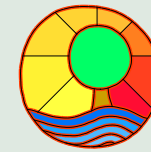


Styria: Energy efficiency and sustainable energy policy



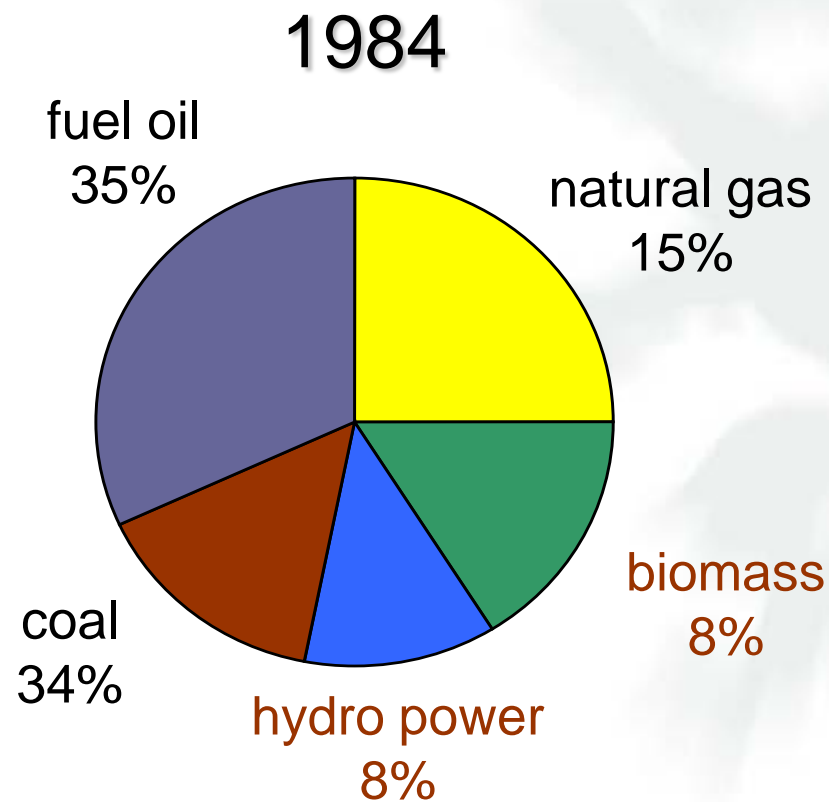
- autonomous energy policy
- 1,2 million inhabitants
- 16.000 km²



Energy demand of Styria



2008



Energy plan 1984/1995/2005

- Energy savings
- Energy efficiency
- Renewable energy
- Impacts on environment

Amt der
steiermärkischen
Landesregierung



Five strategic fields



1 energy efficiency and energy saving

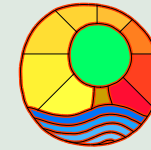
2 renewable energies

3 district heating and cogeneration

4 energy infrastructure, spacial planning and mobility

5 research and education, energy consulting

Structure of implementation



- financial means
- legislative measures

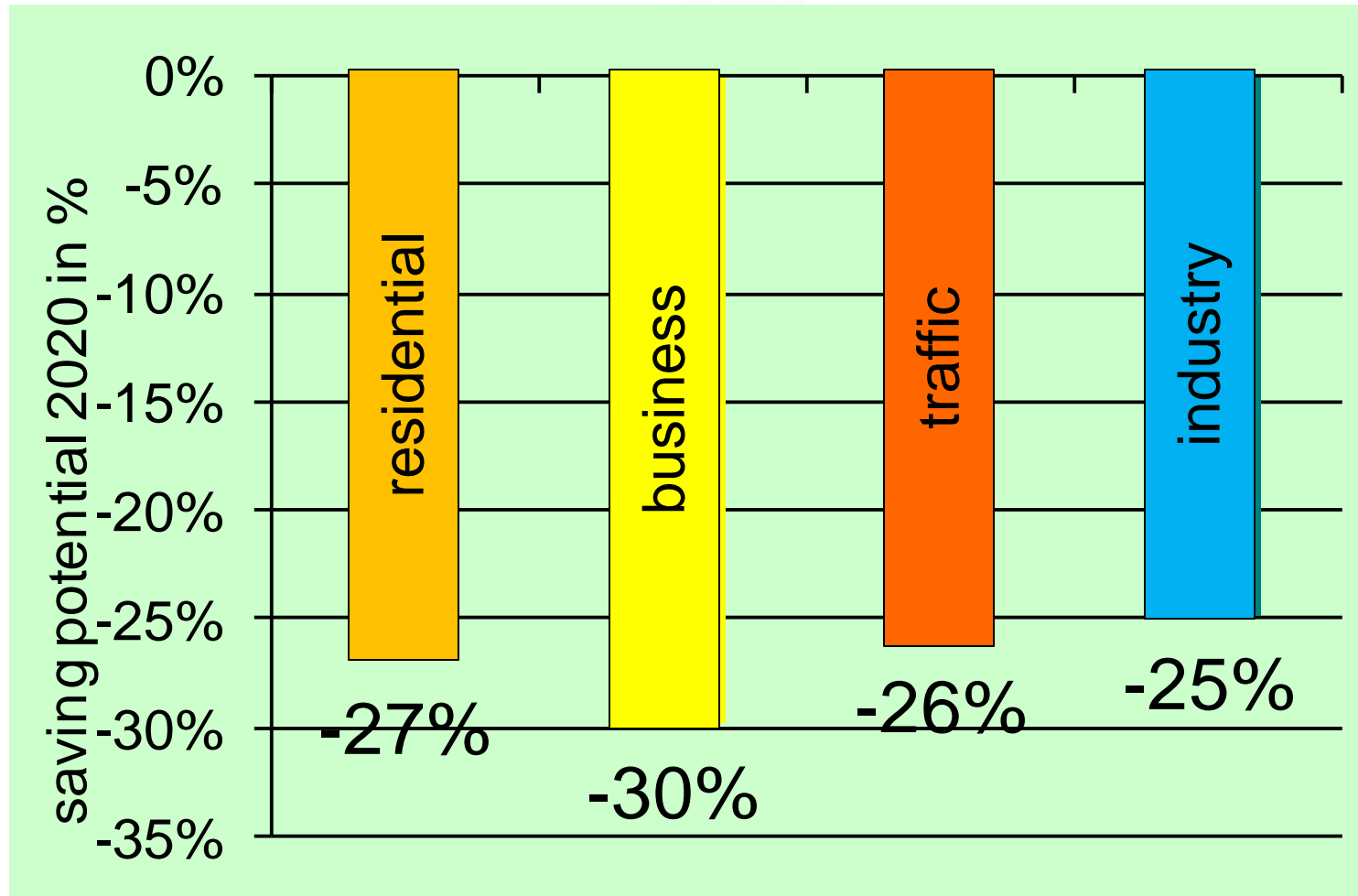
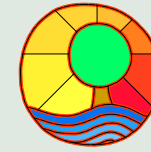
- effizient structure
 - Energie Steiermark (styrian energy provider)
 - administration
 - Energy Commissioner
 - subsidies for residential buildings ...
 - LandesEnergieVerein (Styrian Energy Agency)
 - energy agencies ...

