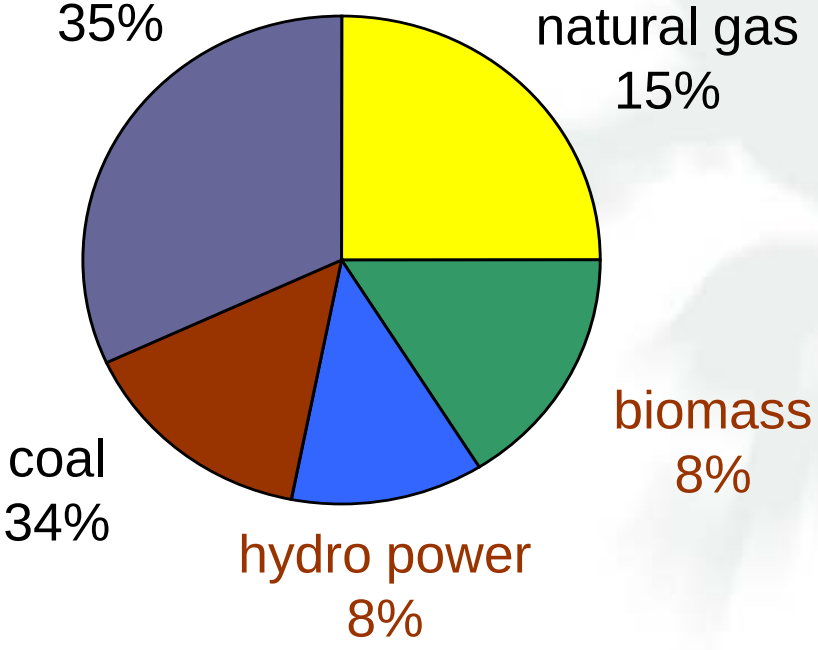
Styria: Energy efficiency and sustainable energy policy

