

EFI *news*



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Year of Change

It was evident at EFI's 21st Annual Conference in Bilbao two months ago that the past year has truly been a year of change for the institute. We have had changes in the leadership, organisation and funding landscape, all of which have required a lot of work. In the early summer we declared the post of EFI Director open. The EFI Board made its decision on the new Director, to which the EFI Council gave its assent, in early October. I warmly welcome the new Director **Marc Palahí** to take the leadership of this unique organisation on 1 January 2015. On page 24 you can read an interview of the outgoing Director, **Risto Päivinen**, to whom we owe sincere thanks for his work and dedication over the past 14 years.

The discussions at the Annual Conference confirmed the strong commitment our member organisations have

towards EFI. We had developed the conference to better serve our member organisations and to allow for more interaction and discussions both in terms of content and institutional issues. The members' dialogue session provided a good basis for well informed decisions by the Conference to support a positive change and development for EFI. I feel that we succeeded in this even beyond our expectations. However, we must keep improving the dialogue all year round. Regional Offices in that context play a crucial networking role and I would encourage you to participate actively in their activities.

In the next months, we will focus on the needs of our Member Countries in the field of policy support, and on how EFI can mobilise its member organisations in a transparent and effective way for such a task. For this purpose EFI and some of its Member Countries are developing a concept of a Trust Fund as a financial mechanism for EFI Policy Support. At the same time the EFI secretariat will work on the development of a potential reorganisation of EFI Regional Offices to make most of the lessons learnt and to address expectations, needs and resources for tailoring solutions for the future. I look forward to a new era with the new Director, strong commitment from our Member Countries and organisation of Regional Offices well under way.

J. BO LARSEN
CHAIRMAN OF THE EFI BOARD.



Inigo Sierra Gomez / ISO100FOTO

New Director Appointed for EFI!

Dr. Marc Palahí has been appointed as the new Director of EFI. The new Director will start his 5-year term on 1 January 2015. The Director is based at the EFI Headquarters in Joensuu, Finland.

"Marc Palahí is a visionary leader and he has an impressive track record in developing networks and joint initiatives, as well as in fundraising and leading research and policy support in an international context," states Chairman of the EFI Board, J. Bo Larsen.



Satu Ruusila

EFI news

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The European Forest Institute (EFI) is an international organisation established by European States. EFI conducts research and provides policy support on forest related issues. EFI facilitates and stimulates forest related networking, as well as, promotes the supply of unbiased and policy relevant information on forests and forestry. It also advocates for forest research and for scientifically sound information as a basis for policy-making on forests.



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Great Potential

hedy / Fotolia

MARC PALAHÍ, EFI

In a time of accelerated changes and unprecedented global challenges, decoupling economic growth from environmental degradation is the underlying global megachallenge.

Addressing such challenges requires a change in our economic activities, including how we deal with environmental benefits and costs derived from them. In that context, the Europe 2020 Strategy calls for a bioeconomy as a key element for smart and green growth in Europe. Establishing a bioeconomy in Europe holds great potential. It can maintain and create economic growth and jobs in rural, coastal

and industrial areas, while reducing fossil fuel dependence and improving the economic and environmental sustainability of primary production and processing industries.

The multifunctional nature of European forests, providing renewable resources and valuable ecosystem services, and the cross-cutting nature of the forest-based sector, which delivers added value bioproducts and bioenergy, makes a fundamental contribution towards a new green and bio-based economy in Europe.

At EFI, we are aware of the societal and political relevance of building a new green bioeconomy and of the potential opportunities for the European forest-based sector, but also the limitations and existing complex trade-offs. The EFI scientific seminar is a good example of EFI facilitating dialogue between scientists, policy makers and stakeholders to provide a better understanding of the topic. Finally, our recent *What Science Can Tell Us* reports have been published to present a forward-looking policy-relevant synthesis of the future developments of the forest-based sector in the context of the bioeconomy.

DIALOGUE AND DECISIONS

This year's EFI Annual Conference showed what EFI is all about: A network engaging in an open dialogue and making decisions for the institute that have a direct impact on the European forest research area.

Under the chairmanship of **Andreas Kleinschmit von Lengefeld** of the Institut technologique FCBA (France), the member organisations of EFI gave a green light to the Institute's strategic directions. The member organisations called for increasing EFI's role in bringing added value to them through mechanisms that are not available at national levels, such as participating in synthesis work or research consortia led by EFI. The participants also noted that while EFI is engaged in policy support, research and science should not be compromised.

A special members' dialogue session allowed for extensive discussions e.g. on the role of EFI Regional Offices, and it was seen that they are crucial in overcoming fragmentation of European forest research. They are close to member organisations at the regional level and provide the

opportunity to broaden regional issues into a European context.

"EFI is a catalyst that can maximise the impact of its member organisations' activities," stated EFI Interim Director **Marc Palahí** at the EFI Annual Conference. "For example, when it comes to research, we can connect disciplines and sectors for the benefit of our member organisations."

The EFI Annual Conference is one of the key decision making bodies of the Institute. Associate and Affiliate Members meet at this event annually, and also Member Countries take part in it actively. This year the Annual Conference was organised on 10–11 September in Bilbao, Spain, with the kind support from regional organisations and stakeholders.



Inigo Sierra Gomez / ISO100FOTO



‘LIVING WELL WITHIN THE PLANET’S BOUNDARIES’

The future of the bioeconomy in Europe was intensively discussed by scientists, policy makers and other stakeholders at the EFI seminar held on 11 September in Bilbao.

Prof. Dr. **Lauri Hetemäki**, Head of Foresight and Policy Support at EFI, stated that in the case of forest-based sector, the future lies not in the volume of production but in the value of goods produced. **Margarida Tomé** of Instituto Superior de Agronomia, Lisbon, continued by presenting the implications of bioeconomy to forest management. She noted that the complexity of forest management has grown in the bioeconomy context. This brings along new challenges, such as finding a balance between maintaining or even increasing ecosystem services while fulfilling energy needs

without using fossil fuels, and managing possible land use conflicts. Actions that may help when solving these challenges include interdisciplinary research, involving forest owners in the bioeconomy, building reliable monitoring systems and appropriate policy measures.

Göran Persson, former Prime Minister of Sweden, stated in his keynote that the new EU bioeconomy strategy is excellent, but it lacks institution and hard political tools for its implementation. He also noted that the success of the strategy will also be impacted by the European economic development.

Among the discussion points was the role of innovation within the bioeconomy. In this context, **Hans Bruyninckx**, Director of the European Environment Agency

stated that we should not run after a single innovation alone because we cannot know the future. Alternatively, we should take on many innovations side by side for continued development because the needs of the future may be different from what we now assume.

A panel on new opportunities for forest-based bioeconomy products and services started with a vote on the term ‘bioeconomy’. It was apparent that the term in itself means very different things to different target groups. But as concluded at the end of the panel by EFI Board member Dr. **Eeva Hellström** of SITRA, Finland, “We should not get stuck with the concept. There are a lot of challenges, but we can all make a change, especially if we begin communicating across sectors.”

WRAP-UP TIME FOR FORRISK

With the ultimate goal in sight of bringing the project to a successful close at the end of the year, the last four months of 2014 are busy ones for the FORRISK partners. On 9 September, they met in Bilbao to present their project work during the FORRISK Final Conference, a side event of the EFI Annual Conference. This event was a good opportunity to demonstrate the many pathways towards a more integrated forest risk management.

