



22|05|2007

AUSTRIAN FEDERAL FORESTS

Climate change effects & response

**CARBONPRO Local Research Centre Meeting
Budapest, Hungary**



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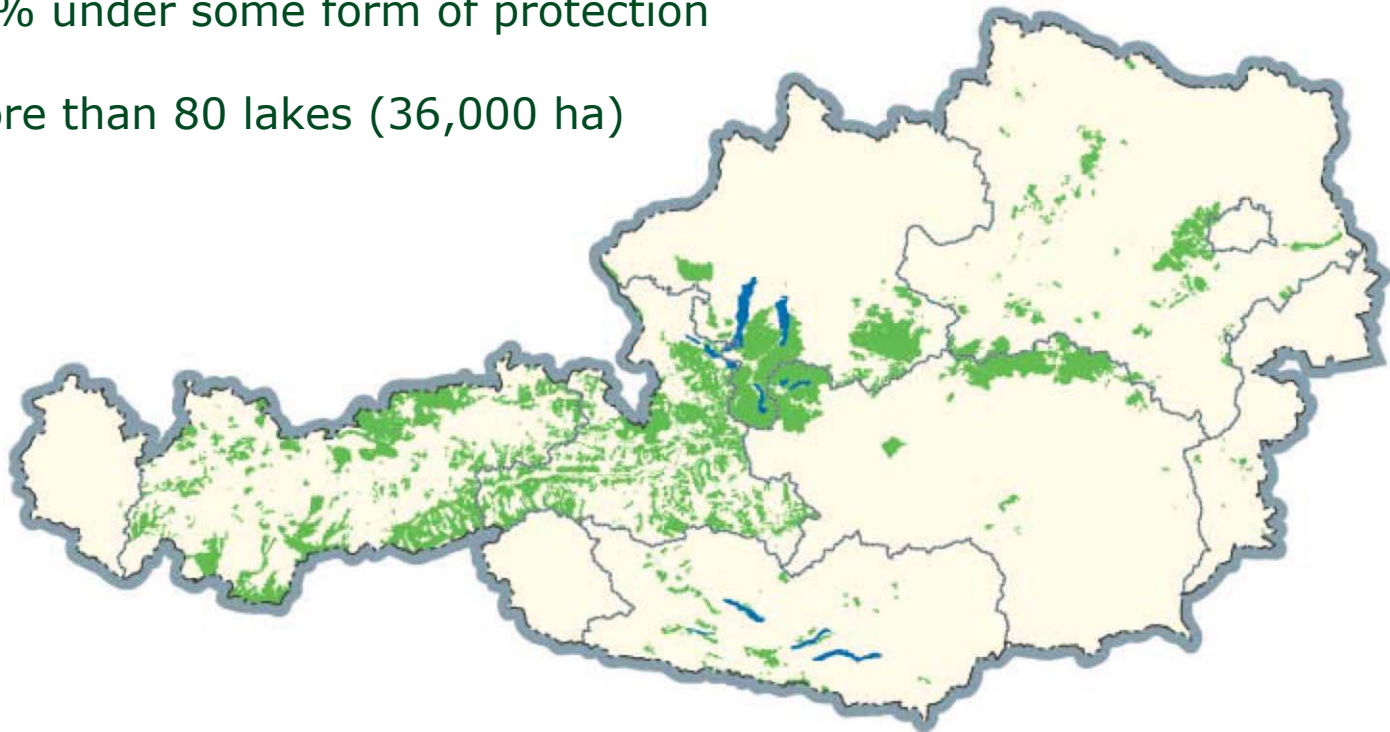
Overview

- Founded as JSC in 1997 by a specific Law
- Legal obligation to guarantee sustainability and secure substance
- 100% owned by the Republic of Austria
- ÖBF AG is a management company
 - 96.5 % of the area is owned by the Republic of Austria
 - Usufruct and management right at ÖBF AG
 - Annual usufruct payments: 50 % of EGT
 - Annual dividend for the shareholder