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

Energy demand of Styria

2008

1984



Energy plan 1984/1995/2005

Amt der
steiermärkischen
Landesregierung

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

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

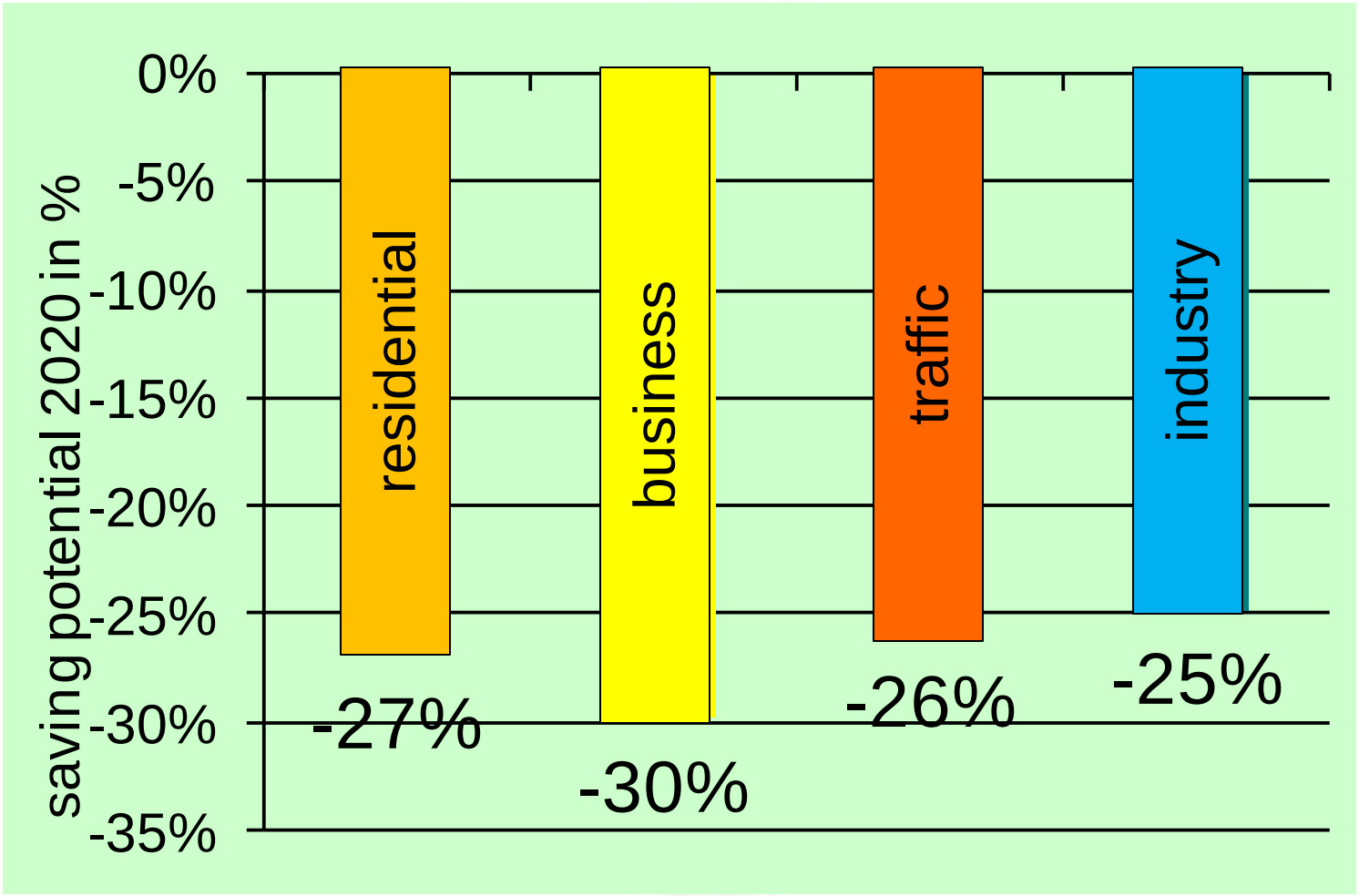
- financial means

- 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

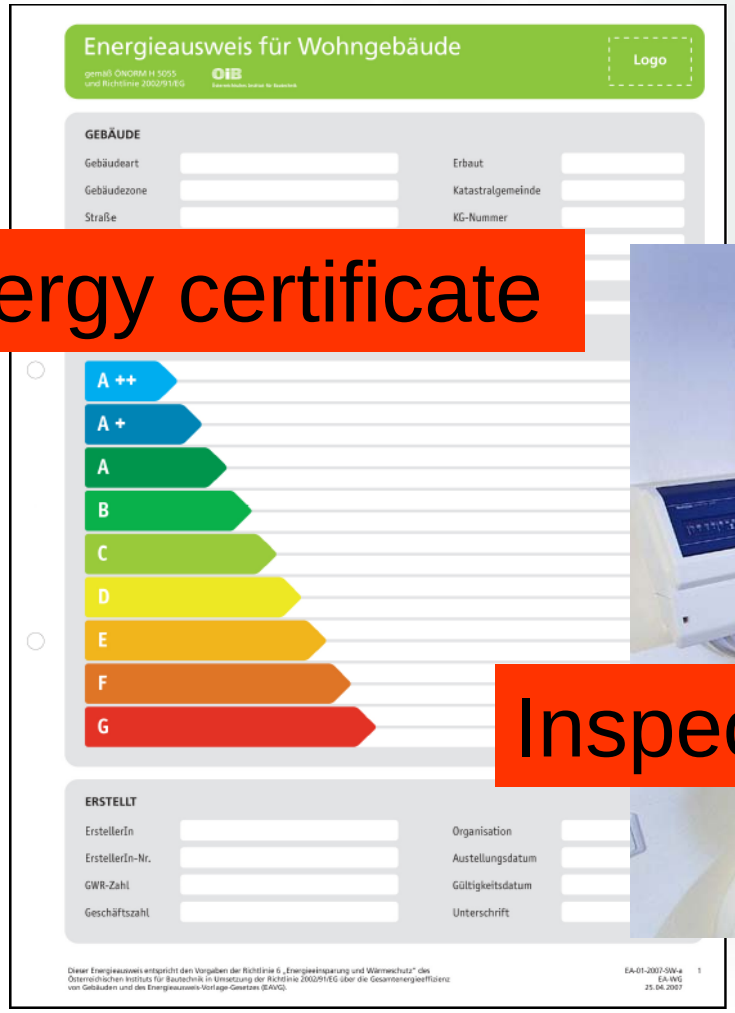
provides an indicative goal:

- minus 9 % within 9 years

eliminates market barriers for energ efficiency,

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

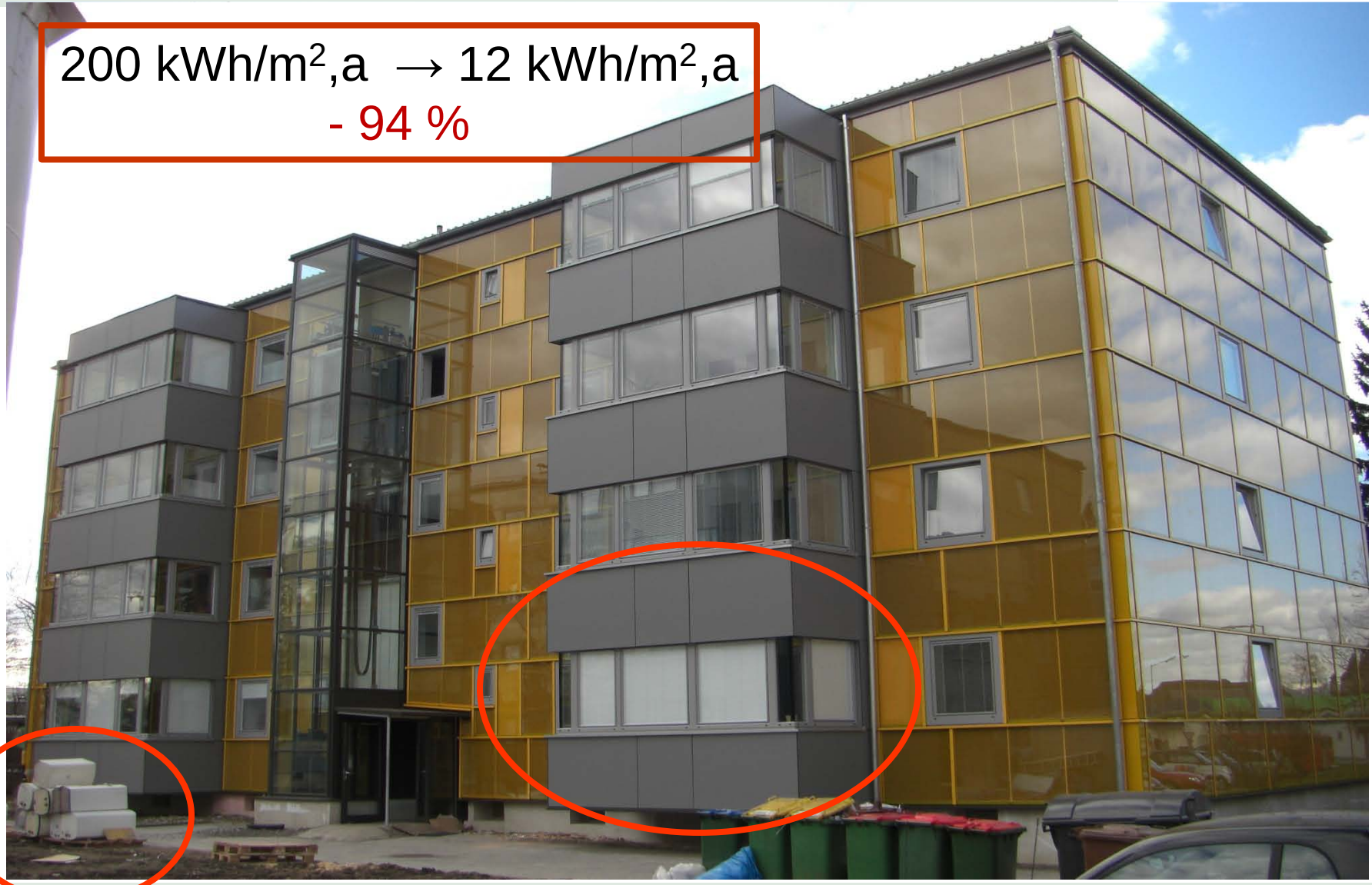
Building Directive Recast 2010



Energy certificate

Inspection

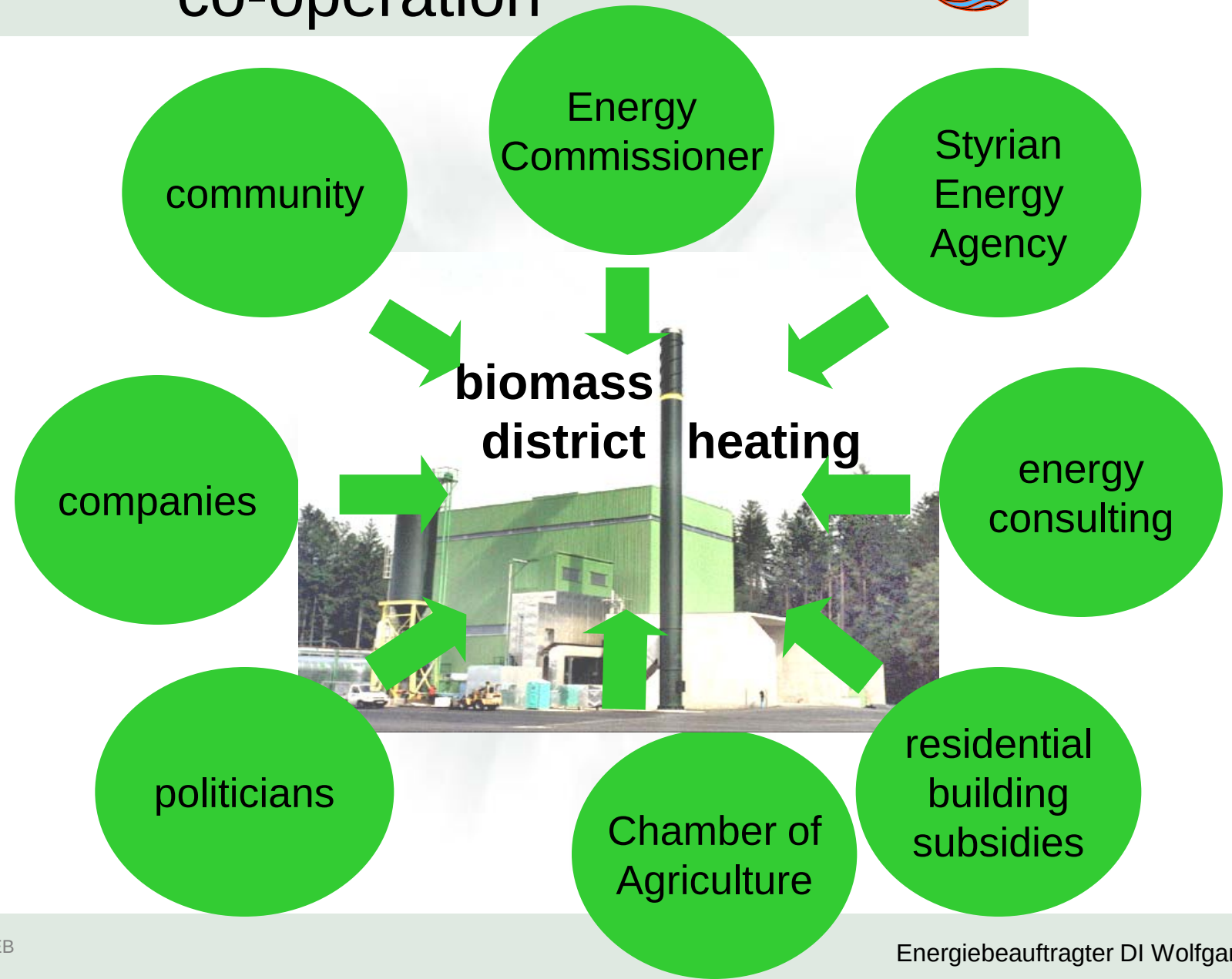