Also at the EFI Annual Conference, on 10 September, FORRISK partner NEIKER Tecnalia organised the FORRISK workshop “Soil Degradation Risks in Planted Forests”, which was sponsored by IUFRO.

This event examined soil degradation risks throughout the Atlantic Rim and the implementation of forest management practices for soil protection, and ended with the drafting of a workshop resolution.

On their return from Bilbao, the FORRISK partners set about writing up their respective tasks for the FORRISK Technical Guide, which will be published at the beginning of December. Targeting stakeholders and policy makers involved in forest risk management, this guide will contain accessible technical information sheets in French, Spanish and Portuguese about the tasks carried out within the project. FORRISK will finally wrap up in Asturias,



Spain, with a management council meeting and launching of the Technical Guide on 11–12 December.

forrisk.efiatlantic.efi.int

Creative Destruction and Bioeconomy

LAURI HETEMÄKI, EFI

The European forest-based sector is in a period of many profound structural changes. A number of fundamental changes in forest product markets have already taken place, and significant structural changes are anticipated in the next 10–20 years. European products are confronted by mature or even declining markets. At the same time, it is facing increasing competition from the emerging economies. But, on the other hand, forest products that did not exist in the 20th Century are already in production now, not to speak of the possibilities in coming decades.

The European forest sector is also becoming more complex, interlinked and cross-sectorial. It is increasingly affected by climate change impacts, energy policies, advances in new technologies, the increasing role of services and societal and political interests, moving towards low carbon bioeconomies or green economy. The forest sector is also becoming more linked to other industrial sectors, such as energy, chemicals and textile industries. Already, the concepts of “forest-based sector” and “forest-based bioeconomy” are beginning to replace the conventional concept of “forest sector”.

CREATIVE DESTRUCTION

In many respects, one could label the current state of the European forest-based sector as one of *creative destruction*. The concept was coined by economist Joseph Schumpeter in the 1940s to describe a “process of industrial mutation that incessantly revolutionizes the economic structure from within, incessantly destroying the old one, incessantly creating a new one.” This continuous evolutionary process maintains the vitality of the market economy. It highlights the fact that some economic activities or sectors will eventually decline and vanish, while at the same time, new technologies, products and business models will emerge. So it has always been.

The examples of “destructive” trends are the declining demand for communication paper products, a long lasting economic slump in the EU and its many impacts and the move of some forest industry investment into increasingly fast, growing markets in Asia, or low cost production regions like South America. For the first time in history, the production of some traditional forest products has started to stagnate or decline in many European countries. Yet, it is difficult to quantify to what extent this has been the result of the slump, or due to structural changes that will last once the economic upturn eventually starts.

The above changes have been an important driver for the European forest products industry to *renew*. This is the creative or innovative side of the development, and it is opening new opportunities for the

forest-based sector to move and contribute to the bioeconomy. The forest industry is changing strategies, business models and investing in new products, such as 2nd and 3rd generation biofuels, biochemicals and new engineered wood products. The changes in markets are also creating new demand for some old products, such as dissolving pulp and tall oil. Demand for dissolving pulp has globally been growing over 10% annually in recent years, and this growth is especially driven by the need to substitute cotton with other raw materials in the textile industry.

PRODUCT RELATED SERVICES – THE NEW MEGATREND

Another development that creates new possibilities for many European forest-based operators, but which so far has been very much neglected, is the *services* related to forest-based products. The forest-based sector is likely to follow the trend in other manufacturing sectors in OECD countries, in that the value added and employment in the sector comes increasingly from different types of services related to the products. The digitalisation, or *the industrial internet*, has made it possible to develop new services related to the products (e.g. monitoring, remote servicing). It also helps to disaggregate the product value chains to *tasks* that may be produced in many different geographical locations, and by a number of different enterprises. Especially, the high-cost Western European countries may increasingly focus on services related to the new products, rather than actual manufacturing at the scale of the traditional forest products. However, this possibility and its implications on the European forest-based sector have hardly been addressed in research, or in EU forest or bioeconomy strategies, national forest policy documents or industry vision papers. These shortcomings should be addressed in research as well as by decision makers.

REASSESSMENTS URGENTLY NEEDED

The European forest products’ markets may change more in the next two decades than they have during the 20th Century. This possibility has not really been addressed by the sector. Amongst the key issues needing more research, policy and stakeholder attention are:

- *Reassessment of the long-term outlook of the European forest-based sector in the face of the structural changes.* This should also utilise systematic foresight methods to tackle developments for which we do not have the possibility to use the traditional data based models. Foresight is also necessary for generating a shared bioeconomy vision on which strategies can be based.
- Be prepared for the impact and opportunities created by the *services megatrend* and the industrial internet.
- Design the policies and strategies for a sector so it will be more *diversified and cross-sectorial* than today.
- Acknowledge the *regional diversity* of the European forest-based sector, and that it has somewhat different meaning in different countries.
- Although it is unlikely that there is one overarching policy solving the challenges and creating opportunities, *strong emphasis needs to be placed on the carbon price.* It can be an essential tool in tackling climate change and helping to transform the European forest-based sectors into the new bioeconomy.
- *Invest more in research, development and education.* Despite the fact that the economic slump and the need to cut public spending might create pressures not to invest in such activities.
- *Environmental sustainability and resource-efficiency are necessities.* Whatever policies and strategies are designed must become important building blocks for the future.

WHAT IS THE ROVANIEMI ACTION PLAN?

The Rovaniemi Action Plan for the Forest Sector in a Green Economy¹ was adopted at the joint session of the UNECE Committee on Forests and the Forest Industry and the FAO European Forestry Commission on 13 December 2013 in Rovaniemi, Finland.

The Action Plan describes how the forest sector in the UNECE region could lead the way towards the emerging green economy at the global level. It provides an overall vision, objectives and specific activities, and identifies potential actors, who might contribute to achieving the stated objectives. It is not a binding plan, nor does it contain prescriptive recommendations to Governments, international organizations or

stakeholders, who are free to adopt, adapt, in full or in part, or not to implement the Action Plan as they wish.

For the purposes of the Action Plan, the forest sector includes the management of all forests, the whole range of functions they provide and the production, consumption and trade of wood and non-wood forest products and services.

The Rovaniemi Action Plan was developed on the basis of an open and participatory process involving many Member States and stakeholders of the UNECE region. It has been used for numerous events and different activities at the regional and global level.

The implementation of the Action Plan is monitored by the UNECE/FAO Forestry and Timber Section, which also explores ways and means to measure the contribution and the progress of the forest sector towards a Green Economy. Those two matters will be addressed at the next COFFI session to be held in Kazan, Russian Federation, 18–21 November 2014².

¹ The Rovaniemi Action Plan can be downloaded at: <http://www.unece.org/forests/greeneconomy.html>

² More information on the topics that will be discussed in Kazan are available at: <http://www.unece.org/forests/kazan2014.html>.



MOVING IN THE SAME DIRECTION

HEIKKI GRANHOLM, FINNISH MINISTRY OF AGRICULTURE AND FORESTRY

The Rovaniemi Action Plan is among a number of policy documents that highlights the importance of the role of forests in the green economy and bio-based economy. In a country like Finland we need to develop and implement coherent policies at all levels. In this respect, it is very rewarding to notice that the policy development in Finland, as well as in the European Union, has many similar priorities and approaches with the Action Plan.

