

Report

Sustainable biomass production and the challenges of competing forest use in northern Europe

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EFINORD annual meeting 2017
December 12-13, Helsinki, Finland.

Aim of meeting

The aim of the meeting (see Agenda in appendix) was to connect knowledge on the competing demands on forests in the northern European setting, specifically in the Nordic-Baltic setting. Researchers and stakeholders from the region was invited to participate in the meeting. The EFINORD office specifically invited one person each from the region to give their view on the opportunities and challenges of the sustainable forest management in respective countries. The aim of the presentations was then to further discuss common challenges in the bioeconomy transformation. The meeting was also aiming at creating a meeting point to discuss future research collaborations.

Outcome of meeting

The EFINORD annual meeting was arranged in December 2017, in Helsinki, Finland. The theme for the meeting was “Sustainable biomass production and the challenges of competing forest use in northern Europe”. During the meeting, country specific presentations were made from Denmark, Estonia, Finland, Iceland, Latvia, Lithuania, Norway, and Sweden. The meeting also presented two keynotes from Pekka Leskinen (EFI) and Markku Ollikainen (University of Helsinki). Additionally, the meeting included a workshop discussing potential collaborations in the region. A post-conference event was also held, focusing specifically on the Baltic region collaboration. The number of participants in the meeting was 27.

After keynotes and country presentations, small-group discussions aimed at discussion collaboration in the EFINORD region. The main discussions were:

- The concept of bioeconomy and the forest in bioeconomy is a buzzword used in different settings. There is a need to give a meaning to the word, specifically in the forest setting. The idea was raised on having a cross-country course in the topic.
- Education (undergraduate and graduate) was discussed and if there is an opportunity to collaborate within the region, specifically within human dimension of forest.
- The group also discussed the potential for a joint research application related to Nordic-Baltic forest-society interactions related to multiple-use and the use of forest in a circular bioeconomy.

The discussion on bioeconomy and the role of forests in the transition toward a bio-based economy is a key question in the all the Nordic-Baltic countries. Several question marks still remain to be solved, like “How do we tell the story of bioeconomy?” given that there might



be questions on what the story is. Several issues have to be considered in the long-run, such as reduction of biodiversity loss, or climate change mitigation. How can there be more of everything based on the forest resource? The challenges and opportunities are similar –using the forest in a sustainable way meeting multiple demands and needs from society. Governance of natural resources is essential to balance the future use of the forest to ensure sustainability.

Summary of presentations

Keynote presentations

Pekka Leskinen, European Forest Institute

One of the main challenges for the future is not only to reduce carbon emissions, but also maintain the carbon sinks. Forestry has opportunities here. Globally both reduction of forest fires and afforestation will have major impacts. There are possibilities also outside the classical function of forests, such as climate smart forestry: Sinks, Substitution and Storage (Triple S). Several tools are already available but have to be developed further and tailored for different countries and regions.

Markku Ollikainen, University of Helsinki

Ollikainen presented the theoretical background related to the trade-offs between ecosystems services. Supply of the bioeconomy commodities and biodiversity are bounded by the common production possibility frontier. With smart and efficient production, the frontier can be expanded in order to get more from less.

Biodiversity can be promoted for instance by new voluntary instruments, like green auctions and ecological compensation. Ollikainen told about good experiences from trading in nature value in forests of Satakunta in Finland. Regarding ecological compensations, the very first experiment is currently ongoing in Finland. Ollikainen presented principles and pros and cons of tendering systems, ecological compensations and other instruments designs. Concrete examples and results based on research made the cases very interesting.

Country presentation – in order of appearance

Diana Lukime - Lithuania

The area of forest cover in Lithuania is increasing and reached 33.4 % in 2015. Of the volume of about 529 million cubic meters around 19 percent is Norwegian spruce, while around 33 percent is Scots pine. The planning is mainly conducted on a regional scale through the “Forest Management Scheme”. The forest related shares of GDP are:

- Forestry 0.61 %
- Woodworking 1.38 %
- Pulp and paper industry 0.54 %
- Furniture 2.18 %

The ownership of the forest in Lithuania is:

- Private forest 39.9 %
- State forest 49.8 %
- Forest reserves 10.3 %

The state forest is run through one state forest enterprise with 26 regional units. The private forest is owned by around 249 100 private forest owners, of which 41.6 % have less than one hectare of forestland. There is no clearly formulated government forest policy for this private forest land.