Passive buildings
existing old houses



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

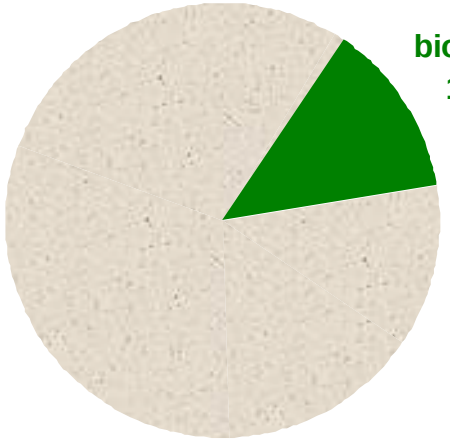


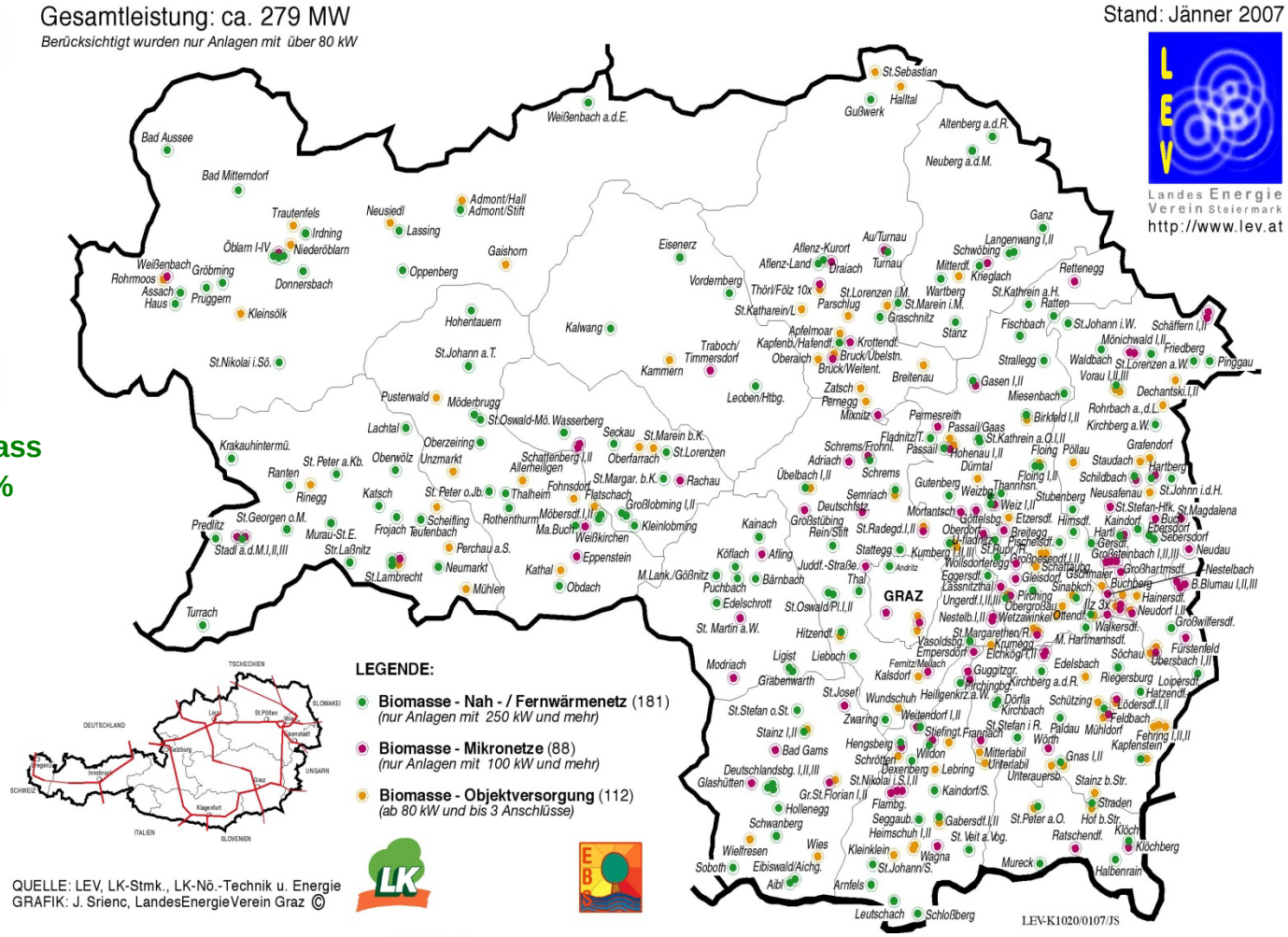
Biomass district heating

145 district heating systems

250 micro d.h.