In Finland, we have a very long tradition of national forest programmes. The ongoing review of our national forest programme will be based on the Government Report on Forest Policy 2050. Sustainable forest management is a source of growing welfare and stresses that utilization of forests for various purposes offers solutions to the needs of the people and society.

Furthermore, there are a number of other policy documents and strategies in place, such as the Finnish Bioeconomy Strategy.

In the EU, the Commission presented the new EU Forest Strategy in 2013. Forest-based sector and Member States have given their reflections on it. The Strategy promotes a coherent, holistic view of forest management, integrates internal and external forest-policy issues and addresses the whole value-chain.

These examples demonstrate many similarities: a need of having a broad perspective and looking beyond forestry to the whole value-chain and a green bio-based economy, address different societal expectations in a balanced manner while building on private sector and other actors' contribution. Improved information and need for innovations are highlighted.

By working coherently at all levels and beyond national boundaries, at regional (UNECE), the EU and national levels, we can ensure the effectiveness and efficiency of transformation of our sector to a bright future.

The Government Report on Forest Policy 2050 (2014): http://www.mmm.fi/en/index/frontpage/forests/forest_policy/strategies_programmes/forest_policy_report.html

The Finnish Bioeconomy Strategy (2014): http://www.tem.fi/files/40300/The_Finnish_Bioeconomy_Strategy_11062014.pdf

A New EU Forest Strategy: for forests and forest-based sector. COM(2013) 659 final: [http://cor.europa.eu/en/activities/stakeholders/Documents/COM\(2013\)-659.pdf](http://cor.europa.eu/en/activities/stakeholders/Documents/COM(2013)-659.pdf)

ROVANIEMI ACTION PLAN FOR THE FOREST SECTOR IN A GREEN ECONOMY

OVERALL GOAL:

The forest sector in the UNECE region makes the greatest possible contribution to the emerging green economy.

FIVE AREAS AND GOALS:

- Patterns of production, consumption and trade of forest products are truly sustainable;
- The forest sector contributes to mitigation of, and adaptation to, climate change;
- The workforce is able to implement sustainable forest management, and the forest sector contributes to achieving the social goals of the green economy by providing decent jobs;
- Forest functions are identified and valued and payments for ecosystem services are established, encouraging sustainable production and consumption patterns;
- Policies and institutions relevant to the forest sector promote sustainable forest management; policy making is evidence-based, policy instruments are effective, efficient and equitable and monitoring is in place.

A NEW EU FOREST STRATEGY

2020 FOREST OBJECTIVES:

To ensure and demonstrate that all forests in the EU are managed sustainably and that the EU's contribution to promoting sustainable forest management and reducing deforestation at global level is strengthened, thus:

- contributing to balancing various forest functions, meeting demands, and delivering vital ecosystem services;
- providing a basis for forestry and the forest-based value chain to be competitive and viable contributors to the bio-based economy.

EIGHT PRIORITY AREAS:

- Supporting rural and urban communities
- Fostering the competitiveness and sustainability of the EU's Forest-based Industries, bio-energy and the wider green economy
- Forests in a changing climate
- Protecting forests and enhancing ecosystem services
- Strengthening the forest knowledge base
- New and innovative forestry and added-value products
- Working together to coherently manage and better understand forests
- Forests from a global perspective

FINLAND'S FOREST POLICY 2050

VISION:

Sustainable forest management is a source of growing welfare

STRATEGIC OBJECTIVES:

- Finland is a competitive operating environment for forest-based business.
- Forest-based business and activities and their structures are renewed and diversified.
- Forests are in active, sustainable and diverse use.

STRONG FOCUS FOR SUSTAINABILITY

SCA is a leading global hygiene and forest products company. The Group develops and produces sustainable personal care, tissue and forest products. Sales are conducted in about 100 countries under many strong brands. As Europe's largest private forest owner, SCA places considerable emphasis on sustainable forest management. **Jan Johansson** has been President and CEO of SCA since 2007.

What are the biggest opportunities and challenges that you see in European forest based markets in the next decade?

The most obvious challenge is the dramatic decrease in the market for some paper grades, most notably publication papers for newspapers and magazines, but also for other papers for printing and writing. For all other classic forest industry products we see a healthy increase in demand. The opportunities lay first in the fact that forest is one of few truly sustainable sources of raw material and will become increasingly important in the decades to come. The second opportunity is the rapid innovation

in the sector, where we see a number of new and promising technologies for putting wood fiber to new uses, both as materials and as fuels. Products such as carbon fiber from lignin, biodiesel and nanocellulose may come to mind first, but closer to being commercial products may be new packaging applications and solid wood products solutions for construction or for the do it yourself market.

SCA also uses its forest for biofuels and windpower. How do you see these developments in the future and the role of your forest resources in general in the future?

SCA's forests, the largest private forest holding in Europe, are a unique resource. SCA has a forest industry structure designed to bring the highest possible value out of the forest long term. One should bear in mind that the value of the forest is depending on a competitive industry. Our forest products industry has now been complemented by expanding business in renewable energy. We have been working with bioenergy for decades but windpower is a new and rapidly expanding business.

We will continue to develop our various businesses with the overall aim to continue to create sustainable revenue from our forest holdings.

How do you see the role of forest research for your company?

Forest research is of high importance for a company owning 2.6 million hectares of forest land. We have our own innovation and R&D resources and we have extensive cooperation with research institutions. There is a gradient from the more long term base research to product development. The closer to our products, the more the work is carried out in our own organization, whereas when it comes to understanding and developing the forest resource as such, we cooperate with academic and other research institutions, with much focus on sustainability. Our forests do not only bring value to our company, they also bring a huge value to people and nature. It is worth mentioning that the annual net carbon sequestration of our own forests exceeds the carbon dioxide emissions from all of our production units worldwide.

What Science Can Tell Us?

THE FUTURE OF THE EUROPEAN FOREST-BASED SECTOR

Imagine that in 1980 you were asked to provide an outlook for the European forest sector up to 2000. If your answer had been “very much the same as in 1980”, you would have been right. There were some significant changes, but all in all, the European forest sector and its products looked rather similar in 2000 as they did in 1980. If you were now asked to provide an outlook up to 2035, you would have much more to consider. Many fundamental changes have taken place in global and European forest products’ markets, and more structural changes are still anticipated. The authors of the forthcoming report on the future of the European forest-based sector call for a reassessment of the long-term outlook of the European forest-based sector in the face of these changes. *Future of the European Forest-Based Sector*, edited by **Lauri Hetemäki**, is available online.

CHALLENGES OF BIOENERGY

Forest bioenergy has been historically one of the oldest ways people have used forests. The European Union’s renewable energy policy and its climate change mitigation objectives in particular have brought forest bioenergy to the agenda in various local, national and European-wide forums. Forest bioenergy also supports regional policies in enhancing rural economies and employment opportunities. Yet, bioenergy comes with its challenges – a renewable energy source that can replace fossil fuels may sound attractive to the public, but unfortunately it may not be a suitable solution for all. Its increased use may cause unwanted impacts on biodiversity, and the use of inefficient energy technologies may result in economic losses.