companies, policy, inhabitants, science...

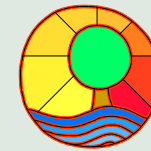
- all of us!

Energy saving potential (green book)

until 2020

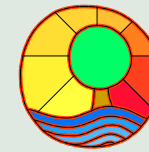


1 Energy efficiency and energy saving



1.1	Revitalisation and retrofitting of buildings	A15, A17	X
1.2	Requirements for new buildings		
1.2.1	Building code	A13	
1.2.2	Alternative energy check	A13	
1.3	Energy efficiency in the industry		
1.3.1	Consulting	A17, A19	X
1.3.2	Subsidies	A14	
1.4	Energy saving actions für households	A17	X
1.5	Measures of public authorities		
1.5.1	Action plan for public buildings	A2	
1.5.2	Public procurement	A2	
1.5.3	Use of biofuels	A2	
1.5.4	Life cycle cost calculation	all A	

EU-Guideline for Energy efficiency and Energy Services



Guideline 2006/32/EC

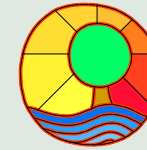
provides an indicative goal:

- minus 9 % within 9 years

eliminates market barriers for energy efficiency,

member states make sure that public bodies will act as good examples

Building Directive Recast 2010



Energieausweis für Wohngebäude Logo

gemäß ONORM H 5095
und Richtlinie 2002/91/EG **OIB**
Österreichisches Institut für Bautechnik

GEBÄUDE

Gebäudeart	<input type="text"/>	Erbaut	<input type="text"/>
Gebäudezone	<input type="text"/>	Katastralgemeinde	<input type="text"/>
Straße	<input type="text"/>	KG-Nummer	<input type="text"/>

ERSTELLT

ErstellerIn	<input type="text"/>	Organisation	<input type="text"/>
ErstellerIn-Nr.	<input type="text"/>	Ausstellungsdatum	<input type="text"/>
GWR-Zahl	<input type="text"/>	Gültigkeitsdatum	<input type="text"/>
Geschäftszahl	<input type="text"/>	Unterschrift	<input type="text"/>

Dieser Energieausweis entspricht den Vorgaben der Richtlinie 6 „Energieeffizienz und Wärmeschutz“ der Österreichischen Normungsinstitut für Bautechnik, in Umsetzung der Richtlinie 2002/91/EG über die Gesamtenergieeffizienz von Gebäuden und des Energieausweis-Vorlage-Gesetzes (EAVG).