When it comes to energy around 64 % of district heating is supplied through forest biomass. This biomass is cheap and supplied in an efficient way through the biomass exchange Baltpool.

Priit Põlluäe – Estonia

Priit Põlluäe from Estonian Life Science University gave an overview of ”Sustainable biomass production and future challenges in Estonia”. Like in most of the other Baltic and Nordic countries also in Estonia the increment has been increasing (aprox. 16 milj. m³ in 2016) and is larger than harvesting (aprox. 11 milj. m³ in 2016). In Estonia the species composition has been changed and is nowadays favouring the share of birch and grey alder. Forest ownership structure might pose challenges for future forest growth as forest ownership has faced increasing fragmentation. Estonia is also importing biomasses to meet the needs that mainly come from pulp and paper industry, energy production and saw industry. Recent trend in biomass usage is the production of industrial pellets. To increase added value in recent year more emphasis has been put to e.g. furniture manufacturing. Estonia is planning a new “National forestry program 2020+” and heated discussions and public debates are expected on issues like sustainability of biorefineries and forestry practices in general. Mr Põlluäe highlighted the importance of forest-related governance and policy research as well as closer international cooperation to be able to answer to future challenges. He hoped that forest science would be more proactive and less reactive.

Aris Jansons – Latvia

The total export value of the Latvian forest sector was 2.1 billion Euro in 2016. The presenter argues that there currently is a slightly insufficient use the forest resource. The tree species composition of the Latvian forest is approximately:

- 850 thousand hectares, or about 31 % Scots pine
- 550 thousand hectares, or about 20 % Norwegian spruce
- 900 thousand hectares, or about 33 % birch

Of the non-industrial private forest owners more than 80 % are active, and the mean size of the properties is increasing, indicating that larger forest owners are buying land from the smaller ones.

Latvia has problems with bark beetles, wind disturbance and browsing pressure. There are also concerns about fake facts about forests and forestry spreading among the urban population in Latvia.



Camilla Widmark – Sweden

The Swedish forestry model builds upon a large degree of freedom, focusing on two equally important goals – economic and environmental values. Foresters also have to consider societal values of the forest when managing forests. The future challenges of the Swedish forests is the multiple use of the forests such as timber production, development of new bio-based products, biodiversity, societal values as well as climate mitigation. At the same time international and national demand for timber increases, population growth increase the demand of land and at the same time may affect demand of bio-based goods. Forest owners have somewhat changed their attitude toward forests, and there are groups among non-industrial forest owners who own forests for recreational use, or for upholding a tradition and heritage to the next generation. These are groups that have not been found earlier in ownership typologies. The concluding question is – if the one interest that has a voice (such as resources and influence) is being heard by policy makers or society, how will the interest that does not have a voice make themselves heard (such as biodiversity and climate change)? Can we really have more of everything in Swedish forests?

Hans Fredrik Hoen – Norway

The forest growing stock has been in constant increase in Norway with the annual harvests being well below the growth. The many investments made in the forestry are bearing fruits not yet capitalised. Even aged stand management has also contributed to the increase in the resource.

After the downturn in the production of newsprint and other printing and writing papers, Norway has turned to a net exporter of wood. The mechanical wood working industry, in connection to the booming construction sector using wood products like CLT are doing well. Plans exist for starting 2nd generation biofuel production from wood biomass.

Growing amount of forests in the oldest age classes and dead wood in forests signalise favourable development of forest biodiversity in Norway. 4-5% of forest land is conserved, but the target is to raise this share. The voluntary conservation programmes have been very popular among the private forest owners.

Karoliina Niemi - Finland

Ecosystem functions other than wood production become more and more important, such as carbon storage, ground water protection and biodiversity. In the future there should also be markets such ecosystem services, of which wood production is only one part. Only when the forest sector is competitive it ensures that forests stay as forests also in the future. This requires also sustainable forest management practices. A wood-based value chain creates well-being and maintains the complex ecosystem services.