EFI has published a report with evidence based information to help the readers better understand opportunities and impacts of forest bioenergy in Europe.

Forest Bioenergy for Europe EFI What Science Can Tell Us 4, 2014

Paavo Pelkonen, Mika Mustonen, Antti Asikainen, Gustaf Egnell, Promode Kant, Sylvain Leduc and Davide Pettenella (editors)

PROVISION OF FOREST ECOSYSTEM SERVICES

European forests provide numerous goods and services for the benefit of the citizens. Wood is the most prominent, but game, cork, mushrooms and greenery are also traded in significant volumes. However, many forest goods and services are not marketed, but are still of great value. For example, forests form an important part of landscape amenities, cultural heritage, and are of great recreational value.

The term ‘ecosystem services’ has been used since the 1990s as an umbrella term for various goods, services and functions. These two “What Science Can Tell Us” volumes summarize and present the complex pan-European world of forest ecosystem services with novel findings and insights. The volumes also present case studies come from the EU FP7 project NEWFOREX, which ended in May 2014.

<http://newforex.org/>

What Science Can Tell Us 5, 2014: The Provision of Forest Ecosystem Services

Bo Jellesmark Thorsen, Robert Mavsar, Liisa Tyrväinen, Irina Prokofieva and Anne Stenger (editors)

All these publications are available at http://www.efi.int/portal/virtual_library/publications/what_science_can_tell_us/



Harvesting

More Forest Biomass

– Sustainably

DIANA TUOMASJUKKA, EFI

Wood is one of the oldest and – in some forms – newest renewable bioenergy product. The increased use of renewable energy is demanded and supported by the Renewable Energy Directive and the European Strategic Energy Technology Plan. Each EU country has set ambitious targets to increase the share of renewable energy sources with the goal of combating climate change. A substantial part of the increase in renewable energy could be supplied from European forests. Recent studies calculated biomass availabilities of up to 880 M m³ ob, while realizable potentials until 2020 estimate only 65 M m³ (ob) more realizable biomass compared to 2013 harvesting volumes.

HARVEST OR NOT?

Now, if there are these additional potential biomasses available – why is it not harvested? The answer to this is multifold. Even though these potentials are indeed in the forest, only part of them could be used for bioenergy. The reason is that wood is used for many different products, supplying various industries in the forest-based sector. Because of higher product prices, the main goal of the forest management is the production of sawlogs and pulpwood, not just bioenergy. One further important factor that limits the availability of biomass is the technical constraints.

INNOVATIVE SOLUTIONS

The FP7 project INFRES is developing innovative solutions to overcome technical constraints, and aims at increasing the availability of forest biomass. Research and SMEs work together to develop new machines and logistical solutions. These solutions are tested throughout Europe and assessed in their performance with regards to economic, environmental and social sustainability aspects. These innovations include a newly developed – and first of its kind – chipper with a hybrid engine; a stump driller, which is tested in Nordic and Southern forests; a multitree-harvester head in a geometric thinning method for collectively harvesting low-dimensioned timber during (early) thinnings and thus increasing productivity where log quality is not an issue. In steep terrain several new technologies are assessed like mechanized steep terrain harvesting with synchro-winch mounted harvester and forwarder to access thinning up to 70% inclination, and lightweight Dyneema ropes for skidding, etc. The most promising solutions are compared against current biomass procurement practices in their sustainability performance. The parameters to be assessed include costs, revenues, harvestable volumes, energy generation and use, greenhouse gas emission, employment effects and

occupationally health risk assessments for intensifying biomass harvesting from forests. These new solutions target improved access to non-accessible or unprofitable areas (such as steep slopes or early thinning). And they further aim at doing so competitively with increased efficiency while reducing fuel consumption. This way raw material loss is decreased, operational costs are decreased, while also energy use and Greenhouse Gas (GHG) Emissions are reduced compared to current harvesting systems. These solutions will work at making bioenergy harvesting operational, competitive and attractive for SMEs, and thus contribute to fulfilling EU's renewable energy promises of increasing renewable energy use (and availability), while cutting down on GHG emissions. The results of the assessment will be upscaled to European level.

INFRES will present these and other results at the final conference at the Final Conference in Rome: 19 May 2015. See you there!



INFRES project has received funding from the EU FP7 under grant agreement n°311881.

How Much Additional Forest Biomass Could be Mobilised to

Support an Expanding Bioeconomy?

JOANNE FITZGERALD, EFI

In recent times the expansion of a bio-based economy in Europe has received much support at the political level. Several countries have published detailed plans and strategies for bio-economies, which are based on renewable resources in their regions. Bio-based economies need raw bio-material and the greatest sources of such raw material however, in Europe are forests. The increased demand for raw materials from forests related to policies, such as the Renewable Energy Directive is already well documented. Greater emphasis on biomass in a bio-economy could further increase that demand. So, what is actually available?

WOOD MOBILISATION

In recent studies (EUwood, EFSOS II, Fritsche et al., 2014) EFI has estimated the amount of forest biomass that could be mobilized based on varying technical, social and environmental constraints. For a policy environment representing a dynamic response to energy targets, a high mobilization was calculated. For this level of wood mobilization to occur, the negative environmental effects of intensified use of forest resources would have to be

weighed against, and considered less important than, the negative effects of continued reliance on fossil fuels; or the impacts of increasing biomass imports from non-EU countries. This mobilization would see a potential availability of 880 M m³ of woody biomass by 2020 in the EU28. But there are many more factors needed to mobilize these resources. It would require private owners to actively manage and harvest their forests. It would also require investment in infrastructure and machinery where it is not yet available, as well as skilled labour to operate the machinery and effective exchange of technology. There are also clear environmental concerns which could call for stricter constraints on mobilization of wood from forests. Therefore, a lower mobilisation, which assumed much stricter constraints on forest biomass removal, was also evaluated. When compared with the higher mobilisation, this resulted in a 33% lower availability of total biomass from forests in 2020 to 583 M m³ of woody biomass was harvested from European forests in 2013 (FAOSTAT). Therefore, the possibility to sustainably increase biomass extraction rates from forests could be limited.

RESOURCE EFFICIENCY

Given this context, it is expected that resource efficiency will be of increasing importance in the coming years. Greater emphasis on cascading use of biomass may be expected, where material use for higher added value products such as furniture is prioritized. Increased energy efficiency will also have an important role to play. The amount of biomass that could be available to feed new bio-economy developments will also depend strongly on various factors including changes in consumption (e.g. of paper products), international trade, the effects of structural changes in the traditional forest industry, or changes in the overall energy demand due to energy efficiency gains.

Fritsche U. et al., 2014. Forest biomass for energy in the EU: current trends, carbon balance and sustainable potential. <http://www.eeb.org/EEB/?LinkServID=FE1EAF33-5056-B741-DBEF3F46BC26A1E1&showMeta=0>

Mantau, U., Saal, U., Prins, K., Steierer, F., Lindner, M., Verkerk, H., Eggers, J., Leek, N., Oldenburger, J., Asikainen, A. and Anttila, P., 2010a. EUwood – Real potential for changes in growth and use of EU forest. Final report, Hamburg, Germany (http://ec.europa.eu/energy/renewables/studies/doc/bioenergy/euwood_final_report.pdf).

