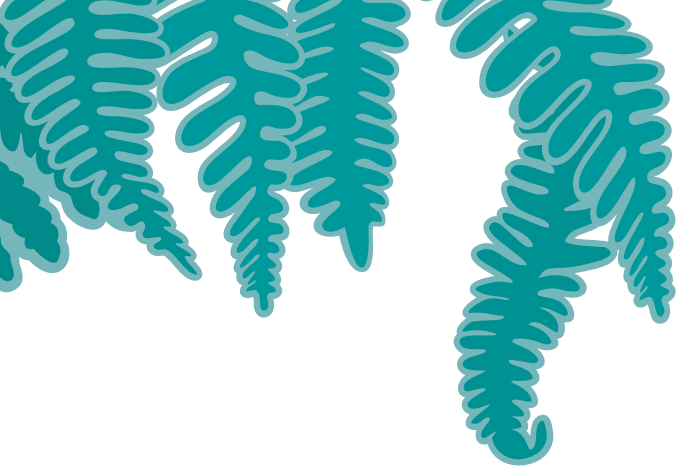


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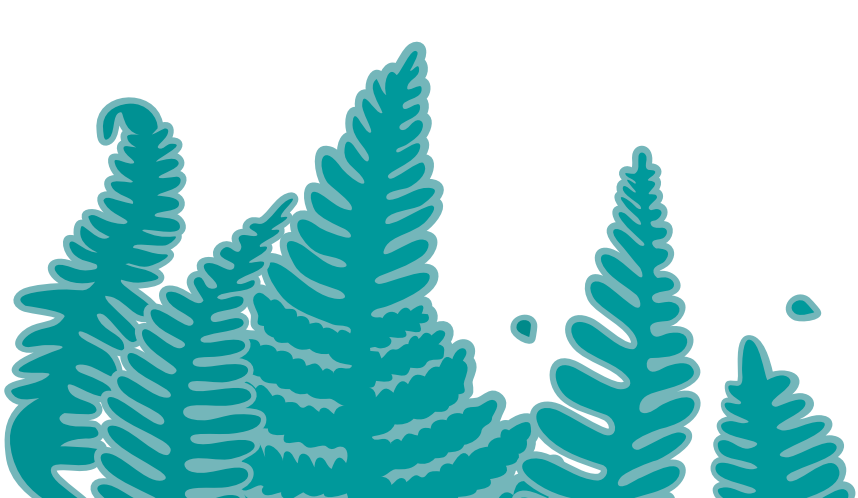

European State Forest Association (EUSTAFOR)
European Forestry House
66 Rue du Luxembourg
1000 Brussels
Belgium

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Eustafor:
innovation & development

EUSTAFOR in a nutshell

Established in 2006 by Metsähallitus (Finland), Office National des Forêts (France), Latvijas Vasts Mezi (Latvia) and Österreichische Bundesforste AG (Austria)
Currently **26 members** from **20 European countries**
Forest area ~ **45 million ha** (27% of EU forest area)
Protected forest area ~ **10 million ha**
Annual increment ~ **159 million m³**
Annual harvest ~ **112 million m³**
Number of employees ~ **113,140**

Mission and objectives

The mission of EUSTAFOR – a strong voice for European forests

EUSTAFOR, as a forum for the European state forest organisations, brings the positive contributions of forest management and of state forests in particular into the public view, in terms of the realisation of European sustainability strategies.

By supporting the pan-European sustainability strategies with all its strength, EUSTAFOR helps its members to implement their individual sustainability strategies.

The goal of EUSTAFOR is to promote the common interest of state forests in the EU in the scope of their sustainable development. The association supports and strengthens state forest organisations in Europe to maintain and enhance economically viable, socially beneficial, culturally valuable and ecologically responsible sustainable forest management.

The main objectives of EUSTAFOR are:

1) To analyse and investigate the existing framework conditions within the EU, in order to create the preconditions for sustainable management of state forests;

2) To facilitate and expand an exchange of ideas and contacts between the state forest organisations of Europe;

3) To keep its members regularly informed on topics and issues that concern the whole of Europe.

Executive Director's opening statement

The European State Forest Association (EUSTAFOR) was founded in the spring of 2006 with the aim of promoting cooperation and the exchange of information between agencies responsible for the administration of state forests. An organisation was needed that would coordinate such information exchange with European institutions and that would constitute a platform for the mediation of best practice to state forest authorities.

The members of EUSTAFOR – of which there were 26 at the time this booklet was published – come from a wide range of backgrounds in terms of the form they take, the scope of their economic activities and their size. There are forest management companies owned by the state, commercial operations and agencies charged with the task of administering national forests. Some of these organisations focus exclusively on the management of forests, while others are more broadly involved in business related to tourism, the timber industry and energy production. Some are responsible for forests throughout the country, and some for particular regions. But there is one thing they all have in common, and one goal they all share – they all manage forests owned by the state, and they all work to increase the value of these forests to society in general. And we are not talking a mere scattering of forests across the continent – but around 45 million hectares. It is difficult to overestimate their value from the point of view of timber production (averaging between 110 and 120 million m^3 annually), environmental protection and employment.

This booklet is designed to introduce readers to the different agencies charged with managing our state forests. We have chosen to do so by examining innovation and developments in the field, as we feel this will more effectively highlight the differences between them and provide more interest to readers. More information regarding EUSTAFOR can be found on our website at www.eustafor.eu

It is worth remembering that everything can be looked at from a number of different perspectives. Some of the novelties described in this booklet may see run-of-the-mill in the broader European (and global) view, but for a national forestry sector, not to mention an individual organisation, they may represent a significant step forward. Innovation is intriguing too for how pervasive a phenomenon it can be – emerging from the basic reorganisation of everyday production operations, or in the implementation of new technology, or through launching new public services. In many cases, and in many countries, the people who look after state forests have led the way and set the standard for others, benefiting everyone: clients and users of the forests as well as other agencies responsible for their administration. At the same time, this booklet is as much for us – the members of EUSTAFOR. In putting together our collection of stories of innovation and research and development projects, we have learnt a lot from each other. We have pooled our skills and our values as well as our problems, and this has brought us closer together.

Without people there are no organisations. That is why we have tried to personalise things a little for each of our members and include a picture of his or her manager or managers. Naturally, this only represents a fraction of the many, many valuable people (of whom there are almost 112,000) responsible for the development of state forests today and shaping their future. Unfortunately it is technically impossible to shine the spotlight on each and every one of them here. In any event, the people whose pictures you will find here are all directly connected to the operations of EUSTAFOR. They are the people who decide the direction the association will take each year, and whose visions of cooperation and the future of Europe's forests we are guided by.

A lot has changed since EUSTAFOR was founded. The organisation has grown in terms of its membership and operations alike. At the beginning of 2007 we opened our office in the European Forestry House, and intensive cooperation has been launched in the fields of bioenergy and climate change through two working groups. A newsletter is also sent out to our members from time to time – this booklet being a further step in that direction!

I would like to thank all of the members of EUSTAFOR and our partners for their assistance in preparing this booklet. I hope to see their passion for innovation continue so as to be able to develop the forestry sector into the most efficient and pioneering branch of the economy in Europe.

Yours Sincerely,
Erik Kosenkranius
Executive director

President: **Mr. Pierre-Olivier Drege** (France)

Vice-President: **Mr. Georg Erlacher** (Austria)

Members:

Mr. Hannu Jokinen
(Finland)

Mr. Tim Crowley
(Ireland)

EUSTAFOR's executive committee

Mr. Klaus Merker
(Germany)

Mr. Roberts Stripnieks
(Latvia)

Mr. Tomasz Wójcik
(Poland)

ÖBf ÖSTERREICHISCHE BUNDESFORSTE AG

Österreichische Bundesforste AG
(Austrian Federal Forests)
Area of managed forest: **0.52 million ha**
Number of employees: **1153**
Annual harvest **1.8 million m³**
Managing directors:
Georg Erlacher (CEO), **Georg Schöppl** (CFO)

Austria

Georg Erlacher (CEO), **Georg Schöppl** (CFO)

Boosting the Timber Supply Chain Management

Organisational processes and not modes of operation are increasingly becoming the main criteria of the organisational layout. Nowadays promptness and customer service are the cornerstones of any economic success. This was the reason why Österreichische Bundesforste AG initiated a project to optimise the logistics of timber production and transport. A maximum of one week should be the target aimed for, from felling to the arrival of the timber at the sawmill.

We are all aware of recurring problems such as for example during the individual wood harvests, delayed extraction in relation to the cutting, overfilled timber yards, uncoordinated and inadequate removal, negative weather conditions and supply embargoes of the sawmills and paper industry; and the often raised question: "How did the actual state of processing orders appear a few years ago?" A year later one just does not know. The fact is that our timber harvesting at that time, including, at least partly, the delivery to the customer, was far from ideal.

And last but not least, these unsatisfactory circumstances ultimately cost money, a lot of money. Logistics experts calculate that, through the implementation of an appropriate logistics concept for individual order processing, and based on an estimated sales volume of over 109 billion euros in the Austrian timber transport section (with average costs of €8.72/m³), a reduction in costs of approximately 15% or well over 14.5 million euros could be achieved for Austrian forest owners.

