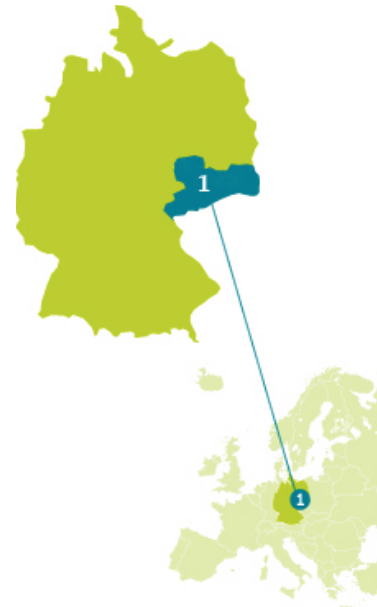


Saxony

Inhabitants: 4,192,801
Area: 18,415 km²

Energy & CO₂ figures

Primary energy consumption: 175 TWh/y
Resulting in : 47.9 Mt CO₂/y¹
or 11.4 t CO₂/y per capita (2008)

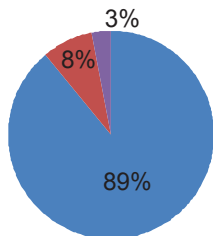


Energy profile & situation

- Lignite main energy carrier: large natural resources
- Large lignite power plants (exports 1/3)
- RES play increasing role, 2008 14.4% of electricity
- Share of district heating higher than in Germany
- Extension of high voltage grids for distribution of decentralised produced energy

Share of energy sources

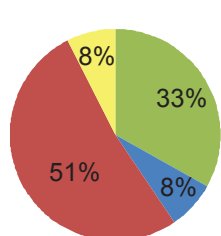
■ Fossil ■ RES ■ Others



Electricity

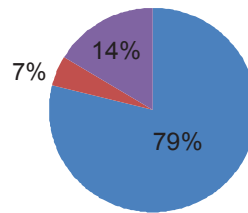
Composition of RES

■ Biomass ■ Hydro ■ Wind ■ Solar



Share of energy sources

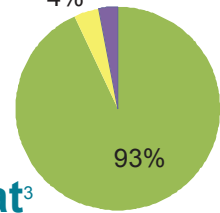
■ Fossil ■ RES ■ Others²



Heat³

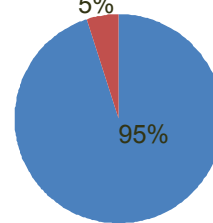
Composition of RES

■ Biomass ■ Solar ■ Geothermal



Share of energy sources

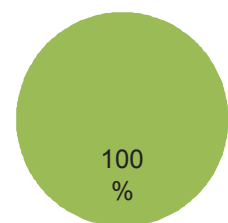
■ Fossil⁴ ■ RES



Transport

Composition of RES

■ Biomass



Energy goals & challenges⁵

23,4% less CO₂ emissions (2006 ↔ 2020)

Share of RES in electricity to 24% 2020 (2008: 14.4%)

Increase CHP in electricity from 20% to 30 % in 2020

Implement the 300 measures from Action Plan Climate & Energy

Affected by population decrease (some areas >20%)

Energy policies

- Renewable energy sources act / EEG (DE)
- Saxon Climate Protection Programme (2001)
- Saxon Action Plan Climate & Energy
- Saxon Directive Energy & Climate Protection/ RL EuK2007

¹ Source: LfULG Saxony

² District heating and electricity

³ Figures for Germany 2008, source: www.unendlich-viel-energie.de

⁴ Incl. 1.7 % electricity

⁵ Saxony's climate and energy goals are currently under revision and will be updated beginning of 2012. More information here: www.smul.sachsen.de

Kronoberg (Smaland)

Inhabitants: 180,000
Area: 9,430 km²

Energy & CO₂ figures

Primary energy consumption: 6.4 TWh/y
Resulting in : 596 kt CO₂/y
or 3.3 t CO₂/y per capita
(all figures from Kronoberg county 2008)

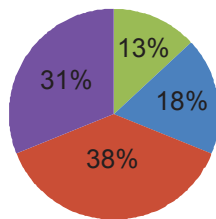


Energy profile & situation

- Biggest part of energy from RES, i.e. 54% or 3.6 TWh/y mainly biomass (heat) and hydro (electricity)
- Many nearby district heating plants with small grids
- Two of the main district heat plants have CHP and district cooling