UNECE (United Nations Economic Commission for Europe), FAO (Food and Agricultural Organization of the United Nations) 2011. The European Forest Sector Outlook Study II; Geneva





More than Wood

ROBERT MAVSAR, EFI

Forests and the forest based sector can play an important role in shifting Europe towards an innovative, resource efficient and bio-based economy. However, in this context the contribution of the forest-based sector has been largely related to wood based products and bioenergy, which is mainly due to the great relative economic importance of wood and the well structured and competitive value chains based on such raw material (wood products, pulp and paper, bio-energy).

NON-WOOD FOREST PRODUCTS

Forests are much more than wood. Non-wood forest products (e.g., forest fruits, mushrooms, cork, etc.) can also be important in this process; especially in regions where wood is not the most profitable product. According to the Millennium Ecosystem Assessment (Schvidenko 2005) report, more than 150 non-wood forest products (NWFP) are of importance to international trade. The latest report on the state of

Europe's forests (Forest Europe, UNECE and FAO 2011), reported that the total value of NWFP in the Forest Europe region reached 2,763 million EURO, of which 83% was generated by plant products. This value represents around 10% of the value of roundwood, which is quite important considering the existing gaps in data collection. In addition, there are significant differences in the access, utilisation and importance that are ascribed to the production of NWFP. Particularly in the Mediterranean region, where an immense diversity of NWFP exists and the profitability of wood is lower, the value of NWFP is representing a considerable part of the total forest production.

Yet, unlocking the full potential of NWFP requires new knowledge and tools to optimise the sustainable provision and profitability of NWFP, better understanding on the potentials of markets for NWFP and of the role of innovation processes for new products and services. The EU funded research project StarTree (www.star-tree.eu)

aims to provide better understanding and guidance to support relevant stakeholders (e.g., forest owners, resource managers, enterprises, decision makers, other public and private entities) in optimising the management of NWFP and developing innovative approaches for increasing the marketability and profitability of NWFP for a more competitive rural economy.

STARTREE STARRED ON EURONEWS

StarTree was featured on euronews channel in their science and technology series Futuris. See the two films here

- Picking your moments: the science behind foraging in forests at http://youtu.be/-h_KNi3gRgQ?list=PLJhtngTCV-v-EoqmZpeScXiiiPcod5C_J
- Who Owns Mushrooms In A Forest? - Do You Know at https://www.youtube.com/watch?v=MObcGycmw_U

Building Future European

Forest Risk Facility

ALEXANDER HELD, ANDREAS SCHUCK, EFICENT

The FRISK-GO project, which is investigating the feasibility of the 'European Forest Risk Facility' is now ending its first year and yielding its first results. Thematic workshops were held between May and July 2014 on the four main disturbances: windstorm, pest and disease, wildfire and wildlife.

The aim of the consultations with experts from science and operational management was to identify and define the demand of the future user community and the envisaged products and services a future European Forest Risk Facility should provide. They brought together more than 100 participants from 18 countries and were conducted jointly by EFI's Central European Regional Office – EFICENT and its network partners in Spain, France and Germany.

CASE STUDIES

The FRISK-GO project implemented a set of real-life case studies where the value

of cooperation, sharing of experiences and exchange allowed visualising a facility's added value. The case studies varied in nature and approach, showing that by investing reasonable effort and resources in individual skills, the resilience of a whole organisation can be improved, disturbance events dealt with more effectively and that increased efficiency results from cooperating within a trusted network. A library of case studies is being built illustrating possibilities for cooperation. Case studies have been or will be implemented in Slovenia (ice storm), Spain (expert exchanges), Norway (wildfire) and Croatia (flooding).

PRODUCTS AND SERVICES

Based on the project progress a set of nearly 50 products and services have been identified and are now being further elaborated. They will describe in detail requirements,

procedures, personnel, and cost estimates for a specific product/service as defined in the thematic workshops and other expert consultations. Examples, for instance, are an exchange of experts programme, collection of good practices, expert database, assistance / incident support, provision and facilitation of online manuals for practitioners.

FUTURE

FRISK-GO has received several real life requests from numerous countries. This is a clear indicator that the interest and need for a facility approach exists. The next steps will be to conceptualize the results of the different project activities and synthesize them in form of an operational business plan.

For more information on FRISK-GO, visit: www.friskgo.org



Agroforestry and *Green Economy Ambitions*

MICHAEL DEN HERDER, MERCEDES ROIS DÍAZ, EFI

Agroforestry is a traditional land use practise where trees are deliberately combined with agricultural crops and/or livestock on the same piece of land. Agroforestry is a relatively new name for a very old practise which dates back millennia and was widely practised throughout Europe. Traditional agroforestry started disappearing with the intensification of agriculture and forestry since the 1960's, where after these two land use practices were considered as two entirely separate practices. Nowadays, there is a revived interest in agroforestry systems, not only from farmers but also

from politicians, as this practice can possibly contribute in achieving Europe's ambitious green economy goals.

TRADITIONAL AGROFORESTRY

Traditional agroforestry systems are found all across Europe. They are still widespread in the Mediterranean region, such as the *montados* and *dehesas* in Portugal and Spain, where cattle and livestock are grazing between widely spaced oak trees, providing wood, cork and fodder for the animals. *Streuobst* is a traditional system

in central Europe where crops are grown or livestock graze under high fruit trees. Woodland grazing can be found in central, western and northern Europe. In the boreal zone, reindeer husbandry has been practised since the middle ages providing meat, reindeer hides and wood products for local consumption and export.

BENEFITS

The benefits of extensive agroforestry practices can be manifold, and there would be opportunities for this practice by

Silvoarable agroforestry with oak trees and lavender, Drôme, South of France.

AGROOF



promoting not only traditional but also novel agroforestry systems.

A positive aspect of agroforestry for the farmer is that it diversifies the enterprise base. An agroforestry farm produces a variety of products, for instance wheat, rye, mushrooms, wool, meat, medicinal plants, bioenergy, which can effectively lower the risks for losses compared to a single-crop farm. Some of these products, such as Iberian ham, Merino wool, pasture beef, woodland eggs, pine nuts, truffles, are of high quality, are valued by the consumers and can be sold for a good price. Moreover, the farmer gets income from selling crops or other products on an annual base and in the long run additional income from selling wood. Furthermore, the increase in landscape amenity is a benefit for the society, increasing rural tourism and associated economic benefit for the region.

Agroforestry can also bring significant benefits to biodiversity. The *montados* and *dehehas* of the Iberian Peninsula, as well as wooded pastures in northern Europe are among the most species-rich terrestrial habitats in Europe. Moreover, silvopastoral systems offer an appropriate habitat for some of the autochthonous and locally adapted livestock breeds in Europe, replaced in many occasions by more productive species in intensive farming. Europe's traditional livestock breeds are among the most threatened animal genetic resources in the world,

and can be better conserved when kept in the production system and by promoting specific high quality animal food products. Furthermore, European grassland butterflies and farmland birds have suffered a continuous decline due to agricultural intensification or abandonment. High Nature Value farmland and areas with extensive livestock grazing would provide an ideal environment for their conservation.

INCENTIVES

The new agricultural policy stimulates the greening of the agricultural sector. This is an incentive for farmers to diversify crops and plant more trees or hedgerows. However, there are still certain constraints. When only private benefits are valued, the total economic value of agroforestry is not necessarily higher than that of agriculture. However, the net benefits of agroforestry systems can be considerably higher when also the non-marketed ecosystems services are considered.