As, previously, with the harvest technology, the Scandinavian countries lead the way. With their perfected logistics concept they make sure that Central European forestry does not degenerate into a ritual of adherence to old methods.

In Central Europe, Dr. H.R. Heinimann, professor for forestry engineering at ETH Zurich, was and is one of the pioneers in discussing these problems and challenges. In relation to the already mentioned Scandinavian standards, Heinimann is looking for solutions for the various requirements of local forestry – timber harvest with minimal processing time, minimal stock holdings, adherence to delivery dates and the technical possibility to report at all times where and how much timber is in the logistics chain at any one time. These are the fundamental ideas on which the ÖBf concept is built. Heinimann invited the hands-on workers, along with the research people, to help develop suitable solutions for our Central European procedures.

Throughout Austria many such initiatives were taken, which gives great satisfaction. Heinimann also states that a complete logistics concept does not exist and that each company has to find its individual solutions.

The chain of economic value added was the starting point for all deliberations in the timber industry management project. The aim is to optimise all processes, from felling to end delivery, to regard it as an integrated whole, a single process of material flow. The challenge is to include all parties concerned, e.g. forest holding, felling passes, regulators, transportation companies, ÖBB and also sawmills and industrial plants, in an information network to encourage them to aim for a common goal – a process which enables all parties by technological means to submit regular reports (by SMS) to a common data bank on their daily output, providing regularly updated information on the status of the entire project. The computer technologists of both ÖBf AG and its customers play as much of a role in this key technology as the programme which was specially developed by the IT Department of ÖBf AG.

At the beginning of a timber harvest project, the goal of accomplishment, deadlines, structures, etc., within the framework of a virtual organisation are established with all parties (as suggested also by Heinimann), such as, for example, area leaders, skilled workers, the transport company and sawmill employees.

The timber harvesting projects already included in the annual felling programme for each forest area are already foreseen as individual projects and therefore form the starting point for the logistical concepts of material flow and process control. The conceptual design of the entire ensuing contract development process is effected with the cooperation of all parties, from the felling stage to end delivery. Irrespective of whether the harvest is carried out manually or mechanically, all information is processed daily, thereby providing up-to-date data for the use of all parties. After transmission of the information by SMS, all solid cube metres – felled, extracted, in individual storing places and already transported – can be called up from the Internet or ÖBf homepage.

Planning of logistics, network set-up, IT assistance, contract fulfilment, supply of information and communications systems and after-sales service are integrated into this project as the main support of a logistics service provider. This project has been on track since 2004 and is being implemented all over the country.

Dynamics of the forest resources in Bulgaria in different management regimes

Bulgaria

Национално управление по горите
(National Forestry Board)
Area of managed forest: **3.13 million ha**
Number of employees: **7539**
Annual harvest **4.2 million m^3**
Executive director: **Iliya Simeonov**

Iliya Simeonof General Director

The research work "Dynamics of the forest resources in Bulgaria in different management regimes" is assigned by the National Forestry Board within the Ministry of Agriculture and Forestry to a team of scientific specialists from the University of Forestry and practice experts. The budget of the Research work is €22,000 and it is expected to be completed by the end of 2007. The scientific product from the Research work is the elaboration of national, scientific-based, reliable information about the future development of the forests in Bulgaria in different management conceptions (regimes, scenarios) to support correct future management decisions for sustainable development of the forests and the forestry sector. The following main tasks are placed in the research process: analysis of the present Bulgarian, European and international experience in similar research developments; selection and implementation of appropriate methodology, which will make the research development product comparable to the other European ones; analysis of the research development results; formulation of adequate recommendations for the future management of forest resources and other components of the forestry sector.

The expected final results of the research development will be:

- Elaboration of a computer-based model for simulation of the dynamics of the forest resources in Bulgarian forests and instructions for its utilisation;
- Elaboration of three scientific-based management scenarios for future development of forests, as follows: "Basic Scenario," "Pessimistic scenario" and "Optimistic scenario"; the analysis and the elaboration of the simulation models is based on the existing statistics information about the forests in Bulgaria and on the usage of the European simulation model EFISCEN, as for this purpose a method for the transformation of the information into the form needed for working with EFISCEN is developed.

The first simulation with EFISCEN was made in the Wageningen Institute in Holland on the so-called "Basic Scenario," in which some basic positions for forest cover, the tree species and foreseen management activities are settled. The simulation results cover the annual harvesting in the forests, split into regeneration felling and thinning, changes in the average stock by hectare and the annual increment by hectare. The main comment is the following: despite the increase of the standing timber utilisation from a level of 3 to 8.59 mill. m^3, the average stock by ha will continue to increase and slowly will decrease the annual increment. The reason for the last is that the average age of forests is increasing, which is seen in the next 50-year period. This shows us that:

- The present conceptions are not the best and will favour potential losses in the increment and the growing stock in the forests;
- The forests in these protected areas, where harvesting is significantly reduced or forbidden, have to be taken out of the forest utilisation plans.

This research work is first of this kind in Bulgaria. It is expected that its results will be a very good basis for making political decisions in the field of forestry regarding the development and utilisation of forest timber resources.

Lesy České Republiky (Forest of the Czech Republic s.e.)
Area of managed forest: **1.339 million ha**
Number of employees: **3524**
Annual harvest **9.7 million m³**
General director: **Jiří Holický**

Czech Republic

Ing. Jiří Holický General Director

New Models of Timber Sales

Within the frame of long-term development changes at the state enterprise Forests of the Czech Republic, its management has been dealing with the issue of sales of timber that is the property of the enterprise. As a result of growth of new processing capacities in the Czech Republic and of the existence of historical relationships with individual customers, there has recently been a long-term excess in demand of timber compared to supply on both domestic and international markets. For these reasons, the enterprise Forests of the Czech Republic has decided to involve open public channels additionally in the models of timber sales, such as commodity exchanges, electronic timber auction, public auction (of already produced timber – valuable assortments), sales of standing timber – of the whole stands. Forests of the Czech Republic has the ambition to operate with these public channels in the subsequent period so they become a stable part of timber sales models. Through these public channels, the timbers of Forests of the Czech Republic is eventually offered to all persons interested in their purchase.

Since 2005, timber sales have been carried out through commodity exchanges registered in the Czech Republic and involved in trade with raw wood material. These are mainly the Kladno Czech-Moravian Commodity Exchange and the Prague Commodity Exchange. During 2006, approximately 400,000 m³ of timber from the resources of Forests of the Czech Republic was sold on the Commodity Exchange in Kladno. As a matter of principle, it can be declared that the timber suitable for sale through commodity exchanges is the timber of standard, mass and industrial assortments offered in greater volumes (over 500 m³) – pulpwood, saw timber.

Fulfilling these basic parameters, this open public market is becoming scarcely available to smaller – local processing plants. Within the frame of its policy, Forest of the Czech Republic does not intend to and cannot sell timber in such a way as to give any one person an advantage. That is why in 2006, elaboration of a project was initiated with the objective of selling timber through electronic auction as another public channel for the sales of timber of the state enterprise. This would mean an alternative to already established timber sales through commodity exchanges.

Timber sales through electronic auction is principally based on several fundamental parameters – sales transparency, sales of all the produced timber assortments, sales of smaller volumes, the target customer is the regional customer, timber sales at roadside in the forest, sales of the already produced timber (possibility of personal inspection) or sales of timber produced in the future.

The principle of timber sales through electronic auction is based on the competitiveness of individual persons interested in the purchase of timber, the price being the only decisive factor to win while respecting the uniform basic conditions stipulated in the contract between the persons concerned and Forests of the Czech Republic and by the individual conditions of particular timber offers.

Focus on the customer belongs to the advantages of timber sales through electronic auction – the customer has more information on the offer of timber in all assortments and the price development in individual regions of the Czech Republic. The use of e-Commerce has another indisputable advantage – the business will be carried out with minimal costs for the customers.

The enterprise based the setup of the entire philosophy on the available information of worldwide portals, e.g. eBay, further on the experience of individual European state forestry organisations. The meeting on Benchmarking in Vienna during 2006 and practical personal experience from Poland and Scotland represented an irreplaceable source of information.

The preparation of this sales model has lasted approximately two years. Several tests have been made and further development of the sales concept has been carried out within this period. For Forests of the Czech Republic, the cost of sale of one cubic metre through electronic auction is several times lower than the cost of sale using the current sales model.

The primary sales of timber using this model was initiated in the course of April. The enterprise Forests of the Czech Republic declares the sales of approximately 150,000-300,000 m³ still in 2007.

Amongst other models of timber sales, in 2007, the enterprise also intends to carry out the sale of valuable – mainly broadleaf assortments in the form of public auction – a similar system implemented with success in the surrounding states in Central Europe.

The enterprise management believes that both electronic auction of timber and public auction of valuable assortments will become, besides timber sales through commodity exchanges, other stable elements of the transparent public sale of timber of the state enterprise Forests of the Czech Republic.

Τμήμα Δασών (Department of Forests)
Area of managed forest: **0,11 million ha**
Number of employees: **440**
Annual harvest **5000 m^3**
General director: **Aristides Ioannou**

Cyprus

Aristides Ioannou General Director

The story of rehabilitation of the Asbestos Mine

Cyprus maintains a recognised place in forest history, despite its small size. At one time entirely forested, Cyprus was characterised as "Dasoessa" – the green island of the Mediterranean.