AUSTRIAN FEDERAL FORESTS

Our areas

- > appr. 10 % of national territory (860,000 ha)
- > 15 % of Austria's woodland,
- > 50% under some form of protection
- > more than 80 lakes (36,000 ha)



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Successing decentralisation



A MODERN, AUTONOMOUS COMPANY

> Focus on customers, stakeholders and owners

> Positive balance sheets since restructuring

> Decentralized structure:

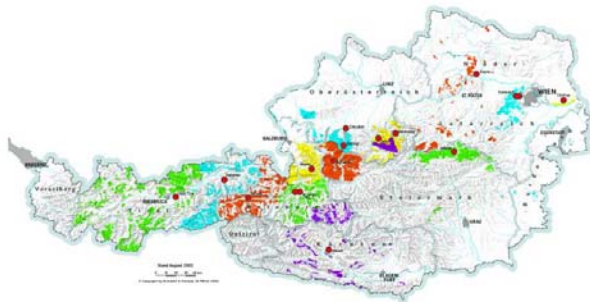
>> 12 forest management units

>> 2 national park management units

>> 2 forestry technology units

>> 3 profit centres

Flächen und Betriebsstandorte der ÖBf AG per 1.1.2004



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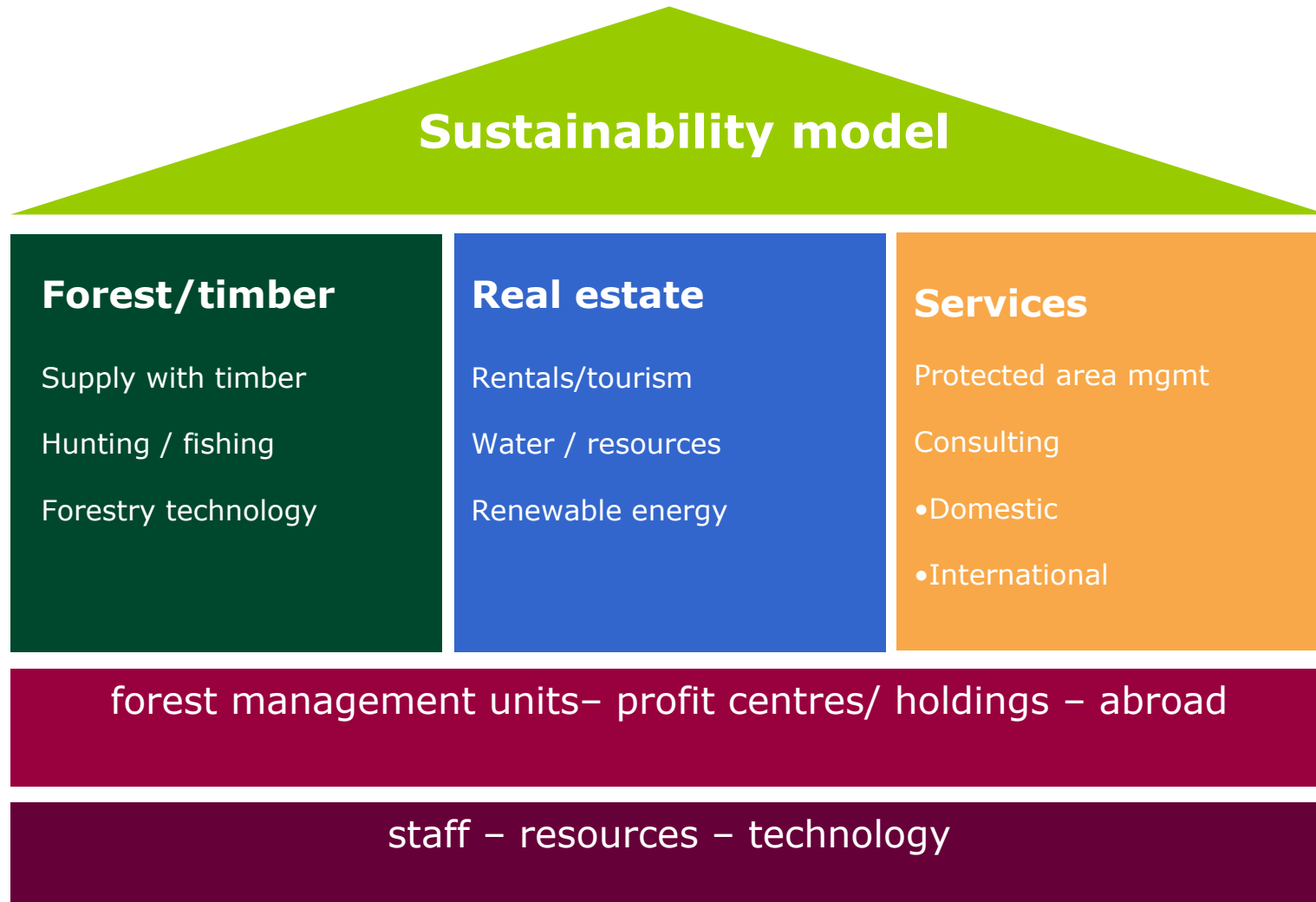
Our competence