Some agroforestry systems are faced with threats and in some parts of Europe the practise is declining. Nevertheless, the opportunities are so much greater. Especially on marginal areas, areas prone to erosion or areas with severe eutrophication, agroforestry could provide a solution. Furthermore, agroforestry systems store more carbon compared to conventional

agriculture, could provide higher farm income, bring employment to rural areas and thus tackle the permanent trend of rural abandonment and its consequences. Last but not least, silvopastoral systems are a major tool in the prevention of forest fires, a major threat in southern Europe. Therefore, agroforestry could play a significant role in facing some of the current problems that Europe is facing, in greening the agricultural sector and in realising Europe's green economy ambitions.

The AGFORWARD project aims at promoting both existing and novel agroforestry systems in Europe. To achieve this, the project will map the different agroforestry systems occurring in Europe, analyse the driving forces behind the implementation of those systems and also perform an economic and environmental assessment for certain case studies. The project will facilitate participative agroforestry research in partnership with farmers and land owners, extension staff, and other rural businesses. Areas where it would be most promising to promote agroforestry will be identified, besides offering policy recommendations.

More information:
AGFORWARD – Agroforestry that will advance rural development. Project funded under the European Union Seventh Framework Programme FP7.
www.agforward.eu



What Is the Role

for Mediterranean Forest in the Bioeconomy?

INAZIO MARTINEZ DE ARANO, EFIMED

Across Europe, from East to West Mediterranean, forests are expanding rapidly due to re-colonisation of abandoned rural lands. In Spain, the forest has expanded 4 million hectares in the last 20 years. Italy has multiplied its forests by three since the 1920s. Forest cover in Mediterranean France is approaching 45%, 10 points higher than the national average. Catalonia, with over 60% of forest cover, is thought to be reaching the highest forest cover since the XI century, 1000 years ago. This fabulous change in the landscape, in the use of land, is the result of deep societal changes and is intimately linked to rural abandonment and to dramatic changes in agriculture, livestock farming and forestry. It has some far-reaching and unintended consequences. The increasing occurrence of *megafires*, for example, is related to large extensions of continuous young cover forests with high fuel loads. A situation that was far from common some decades ago. It has also complex implications for water cycles.

HOW TO CONTRIBUTE?

Using increasing forest resources to create new jobs and at the same time, replacing non-renewable, high carbon footprint raw materials is an appealing idea and would no doubt contribute to the transition towards a low-carbon, greener economy. But to what extent can Mediterranean forests contribute towards this vision?

On one hand, increased extension and availability of forest resources opens new opportunities and that the search for synergies, coupling biomass production with forest fire prevention is creating political momentum in many Mediterranean regions.

However, today, the intensity of management, the rate of utilisation of forest resources in the northern shore of the Mediterranean is fairly low and forest based value chains are weak, with the exception of some *niches* like cork and poplar, for example. It is a paradox situation, as some Mediterranean regions host important and advanced forest based industries. Italy, for example, has one of the most important forest based industries in Europe thanks

to its furniture industry, but it makes an extremely reduced use of local wood resources, that are mainly used for energy. Catalonia and Valencia are the leading forest based production and exports, but management intensities or their local resources are minimal. This reveals serious economic, social and cultural constraints that will not be easy to overcome. Mediterranean societies are highly urbanised and highly populated. What is the best way for an efficient and wise use of these limited resources? How do we make the transition to the bioeconomy when there is no traditional forest based economy?

HOTSPOTS

On the other hand, Mediterranean forests are fragile ecosystems and an invaluable green infrastructure of enormous value for our societies. They are a hotspot of biodiversity and cultural heritage, and provide critical ecosystem services in relation to the water cycle and water supply, the protection of soil and carbon sequestration. Mediterranean forests also support very important value chains, not necessarily



Rach Colling



Paco Ayala / Fotolia

based in the production of biomass. The Mediterranean basin hosts 30% of world tourism and part of it is linked to forests. Most of the drinking water is produced in forested Mediterranean basins. Hunting and mushroom picking are important components of the rural economy in large areas. However, there are no markets for these valuable forest services, there is also lack of incentives to manage and take care of the forests and in many European countries they are mainly privately owned. Is it possible to generate revenue streams to make forest management profitable, while creating green jobs and wealth based on the valuable ecosystems services and NWFPs that Mediterranean forests provide?

These questions have no easy answers as ecological, economic and societal aspects must be considered, and there are many win-win situations but also significant trade-offs that must be understood and socialised. But at EFI's Mediterranean Regional Office – EFIMED, we are working with enthusiasm to make a significant contribution in this direction and we are eager to lead the way.

Competing Uses of Forest Land

FRANCESCA FERRANTI, NATURE&SOCIETY CONSULTANCY IN RESEARCH AND PUBLISHING AND REGINA RHODIUS, UNIVERSITY FREIBURG

The COOL project (www.cool-project.org), carried out between 2012 and 2014, is coming to an end. COOL, a European research project within the two ERA-Nets WoodWisdom-Net 2 and Bioenergy, has analysed current and likely future forest management and policy strategies characterizing the responses of five European countries (Germany, Spain, Finland, Norway and Slovenia) to an increasing demand of wood for bioenergy. Moreover, it performed an analysis at the European level on existing policies and guidelines for the provision of energy wood without adversely affecting other forest ecosystem services.

The project has produced the following main outputs:

- EFI's Central European Regional Office – EFICENT, one of the seven project partners, published an EFI Technical Report in August 2014, available at http://www.efi.int/files/attachments/publications/efi_tr_95_ferranti_2014.pdf. The report addresses energy wood related topics relevant for the scientific, forest management and policy making arenas. In particular, the report presents a critical overview of existing studies on energy wood potential; it analyzes trade-offs and synergies between energy wood production and use and other forest ecosystem services; it identifies and describes European Union policies affecting the energy wood context and it addresses the integration between energy wood and biodiversity related goals within these policies.
- In September 2014, the COOL researchers presented and discussed project results in the **COOL session** "More fodder for the oven? Dealing with forest related conflicts arising from the use of energy wood in Europe" at the international "Bioenergy from Forest Conference" (<http://www.bioenergyevents.fi/Conference>) in Helsinki. In the **COOL panel discussion** experts from throughout Europe, representing diverse stakeholder groups, discussed future options on forest biomass in Europe.

Be on the lookout for the final outputs of COOL in the coming months!

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Network of Excellence



STÉPHANIE HAYES, EFIATLANTIC

EVOLTREE (EVOLution of TREEs as Drivers of Terrestrial Biodiversity) has reached another landmark since its creation: it is time once again to plan its future direction as its second four-year term comes to a very satisfactory close.

EVOLTREE is a network that links the four major disciplines of Ecology, Genetics, Genomics and Evolution in order to meet its overall goal of addressing global issues currently faced by European forests, such as environmental changes and the erosion of biodiversity. Coordinated by **Antoine Kremer** (INRA), the network's 'life' and development can be summed up in three four-year periods:

2006

A EUROPEAN UNION FUNDED PROJECT

2011

It all started in 2006, when twenty-five Universities and research institutes from fifteen European countries joined forces to set up EVOLTREE as a Network of Excellence. Funded by the European Union within the 6th framework programme, it

spent the next four years developing and setting up the necessary experimental and monitoring infrastructures and physical and electronic resources upon which long term research can be built.