Cyprus forests, especially during classic times, have a long history of use and abuse by various conquerors. Today, the forests of Cyprus are an important natural resource with a significant contribution to the socioeconomic development of rural areas. These cover an area of 174,400 ha or 18.9% of the total land area (out of which 61.6% is state-owned).

Ever since the establishment of the Department of Forests in 1878, the Government has aimed at achieving certain definite objectives in managing Cyprus forests. The first forest policy statement was issued in 1950 and reconfirmed after independence in 1960. The current statement was issued in 1999.

The current forest strategy, known as the Rural Betterment Strategy, aims at safeguarding and expanding forest resources for the benefit of the whole community while capturing the advantages of development based on ecotourism. It is achieved through various actions including the restoration of degraded land in the wider countryside as in the case of the rehabilitation of the Asbestos Mine.

The Cyprus Asbestos Mine, covering an area of 332 ha, is situated in the heart of the Troodos forest. Following continuous operation for 84 years, the mine came to a sudden closure in 1988, leaving behind large volumes of wastes and a severe environmental scar in a protected area of high beauty and conservational value.

Soon after its closure, the government of Cyprus decided upon its rehabilitation using state funds. For this purpose, an interdepartmental technical committee has been appointed to cope with various and serious problems encountered. Participants in the efforts of rehabilitation are the Department of Forests, the Department of Geological Survey, the Water Development Department, the Environment Service and the Town and Housing Planning Department.

The activities carried out in sequence were the stabilisation and the reshaping of the waste tips, the preparation of the site for reforestation and revegetation and the establishment of a stable, self-maintained forest ecosystem with features similar to those of the neighbouring forest, especially with regards to species composition and canopy cover. With the restoration, a number of different objectives were pursued including: to cover the exposed serpentine surfaces that are potential sources of asbestos fibres and thus to reduce the release of fibres in the air that are harmful to human health, to improve the water catchment in which the mine is situated, to restore as much as possible the initial potential uses of the area and its aesthetic and other environmental values.

The entire work of rehabilitation was extremely difficult taking into consideration the prevailing site conditions like the complete lack of soil, the high inclination over the most of the area and the undesirable properties of wastes such as the high Mg:Ca ratio, the high concentrations of toxic heavy metals and the high pH value.

The practice followed included: opening trenches (50 cm wide x 100 cm deep) and filling with top soil enriched with manure and organic material especially on inclined areas; spreading top soil (layer of 30 cm) between trenches on flat areas; planting with tree and shrub species indigenous to the area; seeding using a mixture of 18 different species of perennial and biennial herbs, sub-shrubs, shrubs and trees; thatching to protect soil from erosion, to reduce evapotranspiration, to protect the seed from being washed away and to enrich the soils with organic matter; maintenance and tending activities like irrigation, weeding, fertilisation, beating up, pruning, spraying and protection from fires.

Since 2001, hydro seeding has been used with good results.

So far, the rehabilitation process is very successful and promising and about 65 ha have been restored.

Forestry Commission

Forest Enterprise England (Forestry Commission)
Area of managed forest: **0.26 million ha**
Number of employees: **870**
Annual harvest **1.45 million m³**
Head of Sustainable Forestry and Land Management: **Brian Mahony**

England

Jeskyns Green Space Project

Jeskyns Farm was purchased by the Forestry Commission in April 2005 using funds from the Office of the Deputy Prime Minister's (ODPM) Thames Gateway Delivery Unit. The £5 mil project will create 147 ha of new community green space for Gravesend, Kent within the designated Thames Gateway "Community Growth Area." The new green space opens to the public in July 2007, and will be completed in March 2008.

Jeskyns is a demonstration of the Department of Communities and Local Government's (DCLG) policy to increase the scale of green infrastructure and will provide a major long-term benefit for local communities in Gravesend and the surrounding area. The population within easy reach of Jeskyns is around 85,000.

An Innovative Approach

Many elements of the project during its life cycle have utilised new methods of delivering and managing green space in an urban environment. From the original conception and rapid turnaround of the funding agreement with DCLG, the project to deliver Jeskyns has demanded new approaches to ensure that local expectation, ecological and social demands are met. Particularly innovative methods have included:

- Extensive and inclusive stakeholder and community consultation through tailored means
- A design that created interest from a blank canvas
- Natural play equipment designed to stimulate children's imagination
- New methods of bridge construction for aesthetics and sustainability
- Research projects into the impact of farm, forestry and meadows on water quality and quantity, and the use of biodegradable mulch mats
- Pioneering methods of creating new biodiversity rich meadows on former high intensity arable land
- New ways of engaging with the public and schools to offer the benefits of green space

When purchased, Jeskyns Farm was a typical intensive arable farm with many of the natural habitats either lost or damaged. By using the Forestry Commission's expertise in creating and managing accessible green space the Jeskyns project is converting this arable land into a high quality green space.

An extended period of consultation from May 2005 to June 2006 involved a wide cross section of potential users and stakeholders with an emphasis on residents of Gravesend where local schools helped form the design and development plan for Jeskyns. This exercise was one of the first steps in developing the sense of community ownership.

Jeskyns now offers:

- 7 km of all ability (surfaced) trails and a further 11 km of quality grass trails;
- Woodland with 130,000 trees and shrubs planted, including over 2700 fruit trees;
- New hedgerows, extending to some 8 km;
- Open space for informal recreation;
- A variety of Biodiversity Action Plan (BAP) target habitats including one of the largest grass and wildflower meadow re-creation sites in the country; and
- Educational and interpretation facilities and innovative natural play equipment.

Social and Environmental Asset

It is the FC's work to encourage Gravesend residents and school children to participate that will transform this well designed green space into a valuable social asset. The opportunities for both formal and passive outdoor education are extensive. Volunteer opportunities to work on some of the most interesting habitats abound. This will build on the progress made in developing community spirit, offer opportunities for the enhancement of skills and confidence, and offer healthy outdoor activities.

An increase in the biodiversity of the area is being delivered through the creation of extensive new habitats at Jeskyns. The continued work on uplifting the ecological quality of Jeskyns further demonstrates how the Forest Commission is delivering a sustainable and valuable environment within the Thames Gateway.

Utilisation of logging waste in Estonia

Half of Estonia's land territory is covered by forest, and forestry is an important sector of the national economy. Investments made so far have mainly focused on log processing and, to a lesser extent, utilisation of pulpwood. Relatively little has been invested in the utilisation of wood fuel in energy production. Firewood is traditionally used for heating in boiler plants and households. At the beginning of 2007, the Parliament adopted a law facilitating investments in renewable energy production in order to reduce CO2 emissions and meet Estonia's commitments under the Kyoto Protocol, as well as to decrease energy dependence on Russia by establishing combined power and heat plants near cities. Demand for wood-based fuels is therefore expected to increase substantially in the near future. The timber panel industry is also competing for the same raw material. All this compels us to seek new possibilities for utilising additional resources. Logging waste has been practically unused so far, but its utilisation would help increase the added value of forestry and the income of forest owners. Since this is a new field of activity for forestry, new technologies need to be developed and implemented, which would take into account natural conditions and be environmentally sustainable. Considering the fragmentation of private forests and minimal cooperation between private forest owners, the State Forest Management Centre (RMK) is currently the only strategic partner for energy producers in this area.

At the end of 2005, RMK launched the project "Preparation for the adoption of logging waste as a renewable energy source," which is funded by the EU Structural Funds (ERDF). The project provided for the following activities:

- Research into the volume and calorific value of logging waste to be used, and into the impact of collecting such waste on soil, fauna, and flora;
- Comparative analysis of collection technologies, preparation of selection criteria and environmental requirements for the most appropriate (in terms of Estonian forest habitat types) technology for collecting logging waste, based on the principles of sustainable forestry;
- Development of logging waste collection and transport logistics and relevant IT software and GIS solutions; integration of the software with the state forest register and RMK's forestry information system;
- A pilot project for testing the research results and technology.

Environmental research conducted during the project shows that although supplying logging waste has its negative aspects, the overall impact is not negative. To minimise negative impacts, removal of old and rotting logging waste was abandoned. To save the soil fauna, the fine parts (needles, leaves, small twigs) of logging waste are allowed to fall before collection. The important positive factors are better conditions for reforestation, reduction of the number of noxious insects, and reduction of fire hazards. Logging waste left in dry places has resulted in an enormous fire hazard for many years. Although collection of logging waste should not reduce the nutrient content of soils, the risk of this can be further reduced by re-utilisation of wood ash. The new Forest Act, adopted in 2006, alleviated restrictions on the supply of logging waste by revoking the prohibition on collecting logging waste in dry boreal forests.

The peculiarity of Estonian forests is the great share of forests where the topsoil is soft. This limits the volume of available logging waste, as a large part of the waste needs to be placed in drag roads.

It is crucial to find the appropriate balance between logging waste placed in drag roads and logging waste collected for fuel. It is estimated that about 70% of logging waste is treaded into the soil on drag roads and cannot be recovered later. Therefore, it may be estimated that about 90,000 cubic metres of logging waste is practically usable in state forests. This does not include scrub collected on open utility lines and along the roads, or stumps collected in cutting areas or cuttings carried out in protected forests.

