

# Forest Innovation Workshop April 26, 2018

## Documentation of the Plenary and Break-out Sessions

### PLENARY SESSIONS

The 3<sup>rd</sup> Edition of the Forest Innovation Workshop was opened with welcoming speeches from Ms. Barbara Schretter (Director of the Representation of the Free State of Bavaria to the EU), Roberto Scalacci (Director for Agriculture and Rural Development at the Regional Government of Tuscany (ERIAFF Network coordinating Region)) and Johan Elvnert (Managing Director of the Forest-Based Sector European Technology Platform FTP).

**Barbara Schretter** highlighted the importance of forestry in Bavaria.

**Roberto Scalacci** emphasized the role of regions in implementing the bioeconomy that has become even more crucial. Tuscany is part of the Horizon 2020 project ROSEWOOD, which seeks to leverage the potential of wood industry by encouraging sustainable wood mobilisation and promoting novel approaches in forest management. Another important step for forested regions is the recently established ERIAFF European Forested Regions working group, led by East and North Finland and Castilla y Leon.

**Johan Elvnert** congratulated the regions and operational groups for their great work. He briefly presented the main documents of the platform to foster research and innovation in the forest-based sector.

The following plenary session provided an overview on the *European framework for innovation in forestry*.

**Beatriz Guimarey Fernandez** (EIP AGRI Service Point) informed on existing Operational Groups (OGs) active on forest topics in the frame of Rural Development EIP AGRI funding (particularly measure 16-Cooperation). The use of this tool is on the raise and there are around 600 active OGs in Europe, about 10% of them focusing on forestry related issues. The main goal of OGs is to connect research and practitioners. OG topics include forest management and inventory, forest products and services (wood and others, and land management. Some Member States have not activated this specific measure as they have similar funding tools at national level (eg. Denmark and Estonia). Some others have excluded forestry from the priorities (eg. Sweden and Greece). More knowledge and inspiration for existing OGs should help the forest sector to adopt this measure more frequently. An extensive database on funded OGs at EU level is under development at DG AGRI.

**Andreas Kleinschmit von Lengfeld** (FCBA France) introduced the main results of the EIP AGRI Focus Group on Sustainable Mobilisation of Forest Biomass. The most relevant issues are resumed in 8 mini papers which are available at <https://ec.europa.eu/eip/agriculture/en/focus-groups/sustainable-mobilisation-forest-biomass>. Across Europe, there is not one forest-sector, but rather a huge diversity concerning how the forest-based sector and the markets work. The Focus Group identified 28 innovation needs, 6 of them with high priority. Relevant aspects to be addressed to facilitate the uptake of innovation in the sector are: functioning of incentives; ownership at regional level; existence of ICT platforms; effective transfer of good practices; profiling regional models with a specific attention to forest ownership. Better harvesting technologies are needed. Also better knowledge on what to do with hard wood species is required as they will increase due to climate change. Farmers lives on their farm whereas forest owners might not see their forest for 20 years. The forestry sector is often misunderstood by the media and has to better cooperate to improve this situation.

**Guido Schwichtenberg** introduced the EIP AGRI Focus Group on New practices and tools for climate adaptation and mitigation. Also this group has elaborated 10 mini papers which are available at <https://ec.europa.eu/eip/agriculture/en/content/focus-groups/new-forest-practices-and-tools-adaptation-and>. The work is still ongoing and the final report will be delivered soon.

**Kari Mäkitalo** (Natural Resources Institute Finland) introduced the H2020 project [ROSEWOOD](#) (European Network of Regions On Sustainable WOOD mobilisation), which is devoted to the creation of a broad European network on wood mobilization with a strong connection with regions and local stakeholders. The Network is constituted by four regional hubs which coordinate their activities with the intention of promoting wood mobilization through exchange of innovative practices, experiences and also the promotion of new business models.

**Benjamin Chapelet** (Centre national de la propriété Forestière) informed that in France each region is responsible for the rural development program. This is also the reason to why some regions have until now not launched the measure 16 on Operational Groups. He presented an interesting approach adopted in France, which enables better participation of the forest sector under the innovation scheme provided by Rural Development Programmes. The approach is based on the activism of some forest stakeholders and the National Rural Network support. At the moment, 3 OGs are active on forestry in France: Sylviconnect, Igrosyl and OUIGEF.

Reflecting on the presentations, Mr. Tamas Szedlak from DG AGRI recalled the flexibility in the rural development programmes. If Operational Groups on forestry are not foreseen yet, programmes could still be modified.