2011

UP AND RUNNING AND SELF-SUFFICIENT

2014

These network infrastructures and resources were well in place and up and running when EVOLTREE embarked on its next four year period in 2011. Twenty-three research groups from thirteen European countries agreed upon and signed a new consortium agreement. Now the self-funding EVOLTREE is completely integrated into the EFI network.

At the end of 2014, the research and networking activities that EVOLTREE carries out have become well established and well recognised throughout the European scientific community.

Instrumental in EU projects, such as NOVELTREE, PROCOGEN and T4F, EVOLTREE's research activities address topical issues such as gene discoveries of economic and ecological relevance and their genetic diversity in natural gene populations and associated species; as well as the evolution, conservation, restoration,

breeding and management of tree populations subject to environmental change and human interference.

It was in the latter part of the second period that the research tool "TreeType" was created for the widespread collection of data on some simple phenotypic traits for European trees. Such data can provide important insights into the balance between local adaptation and phenotypic plasticity in tree populations. Indeed, at a time when large DNA sequence data of individual trees are becoming available, the missing component is standardised phenotypic data. The project is open to participation by anyone with the enthusiasm and skills to record the data for the trees of their choice, and data will be made openly available. The recording website (accessible via the EVOLTREE website) was launched at the end of 2014 in time for its utilisation in the new four year term 2015–2018.



Natallia Yurmenenka / Fotolia

2015 NEW ACTIVITIES, NEW MEMBERS, NEW HORIZONS 2018

The next four year period will hopefully see TreeType taking off and becoming a valuable long term resource, alongside the EVOLTREE e-resources, the repository centre, the ISS and the training courses. Furthermore, EVOLTREE intends to increase its involvement in EU projects. For example, it will be involved in FORESTING, a networking research infrastructure for forest ecosystem and resources research in Environmental and Earth Sciences.

It is planned to widen the scope of the training courses to include year-round

workshops and also to become more present in and to organise scientific events. Ambitions to widen and strengthen the network will be achieved by welcoming new partners from different parts of Europe to the consortium and by increasing synergies with EFI.

Therefore, EVOLTREE is ready to take on the next four years and further its contribution to the field of genetics and genomics in Europe with fresh projects and ideas, a new website, and enthusiastic support and input from its partners.

The basic metabolism of EVOLTREE is its networking activities and the services it offers:

- Its electronic resources, such as the e-Lab and portals, which provide access to a variety of databases, are accessible via the EVOLTREE website. Anyone can query the databases in the e-Lab, which include, for example, TreePop, CMap, GD2, and SNP databases.
- Based at the EVOLTREE partner institute, the Austrian Institute of Technology, the repository centre is a common infrastructure that stores and makes available reference material and large sets of DNA samples for the EVOLTREE partners.

- Another EVOLTREE infrastructure is the network of Intensive Study Sites; large scale ecosystem plots, where trees and selected associated species are mapped, genotyped and phenotyped. Funding is provided for research work to be carried out on one or more of the seven sites located in different parts of Europe.
- EVOLTREE also organises training courses. These have proved to be very popular, in particular within the community of PhD students, and are open to everyone, not just EVOLTREE members. However, the latter can benefit from financial support from the network in order to attend the courses.

Website: www.evoltree.eu

EVENT CALENDAR

■ Sustainable Forest Management – Research Capacities and Priorities

19 November 2014
Kazan, Russia
Note: By invitation

■ Workshop: Silviculture in Changing Environment

24–25 November 2014
Kirkkonummi, Finland
Note: By invitation

■ Barcelona BioEconomy Forum

27–28 November 2014
Barcelona, Spain
Note: By invitation

■ Young Leadership Programme on the Russian Forest Sector

15–19 December 2014
Joensuu, Finland

■ EFICEEC-EFISEE Annual Meeting

9–13 February 2015
Vienna, Austria

■ IV MFW – Mediterranean Forest Week

17–20 March 2015
Barcelona, Spain

EFI ASSOCIATED EVENTS

■ International Scientific and Expert Conference: Natural Resources, Green Technologies and Sustainable Development

26–28 November 2014
Zagreb, Croatia

Further information

Ms. Ulla Vanttinen
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www.efi.int, under News & Events

INDUFOR ESTABLISHES OPERATIONS IN AUSTRALIA

Indufor Group is expanding its Asia Pacific operations through the establishment of an office in Australia, based in Melbourne. The Australian office will complement the existing Indufor Asia Pacific business, based in Auckland, New Zealand. It will further strengthen Indufor's global reach and capacity to provide high-quality knowledge and services for our clients across the forest and forest industry value chains.

Indufor's Australian office has commenced with a consulting staff of six highly capable persons, and is expected to expand over time. The Australian-based staff has extensive experience in providing forest sector consulting services across Australia and the Asia Pacific region. The key areas of expertise are well aligned with Indufor's service lines, comprising forest valuation and investment, forest industry and bio solutions, resource mapping, strategy and

sustainability, climate change and development consulting.

Working closely with the existing Indufor Asia Pacific business, the Australian office is positioned to provide advisory services to both private and public clients, and facilitate public-private partnerships.

For further information on Indufor's expansion into Australia, please see: www.indufor.fi

BENEFITS OF WOODLANDS ON HUMAN HEALTH AND WELL-BEING

A new Study of the Austrian Research Centre for Forests, Vienna, Austria, in cooperation with the Medical University of Vienna and the University of Natural Resources and Life Sciences, Vienna, copes with the topic of Health and Forests.

This study aims to provide an overview of the scientific literature on the benefits of woodlands on people's health, well-being, and quality of life. Woodland can have numerous positive effects on physical, psychological and social health, as well as human well-being.

Spending time in forests increases positive emotions, decreases negative emotions and helps in coping with subjectively experienced stressors. With respect to physiological stress indicators, most of the studies reported positive effects and prevention of stress related diseases.

Social forestry projects make use of the forest's inclusive potential for the benefit of the socially vulnerable. Wilderness therapy programmes, as well as therapeutic activities in a healing forest, are cited as practical examples that make use of the forest's healing powers.

In woodlands, well-being can be affected by the duration of the stay, the activities undertaken and the physical exercise performed as well as the social context. Even short visits can have recreational effects.

Download Study Green Public Health: <http://bfw.ac.at/greencareforest>



calmeo/photo / Fotolia

PROFESSIONAL TRAINING ON "IMPROVING FOREST GOVERNANCE"

The objectives, processes and practice of forestry have changed greatly over the last ten years. New regulations such as EU Timber Regulation and the Lacey Act in the US, together with initiatives such as Forest Law Enforcement, Governance and Trade (FLEGT) and REDD+, are fostering a new culture of improved forest governance and legality in the forest sector. The Improving Forest Governance (IFG) course is aimed at strengthening the capacity of frontline players in forest governance by unpacking

these issues and examining their impact on different parts of the forest sector.

The first three-and-a-half weeks of the course focus on core concepts and understanding the drivers of forest governance, looking at the theory and application of FLEGT and Voluntary Partnership Agreements (VPAs). The final two-and-a-half weeks of the course offer optional modules focused on: "Forests and Climate Change", "Training of Trainers", "Project Design, Programme Cycle Management

and Proposal Writing" and "Developing a Communication Strategy".