For organising the collection and transport of logging waste, RMK has supplemented its forest information system and stock accounting modules; a logistics solution is being developed. Considering Estonia's current economic situation, the minimum quantity of chips to be collected from one cutting area would be 80 m^3 of bulk material, and the consumer's distance from the place of supply should not be more than 70 km. In the case of large-scale consumers, the distance of supply would be increased to 120 (150) km.

To test the research results and technology, RMK has established 40 test areas (more than 100 ha). Experience and knowledge acquired from the tests should be clarified by the end of 2007. It is also clear that constant monitoring and research in this new area will continue over the forthcoming years.

In 2005 and 2006, RMK collected 4000 and 12,500 cubic metres of logging waste, respectively. The latter accounted for 1% of RMKs timber sales. It is planned to increase the volume of utilised logging waste to 26,000 cubic metres in 2007. To reach this target, RMK has scheduled a number of training days for forest managers, cutters, and consumers of logging waste. The first steps have thus been taken and it may be presumed that the national environmental and tax policy, CO2 quotas, support for energy projects, the rising prices of fossil fuels, and new technologies will yield the result that all usable logging waste will find a consumer in the next few years.

Riigimetsa Majandamise Keskus
Area of managed forest: **0.82 million ha**
Number of employees: **1100**
Annual harvest **2.56 million m^3**
Chairman of the management board: **Ülo Viilup**

Ülo Viilup Chairman of the management board

METSÄHALLITUS

Metsähallitus
Area of managed forest: **3.5 million ha** (the total land area including statutory protected forests **9.0 million ha**)
Number of employees: **2003**
Annual harvest **5.0 million m^3**
Director General: **Jyrki Kangas**

Finland

Jyrki Kangas Director General

Extensive investments in social obligations - a method for measuring costs and benefits developed by Metsähallitus

A survey of investments related to the general social obligations imposed on Metsähallitus's business operations has been completed by Metsähallitus. Emphasis on biodiversity, recreational use of forests, reindeer husbandry, Sámi culture and employment had an impact of 38 million euros on the financial result of business operations in 2006.

The sum of 38 million euros can be considered as an investment by Metsähallitus's business operations in the related social interests. The figure is remarkable in comparison with the forestry unit's turnover of 225 million euros or Natural Heritage Services' total expenditure of 54 million euros in 2006. The sum is also larger than had previously been estimated.

The Act on Metsähallitus, the law regulating Metsähallitus's business operations, lays down the general social obligations of the company. The majority of these obligations affect the Forestry unit but do not apply to Metsähallitus's subsidiaries or the Natural Heritage Services. The obligations are imposed by the State and are monitored annually.

The obligations are reflected in practise in land-use decisions and, for example, in higher planning costs. For example, in order to safeguard biodiversity, extensive valuable habitats and small occurrences of particular species have both been excluded from felling operations to a significantly larger extent than the Forest Act requires. Recreation is promoted by landscape fellings and management of game habitats. In the reindeer herding area, fellings are restricted in areas used by reindeer as winter pastures.

Land-use decisions often serve multiple obligations: valuable habitats also benefit from recreation, while restrictions for the sake of reindeer husbandry in general also promote biodiversity. All in all, fellings are restricted or entirely eliminated in around 16% of the total forest area managed by the forestry unit.

The investment in social responsibility is significant, but so are the benefits. The investments in biodiversity in managed forests are focused on the most fertile lands and areas with a high growing stock, thus contributing effectively to the existing network of protected areas. Benefits to reindeer husbandry include a decrease in supplementary winter-time feeding costs.

The investment in social obligation is assessed by cost-benefit analysis. The cost is measured by counting a value to the wood stock that is left out from fellings or transferred to a later time in order to support biodiversity, recreational use of forest, employment or reindeer husbandry and Sámi culture. The benefits achieved with respect to biodiversity or recreational use are more difficult to measure and quantify. Yet, it is precisely the kind of information that the Finnish Parliament and ministries, as well as Metsähallitus, need, because balancing the financial profit target and social obligations is largely a political decision.

In future, Metsähallitus will monitor how the obligations are met and report to the Ministry of Agriculture and Forestry and the Government. The monitoring system will provide the state owner with information on investments made and the benefits achieved through them, providing better preconditions for defining obligations and deciding whether they are in correct relation with the profit target.

Taking into account social obligations, the significance to society of Metsähallitus's services can be broadly divided into three aspects:

- EUR 65 million contribution from profits to the state revenue
- EUR 38 million investment in general social obligations in connection with business operations
- Natural Heritage Services: investment of EUR 54 million of state budget finances in the provision of public services.

Office National des Forêts

Office National des Forêts
Area of managed forest: **6.7 million ha** (plus **8.3 million ha** in municipal forests)
Number of employees: **10558**
Annual harvest **6.62 million m³**
Director General: **Pierre-Olivier Drège**

Pierre-Olivier Drège Director General

Carbon sequestration and forests: the way of the future and ONF's contribution

International news in 2006 was marked by the preparation of the first Kyoto Protocol target period (2008-2012) and thoughts about how to combat the problem of climate change after 2012. The ONF's "greenhouse effect" mission continued to be involved with the inter-ministerial greenhouse effect mission. In particular, the ONF participated as an expert in various international negotiations and in preparations for the 12th session of the Conference of the Parties to the Climate Change Convention, which closed on the 17th of November 2006 in Nairobi.

France's implementation of the Kyoto Protocol involves generating statistics on soil use and change of use. French Guiana is a crucial issue, because the surface area covered by forest is significant: 8 million ha. Changes in land use, especially for tropical forests (deforestation), are the second largest source of emissions of CO_2 in the world. The inventory of greenhouse gas (GHG) emissions in French Guiana was launched in 2006. It uses two studies to which the ONF contributed: tree-measuring references for the Guyanese forest, and the teledetection monitoring of surface areas that have undergone a change in land use since 1990.

Developing forest carbon sinks

In line with environmental concerns, the ONF will actively participate, along with its subsidiary ONF-Energy, in the development of wood energy uses and will be involved in establishing a tool for creating carbon values.

In France

- The ONF, in conjunction with the France Forêts association, designed experimental domestic projects and selected a dozen forest pilot sites for optimising carbon sequestration. Each one raised a specific silvicultural management difficulty. Others could be proposed to public or private partners wanting to take action against climate change.
- The ONF also participated in the symposium titled "Greenhouse Effect: Danger. The Urgent Need for a New Energy Model" held in June 2006 in Paris. The CEO underlined the essential role of the forest in reducing GHG through its natural ability to trap and sequester carbon, and produce renewable substitute products.

Beyond France

- Through its subsidiary, ONF-International, the ONF has acquired – since 1997 – a wealth of experience in reducing the greenhouse effect and carbon sequestration, through reforestation. For example, ONF-I has planted more than 2,000 ha in Mato Grosso (Brazil) to create a carbon sink, in partnership with Peugeot. Two other projects are underway in Colombia (4,300 ha, 20,000 ha in the long term) and Chile, involving the indigenous communities and aimed at preventing soil degradation. There are others in the pre-operational stage in Azerbaijan, Gabon, Cameroon, and Ghana.
- Boosted by its knowledge of carbon matters, ONF-I is often approached for training, assessments, feasibility studies, and collaborative projects with international institutions: the World Bank, the French Development Agency (AFD), etc.

In addition to acting as a driver for this market, the mission of ONF-Energy, a joint subsidiary of the ONF and FNCOFOR (representing community-owned forests), is to promote the use of wood energy. Wood energy, a renewable energy substitute for fossil fuel, is increasingly becoming a viable economic choice, as attested by the strong increase in consumer demand for firewood in 2006. Its use helps fight climate change by building carbon sinks and reducing emissions through energy substitution. The more efficient forestry production operations favour the intensification of sinks rather than vegetation, which, without management, would be largely left to itself. With the largest percentage of forest resources in France, the ONF, along with its partners at FNCOFOR, has taken a significant position on this future market.

BAYERISCHE STAATSFORSTEN
Nachhaltig Wirtschaften.

Bayerische Staatsforsten AöR
Area of forest: **0.8 million ha**
Number of employees: **3000**
Annual harvest **5.4 million m³**
Board of directors:
Rudolf Freidhager, Karl Tschacha, Reinhardt Neft

Germany Bavaria

Dr. Rudolf Freidhager, Karl Tschacha, Reinhardt Neft,
Board of directors

Development story of Bayerische Staatsforsten AöR

On the 1st of July 2005 the company Bayerische Staatsforsten (BaySF) began its business under the legal form of an institution of public law. According to the public forest law of the 21st of April 2005 Bayerische Staatsforsten takes over responsibility for the management of 720,000 hectares of forest and about 85,000 hectares of miscellaneous area of Bavaria.

Bavaria stays the proprietor of the public forest areas, and Bayerische Staatsforsten receives a gratuitous right of use. The company is, with about 5 million solid cubic metres of turnover, one of the biggest forest companies in Europe and the most important timber supplier in Germany. The anticipated annual turnover of Bayerische Staatsforsten is stated at about 330 million euros (2007).

The main task of the company is – in association with the forest law for Bavaria and the public forest law – the exemplary cultivation of the public forest under consideration of the basic principles of nature-orientated forestry and under the cover of the protection and recovering functions. Bayerische Staatsforsten realises this according to the basic principle of ecological, economic and social sustainability. Beside the use of timber and its commercialisation Bayerische Staatsforsten manages hunting in state forests: it is a major goal to allow the natural regeneration of young trees by establishing a well adapted stock of game.