2006



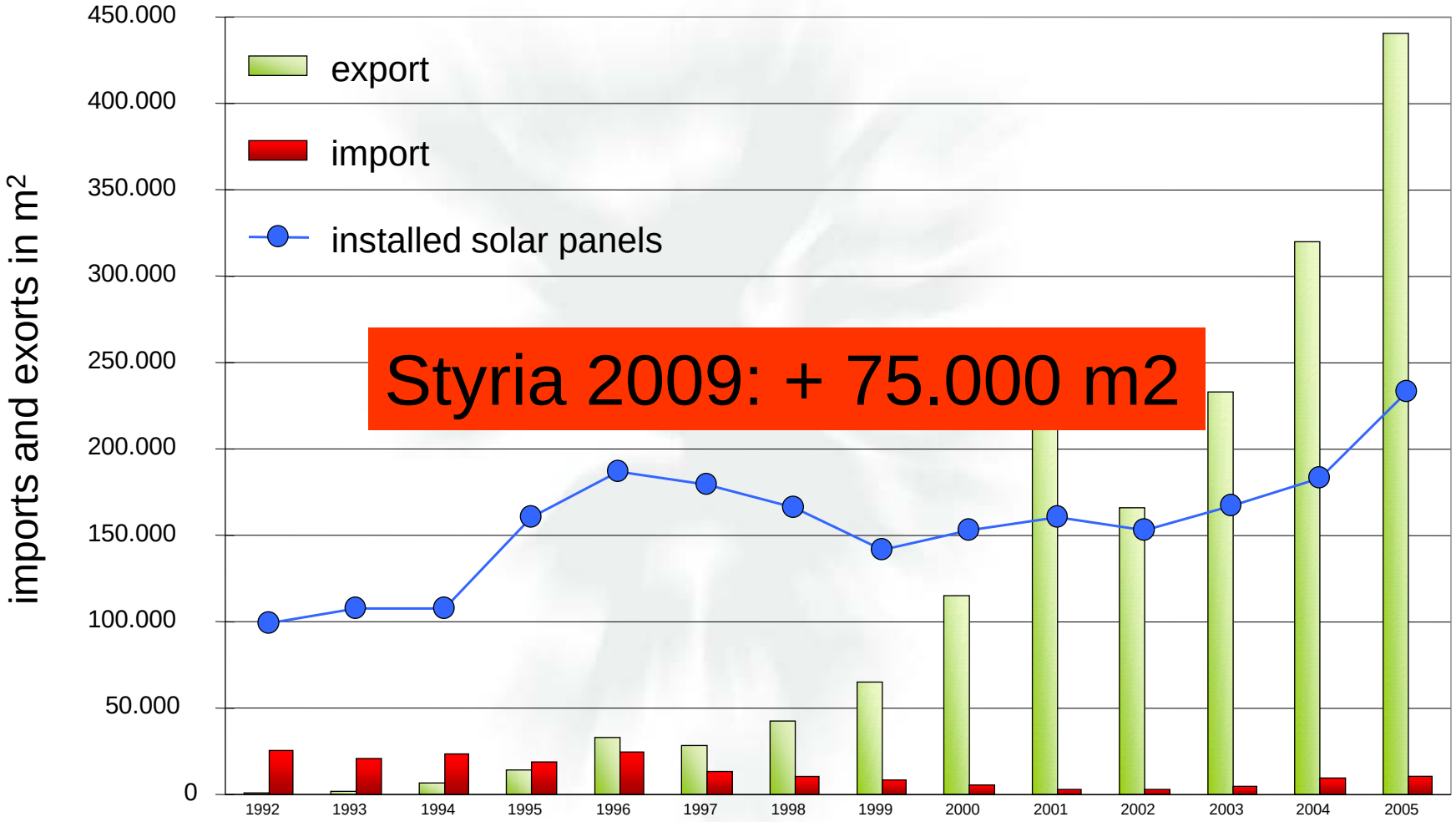


Pellets

Styria: 2.500 to 3.500 installations yearly

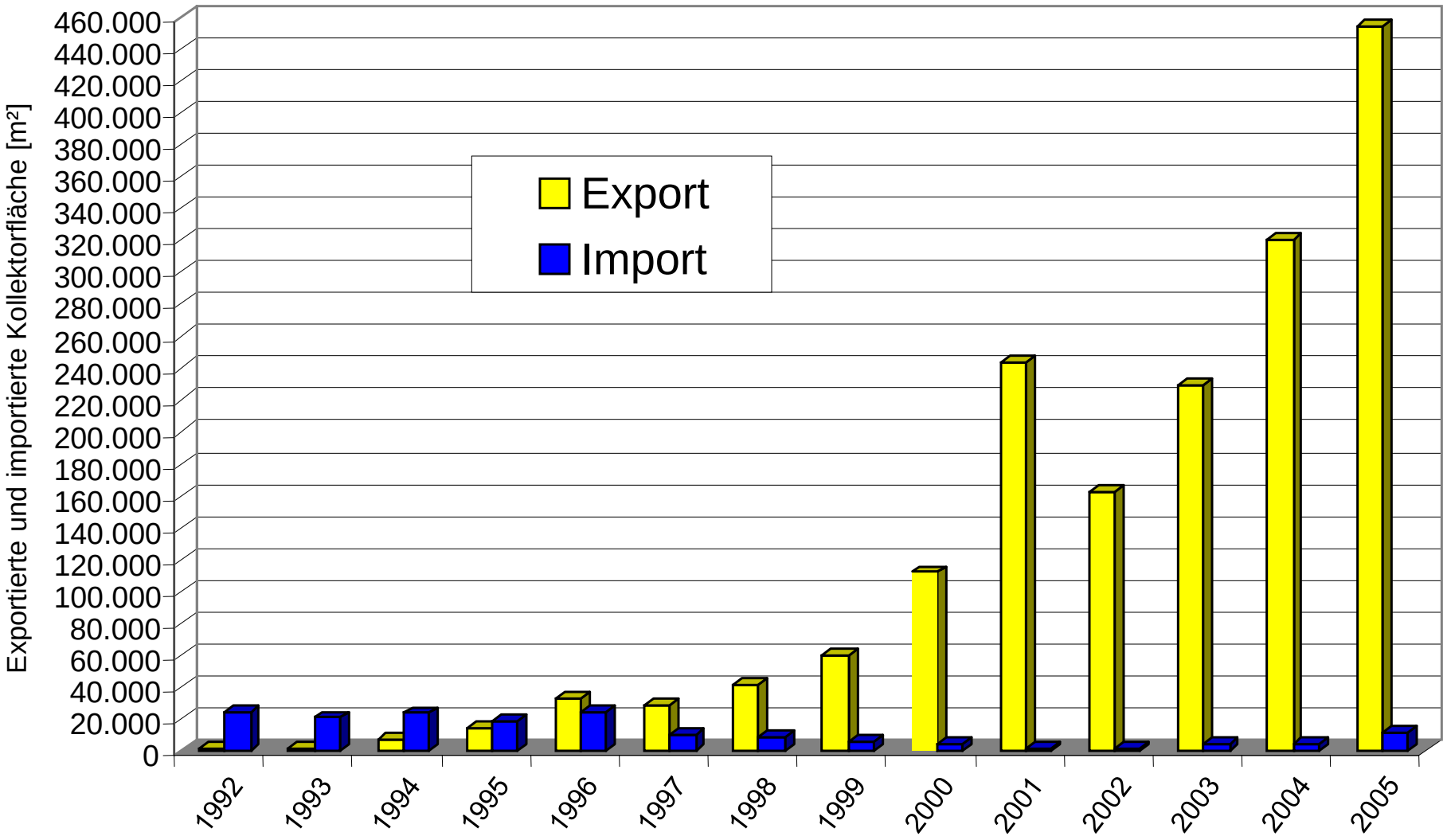
AEE Intec Gleisdorf

Import and export