- > Protected Area Mgmt
- > Sustainable Forest Mgmt
- > Biodiversity Conservation
- > Watershed Management

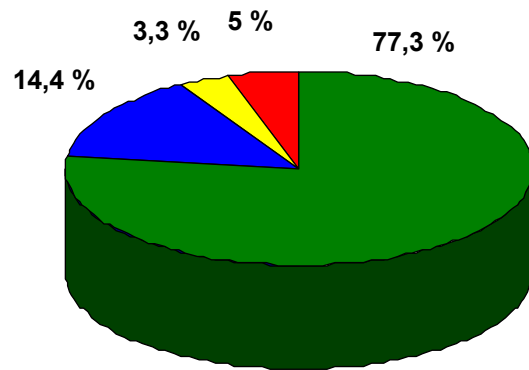
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Sustainability model



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Key Data 2005



- Forest/Timber
- Real Estate
- Services
- Other Services

TOTAL AREA 860,500 ha

- > Woodland: 516,600 ha
- > Managed forest: 354,900 ha
- > Lakes: more than 80 = 36,000 ha
- > Running waters: 2,000 km

Total sales revenue 2005: 179.3 Mio. €

Contribution to federal budget: 15.2 Mio. €

Employees: 1,149

Österreichische Bundesforste Consulting

International Experience

- 10 years track record
- Operating worldwide, with focus on European Union and CEEC
- Main clients
 - ODA Clients: World Bank, EBRD, EU (Phare, Twinning, Tacis, ...), FAO, Bilateral ODA org. (KfW, ADA, ...)
 - Governments / Ministries
 - Private Clients: Investment Banks, Forest and Timber Companies, ...
- Main services
 - Forest sector support (SFM, organisational development, SCM)
 - Protected area management
 - Carbon sequestration and bioenergy
 - Integrated water resource management

CLIMATE CHANGE EFFECTS

Some observations made by our staff

- Change in the vegetation composition – increased number of mesophile, Mediterranean species
- Increased damage by browsing since young plants are not covered with snow in winter
- Duration of vegetation period is increasing (11 days since 1960s)
- Changes in seasonal pattern (e.g. birds are breeding earlier; butterflies can be observed earlier in spring)
- Bears stop hibernating, raiding food/garbage bins
- New fish species are found in alpine lakes

CLIMATE CHANGE EFFECTS

Our conclusion

- Climate change is potentially threatening the natural production potential of the Austrian Federal Forests
- A further increase of damages caused by climate change (e.g. storms, drought, forest fires, mass regeneration of bark beetles) is very likely