Corresponding with the public forest law the company Bayerische Staatsforsten consists of the organisation's board of directors, board of managers and advisory board. The company is based at its headquarters in Regensburg, from which 41 regional forest companies with 370 forest districts and several supra-regional institutions are coordinated.

The current development of the company since its foundation in July 2005 has been good. The transformation of tasks in relation with the realisation of the forest administration reform was well-regulated.

The major investments in the wood industry in Bavaria (locations Ingolstadt and Landsberg/Lech) had a positive influence on forestry and the company. These opportunities for the timber market were taken and the price and contract form has been put on a stable basis with partners from the wood industry.

In the first fiscal year the management worked with external consultants and more than 150 employees on an intermediate-term concept of sustainability (=company concept). The concept of sustainability describes the objectives in the company for the coming five years.

Landesforstverwaltung Brandenburg
(Forest Service Brandenburg)
Area of managed forest: **0.27 million ha**
Number of employees: **2595**
Annual harvest **1.6 million m³**
Executive Director: **Karl-Heinrich von Bothmer**

Brandenburg Germany

Karl-Heinrich von Bothmer Executive Director

Online-marketing of hunting activities

The establishment of "New business fields" within the forestry sector is a promising field which not only creates new marketing possibilities due to diversification of products but also supports the specialisation and personal engagement of forest employees.

In Brandenburg, the federal state surrounding Berlin in eastern Germany, different ideas to market "new products" are being set. "Horse riding with foresters" is a popular alternative to guided forest walks. A wildlife meat supply cooperation between the forest service and a local meat-processing company results in fresh and healthy meat and sausage specialties.

One very promising initiative is the marketing platform for hunting activities – (Translation: Jagd (germ.) = Hunt (engl.)).

Since autumn 2005 the forest service of Brandenburg has offered this service in cooperation with the agency TOPJAGD hunting activities via the Internet homepage . Through this practicable platform the diverse hunting experiences can be advertised and marketed. During 2006 the cooperation expanded successfully for both sides.

www.Jagd1.de is a contact forum between (private) hunters and the forest service of Brandenburg. Advantages are not only financial profits due to commercialised hunting but also the optimised realisation of wildlife management plans (particularly game animal trophies). Thus marketing opportunities can directly be influenced by the offering.

Customers benefit from many advantages, especially through the easy and well structured search method for a suitable offer. Particularly the option of a map-based search of the regional forest teams and the immediate listing of all available hunting activities result in an easy and comfortable search. An overview of the hunting areas and relating contact details represents an easy option to directly contact the offering forest team. The variety of offers is wide, ranging from individual shooting of game over participation in driven hunts to the purchase of a temporary and regional licence to hunt. The marketing of hunting tourism and hunting huts is currently being developed and is going to complete the potential of www.Jagd1.de.

The positive response to this form of marketing became evident a few weeks after the launch of the project. 30,000 website hits were already listed during the first weeks. Revenues due to the marketing by www.Jagd1.de amounted to €27,000 after six months. During the hunting year 2006/2007 a total of 10,000 head of game were shot by regional hunting licensees and guests of the forest service of Brandenburg. Basic fees, charges for hunting stands and trophy hunting contributed to revenues of around 1 million euros.

Niedersächsische Landesforsten

Niedersächsische Landesforsten
Area of managed forest: **0.34 million ha**
Number of employees: **1425**
Annual harvest **2.0 million m³**
Management Board:
Klaus Merker (President), **Klaus Jänich** (Vice-President)

Germany Lower Saxony

Klaus Merker President, **Klaus Jänich** Vice-president

LÖWE and wood flow management

According to our motto we are aiming for permanent improvement of services and financial results delivered to the State of Niedersachsen (Lower Saxony), our owner. We think that the state of Niedersachsen as well as the people living in Niedersachsen should expect nothing less.

As a relatively young enterprise, organised as an *Anstalt öffentlichen Rechts* (public agency), we own 342,000 hectares of forest in Niedersachsen. The reorganisation towards an independent structure aimed at an ecologically sound and economically successful enterprise: the first two years have shown that our work lives up to these expectations.

Based upon our strategy and the portfolio of goods we deliver, our certification with the PEFC is a clear statement on our basic principle: sustainability. Based upon the MCPFE process in Europe this certification scheme is both an independent certificate and a political statement.

Our forest management efforts are guided by the laws in Niedersachsen and by our self binding LÖWE (long-term ecological forest development) program which describes our forest strategy. Based on 13 principles we manage the forest very closely to nature. These principles deliver it all: a very good economic result, a healthy forest system and a forest which is ready to host the around 250 million yearly visitors.

Besides managing the forest under those terms and clear economic aims, in 2006 we turned the decade-long negative results towards our first positive result.

Not everything we deliver is covered automatically by our LÖWE programme and not everything we do in the area of nature conservation and forest education can be delivered for free. The State of Niedersachsen has arranged with our enterprise to deliver certain services that are paid for by the state. We are proud of the trust placed in our enterprise.

Designing the future

In 2006 we have installed new software improving our wood flow. A GIS-based software (Geomail) is used to:

- mark the work plan for harvester and forwarder in the digital map
- guide the harvester and forwarder to and in the working areas with GPS
- describe the skidding tracks in the stands as well as the wood assortments to be harvested
- record the driving movements of the harvester in the working area (via GPS) and forward all the information via e-mail to the forest district and forwarder operator
- record all places where the forwarder stores the forwarded timber and also inform the buyer of the wood about the location, mass and timber sorts (via Email)
- allow the truck driver to easily and completely find all wood based upon an extended navigation system that includes our forest roads.

This system not only improves the wood flow and eases the work of the forwarder operator and truck driver but also allows the forester to prepare the harvester operation well in advance. It also saves time for the forester to show the truck driver around. The operators are able to organise their work in a more autonomous way, a very important factor given the fact that the operators of the harvester and forwarder work in a two shift system and have longer operation hours than the responsible forester.

Additionally the direct sending of information is much faster and cheaper than the previously used system. This system is not only used by our own machines but we also successfully promote its use with our private contractors.

The open system is truly designing the future of work in the highly mechanised forest harvesting; it creates interesting jobs for our employees, creates additional benefits for our customers and fits perfectly into our efforts for improvement of services.

Landesforstverwaltung Baden-Wurttemberg
Area of managed forest: **0.33 million ha**
Number of employees: **1659**
Annual harvest **2.49 million m³**
President: **Fridolin Wangler**

Fridolin Wangler President

Wood moves in a new direction

Holding one's own in the competition

Apart from the qualities offered by wood itself, other criteria are increasingly playing a critical part in the delivery of orders for round timber: reliability of supplies, punctuality, and the bundling together of delivery units are important parameters for customers that have to hold their own in global competition.

Baden-Württemberg's forestry administration makes its contribution to a competitive value-added chain in the forestry and wood industry.

For this, it is essential for it to be familiar with the needs of all customers and to satisfy these needs consistently.

Tailor-made for each customer

Untapped possibilities for making product improvements, rationalising and reducing costs can be found all along the wood supply chain. These exist from the very start when customers are being advised and the contract is drawn up. For instance, the small sawmill with suppliers close by is well served by the wood salesman at Baden-Württemberg's forestry administration who has been assigned responsibility for it. The local wood salesman is familiar with the needs and the product requirements of his customers and keeps in close touch with them. Both parties can thus adapt to constantly changing conditions on short notice. This is where flexibility plays a major role.

The big customer, on the other hand, makes quite different demands on its suppliers. What matters most here is to ensure that a long-term supply of raw materials is maintained at a high level. This requirement is satisfied by the wood-selling departments at the Regierungspräsidien /regional government authorities/ with their customer service staff. Each of these customers has a contact at the supplier's who ensures that contracts are meticulously adhered to and discharged to the satisfaction of all concerned. Daily contact with the customer's buyers is advisable since the aim is to keep strengthening cooperation so that they can position themselves together for the future.

An old game with new rules

The actual delivery of wood must also be orientated to the needs of each and every customer. The correct dimensioning of the wood, accurate adherence to the quantities to be delivered and to the delivery deadline, plus the selection of the right place for delivery are the criteria by which suppliers will be assessed. Baden-Württemberg's forestry administration establishes its range of services for both the wood buyer and for the forest owner – in constant adaptation to the needs of the market – and delivers tailor-made solutions for virtually any requirement.

An essential instrument for coping with these tasks is the forestry administration's new logistics concept ZHB (wood distribution centre) with regional directors of operations. With its own machines or in cooperation with proven and locally domiciled forestry enterprises, the ZHB is to contribute to mobilising a wide range of mass products for industry mainly from state-owned forests. Through extensive calls for tenders, the ZHB is in the position to offer all forest owners long-term favourable rates for high standard harvesting. Decisions regarding forestry management and planning remain with those who are responsible locally.