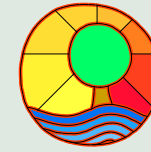
EA-01-2007-SM-a
EA-WG
21.04.2007

Energy certificate

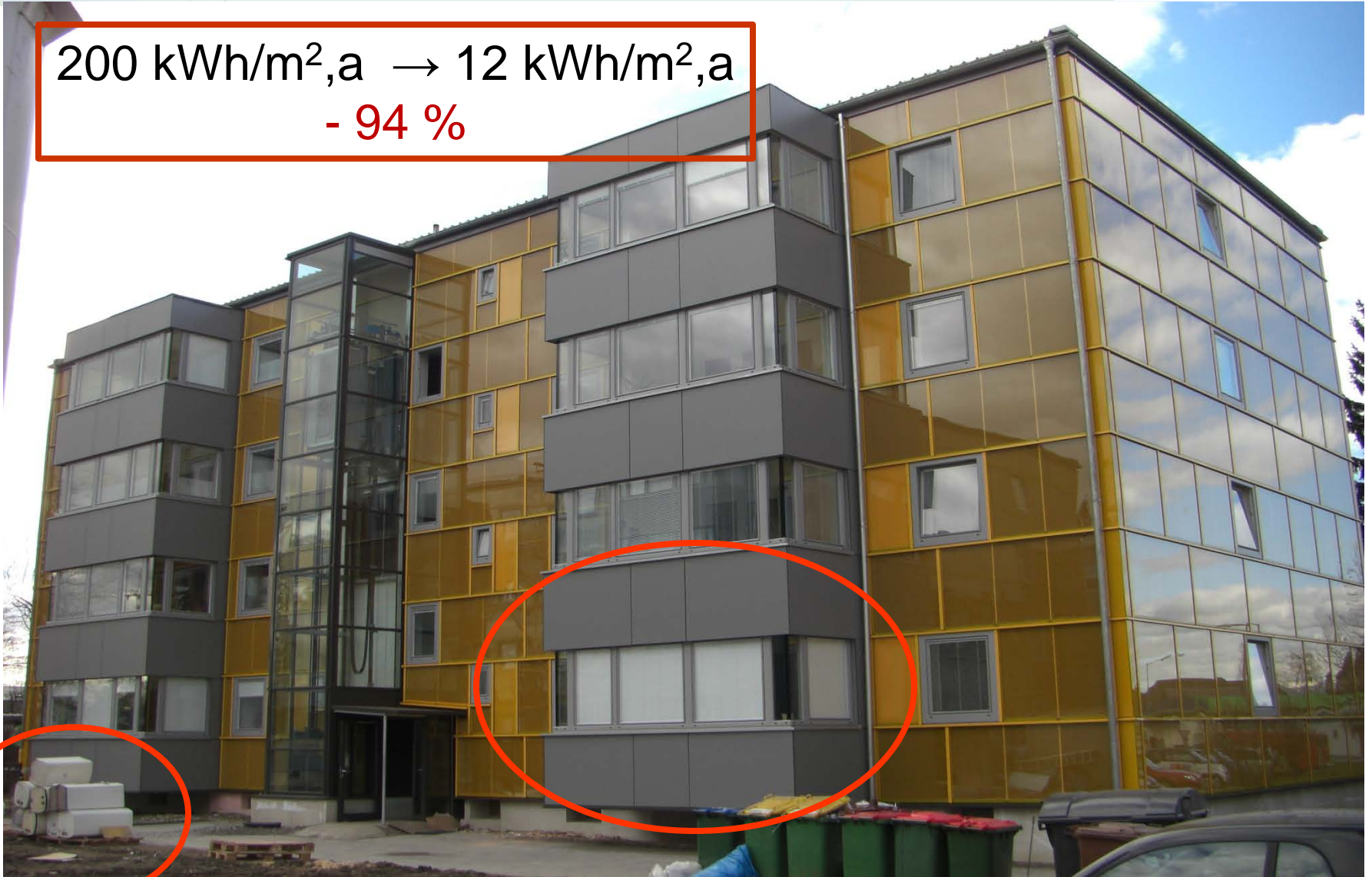


Inspection

Passive buildings existing old houses



200 kWh/m²,a → 12 kWh/m²,a
- 94 %

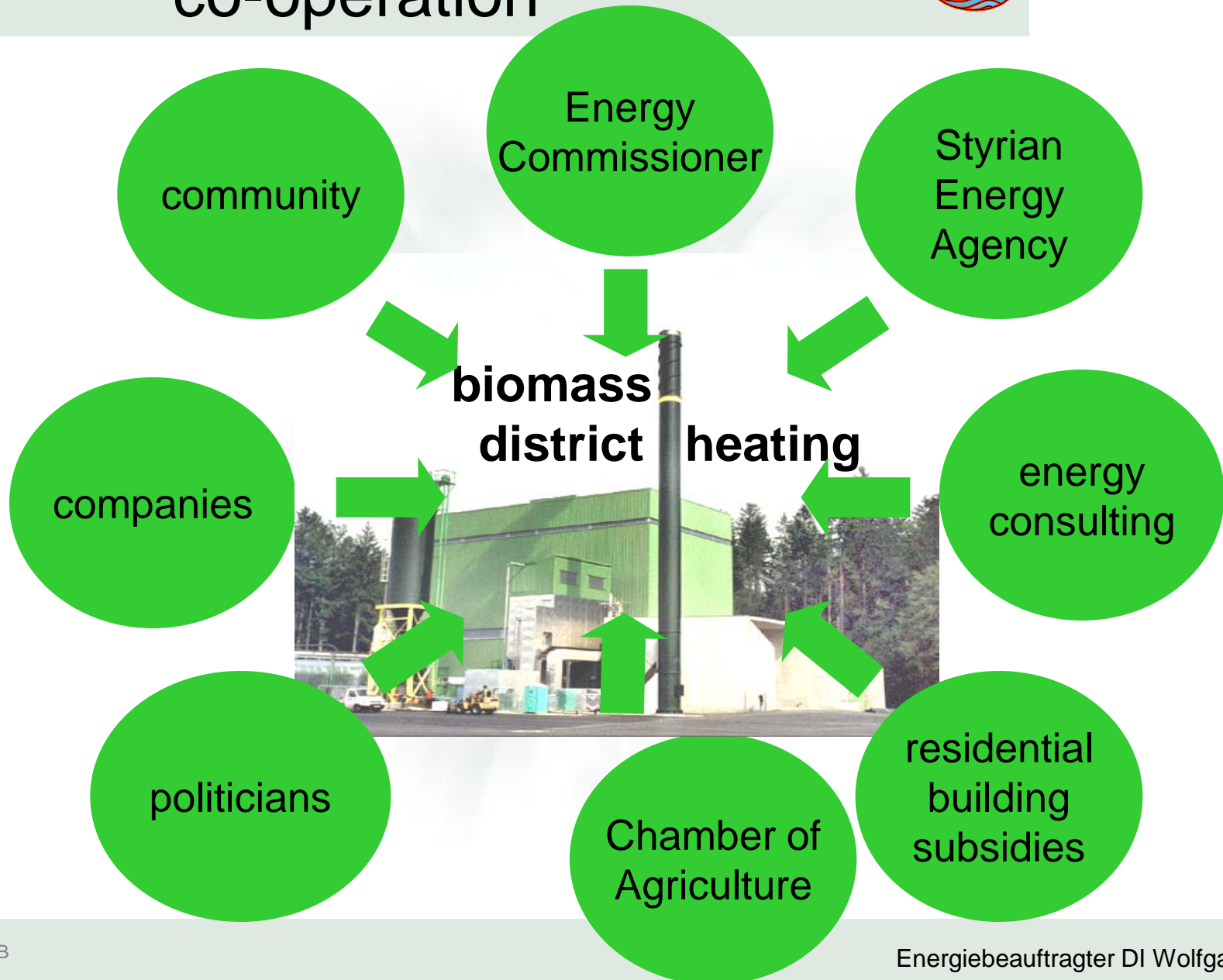
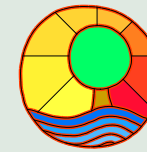


