

IEE SUPPORT_ERS project – WS Sept. 24. 2009

regional biomass strategy of Upper Austria

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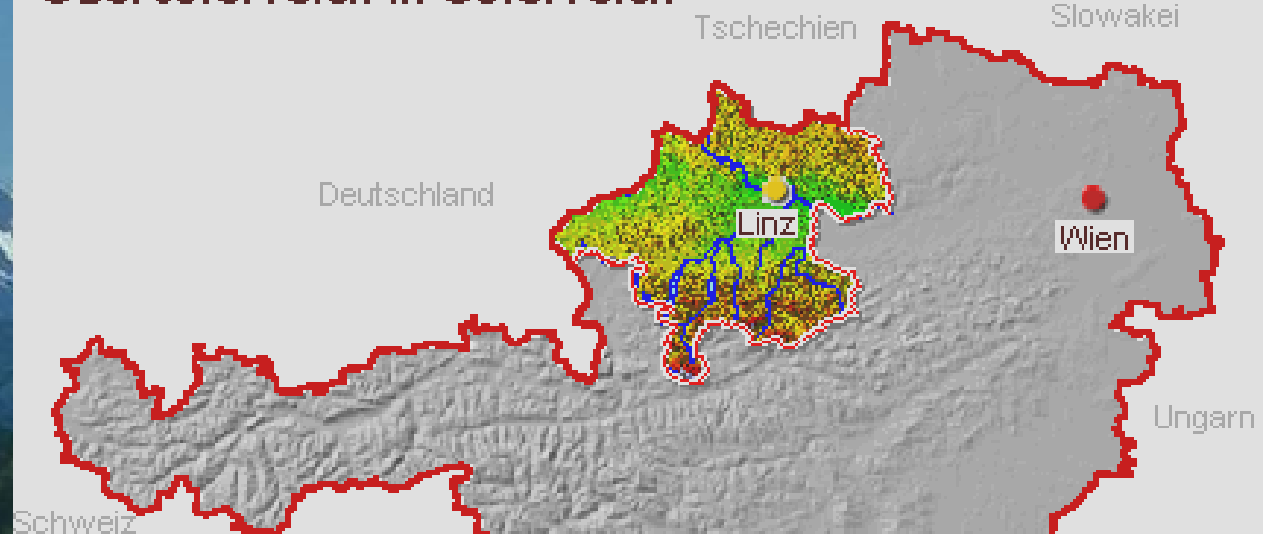