Satellites provide the solution

Another step in the direction of optimised wood transport logistics is the forestry administration's "woodpile management" project. With the procurement of GPS receivers for all area managers, the geokeys of each woodpile can be registered: with the help of the stated coordinates, the position of each and every woodpile can be reliably located on a map. This will make it possible for every carter to find a woodpile without having to ask the locally responsible area manager for help. Unnecessary and expensive mileage for complicated searches can thus be avoided.

coillte

Coillte
Area of managed forest: **0.45 million ha**
Number of employees: **1300**
Annual harvest **2.69 million m^3**
Chief Executive: **David Gunning**

Ireland

David Gunning Chief Executive

Lough Key Forest and Activity Park, Roscommon

Coillte is Ireland's largest land owner and recognises that forests provide an excellent landscape for a wide range of recreational activities and as such has a special place in the provision of access to recreation. Each year, Coillte welcomes over eighteen million visitors to its forests with an estimated value to users of €97 million per annum. It has ten forest parks, over 150 recreation sites and manages over 50% of all the off-road national long distance hiking routes.

Lough Key Forest and Activity Park is one example of the innovative projects which Coillte has been involved in in this sector and has resulted in the development of a unique, world class tourism facility in County Roscommon.

The new development was opened by the Minister for Agriculture, Mary Coughlan, TD in May 2007. This €8 m project is funded by the Irish Government and part-financed by the European Union under the National Development Plan 2000-2006 Tourism Product Development Scheme administered by Fáilte Ireland – the Irish Tourism Authority.

As part of the development a 300-metre long **Tree Canopy Walk** – the first of its kind in Ireland – was constructed using timber in an innovative and elegant engineering solution that demonstrates the capabilities of timber as an engineering material. The tree canopy walk forms part of the **Lough Key Experience** – an audio self-guided trail combining the 19th century underground servant tunnels and the refurbished **5-storey Moylurg viewing tower** from which the expanse of the entire park can be seen.

The new development also features the unique **Boda Borg House**, an indoor adventure space containing numerous rooms in which absorbing puzzles and challenging tasks test teamwork, ingenuity and skill, the only one of its kind in existence outside of its home country Sweden.

Other visitor attractions at Lough Key Forest & Activity Park include a new outdoor **Adventure Play Kingdom**, the 350 Hectare Estate including 19th century parkland with majestic trees, follies, bridges and canals, an abundance of walks & trails through the native woodlands, Bog Garden & Forests and a new restaurant with breath-taking views of Lough Key, Castle Island and Rockingham Harbour.

Partnership - the key

Lough Key Forest and Activity Park has been developed by Moylurg Rockingham Limited, a joint venture between Coillte and Roscommon County Council – the local government authority. The development was commended by the Minister for Agriculture when she opened it for the collaborative and environmentally sensitive manner in which it has been undertaken.

Forests provide an excellent landscape for a wide range of recreational activities and there is a growing recognition of the social and economic values of these facilities and their national importance.

The development of Lough Key Forest Park began as a result of local action and consultation and culminated in the establishment of the joint venture company, Moylurg Rockingham Ltd., by Coillte and the Roscommon County Council, to oversee the project. The bringing together of the state forest company and the local authority was challenging as both organisations had differing yet overlapping objectives. However this partnership proved to be the most innovative and valuable element of the Lough Key project and provides a valuable model for further developments in this sector. The new company was able to secure support from the European Regional Development Fund at a grant rate of 75% of the cost of the development.

This project is a very good example of a partnership approach and also of the commitment of the Government and the EU to developing the tourism sector here in Ireland. However, Lough Key Forest and Activity Park is not an isolated example of the development of recreational facilities in our forests. Coillte is actively involved with a number of bodies across the country in the development of forest recreation infrastructure, including Fáilte Ireland, (the Irish Tourist Board) and the Forest Service of the Department of Agriculture, through the Neighbour Wood Scheme and several other local authorities.

LATVIJAS VALSTS MEŽI

Latvijas Valsts Meži
Area of managed forest: **1.39 million ha**
Number of employees: **750**
Annual harvest **4.57 million m^3**
Chief Executive: **Roberts Stripnieks**

Latvia

Roberts Stripnieks Chief Executive

"Latvijas valsts meži" grows the trees of future.

The company LVM is developing fast and invests in the production of forest plants, gradually introducing new technologies allowing for a fast increase in production and sales volumes. During the last two years investments into research have improved the selection of plants and their mineral nourishment, ensuring that they better take root and grow faster in the forest. LVM for the introduction of modern technologies and development in the field of forest plant production has received the Latvian Employers Confederation Award for Innovative Entrepreneurship. This recognition serves as a proof that the Latvian forest and wood processing sector is able to develop as a modern, effective and technologically speaking highly developed sector.

Plants throughout the year

Significant investments have been made into three plant nurseries of strategic importance – Strenči, Mazsili and Podiņi. New complexes for plant sorting and storage were commissioned recently – the most modern and effective in the Baltic States.

The use of the storage facilities will extend the term for spring planting of the forest plants, preventing the plants from breaking into leaves on the first warm days of spring. It will allow simultaneous sales of a much larger volume of plants (approximately 10 million plants*), supplying to clients the plant material at the most appropriate season for forest planting, thus increasing the volume of growth in forest and lands not suitable for agricultural use alike.

Novelty - hybrid aspen - the tree of the future

The implementation of investment projects has allowed us to start industrial production of hybrid aspen and offer it to the Latvian as well as European markets.

Hybrid aspen is an interspecies hybrid of the ordinary aspen *Populus tremulae* and American aspen *Populus tremuloides*, which can be used both for planting forest plantations and for forest restoration in rather fertile forest lands.

The fast growing properties allow production of considerable volumes of timber within comparatively short periods of time, thus allowing for a fast capture of greenhouse gas CO_2. The plantations of hybrid aspen reach comparatively quickly the dimensions suitable for felling – the standard felling age of the plantation is assumed to be 25 years (as compared to 50 years for the ordinary aspen). The average indicators of the plantation of this age are as follows: the tree height – 25 m, the diameter – 25 cm, and the standing volume – 300-450 m^3/ha. Hybrid aspen, depending upon the density of plantation, is grown both for the purpose of pulpwood as well as energy wood, and also for the production of saw logs.

* To compare – if all the tree plants that will be stored in this plant storage facility were loaded into container trucks, this line of trucks would stretch across 2.5 kilometres and three thousand hectares of land could be planted with them.

Generalinė miškų urėdija
Area of managed forest: **1 million ha**
Number of employees: **5200**
Annual harvest **3.5 million m³**
Director General: **Benjaminas Sakalauskas**

Lithuania

Benjaminas Sakalauskas Director General

Special attention on oak and recreation

The primary goal of the Directorate General of the State Forests (established in 1996) and all subordinate forest directorates is to increase ecological, environmental, economical, recreational and other values of state forests by managing them under sustainable and balanced forestry principles and rational use, and renewal and increase of forestry resources.

Particular attention is paid to the protection of Lithuanian forests from pests and natural disasters. We have started implementing the Oak Forests Renewal Program, the aim of which is to increase total oak forest area by up to 2.4 percent (47 thousand ha) of all forest area in Lithuania before the year 2020.

Forest plantations grow in 37 state nursery gardens of forest directorates; the total area of such nursery gardens is 1.3 thousand ha. Each year they grow about 75 million plantations for forest planting. At present nursery gardens are undergoing development and modernisation processes, whereas it is planned to grow about 85 million plantations annually. The plantations shall fulfil the needs of forest directorates as well as owners of private land and forests. Plantation growth volumes needs to be increased because of the current forestry development programme, which intends to increase forest area by 3% in the next 20 years.

In the latter years particular attention is paid to adjustment of state forests for full-rate visiting and pleasant recreation in the natural environment. The creation of recreational forest infrastructure is oriented towards the fanciest and best areas of forests with the aim of diverting holidaymakers to safe (with respect to fire safety) areas of forests (more than 2 thousand recreational objects). About 250 recreational objects are adapted to people with physical disabilities. Creation of recreational and educational objects allows society to get acquainted with the treasures of nature and valuables of cultural heritage.

staatsbosbeheer

Staatsbosbeheer
Area of managed forest: **0.1 million ha**
Number of employees: **998**
Annual harvest **0.28 million m³**
Director General: **Chris Kalden**

Netherlands

Chris Kalden Director General

Seeing the wood for the trees: Staatsbosbeheer's entrepreneurial take on educating the public

As of 1998, Staatsbosbeheer, previously a subdivision of the Dutch Ministry of Agriculture, Nature and Food Quality, became an independent governmental organisation. The rationale behind this transition was to make Staatsbosbeheer better equipped for dealing with the challenges of today's context within which it operates: the need to quickly and adequately respond to societal changes and demands, and the capability of developing a more market oriented approach. As such, the organisation has become less introspective, as it now actively seeks cooperation with both environmental and corporate organisations.

Staatsbosbeheer oversees and maintains the forests and other nature areas owned by the Dutch government, and is in charge of their further development as areas of preservation as well as recreation. It even has assumed responsibility for the objects of cultural and historical value located within those areas. Furthermore Staatsbosbeheer contributes to the production of sustainable resources, most notably of wood, mainly as a by-product of regular forest maintenance. All forested domains are FSC certified.

In our modern society, men seem to be alienated more and more from nature and the once so familiar countryside. Consequently, the production and harvesting of wood are considered by many as the *destruction* of forests.