2 Renewable Energies

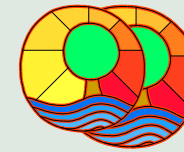


2.1	Action plan for Biomass		
2.1.1	Resources and use of biomass	A10	LWK
2.1.2	Energy efficient use of biogas, liquid und solid biomass	A10	LWK
2.1.3	Potential of organic waste and gas from landfills	A10, A19	LWK
2.2	Action plan for hydroenergy	A17, A19	X
2.3	Action plan for Solar energy		
2.3.1	Mandatory use of thermal solar energy	A13	
2.3.2	Subsidies for thermal solar energy use	A15, A17	X
2.3.3	Subsidies for photovoltaic solar energy use	A14, A17	X
2.4	Action plan for wind energy	A17	X

Biomass district heating co-operation



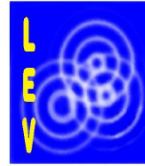
Biomass district heating



145 district heating systems
250 micro d.h.

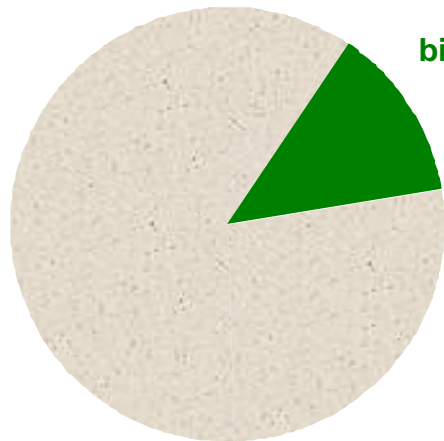
Gesamtleistung: ca. 279 MW
Berücksichtigt wurden nur Anlagen mit über 80 kW