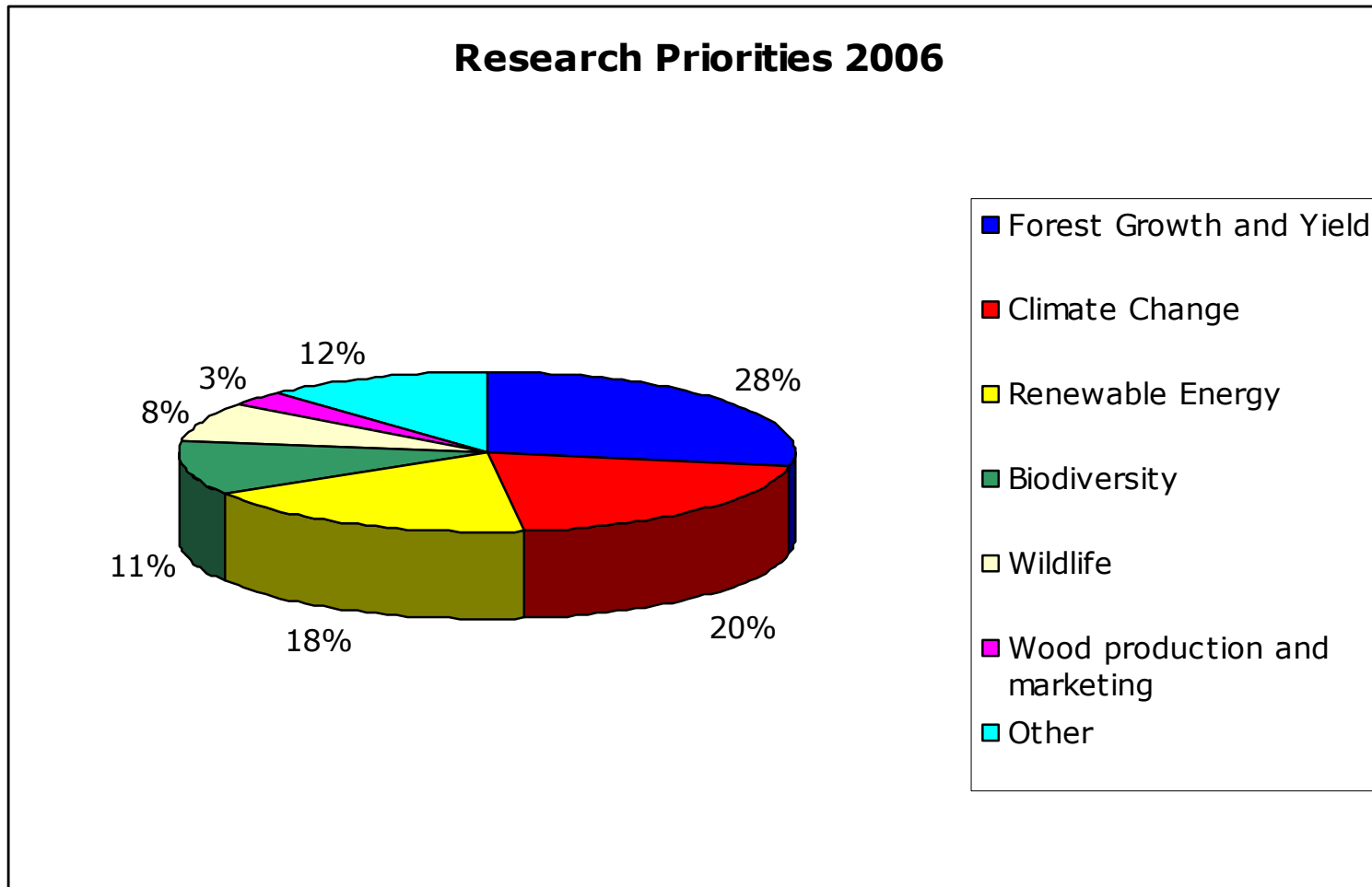
Our Response

Applied Research

- Own service field “Research and Development”
- Total budget 2006: EUR 250k
- 34 research projects
- Focus 2006 on Forest Growth and Yield and Climate Change