Staatsbosbeheer aims to educate the public about sustainable maintenance, by emphasising the diversity of useful application for wood produced. It does so by producing a range of products that express a sense of robustness and straightforwardness that fits the image of the organisation: our side tables cut out of the massive trunks of trees, including the occasional crack (free of charge!), are just one example of many authentic products that remind our urbanised customers not only of nature, but also of the rural heritage of our country. Several of these products were developed in conjunction with third parties, and marketed in ways relevant to their commercial activities. For the environmentally aware or "green" Triodos Banking Corporation, we developed the "memorial" and "private" benches (a pun on the Dutch word for bench, "bank"). These benches are placed at locations that are in one way or another "memorable" for the clients of Triodos Banking. A special aperture created within the bench allows for the planting of a young sapling. As the sapling matures, bench and tree literally become one, symbolising a return to and union with nature. Overall, in 2006 Staatsbosbeheer produced a market value exceeding €700,000 in wood products, which contributed to an increased appreciation of the "value" of our forests. Dutch forests are not merely token "nature," but provide actual resources, which will turn out to be increasingly profitable, and thus valuable in the near future.

Lasy Panstwowe
Area of managed forest: **7.24 million ha**
Number of employees: **26000**
Annual harvest **28.5 million m^3**
Director General: **Andrzej Matysiak**

Poland

Andrzej Matysiak Director General

The State Forest management organization Lasy Panstwowe continues to fulfil Poland's forestry policy goals in a responsible and consistent way. It pursues forest management in line with statutory principles: of the universal protection of forests and their ensured persistence, of the continuity and sustainable utilisation of all forest functions and of the augmentation of forest resources. The State Forests engage in activities on a self-financing basis, covering costs from its own income.

During the last decade positive trends in Polish forestry have been noticed. These include an enlargement of forest area, as well as an increase in forest resources and in the proportion of broadleaved species in forest stands. The forests' age structure has continued to change in favour of older stands. The number and the area of nature reserves and areas of ecological utility located within the territory of the State Forests has increased. The programmes of maintaining forest gene resources, restitution and reintroduction of rare and protected species of flora and fauna, or stand conversion were successfully implemented.

In the context of global changes and sustainable development, forestry plays a key role in the mitigation of climate change. Deforestation, particularly in tropical countries, contributes approximately 20% to global human-induced CO2 emissions.

On the basis of available data on timber resources, it is estimated that Poland's forests contain 903 million tonnes of carbon accumulated in forest biomass, 690 million tonnes of which accumulates in the aboveground biomass, 206 million – in the belowground biomass and 7 million – in dead wood. The tasks of the State Forests National Forest Holding resulting from the Forest Act (1991) are in line with the goals set out in the Kyoto Protocol. An increase over the last decade by 174 thousand hectares and 263 million m3 in the forest area and resources under the management of the State Forests can be considered as a good manifestation of following the Kyoto track.

Poland, as a party to the Kyoto Protocol is obliged to report on Art. 3.3. Since forest management can provide a cost-effective contribution to climate change mitigation process as an additional activity under the Art. 3.4 Poland has chosen forest management. In order to enable participation of all forestry entities in the Kyoto Protocol mechanisms, a respective legislation has been developed with great support from the State Forests.

ROMSILVA
Area of managed forest: **4 million ha**
Number of employees: **25000**
Annual harvest **10.7 million m^3**
Manager Director General: **Aldea Dan Ioan**

Romania

Dan Ioan Aldea Manager Director General

New sales and marketing systems

Wood is frequently used for manufacturing different finished products, as well as for producing energy throughout the world.

Wood resources, as renewable sources, have a great potential of utility within the context of Romania's sustainable development. Their qualities in terms of renewable and non-pollutant resources give them priority in considering any strategy for sustainable development, both at a national and a European level. Since Romania is now a member of the European Union, wood resources will become an important objective for the domestic economy under the conditions of quantum decrease and implicitly there will be an increase of prices for the main conventional limited resources.

The use of wood is directly connected to its quality. Wood quality is given by the ensemble of the properties of wood biomass intended for consumption: dimensional, physical-mechanical, chemical and aesthetic.

Starting in 2000, the National Forest Administration – Romsilva, through its forest directorates in the Western part of the country, has been organising, as a premiere for Romania, international public auctions for the sale of timber. Besides Romanian firms, a series of foreign companies have been present at these auctions, of which some are leading worldwide veneer producers. The sale of round timber through this modern and fair system has lead to a spectacular increase in the value of logs, compared to previous records, bringing them closer to the actual European standards.

Besides the economic aspects of aesthetic veneer timber, a company selling timber is also interested in knowing all requests regarding quality, specified by the beneficiaries or within the norms concerning the nature, size, frequency and distribution of timber defects that can be tolerated (allowed) accompanied by a proper price discount. That which is considered to be the "cream of the crop" of timber production isn't by far without defects. Thus, to be aware of their degree of endurance becomes extremely important, because it remains the only way to establish the quality of wood and, implicitly, the valuable part of the logs, without being concerned with a possible over or under estimation of what would be their real value.

Romanian forestry has not been faced with such issues before and a modest file of information represented the traditional system for the grading of standing timber, which is not suitable for the evaluation of cut trees. Therefore, a thoroughly organised series of actions for the collection and spreading of observational data was made in order to allow us to formulate relevant conclusions on the quality of timber in Romanian forests. Thus we have managed to assemble substantial documentation regarding the faultiness of timber, in general, and of the aesthetic timber destined for veneer, in particular. This information is stored in a unitary database and is processed according to a unique methodology, in order to serve the scientific substantiation of future marketing decisions to be taken by the management of the National Forest Administration – Romsilva in connection to round timber.

In order to facilitate the round wood exports from Romania into the European Community and for the gathering of comparable statistics on production, marketing, supply and prices of raw wood material at the Community level, the Romanian legislation on the measurement, classification and marking of raw wood material has been modified.

In its capacity of administrator of the largest area of Romanian state forests, National Forest Administration – Romsilva aims to increase the potential represented by the resources within the forests it manages. This will be possible by adopting suitable legal measures for forests management, for a rational exploitation of trees, for an appropriate and modern harvesting, collection, transportation, processing and preservation of raw wood material.

Forestry Commission

Forest Enterprise Scotland
Area of managed forest: **0.46 million ha**
Number of employees: **950**
Annual harvest **3.02 million m³**
Chief Executive: **Hugh Insley**

Scotland UK

Hugh Insley Chief Executive

Development of the timber supply chain management process

The original Forestry Commission (FC) e-business strategy involved 4 main areas, data exchange, electronic sales, customer access and update of FC systems and supplier access and update of FC systems. Major changes to our infrastructure and systems in preparation for e-business were required and these are now mainly in place. The following paragraphs set out where we propose to target the next phase of development.

Data exchange involves the transfer of electronic rather than manual or paper-based information. We have played a leading role in the industry-wide Forestry e-Business Forum (EBF) and have developed technical data standards as well as advice and other publicity material for those who wish to embrace this leading edge technology.

Following intensive testing we are now at the next phase of the data exchange development where we are able to accept and process electronic dispatch and self-billing data direct from customers.

We are developing a strategy for future expansion of such systems. On the basis that those customers most likely to trade electronically operate throughout GB, an FC-wide approach has been agreed. There are other considerations such as:

- Are we prepared to make changes to business arrangements to allow expansion of data exchange? E.g. agree fixed conversion factors for saw-log customers
- How will we secure the potential efficiencies from data exchange? E.g. re-structuring or transfer of workloads

FC Scotland has 139 registered e-sales customers. We have held in excess of 60 sales to date covering both open and restricted tenders. The system was successfully upgraded in May 2005 and enhanced bidder emailing options, negotiation facility and reporting have been implemented.

There are some areas of work to be completed, such as Electronic Auctions – although an electronic auction capability is available it has not yet been utilised for marketing reasons. Also negotiated or Manual Auction sales – further savings can be achieved by confirming LTC and other negotiated sales through e-sales as this will preclude the need to prepare and sign contract documentation and other administrative processes. Another area of focus is contract mapper – changes will be required for the interactive mapping facility to take account of multi-coupe sales where a separate series of maps is available. Additionally we need to ensure that e-sales is integrated with the FC general e-business portal to ensure that customers who use both facilities have a single login.

It remains our intention to give customers access to our Sales Recording Package (SRP) contract and e-financials sales ledger account data. The general FC e-business portal is now available and one of the first tasks will be to agree how this can be integrated with e-sales. In the meantime we have been using tools such as Acusend to automatically distribute information to customers in various formats and methods dependent on their requirements. For many customers this is an adequate and very low cost option.

One of the main requirements from the e-business portal is the facility to allow customers and their approved agents to update our systems with despatch data. A despatch self-approval system has many advantages in the right circumstances and will reduce our reliance on external call centres and other out-of-hours arrangements for despatch approval. The only technology that is widely available in the field for haulers is the mobile telephone and that is therefore the basis for any development.

We have now developed prototypes on a separate infrastructure using 3 input options, SMS (text message), interactive voice and wireless application protocol (WAP).

Suppliers and forestry contractors also require access to our systems either through the e-business portal or by other means. The main requirement is to update the SRP Stock Module. Internal users can update directly into SRP or use the PDA facility. It would also be possible to update the Stock Module via the mobile telephone technology used for self-service despatching whilst we are also looking at the update of stock direct from harvesters.

In addition to the facility to allow contractors access to our systems the latest e-business developments concern the internal contract management and payment arrangements for forestry contractors. These are the same processes as e-sales and SRP are on the Customer side of the business.