Olafur Eggertsson – Iceland

Mr. Olafur Eggertsson from Icelandic Forest Service presented the challenges and opportunities in afforestation in Iceland. Even though Iceland is not considered to be a densely forested country in fact before colonization about one quarter of its land area was covered with woodland (mainly birch, willows and rowan). Deforestation due to human activities, grazing etc. started when Iceland was inhabited. Intensive afforestation projects have started in the 20th century and in 2016 first clearcuts have been made to harvest larger areas. According to Mr. Eggertsson afforestation objectives in Iceland are economical (wood and non-wood products), ecological (e.g. soil and water conservation, carbon capture) and social (e.g. recreation). In recent years Iceland has seen the beginnings of forest industry. Especially the demand for wood chips in Iceland has risen dramatically since 2010 and accounts now for the main part of timber sales. Future challenges for Icelandic forestry are e.g. climate change induced pest and diseases as well as selection of suitable tree species for afforestation. Forest management as such is also a challenge in afforested areas. Products and marketing in relatively recently established markets is also a challenge. To answer to the growing demand for e.g. wood chips Icelandic forest management tries to both increase the productivity of forests and further increase the forest area via afforestation projects. To increase the productivity methods like selection of faster growing species, optimizing the rotation time and forest fertilization are used. Afforestation is applied nowadays in both marginal areas as well as on fertile areas like abandoned agriculture lands.

Niclas Scott Bentsen - Denmark

The EU policies related to renewable energy, bioeconomy, and forest management lead to increasing competition among different uses of forests in general. Two competitive uses of forests are production of industrial roundwood and production of biomass feedstock for energy production. Yet, the competition between these two categories of forest products has not reached a critical level in Denmark. Although the production of energy wood in Denmark has increased significantly in the recent decade, this did not lead to a decrease in the production of industrial wood. Neither has the increase in energy wood production caused a decrease in the total growing stock of timber.



EUROPEAN FOREST INSTITUTE
NORTH EUROPEAN REGIONAL OFFICE - EFINORD

EFINORD annual meeting 2017

**“Sustainable biomass production
and the challenges of competing forest use in northern Europe”**

12-13 December, 2017

Helsinki, Finland

Keynote speakers:

Pekka Leskinen (EFI)

&

Markku Ollikainen (University of Helsinki)



Program

Tuesday 12 December

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| 12.00 | Lunch in the hotel restaurant | |
| 13.00 | Welcome address | Camilla Widmark Head of Office EFINORD |
| 13.15 | <i>Keynote:</i> Opportunities and challenges of sustainable bioeconomy | Pekka Leskinen EFI |
| 14.00 | <i>Country presentation: Lithuania</i> Sustainable biomass production and challenges of competing forest use in Lithuania | Diana Lukmine Institute of Forestry, Lithuanian Research Centre for Agriculture and Forestry |
| 14.30 | Coffee break | |
| 15.00 | <i>Country presentation: Latvia</i> Challenges for sustainable forest biomass production in Latvia | Aris Jansons Silava – Latvian State Forest Research Institute |
| 15.30 | <i>Country presentation: Estonia</i> Sustainable biomass production and future challenges in Estonia | Pritt Põllumäe Estonian Life Science University |
| 16.00 | <i>Country presentation: Sweden</i> Sustainable forestry, biodiversity protection and social values of the forest – future challenges and opportunities | Camilla Widmark EFINORD/Swedish University of Agricultural Sciences |
| 16.30 | Break | |
| 16.45 | <i>Country presentation: Norway</i> Sustainable forest biomass production for the bioeconomy – a Norwegian perspective | Hans Fredrik Hoen Norwegian University of Life Sciences |
| 17.15 | <i>Country presentation: Finland</i> Sustainable forest management – concurrent production of different ecosystem services over generations | Karoliina Niemi Forest Industries |
| 19.00 | Joint dinner in the hotel restaurant | |

Wednesday 13 December

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| 8.30 | <i>Keynote</i> Bioeconomy and biodiversity: innovative forest policies in Finland | Markku Ollikainen University of Helsinki |
| 9.15 | <i>Country presentation: Iceland</i> Afforestation in Iceland – challenges and opportunities | Olafur Eggertsson Icelandic Forest Service |
| 9.45 | <i>Country presentation: Denmark</i> Competing biomass production in Danish forests - energy or wood products? | Niclas Scott Bentsen |
| 10.15 | Coffee break | |
| 10.45 | <i>Workshop and networking:</i> Research collaboration in the EFINORD region | Camilla Widmark + all |
| 12.00 | Sum up and ending of conference | Camilla Widmark |
| 12.30 | Lunch in hotel restaurant | |
| 13.30 – ca. 17.00 | Post-conference workshop research collaboration in the Baltic countries | Camilla Widmark Göran Bostedt |

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