Our Response

Research priorities



Our Response

Selected Climate Change Research Projects

Project Name	Duration	Partner
ADAPT – Climate Change Vulnerability of Forests	2006 - 2008	BOKU, Institute of Silviculture
Risk Assessment Bark Beetles	2005 - 2007	BOKU, Institute of Forest Entomology
Provenience Trial White Fir	2004 - 2025	BOKU, Institute of Silviculture
Tree Vaccination against Bark Beetle	2005 - 2007	BFW, Carl Waldstein Network

Our Response

Selected Renewable Energy Research Projects

Project Name	Duration	Partner
Sustainable Use of Biomass – Follow-up study	2006	BFW (Institute of Forest Inventory, Institute of Forest Ecology and Soil)
Woodchip – Improvement of Supply Chain	2005 - 2007	BOKU (Institute of Forest Technology), Austrian Life Ministry, Vienna, Lower Austria Province
Biodiesel Production	2006 -2007	Company Choren
Sustainable Biomass Management in the Vienna Forest Biosphere Reserve	2006	BOKU (Institute of Silviculture), V.I.N.C.A
Regional Logistics and Supply Network for Biomass	2006- 2007	BOKU (Institute for Logistics)

Our Response

ADAPT example

- Objective: Assessment of climate change impacts on forest ecosystems and development of adapted management concepts

- Methodology:
 - Module 1 (susceptibility of selected forest types against climate variations, scenario simulations);

 - Module 2 (silvicultural mitigation measures)

- Deliverable: Manual

Our Response

Future research strategy

- Climate change will become most important research topic: improved risk assessment, adaptation and mitigation (to ensure sustainable forest management and production)
- Continued focus on renewable energy: efficient biomass supply, waste management/recycling of residuals from biomass burning
- Intensification of international contacts (EU 7th Research Framework Programme, IUFRO)
- Improved implementation of research results/lessons learned

ÖBf Response

Silvicultural Adaptation

- Selection of drought resistant species (increased share of deciduous trees in the lowlands)
- Promotion of mixed stands (e.g. larch)
- Replacement of exotic with native species
- Increased attention to the protective functions of the forest (preventing soil erosion, landslides, storm damage)

ÖBf Response

Environmental Education



- Cooperation with ZOOM Children Museum
- Exhibition: "Environment Checker"
- 50 m³ wood cube (equivalent to minute increment of Austrian forests)
- Climate Change Competition 2007: What would you do with the wood?

Biomass activities

SWH „Heat and Electricity from wood“ Ltd.



- 50/50 Joint Venture with „Wärmebetriebe GmbH“
- Market leader in construction and operation of biomass-fueled combined heat and power plants in Austria
 - 21 plants in operation
 - Total investment €150 million up to now
 - Production of 450 GWh heat and 130 GWh green electricity p.a.
 - Use of 1.3 million loose m³ p.a.
 - Another 11 plants planned
 - Approx. 300,000 tCO₂ savings p.a.
- Internationalisation Strategy since 2006

Biomass activities

Vienna-Simmering Biomass CHP Plant Ltd.

- Largest Woody Biomass CHP in Europe (max. 66 MW heat)
- Joint Venture with Wienenergie and Fernwärme Wien (33% share)
- € 52 million investment
- Fuel Efficiency >80%
- 48,000 households supplied with electricity, 12,000 with heat
- Use of 600.000 loose m³ p.a.
- Replacement of 72,000 tons of coal or 47,000 tons of oil per year
- 144,000 tons of CO₂ are saved annually

Austrian Federal Forests

Where Nature is at Home ...



Thank you ...