Austria

- 8,2 Mio Inhabitants
- 84.000 km²
- 9 Regions
- 2350 Municipalities

Oberösterreich in Österreich



Province of Upper Austria

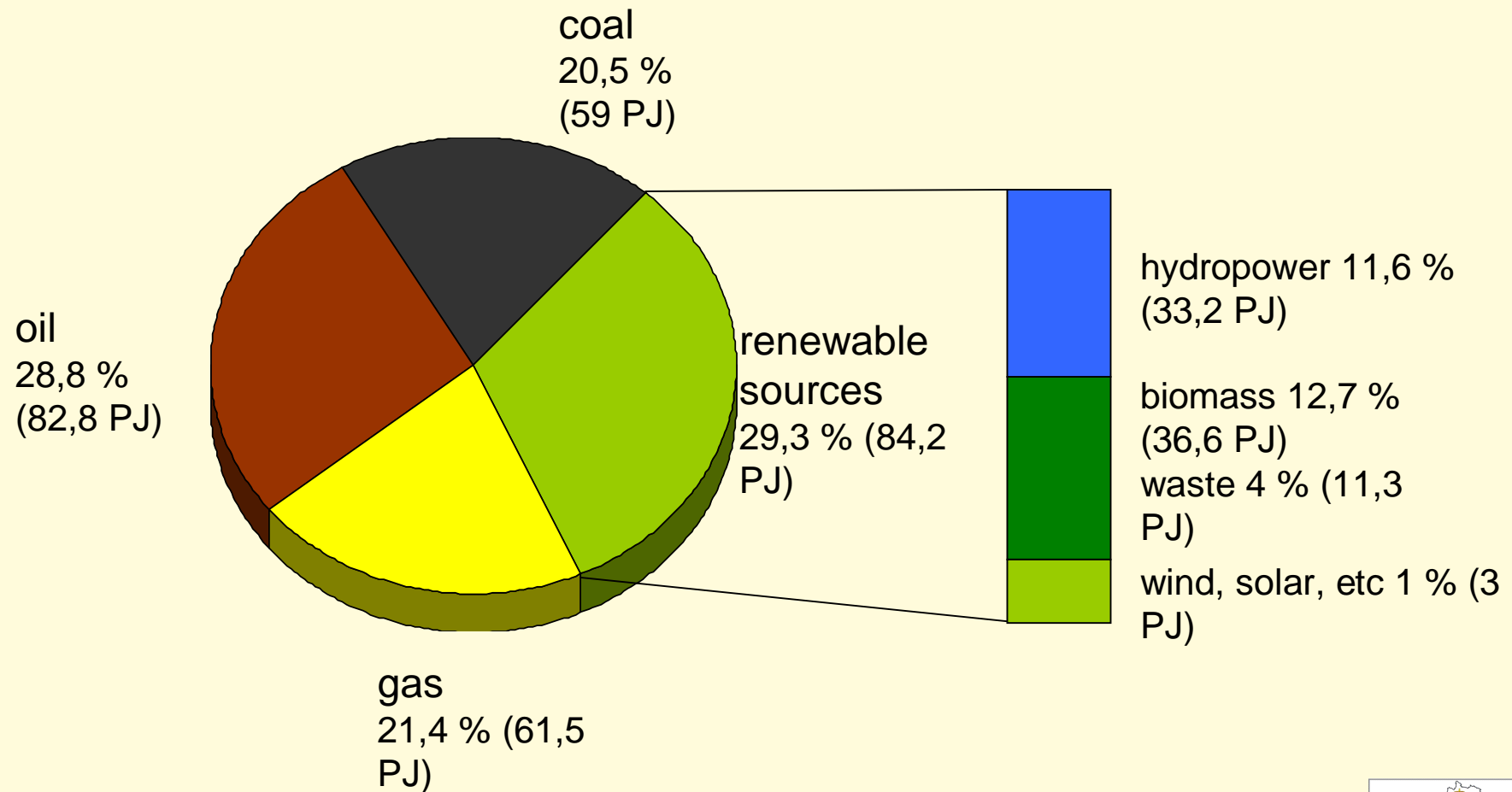
- 1,4 Mio Inhabitants
- 12.000 km²
- 15 districts
- 444 Municipalities

- central region – economic dynamic, industry, service sector
- south – tourist structures
- west, north, southeast – rural structures

success stories and problems

- raising CO₂-emissions (tank tourism, industrial development) until 2003, now declining
- 25-30% renewable energy sources (hydro, biomass, thermal solar collector, heat pumps)
- historical problems spatial planning (transport, district heating)
- good standard for building codes (legislation, incentive programs)

primary energy consumption Upper Austria 2007



success stories and problems – targets 2030 Upper Austria – project Energy 2030

	goal 2030
electricity	100% RES
heat	100% RES; -38% energy consumption
transport	30% RES; - 41% fossil energy demand
CO2	up to minus 65%

