16,3	20,97	16,05
<b>PV</b>	2.704	19,7	8,62	62,87
<b>landfill gas</b>	45	21,4	25,60	7,43
<b>Geothermal</b>	2	0,9	0,94	11,04
	<b>5.164</b>	<b>1.637</b>	<b>2.856</b>	<b>10,16</b>

# Eco-electricity power plants (with contract for feed-in tariffs; 30.6.2008)





# Investment incentives

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- energy efficiency measures
- buildings
- private housing
  - e.g.: biomass boiler
- companies
  - e.g.: district heating
  - CHP- Plants
  - RES
- transport

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# Thank You!

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