Stand: Jänner 2007

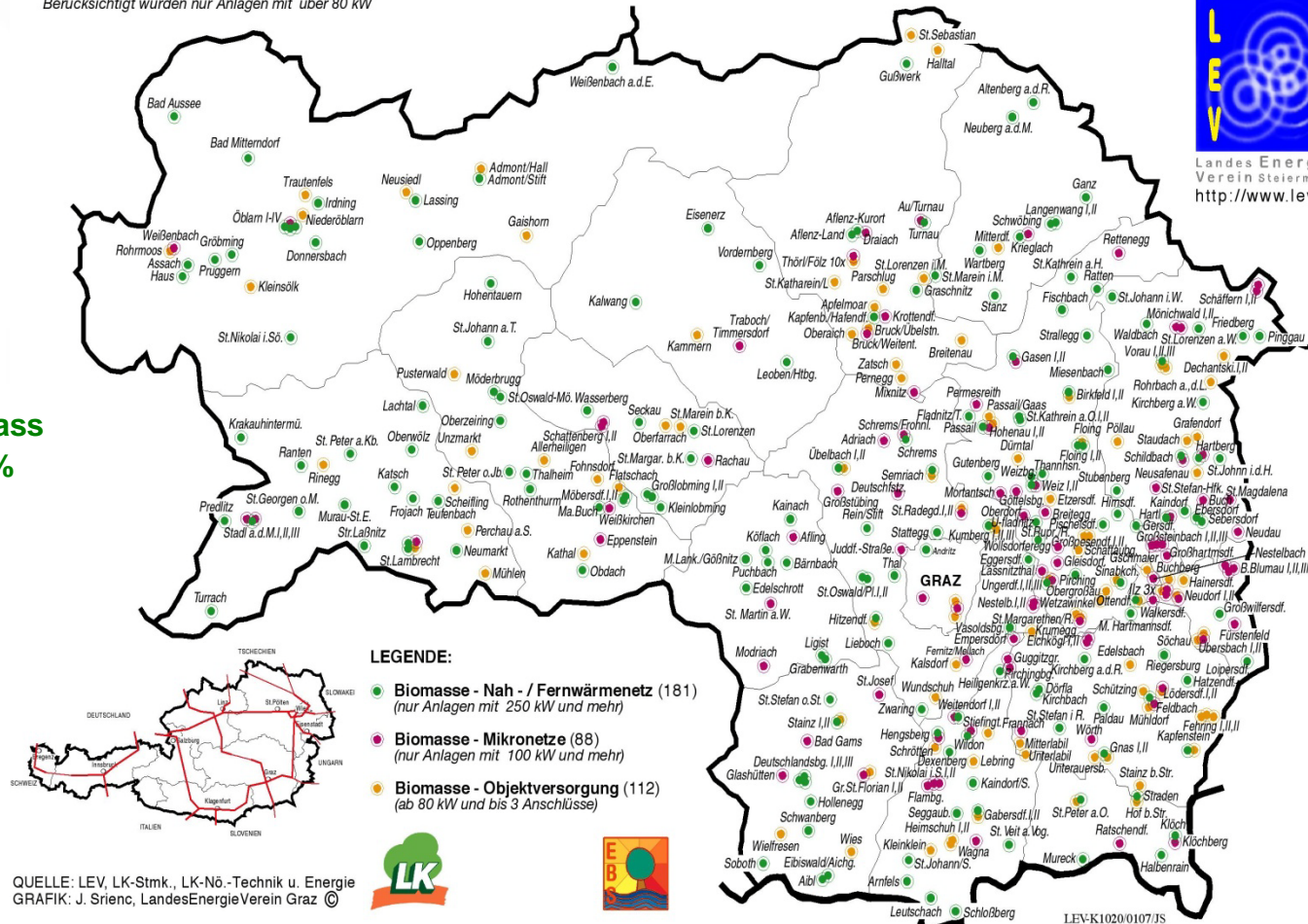


Landes Energie
Verein Steiermark
<http://www.lev.at>

2006



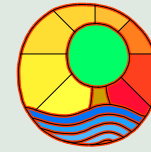
biomass
13%



QUELLE: LEV, LK-Stmk., LK-Nö.-Technik u. Energie
GRAFIK: J. Srienec, LandesEnergieVerein Graz ©