## BREAK-OUT SESSIONS

### Table 1 - Managing Impacts related to Climate Change

Chair: MARTIRE Salvatore (EUSTAFOR)

Note taker: RÄISÄNEN Sointu (East North Finland Regions)

The presentations covered a wide range of issues related to forests and climate change:

- Opportunities for cooperation
- Climate change mitigation
- Climate change adaptation

### **A new EU innovation programme to increase sustainable forestry and wood-use in the bioeconomy to boost European climate goals - Fabrizio Rossi (Climate KIC)**

Climate-KIC is a public-private partnership and has a dedicated forestry flagship programme. Climate-KIC is the main Public-Private-Partnership on climate. Since 2012, it has created almost 1000 business ideas. Climate-KIC would like to boost territorial level collaboration.

Climate-KIC has realized some important projects on [forestry](#): Wageningen university for example is working on models predicting woody biomass availability for the next 20 years. The next task is to identify the main challenges the European forestry sector is facing for the next 10 years.

Climate-KIC will organize a [Sustainable Land Use day](#) 31<sup>st</sup> of May in Brussels and is dedicating about 2 million euros seed money budget for the flagship. Northern Europe and Southern Europe are very committed, further commitment would be welcomed in particular in Central Europe.

### **Climate Smart Forestry: A new method for climate change mitigation - Kaisa Vainio (Metsähallitus, Finland)**

Metsähallitus governs the state owned forestry in Finland (1/3 of Finnish forests). It has created a carbon based classification method for forestry planning:

- all data counted in state owned forest land (10,1 million hectares)
- similar areas are grouped together (similar sinks and storage)
- work resulted in 7 forest categories

The method has a focus on climate change mitigation, classifying types of sink or storage. It is helpful to communicate the role of forests in Climate change mitigation. It could be relevant for LULUCF accounting. If rotation period would be prolonged by 40 years, it would have negative impacts for economy, but also for sequestration in a long term. Prolonged rotation also increases the risk of wind and fire damages. Further calculations on optimal rotation periods need to be carried out, to reduce the forest losses.

The group discussions included following topics:

- 34 % of forest in the carbon model typing is in category “carbon sink to be developed” – a very large amount
- how could forest owners be convinced that increasing sink could be a good idea - it is difficult to impact private forest owners, as they make their harvesting decisions mainly on economic terms
- there are life-cycle analysis that show that the sink of the forests is only one part but there is also the LULUCF regulation and the forest products.
- mires: instead of saying that mires could be made more productive with drainage, in Germany now the talk is the opposite: there is so much carbon stored in the soil of a mire than what you could gain by planting trees. In Finland there are different categories of mires: natural mires and drained mires. More research is needed about the carbon sink in the soil. In Finland [Luke](#) is currently carrying out such research.
- from carbon perspective it would be necessary to focus more on long lasting products such a logs and sawmill industry; in paper carbon is stored for a maximum period of 20 years.
- climate adaptation and how the tree species are adapting should be taken into account when planting new trees
- Ireland has also developed some accounting models including age of forests for example, but nothing as elaborated as Metsähallitus’ carbon modelling. Collaboration between Metsähallitus and [Coillte](#) could be welcomed.
- Carbon in the forest and carbon in long-lasting products should be the target.

**Managing silver fir forests based on growth sensitivity and adaptability patterns - Michal Bosela ( Technical University of Zvolen, Slovakia)**

European Silver Fir is spread over the Central, Eastern and also Southern Europe, but not in the North. It is the most productive tree species in Europe. In the 19<sup>th</sup> and 20<sup>th</sup> century, large areas of original silver fir was replaced by Norway spruce. This resulted in increased frequency of devastating windstorms. Norway spruce is very sensitive to drought and the productivity of Norway spruce has tremendously decreased in the last 100 years.

Due to the climate change it is necessary to take decisions as soon as possible, to avoid big problems with Norway spruce in large parts of Europe. Silver fir is much less sensitive to climate change and warmer temperatures than Norway spruce. Mr. Bosela presented a comparison between the western lineage and Balkan lineage silver fir and concluded that the Balkan lineage is better “climate proof”. More research and networking on demonstrational plots and growth modelling under future climate change conditions is needed.

The group discussion included following topics:

- When replacing one tree species by another, biodiversity issues should be looked at, as well as ecosystem services. It is always good to be diverse with the species. Silver fir can grow without light for quite many years. Douglas fir needs more light from the beginning.
- Finland also has some areas with silver fir, and there is an “isolated refugee” of silver fir in Calabria. It would be useful to exchange information on the genetic origins of the silver fir in different parts of Europe and how they adapt to climate change
- Climate change threatens tree species in particularly in Southern Europe: it should be expected in the north that some species that are now growing in the south will in the future be successful in the north. But when southern Europe looks towards more south, there is desert and no trees!
- Hungarian researchers have produced a decision making support tool which can predict which tree species can survive the next 60-80 years. This type of modelling should be implemented in all of Europe. Bavarian is trying to improve the information flow between forest owners and scientists on the impacts of climate change.