Share of energy sources

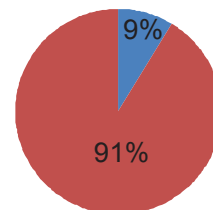
■ Biomass regional ■ Hydro regional
■ RES import ■ Nuclear import



Electricity

Share of energy sources

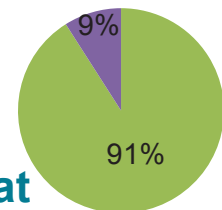
■ Fossil ■ RES



Heat

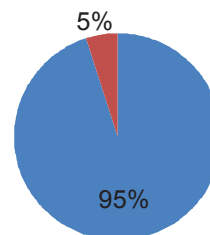
Composition of RES

■ Biomass ■ Others



Share of energy sources

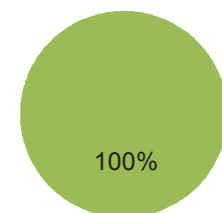
■ Fossil ■ RES



Transport

Composition of RES

■ Biomass



Energy goals & challenges

Targets for 2010:

- 10% less electricity use (1995 ↔ 2010)
- Reduce CO₂ emissions to 3.5 t/y per capita
- Biomass contribution at least 2 TWh/y
- Reduction of emission in transport stays a challenge
- Increase CHP in the medium size DH
- Big wind and hydro potentials

Energy policies

- NO OIL! Fossil free region
- 2030 Kalmar,
- 2050 Kronoberg
- Regional Energy Strategy in Kronoberg

Emilia-Romagna

Inhabitants: 4,395,569
Area: 22,123km²

Energy & CO₂ figures

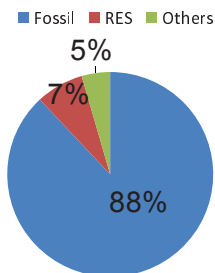
Primary energy consumption: 160 TWh/y
Resulting in : 40,580 kt CO₂/y
or 9.2 t CO₂/y per capita



Energy profile & situation

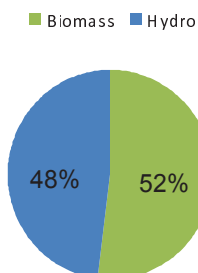
- RER is using around 160 TWh/a mainly produced from oil (31%) and natural gas (62%), 6% from RES
- Natural gas infrastructure is very well developed
- Reconversion of thermal electric power plants
- CHP is growing since 2006

Share of energy sources

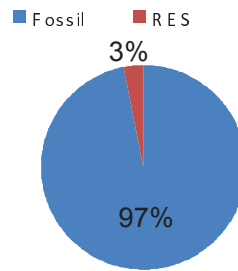


Electricity

Composition of RES

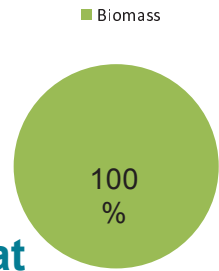


Share of energy sources

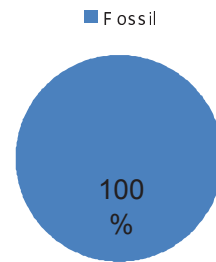


Heat

Composition of RES



Share of energy sources



Transport

Energy goals & challenges

- CO₂ emissions reduction is the challenge, focus on transport, existing buildings and EE in industry
- Upgrading of energy net for distributed generation
- Development of infrastructure for electric vehicles
- Internal production of natural gas decreasing
- Research in CCS
- Achieve social acceptance for RES and grid extension

Energy policies

- Energy Framework Law
- Regional Energy Plan (REP)
- Currently new objectives are elaborated and upgrading of REP

Haute-Savoie

Inhabitants: 706,708 (HSA)
6m (Rhone-Alpes)
Area: 4,388 km²
43,698 km² (Rhone-Alpes)