Pellets

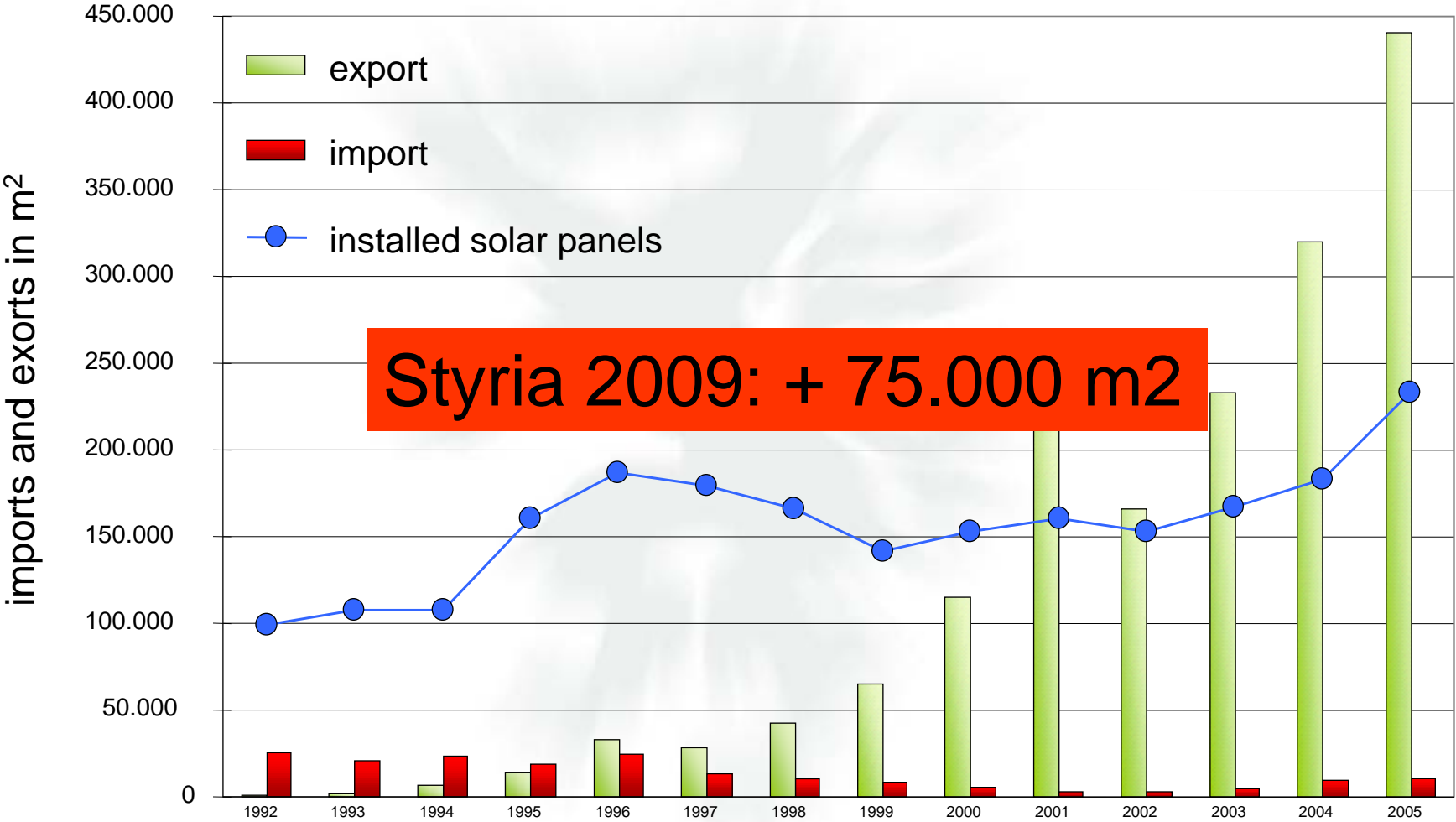


Styria: 2.500 to 3.500 installations yearly

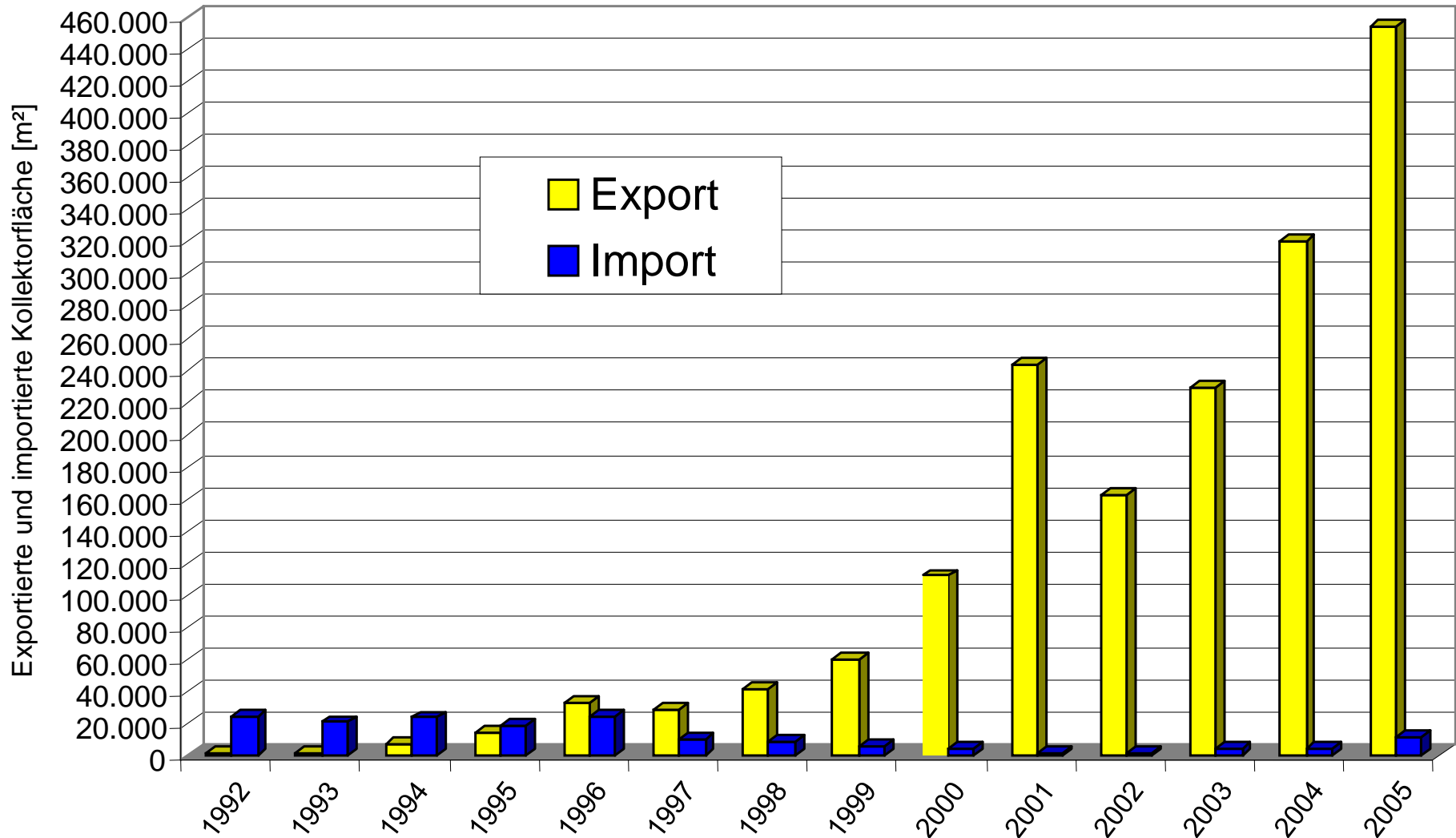
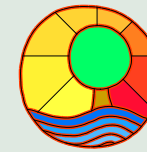
AEE Intec Gleisdorf