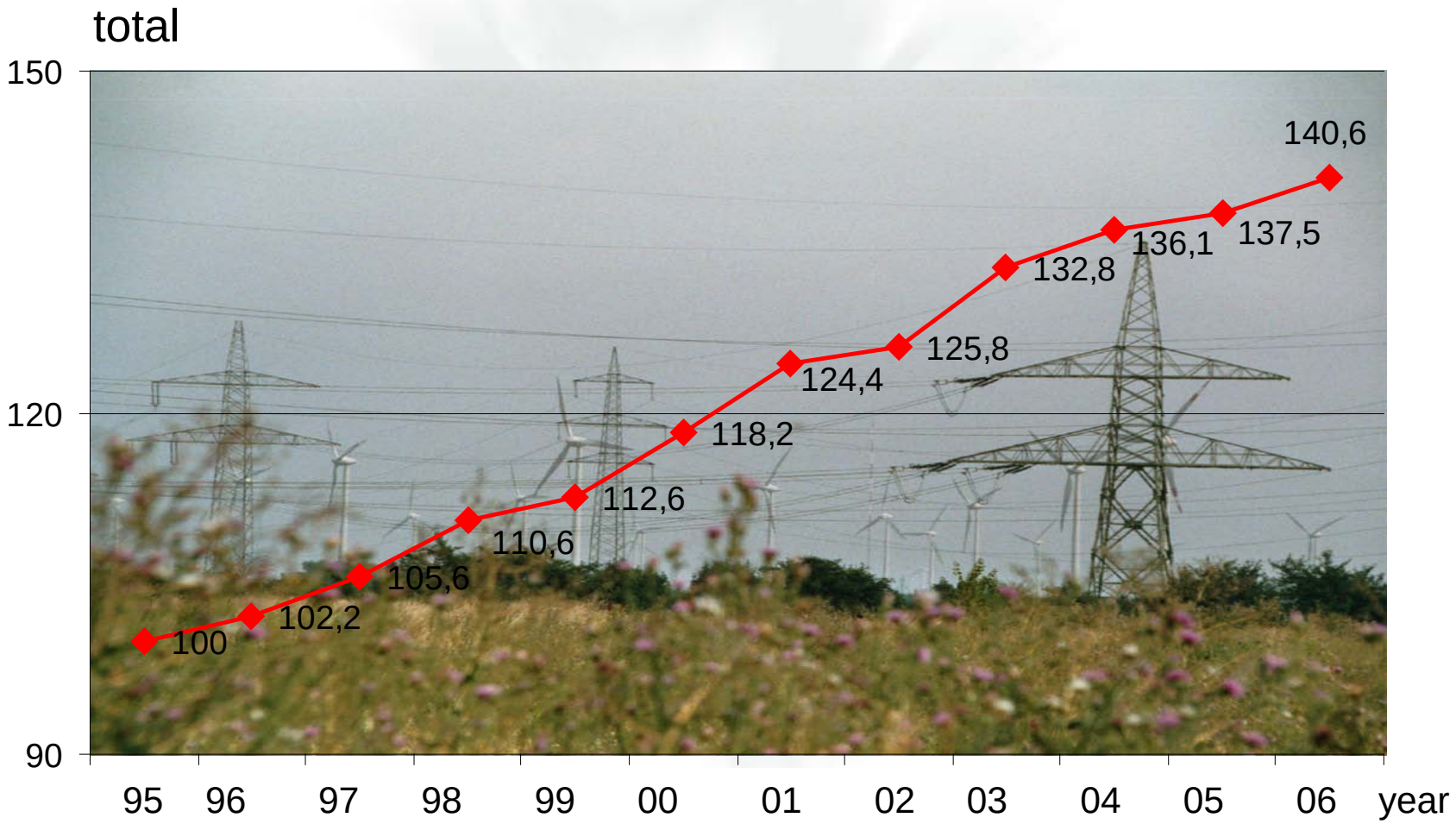
Quelle: AEE INTEC 2005

Solar Energy in Austria

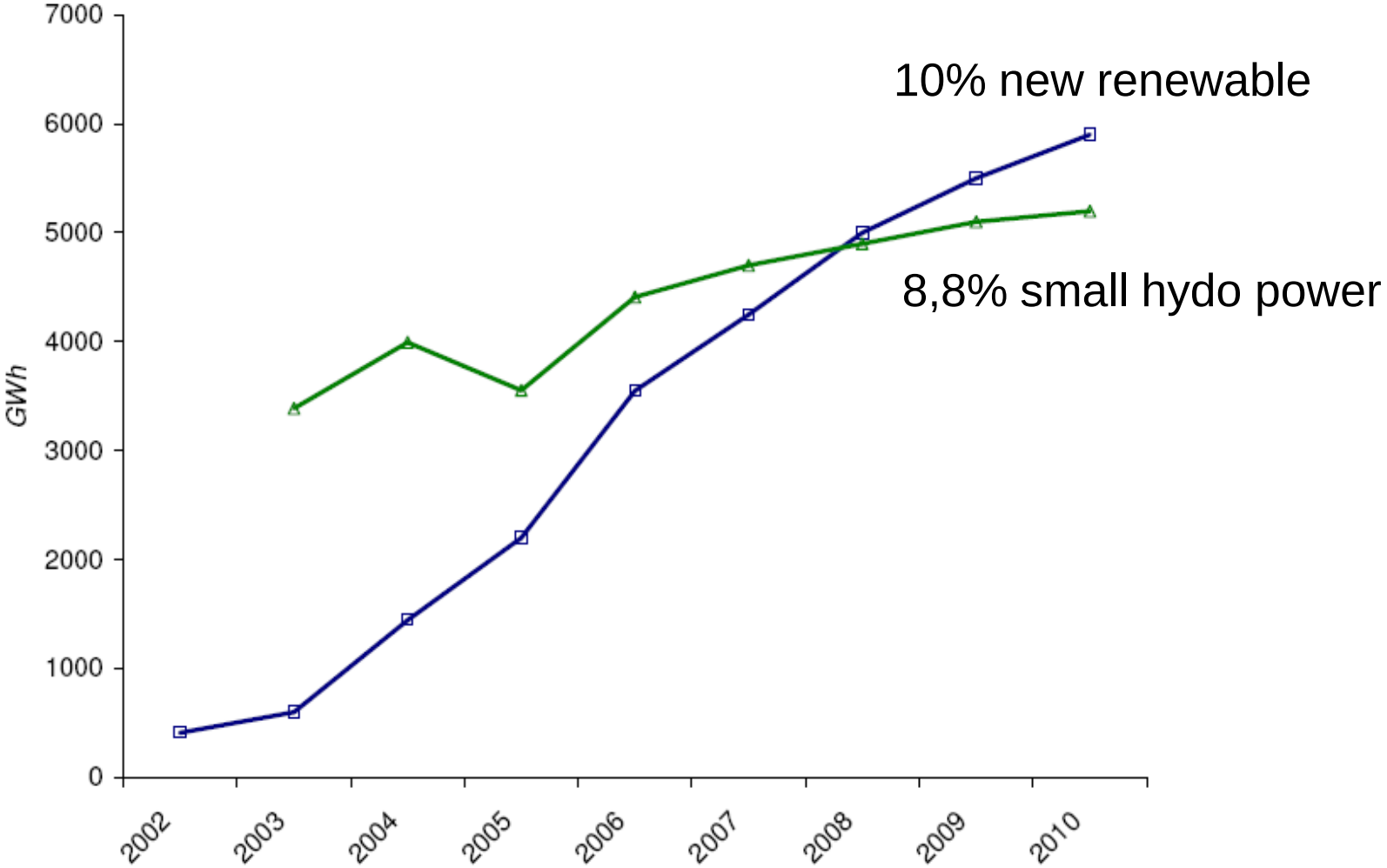


Electricity demand of Styria