### Main conclusions from the table discussions

- new approaches are needed; many people and stakeholders are involved, information flow between the different stakeholders must be ensured. Better communication will be crucial in adapting and mitigating climate change. In some countries, private forest owners are very conservative and it is not easy to get new ideas through (example: Slovakia). In Czech Republic, due to serious droughts, private forest owners are contacting science representatives to obtain advice on what to do when their forest has been destroyed.
- Climate-KIC aims at creating regional hubs. This could provide for a collaboration opportunity.
- Metsähallitus' tool could possibly be exploited by forest owners across Europe
- Socio-economic results of different tree species plantations should be evaluated. There is already an ERA-Net which is developing a growth model for the future.
- The question is how to pay the forest owners: how we can pay for providing eco-system services? How to establish a payment? One interesting example is the [Vittel company](#), which introduced payments for Environmental Services (PES).
- In Finland, some private forest owners consider other than financial values of their forest. They decide not to do anything about their forests because of climate and biodiversity reasons. Even for them it would be good to know what are the consequences of their action and how they could best reach their targets.
- Northwest Portugal has a huge problem with forest fires, and at the same time a huge amount of private forest owners who do not care about their forests, who sometimes do not even know where their forests are located. There are efforts of improving communication and many initiatives targeting forest owners to manage their forests better. Legislation is going into the direction that will force the forest owners to manage their forests.
- In Italy forest policies are regional. For many years, thinking was that the best thing to do is not to touch the forests.
- Catalonia is also working hard to improve planning and legislation to prevent forest fires.
- Different European regions have different challenges concerning forestry. In the South one of the problems is that market actors are missing, and therefore producing bioenergy might be the only way to exploit forest. In the south wood construction sector is not really developed, but there could be great potential. Market actors need to be included in the dialogue between scientists, forest owners and policy makers on climate change impact on forests.

### Table 2 - Supporting Wood and Biomass Mobilization

Chair: PICARDO Alvaro (Castilla y León, Spain)

Note taker: HUHTANEN Jenna (East North Finland Regions)

The session included four presentations of relevant innovation projects:

1. SIMWOOD - "Sustainable Innovative Mobilization of Wood. Concept, results, gained experiences from pilot projects for wood mobilization", by Roland Schreiber, from Bavaria Forest Institute (Germany)
2. SATMODO - "Timber Harvesting Information & Communication Technology", by Mark Carlin, from Coillte (Ireland)
3. "Assessment method for biomass feedstock availability and transport costs enhances sustainable wood mobilization at regional level", by Vesa Nivala, from Luke (Finland)
4. "Integrated digital platforms to develop logging technology companies", by Stefano Grigolato, from IT-FOR (Italy)

SIMWOOD has been a relevant FP7 project, financed by the European Commission, with 28 participants, from 23 countries, that has systematized 27 barriers and 28 measures for wood mobilization in Europe, after considering more than 600 good practices. It stressed the importance of stakeholders engagement, through their "learning labs", concluded that research results are better

implemented when stakeholders are involved and that evaluation of outcomes and impacts is worth the effort.

It created the SIMWOOD Information System available at:

<https://simwood.jrc.ec.europa.eu/> and ended with a handbook available at:

[http://simwood.efi.int/uploads/Publications/SIMWOOD\\_handbook\\_2017.pdf](http://simwood.efi.int/uploads/Publications/SIMWOOD_handbook_2017.pdf)

SATMODO is an ongoing project of Coillte, the largest forestry and land solutions company in Ireland ([www.coillte.ie](http://www.coillte.ie)) that has created a technology platform for harvesters and forwarders that provides real time data on order fulfilment, forwarders management and productivity, stock measurement, drivers working time, fuel and distances and cost efficiency. The main objective is to optimize forest value creation. It has been implemented in more than 60 machines and already provided an increase in value recovery and a reduction of workload. Nowadays they are working on silviculture's improvements, post-thin inventories and big-data evaluation of the more than 15 million stem files of the trees cut.

Vesa Nivala, from LUKE, presented an evaluation tool for the assessment of biomass and transport costs in Finland, that includes a GIS with 1x1 km, using planning at regional level and public data from National Forest Inventory. It allows to generate scenarios of sustainable biomass uses and demand scenarios for the 650 biomass plants existing in the country. The national objective is to double the use of biomass in the country, going from 10 to 20 mill. cubic meters.

