Green energy, green jobs
How Upper Austria developed its biomass heating market

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The State of Upper Austria
Oberösterreich

- Capital: Linz
- Population: 1.38 million (similar to NH)
- Area: 4,600 mi² (similar to CT)
- Economic activities: industry, service sector, tourism, 25% of the Austrian industrial exports
Energy Agency of the State of Upper Austria
ÖÖ Energiesparverband

Organisation

• founded (in 1991) and mostly funded by the state government
• promotes energy efficiency and renewable energy
• provides services to private households, public bodies & businesses
• manages programmes on behalf of the state government
• supports development of legislation and policies

Services

• Energy advice (15,000 sessions/a)
• Building rating (> 80,000 buildings rated since 1993)
• Training programmes
• Management of state subsidy programmes
• Public awareness campaigns, events, publications
• Pilot projects
• Municipal energy strategies
• European cooperation
• OEC network
The Oekoenergie-Cluster Upper Austria (OEC)

- network of renewable energy & energy efficiency companies in Upper Austria
- 160+ partner companies
- since 2000, managed by the OÖ Energiesparverband
- [www.oec-en.at](http://www.oec-en.at)

- Turnover: 2.5 billion US$
- Employees: 8,880
- Export share: > 50 %
Solar thermal, Biomass, Efficient Buildings
Biomass boiler + equipement manufacturers in Upper Austria (partners of the OEC)

More info: [www.oec-en.at](http://www.oec-en.at)
Ökoenergie-Cluster (OEC) 2000 - 2012

Number of OEC partners
x 2
74
168

Staff
x 5
1.620
8.880

Export countries
x 7
12
85

Turnover OEC partners
x 8
300 mill $
2.5 billion US$
Renewable energy sources in Upper Austria

• Share of renewable energy: **34 % of total primary energy demand**
  (15 % hydro, 15 % clean biomass, 4 % solar & other renewables)

• Share of renewable heating: **50 % of total heating demand**

• Avoided imports of fossil fuels: >1 billion US$ per year

By 2030, all electricity and space heating will come from renewables!

➤ reduction of heat demand by 39 %
➤ reduction of electricity demand by 0.5 %/year
➤ minus 65 % CO$_2$ emissions
Motivation for 100 % renewable targets

• climate protection:
  → increasing temperatures
  → more natural disasters

• increasing costs:
  → social problems ("energy poverty")
  → negative impact on the competitiveness of companies, especially price fluctuations
  → loss of purchasing power

• import dependency from geopolitically unstable regions

• innovation and employment ("green jobs")

• economic perspectives for the farming/forestry sector
Biomass heating - why and how?

- a **sustainable** and **carbon-neutral** fuel
- especially **suitable for heating** of buildings
- modern heating systems are **fully automated** with **ultra-low emissions**
- ensures **energy independence**
- supports the local **forest economy**
  - sustainable forestry
  - heat demands continue to decrease ("**better buildings**")
  - only installations with **highest efficiencies** & **lowest emissions**, for electricity production, **only high-efficiency CHP**

→ **Upper Austria has** pioneered biomass heating in the last two decades and achieved global leadership in small-scale systems.

→ **25 % of all biomass boilers installed in the EU are manufactured by companies from Upper Austria**
Carrots, sticks and tambourines
Upper Austria's sustainable energy strategy – example biomass heating

**Regulatory measures**
- Emission & efficiency standards
- Fuel requirements
- Renewable heating mandate
- Minimum requirements heating & cooling

**Financial measures**
- Investment grant programs
- Renewable heating as a program requirement
- Contracting program
- Regional R & D program, pilot projects

**Information & training**
- Energy advice
- Training programs
- Publications, campaigns & competitions
- Local energy action plans
- OEC - sustainable energy business network

**Policy Packages**
- "sticks" - stimulate demand
- "carrots" - support supply
- "tambourines"
Main policy instruments for biomass heating

• Driving the market through standards
• Financial incentives
• Renewable heating mandates/obligations
• Advice, information and awareness campaigns
• Education & training
• Supporting biomass heating manufacturers