Harvesting Contracts – SRP can be used to assess the payment due to harvesting contractors. We will develop a link from SRP to POP for harvesting payments based on a self-billing arrangement where required. This will automatically generate a Self-Bill Invoice based on FD assessment of what is due for payment that will be emailed to the contractor.

Whilst excellent progress has been made in taking forward our e-business strategy to date we are now in the process of making key decisions on future directions.

Lesy Slovenskej Republiky
Area of managed forest: **1.0 million ha**
Number of employees: **4374**
Annual harvest **3.99 million m^3**
Executive Director: **Josef Mindáš**

Slovak Republic

Josef Mindáš Executive Director

The Biomass project

The state enterprise LESY Slovenskej republiky provides aÊbalanced fulfilment of all useful functions of forests. The needs of society are fulfilled through the production of wood, genetically approved seed material, venison, game trophies and hunting rights, sawmilling production, products of small forestry production, and agricultural and sideline production.

The organisation's structure consists of 26 forest enterprises, 113 forest districts, 2 specialised companies – Semenoles (a forest seed management company) and a forestry technique company.

In accordance with the EU strategy for promoting renewable energy resources, the state enterprise LESY Slovenskej republiky launched the Biomass project.

The price of the principal energy resource – natural gas – has increased significantly during the last two years. This has obviously resulted in an increase in heat energy prices. The use of renewable energy resources has an exceptionally positive economic and ecological impact.

The aims of the state enterprise LESY Slovenskej republiky, as the strategic biomass producer, are to offer energy chips for municipalities in order to significantly decrease their heat production costs and save financial resources for their future development, cooperate with forest owners in the area of use of potential biomass resources and provide purchasing and processing of biomass from the private owners' forest stands, and in cooperation with the National Forest Centre and heating plant producers to coordinate activities aiming at the support of regional projects for the energetic use of biomass. Other aims are to emphasise the ecological aspects of projects and try to improve the forests' health status through the use of widespread residues in affected areas, and to create new jobs and contribute to the development of the region through regional projects aimed at the enhanced use of forest biomass.

Biomass as a renewable energy resource is a real and long-term alternative for heat plants, settlements, schools and for the inhabitants of the Republic of Slovakia.

REPUBLIKA SLOVENIJA
Sklad kmetijskih zemljišč in gozdov
Republike Slovenije

Sklad kmetijskih zemljišč in gozdov Republike Slovenije
Area of managed forest: **0.24 million ha**
Number of employees: **93**
Annual harvest **1.1 million m^3**
General Director: **Sergij Daolio**

Republic of Slovenia

Sergij Daolio Director

Development goals of the Farmland and Forest Fund of the Republic of Slovenia

The Farmland and Forest Fund is an organisation that was founded by the Republic of Slovenia on the 11th of March 1993. It is responsible for managing the farmland, farms and forests owned by the state.

The main activities carried out by the Farmland and Forest Fund of the Republic of Slovenia include improving the property and parcel structure through purchases of farmland and forests, which it then offers for long-term lease or sale to improve the unity of farms, awarding the concessions for the state-owned forests, carrying out the inter-regional exchange of farmland and forests, protecting the national interest regarding land ownership, buying forests with a special purpose and protective forests on behalf of the state, ensuring the rational use and environmental value of farmland and forests, and suitable cultivation, and exerting an influence on the settlement structure of Slovenian rural areas in accordance with the development policy adopted by the Republic of Slovenia and in collaboration with the ministries. Other principal activities are regulating ownership and other property rights regarding immovable assets (farmland and forests) owned by the Republic of Slovenia in both court and out-of-court proceedings, keeping records about state-owned farmland, farms and forests, participating in providing substitute land to farmers who will lose their arable land after a planned encroachment in a physical space, in accordance with the law that regulates issues regarding construction of the Motorway Network in the Republic of Slovenia, being responsible, in the process of privatisation of the Fund, for returning farmland, farms and forests to former owners in accordance with the Privatisation Act (it is also responsible for providing substitute farmland to former owners of nationalised property where a return in kind is impossible), and managing funds received, including funds it acquires on its own and some minimal funding allocated from the budget which it only uses for specific expenses in the field of forestry.

Major goals of the forestry sector are assuring rational use of forest land and optimum income out of forest management, on the basis of accepted forest-management region plans and forest-management units plans within the framework of given concessions, and assuring stable use of forest area with proper management and carrying out all of the forest functions and their multiple roles. That means putting forward public interest in the forest management considering the accepted development policy at the same time. Other primary goals include increasing the state-owned forest area (increase of existing complexes of state forests, acquisition of larger forest areas), putting forward forestry experts and their expertise, and contributing to the realisation of farmland and forestry policy (rounding up the property, supporting mountain farms).

SVEASKOG

Sveaskog AB
Total area of land: **4.45 million ha**
Number of employees: **730**
Annual harvest **5.8 million m³**
Executive director: **Gunnar Olofsson**

Sweden

Gunnar Olofsson Executive director

Forests essential for the climate

Enhanced forest growth, more effective technologies and new areas of use for wood raw material are priority areas for Sveaskog's research and development.

To gain the best possible impact and commercial benefit, a large part of Sveaskog's research work is conducted in collaboration with universities, colleges and industry-wide research institutes.

One example of such collaboration is the Carbon Sink project in Sweden's Nordic region, which started in summer 2006.

Carbon Sink project

The Carbon Sink project aims to examine the possibilities of binding carbon in the ground and trees through various types of growth-promoting activities. Sveaskog has taken the initiative on the project in cooperation with the Swedish University of Agricultural Sciences (SLU), LKAB, the County Administration Board in Norrbotten, Norrbotten County Council and Syvab.

Forest growth can be affected by management activities to varying degrees. More active cultivation of Sweden's coniferous forests and other boreal forests in the northern hemisphere could double growth and double sequestration of carbon dioxide compared with today.

Forests play a key role in the solution to the greatest environmental problem of our time, namely, climate change. Growing forests bind carbon dioxide, and when carbon is sequestered in tree trunks and the ground, the forest serves as a carbon sink. Active forestry that promotes better forest growth therefore creates major value for the forest industry and society as a whole.

Young, growing trees bind more carbon dioxide than old trees. It is the actual increase in forest growth and in the carbon sequested in the ground that make up the actual carbon sink. Consequently, work on the Carbon Sink project is focused on creating a long-term and sustained increase in growth rather than building up a standing supply of timber.

On a 600-hectare area of Sveaskog's land, a pilot project is being conducted in which the ground is being fertilised with bio-nutrients in pellet form. The bio-nutrients consist of heated, dried sewage sludge from Stockholm.

Results important for the future

The result of this pilot study will provide greater knowledge and decision-making documentation on forestry methods toward the aim of creating the greatest possible carbon sequestration. One positive effect is that such forests would provide more biomass, which can replace oil-based material and fuels. The project has developed a new bio-nutrient spreading system that is similar to the ones used in agriculture. Environmental and socioeconomic effects will also be presented. The project will continue until 2010, with an initial evaluation in 2008.

The carbon stores in Sveaskog's forests today correspond to more than 400 million tonnes of carbon dioxide. CO_2 emissions from industry and traffic in all of Sweden, for example, produce 70 million tonnes of carbon dioxide.

Forestry Commission

Comisiwn Coedwigaeth Cymru
(Forestry Commission Wales)
Area of managed forest: **0.13 million ha**
Number of employees: **370**
Annual harvest **0.77 million m³**
Head of Estate Management: **Trefor Owen**

Wales UK

Trefor Owen Head of Estate Management

Brash Baling in Wales

Forestry Commission Wales (FC Wales) has commissioned a pilot forest residue harvesting project. This trial has been undertaken in association with UPM Kymmene UK to produce "brash bales" from forest harvesting sites in Wales. This work was initiated in response to new market opportunities, and the potential to reduce restocking costs by the removal of brash on selected sites post harvesting.

Up to the end of June 2007 we have harvested about 7,000 tonnes of biomass material for delivery to UPM's pulp mill at Shotton in North Wales. This new forest operation will enable FC Wales to generate additional income from harvesting sites. However, there are potentially significant environmental issues to overcome. Removal of brash in areas of high rainfall, in forests where the underlying geology is acidic or poorly buffered, where soils are sensitive to acidification, can all result in soil and water course damage. Removing the branches from site removes some of the base cations which would normally balance the acidic soil conditions. If too many are removed, the soil will gradually become more acidic. This process could cause long-term environmental damage.

Using the trial in partnership with Forest Research, the research division of the Forestry Commission, FC Wales has developed a set of site selection criteria based on the geology and soil conditions for our forests. This set of criteria is built into our operational protocols and allows us to plan future residue harvesting and avoid the risk of environmental damage. Forest Research will publish our criteria later this year. Forest Research is also conducting method studies, so that we undertake brash baling operations in the most efficient ways.

In addition to the larger scale plant at Shotton, FC Wales has also supported a range of new biomass energy developments, including small-scale local heat production and medium scale energy production and a healthy local market in biomass is developing. Brash baling technology has proved itself both in forest conditions and also in roadside vegetation management and arboricultural work. By the end of 2008, we expect to be producing up to 80,000 tonnes per annum of biofuel for heat and electricity generation.

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