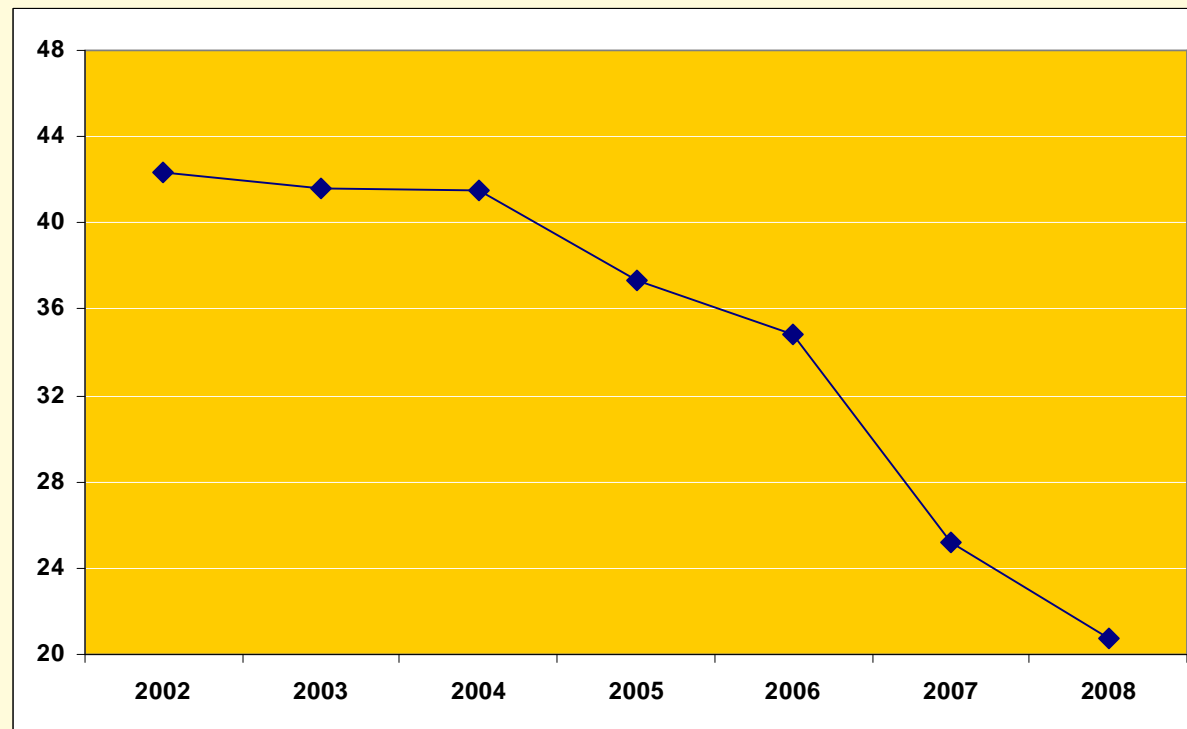
success stories and problems – targets 2030 Upper Austria – project Energy 2030

	status quo 2007	potential 2030
biomass	34 PJ	46-62 PJ (370 km²)
biomass heat	23 PJ	28-40 PJ
electricity	2 PJ	12 PJ
transport	2 PJ	10 PJ (plus other alternatives, incl. import)
hydropower		+1,8 PJ
solar	1 PJ (1 mill. m²)	4 PJ
heat pumps	1 PJ	2-3 PJ

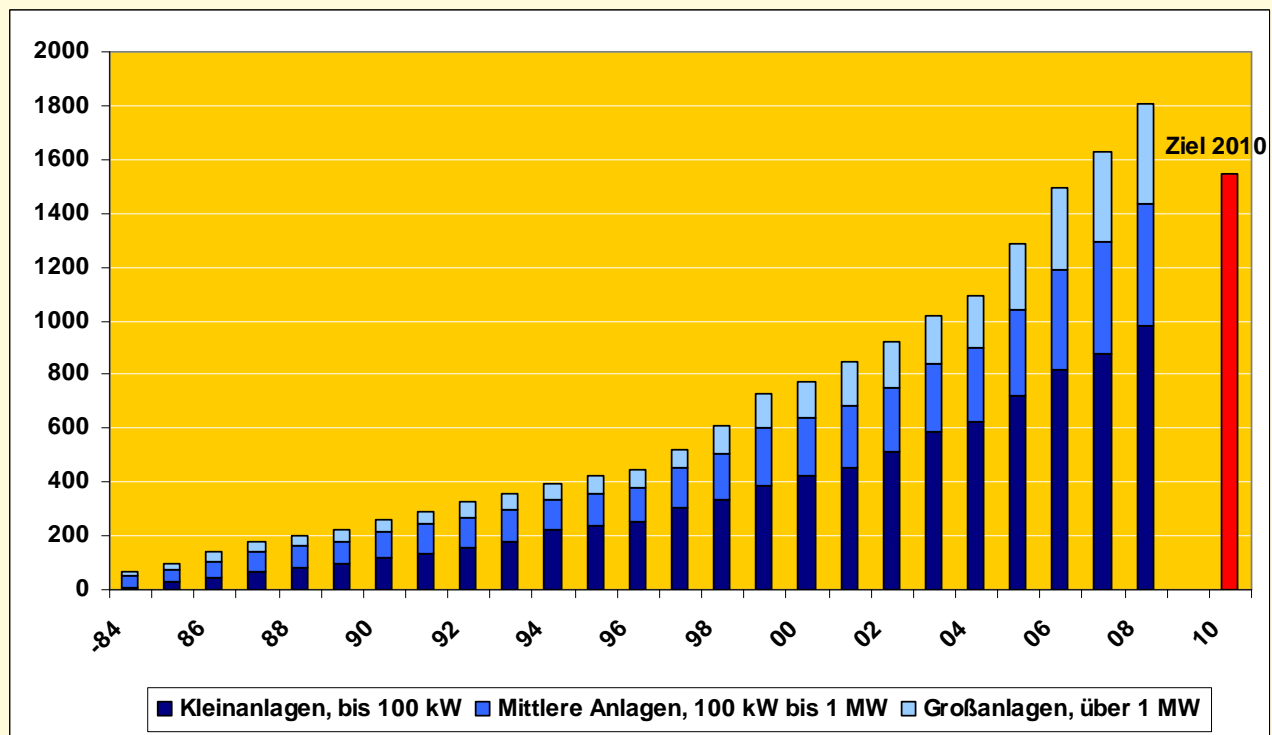
success stories and problems – responsibilities