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

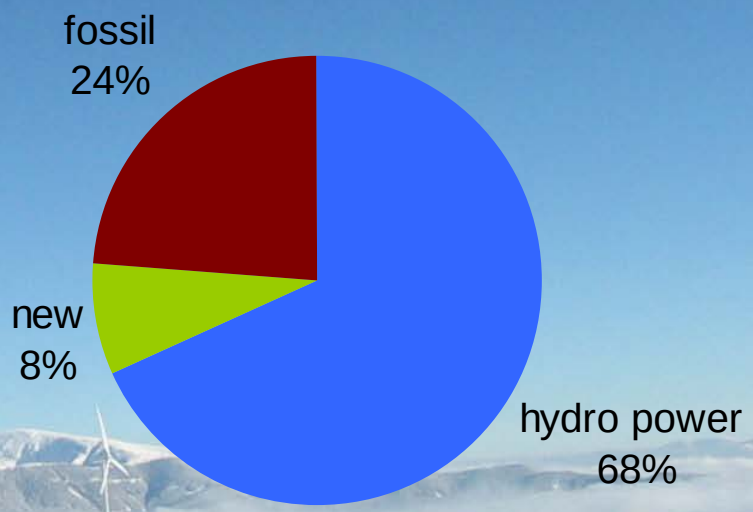


Green electricity from small hydro power/new renewables

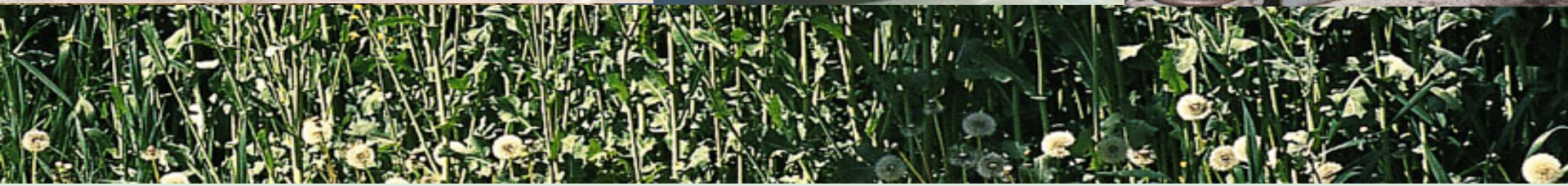