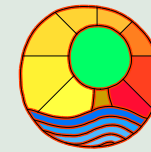
Import and export



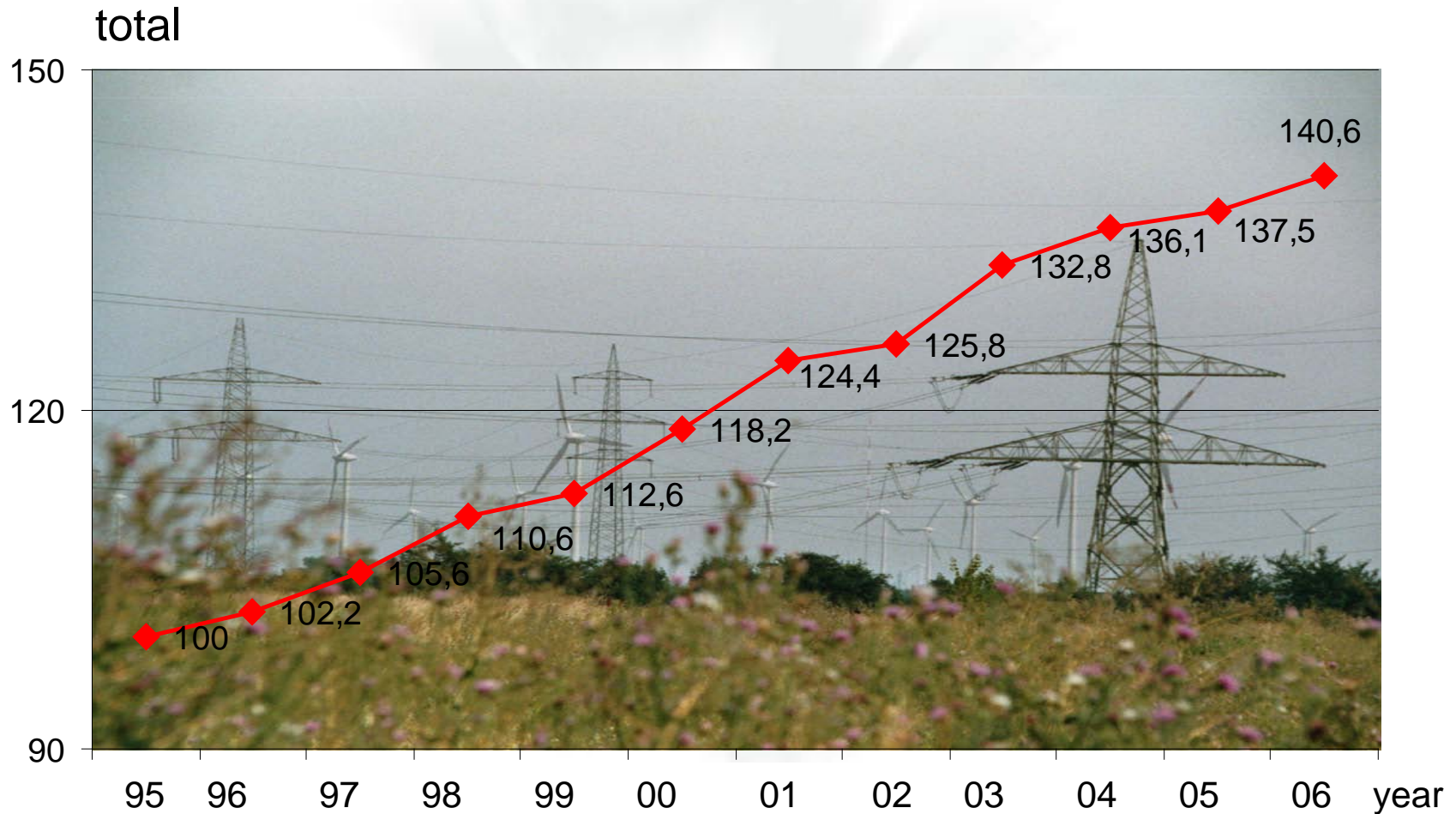
Solar Energy in Austria



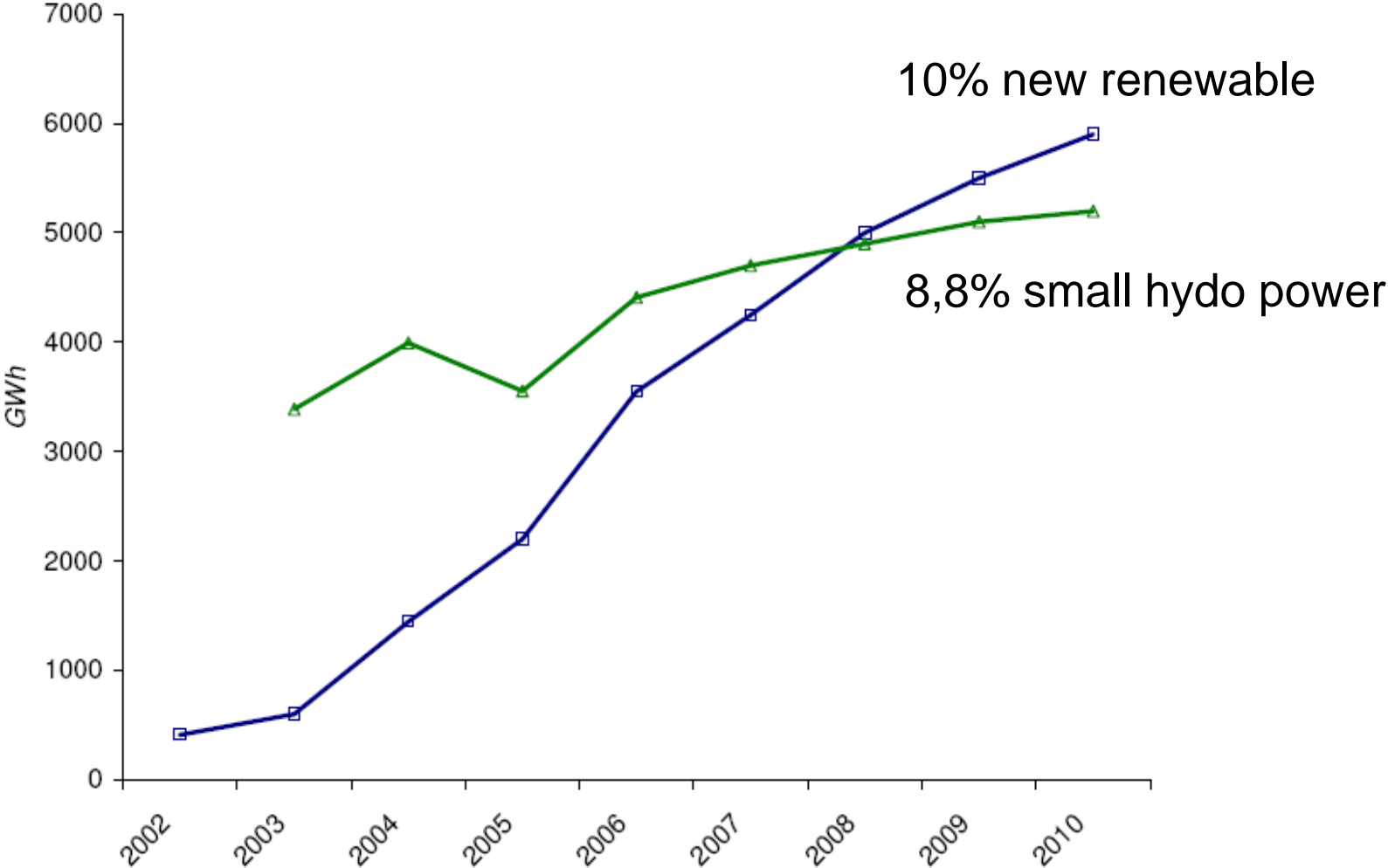
Electricity demand of Styria



since 1995 the electricity demand of Styria has risen by 40 percent



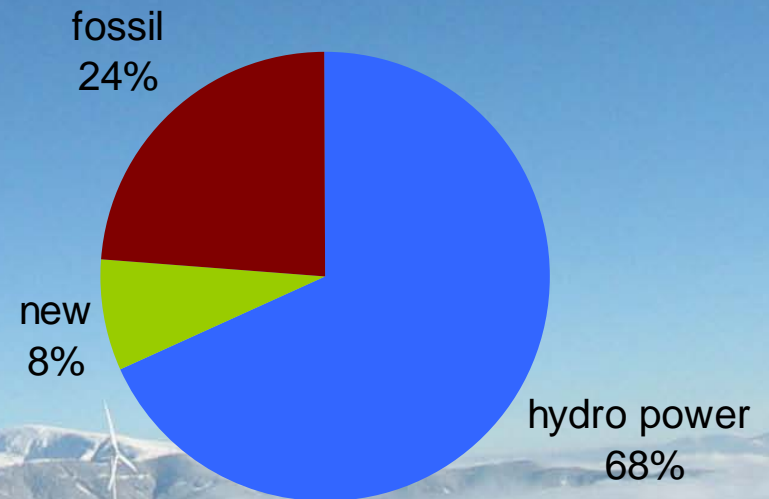