	responsibility
electricity	federal: feed in tariff system; regional: support schemes
heat	regional: legislation on energy efficiency in buildings; support schemes; federal: support schemes (district heating, installations)
transport	federal: mineral oil taxation

energy reference numbers – new residential house-blocks, supported by grants kWh/m²a (A/V 0,5)



woodchip and pellets units in Upper Austria installed capacity (MW)



success stories and problems – Upper Austrian companies providing biomass technologies

company	staff	export rate
Hargassner www.hargassner.at	100	63%
ÖkoFEN www.pelletsheizung.at	164	80%
ETA Heiztechnik GmbH www.eta.co.at	104	80%
Gunatamatic Heiztechnik GmbH www.guntamatic.at	200	70%
Fröling www.froeling.com	510	70%
RIKA www.rika.at	220	80%

solid biomass – heating

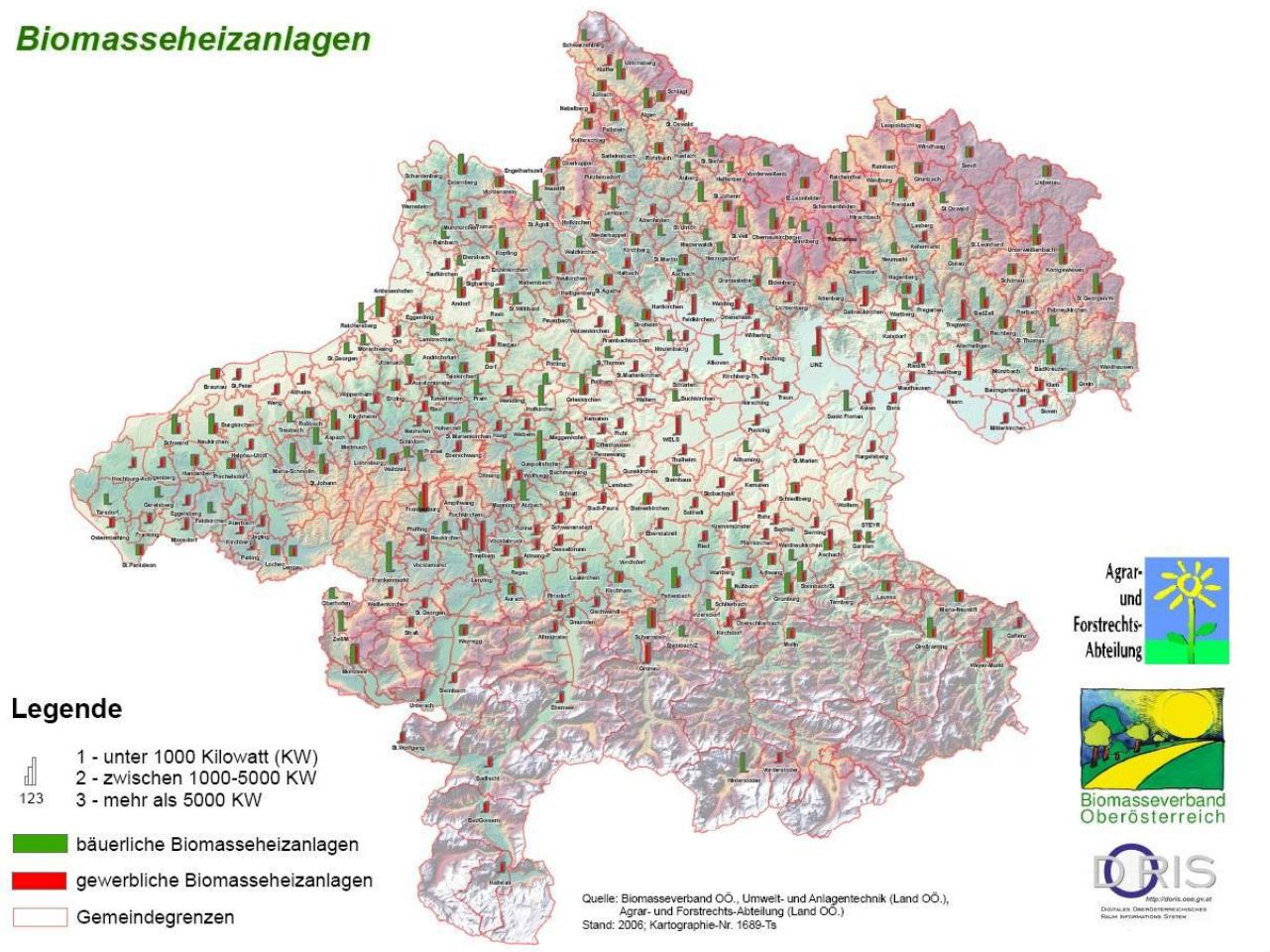
530 biomass district heating installations

32.000 modern small scale units

4,3 mill. m³ biomass

CO₂-reduction: 0,9 mill. t

Biomasseheizanlagen



examples in municipalities – Gutau (left), Unterweissenbach (right)



LINZ AG
S T R O M

35 MW BIOMASS-Power Plant Linz AG (Linz)
50 MW BIOMASS-Power Plant Energie AG
(Timelkam)

LINZ AG
S T R O M



Linz AG biomass power plant:

- ~ investment: ca. 30 mill. €
- ~ transport by ship, railway and trucks
- ~ demand: ca. 300.000 m³ wood annually
(efficiency 85%)
- ~ in operation since January 2006