Stefano Grigolato, from IT-FOR, a consultant company from Veneto (Italy), presented a regional operational group to create an integrated digital platform to develop logging technology companies. The wood extraction level in the region is around 35% while wood imports from Austria, Slovenia or Germany represent 80% of wood use, mostly at high value furniture plants. They have worked with 25 small logging companies, to increase coordination networking, provide digital traceability to the wood value chain and for a more transparent market.

The 4 projects reflected the regional differences of the European forest sector and the common strong interest among regions in wood mobilization, engaging local stakeholders.

#### **Main conclusions from the table discussions**

- 1-The importance of data standardization at European level for technological development.
- 2-The relevance of training and education of stakeholders to create qualified jobs in rural areas.
- 3-Forest stakeholders need to improve the knowledge on funding opportunities for innovation.
- 4-Developing the right partnership is crucial for innovation. There is a need to engage forest companies, technological and financial ones.
- 5-Evaluation of impacts and outputs of projects and initiatives deserves some more efforts.
- 6-There are gaps in knowledge about funding, due to the specific conditions established for funds and to difficulties for connections on funds.
- 7-There is a poor connection at regional, national and European levels for innovation funding.
- 8-The forest sector needs a positive attitude towards innovation, and more dissemination of results and opportunities.
- 9-There is a need for tools to share the existing knowledge. The EIP AGRI service might provide the needed support.
- 10-The forest sector could increase its political relevance through some coordinated actions of forested regions at the European level, perhaps with the support of the Committee of the Regions.

### **Table 3 - Supporting the Provision of Ecosystem Services**

Chair: OPFERMANN Valentin (Copa-Cogeca)

Note taker: HIRSCHÉ Jörg (Free State of Bavaria)

#### **Main conclusions from the table discussions**

- How can forest owners benefit from their efforts in the provision of ecosystem services?
  - Awareness on ecosystem services is needed in the broad population → Information!
  - Carbon compensation tools linked to tourists get funded by tourist activity (compensation payments). Forest owners could get money from these funds for their work on ecosystem services
  - Parts of tourist taxes could be given to forest owners
  - Compensation for sealing of landscape (e.g. building) could go in ecosystem services
  - Including ecosystem services in the price of wood would be the easiest way, but prices are going down (competition with global market)
- Information is key
  - Citizens mostly do not have any knowledge about forest management
  - Forest owner associations can play a big role (too hard for single forest owners)
  - European tree of the year good tool with high resonance
  - All platforms/social media are important
- Activating people via citizen science can be a good tool in creating awareness and collecting data about biodiversity status
- Forest management tools that are easy to use would be very helpful for forest owners

### **Table 4 - Improving Sustainable Forest Management Approaches and Tools**

Chair: MÄKITALO Kari (LUKE, Finland)

Note taker: KOCH Hélène (CEPF)

#### **Main conclusions from the table discussions**

- Significant differences of stand structures and species mixture, or broader environmental features have been acknowledged as a major difficulty to adapt and to upscale the methodologies presented from one region to the other;
- The demographic development (aging forest owners) and urbanization (owners live far away from their forest) pose a growing problem in terms of adaptation to and acceptance of new technologies, and lack of actual interest in active forest management. In Finland, activation forest owners of all age is given through the possibility to provide specific access on Metsään.fi to a trusted family member more up-to-date with new technologies;
- Small and/or fragmented holdings are a challenge for forest management, and are increasing due to inheritance mechanisms. Co-ownership of land is also an issue when making decisions. To tackle fragmentation, France and the Wallonia region have organizations that support mobilization of small private forest owners (e.g. Cellule d'Appui à la Petite Forêt Privée);
- New technologies (e.g. Lidar, Sentinel satellites, Landsat, digital camera) have to be used in combination to get the best data possible. Professionals have to be trained differently to work with big imagery and photogrammetry data instead of the usual information based on single tree inventory;
- EIP AGRI Operational groups should be more put in contact to share experience and support each other's. Strong point for EIP AGRI operational Group: to bring people from different fields to work and to cooperate together;
- Better awareness of funding possibilities under RDP are needed. Currently, funding to pay for the remote sensing data is a key issue as it might induce significant costs, and economic unviability of big projects;

- New Approaches and Tools to SFM must keep the fundamental idea of property right of the owners; e.g. when sharing information with contractors through an application such as Metsään.fi;
- Risks linked to cloud-based data should not be overlooked; breaches, hacking, and unwanted influence are to be considered over sensitive and private data; Security of new technologies has to be taken into account in forest innovation;
- An easy to use interface for mobilization is a challenging task but would provide significant benefits;
- When working on modelling, substitution of tree species, in light of climate change adaptation and mitigation has to be considered;
- Information on best management practices based on other factor as light (i.e. soil, water capacity and potential) have to be improved.