Green electricity from small hydro power/new renewables



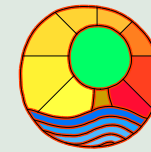


Oberzeiring
22 MW
1.800 m

green electricity



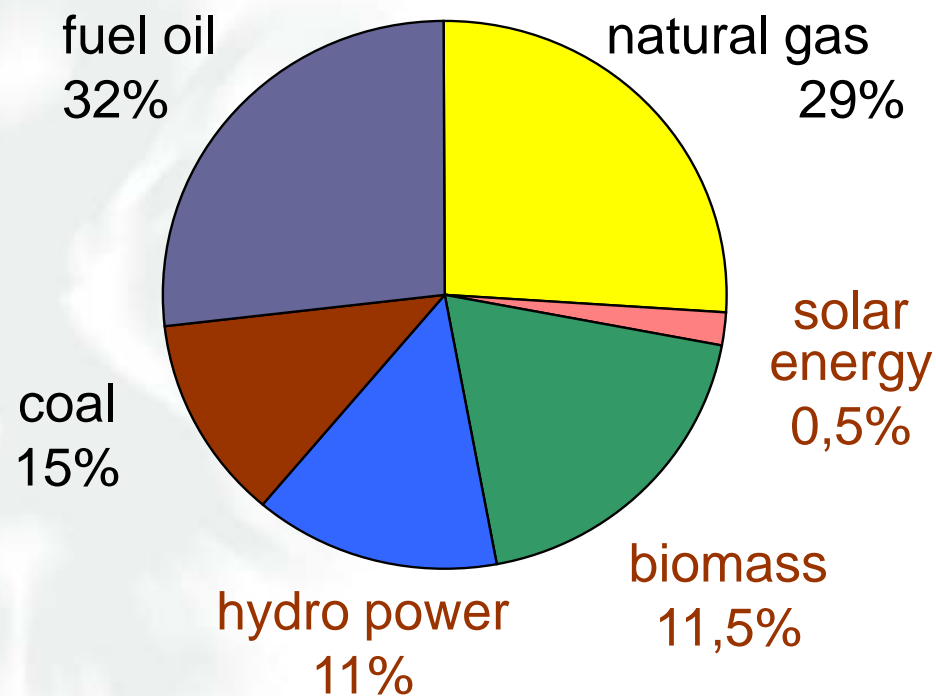
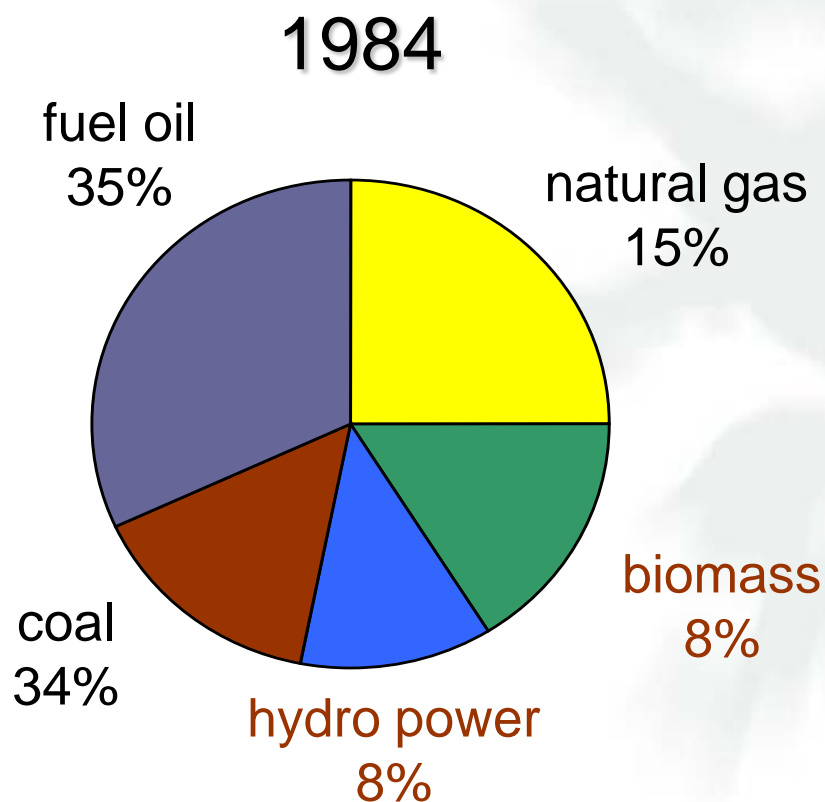
Rape seed + used kitchen oil = Biofuel



Energy demand of Styria



2008



23% renewables