biomass in modern combustion facilities (m³)



total: 1,78 mill. m³ wood-products from forests, 1,59 mill. m³ industrial by products

world market of wood-pellets

- wood-pellets market

• pellets-production (mill. t)		share of export (mill. t)
• Sweden	1,7	0,2
• Canada	1,3	0,7
• USA	1,1	0,5
• Germany	0,9	
• Austria	0,9	0,5
• Russia	0,55	0,5
• Estland	0,35	
• Polen	0,35	0,25
• Italia	0,35	

total ca. 8 mill. t production



first biogas plant with grid-injection to the public natural gas grid

biogas plant „Pucking / OÖ.“

- energy source:
 - 9.000 layer hen
 - 1.500 fattened hen
 - 50 pigs
- performance:
 - 6 m³/h biogas
 - = 400.000 kWh per year



2005, Pucking (OÖ.)

biogas-plants in Upper Austria



success factors

- historical bridge in the use of wood
- personal attitude to environment and energy crisis
- innovative companies
- innovative farmers (camber of agriculture and forestry)
- energy cluster for RES: www.oec.at
- public support schemes for private persons, farmers, companies
- legislation (energy efficiency, emissions, forestry, economy)
- public awareness programs (www.pelletskampagne.info)
- Wels fair on energy annually in March (100.000 participants)
- federal and regional concepts
- Austrian Program on Flexible Kyoto-Mechanism JI/CDM

success factors

There are many success factors – find your own way of solution

Thank you for the attention!