The IFG course will be held in Telford, UK on 3 June – 19 July 2015 and is organised by the Centre for International Development and Training (CIDT), University of Wolverhampton.

Further information and application forms: <http://www.wlv.ac.uk/Default.aspx?page=37006>

QUALIFICATIONS FRAMEWORK FOR THE SUSTAINABLE FORESTRY

ELDAR KURBANOV AND OLEG VOROBEV, VOLGA STATE UNIVERSITY OF TECHNOLOGY, RUSSIA

Development of Qualifications framework (QF) and modern learning outcomes for the young specialists in forestry were the main objectives of the EU Tempus SUFAREL project. Most of the partner universities and organizations of the SUFAREL (16 members) belong to the EFI network. Professional excursions and talks were organized by the EU partners not only on the University campuses, but also in different forestry enterprises, forestry nurseries, international organizations and consulting companies. The ultimate goal of these trainings was to give an understanding to Russian specialists about requirements and descriptors of EU 8-levels National QF related to the forestry sector.

The meta-framework of QF is an important tool for the young forestry specialists to compare the competences of 8 qualification levels described through learning outcomes. In the process of development

in the QF for the Russian forestry sector it was intended that each SUFAREL partner would reference its national qualifications to the eight EQF levels via national qualifications frameworks, or the implicit levels in the national qualifications systems. An important contribution to the developed QF has been made by the professionals from the forestry companies, who proposed special descriptors useful for the forestry industry of Russia in the conditions of the new forestry codex.

The newly developed QF also pays much attention to the knowledge of additional language, international cooperation and communication skills of the forestry Universities graduates.

Sustainability and further cooperation of the SUFAREL network will be provided by newly developed collaboration centers created in the RU Universities. The centers are equipped with videoconference



Victor Marques Fernandez / Fotolia

facilities, E-learning courses and computers for the trainings as well. Something rather new seems to be happening in the education of the Russian forestry sector and the SUFAREL project team was happy to be a part of this process.

Further information

http://sufarel.marstu.net/eng/ramka_eng.html

LIFE+ MAKING GOOD NATURA

The project **Life + Making Good Natura** is a **Life+** project lasting four years (2012–2016), part of the component LIFE + Environmental Policy and Governance, created to co-finance innovative projects that ensure implementation of EU environmental policies.

The project is co-funded by the European Commission through the Life + program. The lead organization is the CURSA, University Consortium for Research and Socioeconomic Environment. There are several partners, which can be found here (www.lifemgn-serviziecosistemici.eu).

The project has involved the participation of twenty pilot sites (mostly forests) belonging to the Natura 2000 network, with a total area of 90,239 hectares. The high diversity Ecosystemic and Socio-economic Italian context is well represented in the Project Life + Making Good Nature, and through the involvement of seven Regions, and through the coverage of the three biogeographic regions: Alpine, Mediterranean and Continental.

The project is aimed at creating and demonstrating innovative procedures and approaches to solve an environmental problem, with a strategic approach based on ecosystem services (ES). Natura 2000 sites offer a wide range of ecosystem services,

which are defined as the benefits offered from natural ecosystems to humans. Efficient management is essential for their conservation and to contribute to the delivery of ecosystem services. However, conservation activities implicate direct and indirect costs for administration and management, and, in many cases, management plans cannot be realized due to scarce financial resources. Thus, the project aims to provide a governance tool for an efficient management of Natura 2000 sites based on the qualitative and quantitative valuation of ES and innovative models for financing (Payments for Ecosystem Services). Moreover, the project includes Natura 2000 sites of different eco-regions and with diverse management approaches allowing for the developing of a general tool applicable for the major existing typologies of Natura 2000 pilot sites in Italy. The project is characterized by a strategic approach to all different situations in order to perform a broad survey and to obtain the best results.

Based on the implementation of the created models, major final outputs of the project are:

- Web-based tool to evaluate ES qualitatively and quantitatively including fluxes from “providershed” and “benefitshed”, monetary evaluation

and scenario development under different management strategies of the study sites. The web-based tool processes spatial datasets which are organized and managed in a geodatabase and applications are accessible using WebGIS.

- Handbooks with self-financing instruments and strategies in order to assure conservation and management activities of the study sites. It is addressed to the management authorities of Natura 2000 sites as well as to local communities and stakeholders. Moreover, the handbook is designed in a way that will be useful for Natura 2000 sites as well, which were not assessed within the project.

For further information please visit our website
www.lifemgn-serviziecosistemici.eu

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A Toast to the Glorious Past and Bright Future of EFI!

Risto Päivinen has been the Director of EFI since 2000. He began as an Interim Director in January 1993 and moved to be the Deputy Director 1993–2000. After being the Director for the past 14 years, he will retire at the end of this year.

Knowing EFI from the beginning, what type of world was the organization created in?

When EFI was founded in 1993, international forest policies were emerging. The process of European Ministerial Conferences started in Strasbourg in 1990, and Rio Earth Summit was held in 1992. Transboundary air pollution was considered a major threat for European forests, requiring international collaboration in monitoring, research and policy making.

How would you describe the development of EFI so far?

Without a doubt, the big picture of EFI development is a success story. Reaching international status and the level of 130 staff in 7 countries with a 12 Million euro annual budget has required outlook and hard work from the network members over the past 21 years.

First, there was an idea and a niche. After political changes in the East, new possibilities for cooperation between Western and Eastern European countries were suddenly open. More countries joined the EU and integration was progressing in all fields. Secondly, there were committed people willing to be part of an innovative and new type of forest research network. Today, 80 current or former Board and SAB members, together with hundreds of experts who have been working in the institute, form a vital human resource for EFI. Thirdly, an open and participatory system has created ownership for the Member Countries and member organizations. Decentralized activities in Regional Offices and Project Centers, jointly with the Joensuu Headquarters, have further glued the organization and local actors to a unique consolidated network.

How do you see the future of EFI?

The success of EFI will depend on its ability to continue providing added value to its Member Countries and member organizations. While keeping the focus on benefits of these “owners” of the Institute, we should keep in mind that the EFI services must

be organized in a sustainable way, both in terms of finances and human resources.

The idea of EFI fits well now, when the European Union and its member countries have declared a need for evolution from the era of the fossil economy to the era of bioeconomy. Climate change is not going away, and global demands for food, energy and water are increasing. Innovative science and policy instruments are needed to implement the concept of resource efficiency to solve problems. Today, the EFI network is well equipped in research and policy support to serve the shift towards bio-based economies in Europe.

What will you do during retirement?

First of all, allocate more time to the family, especially my three grandchildren. I also will keep the door open for assisting colleagues in their international research and networking challenges – in one way or another.

Anything else you would like to share?

I would like to express my sincere gratitude to all present and former colleagues for an inspiring journey over the past 22 years. We have shared many memorable moments. I would also like to thank EFI supporters who have made all of this possible.

I congratulate **Marc Palahí** for his new job as the Director, and wish him success with his efforts to propel the organization to the next level. Furthermore, I would like to thank the Annual Conference in Bilbao for inviting me as an honorary guest to next year's Conference in St. Petersburg – one of my favorite cities. I am looking forward to meeting you there!