Oberzeiring
22 MW
1.800 m

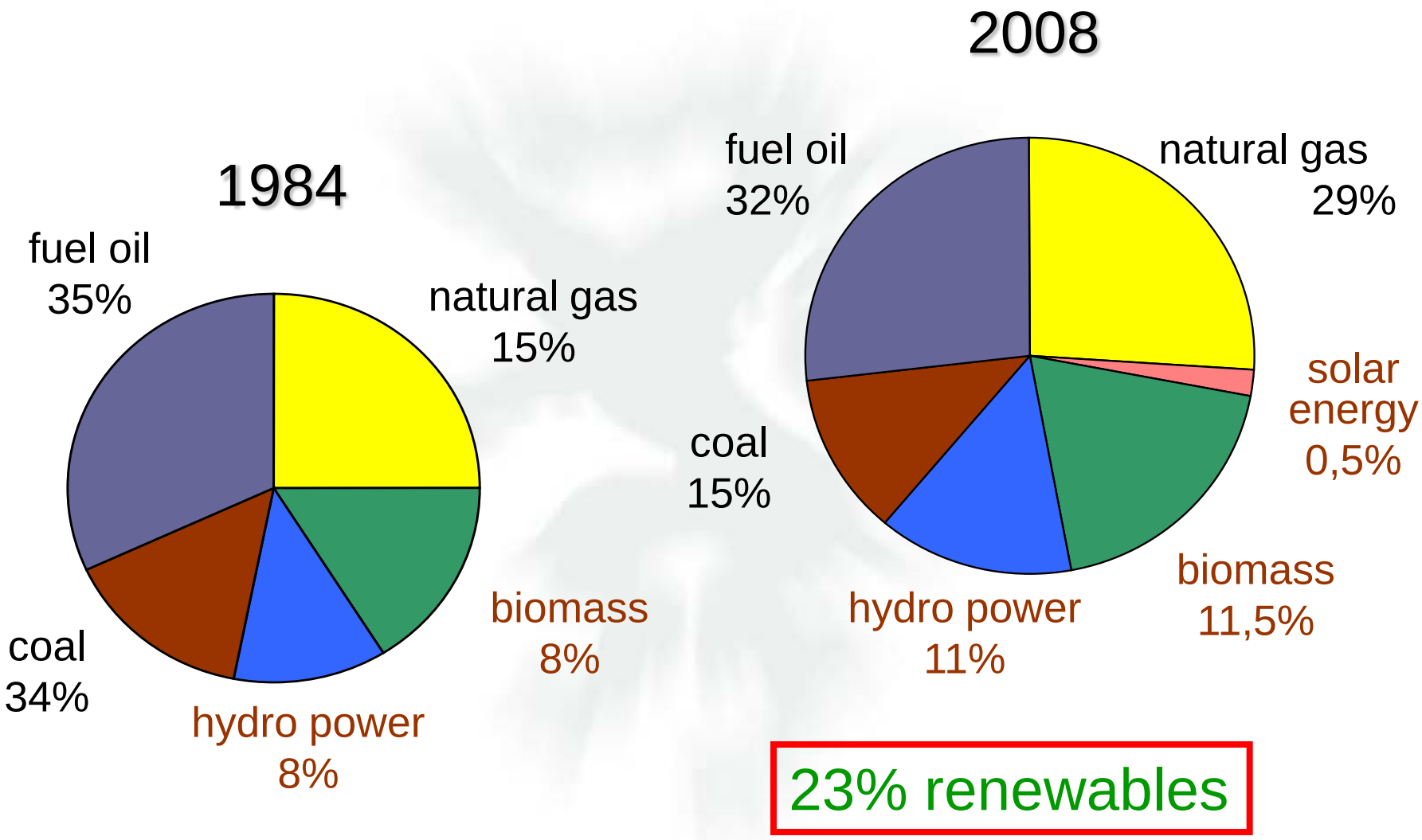
green electricity



Rape seed + used kitchen oil = Biofuel



Energy demand of Styria



23% renewables