Energy & CO₂ figures

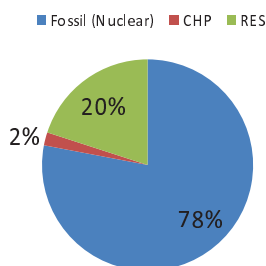
Primary energy consumption: 134 TWh/a
Resulting in : 41,000 kt CO₂/y
or 6.8 t CO₂/y per capita
(2006, all figures from Rhone-Alpes)



Energy profile & situation

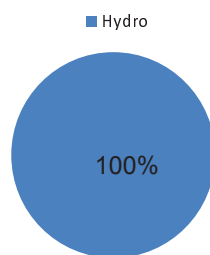
- Many figures are just available for the Rhone-Alpes region
- In Rhone-Alpes 110 TWh/y of electricity (3/4 from nuclear energy) ca. 20% is coming from RES (hydro), 2% from CHP
- Heat is produced with electricity, just minor production in the region based on RES (wood, solar, biogas)
- Mountainous region with limited potential for: public mobility infrastructure such as trains
- developing wind energy
- Increasing (urban) population

Share of energy sources

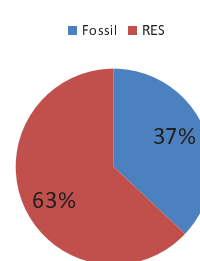


Electricity

Composition of RES

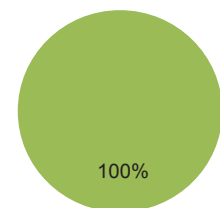


Share of energy sources Composition of RES



Heat

Composition of RES



Energy goals & challenges

- Two main energy developments are supported:
 - energy from wood and
 - biogas from cheese factories
 - Training of decision makers on urbanisation and energy planning
- Rhone-Alpes regional goals:
 - 2020: -20% CO₂; +20%EE; 23% RES

Energy policies

- Haute-Savoie Energy Programme
- Haute-Savoie Climate Plan
- Policies are developed to reduce the greenhouse gas emissions by reducing energy consumption and development of RES

Lower Silesia

Inhabitants: 2,884,248
Area: 19,946 km²

Energy & CO₂ figures

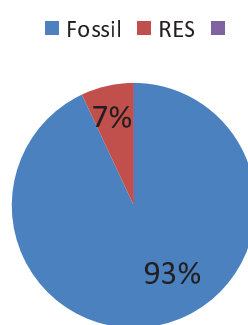
Primary energy consumption: 1,149 TWh/y
resulting in 402.000 kt CO₂/y
or 10.3 t CO₂/y per capita
(National Figures for Poland 2007/8)



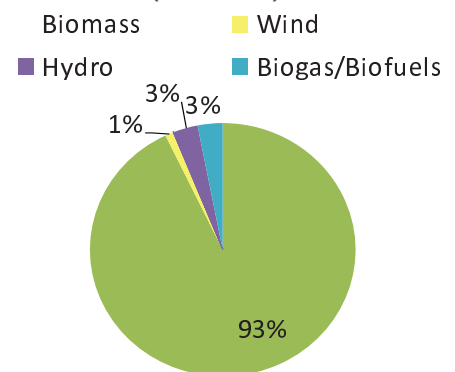
Energy profile & situation

- No detailed figures are available
- Main energy source is coal (lignite, coke and coke gas)
- Mainly traditional heat / power plants, but also small CHP plants (export 1/3)
- Primary energy consumption 40% lower than EU-15

Share of energy sources (POLAND)



Composition of RES (POLAND)



Potentials & ideas

- 56 wind power plants of a total of 2500 MW power and 200 smaller plants
- Upgrade existing and build more efficient coal heat/power plants
- Huge potential for geothermal energy
- EE in Poland 3 times lower than in old EU-MS

Challenges

- Currently the large deposits of brown coal do not encourage wider use of RES
- Investment in wind energy is difficult for formal reasons:
 - Complex documentation
 - Agreement with energy supply provider needed beforehand
 - Money deposit demanded

National goals & policies

- Energy policy of Poland up to 2025 with main goals:
 - Energy security
 - Competiveness and EE
 - Reduction of CO₂ by increasing Share of RES (mainly biomass)
- RES share of 15% by 2020, 20% by 2030
- 10% RES in transport: biofuels

Energy policies

- Regional Development Strategy
- Sustainable Development and Environmental Protection Programme
- Energy Strategy