Developing the sustainability of future wood products value chain

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Wood products value chain

- Everything from a seed of a tree to the disposal of wood material
- Forest management – harvesting – transport – primary processing – secondary production – packaging – transport – consumption – recovery of valuable materials – … – disposal (e.g. ash to forest)
- For managing value chains also: people involved in processes, stakeholders, customers and partners, consumer behavior, information flow, monetary flow, power between actors, juridical and cultural conditions, competitors and markets
- Supply chains $\Rightarrow$ value chains $\Rightarrow$ value networks
Sustainability of wood products value chain

• Proven sustainability of the whole value network is a precondition for competitiveness nowadays, and even more that in the future
• Managing just wood material flow is not enough any longer, but it is still important; see companies’ sustainability reports!
• All kinds of harmful impacts of products and processes must be mitigated at all stages of the lifecycle
• Sustainability is not a new principle, but an increasingly complex one
The complexity of "sustainability"

- Ecological/environmental, including climate change
- Societal
- Economic
- And more: fairness, credibility, trust, transparency, equality, responsibility
- Ethics and morality increasingly important – codes of conduct
- Defining and measuring sustainability is always more or less subjective – but it must be done and reported in order to get a license to operate
- New requirements to be expected – be aware
A practical sustainability challenge: use of wood in Finland is increasing

- Investments on sawmilling and wood-working industries, on biofuels
- An investment decision on a huge bioproduct mill by Metsä Fibre
- An investment plan of a similar (or even a bit bigger) size by Finnpulp Oy (Kuopio), plans for bioproduct factories in Kemijärvi, Kemi, Kajaani, other?; plans for many smaller ones (especially biofuels)
- More wood in construction, wood energy, plenty of new bioproducts
- Growth sought for also from nature tourism and other forest products such as berries and mushrooms, birch sap, etc.
Bioeconomy in Finland, and its growth, cannot be sustainable without sustainable forestry

- Growth of bioeconomy means increasing demand on different uses of forests and on wood biomass
- Use of pulpwood may increase a lot (15 mill m³/a?) => increasing harvests (bring also more timber to the market)
- At the same time, other aims and uses of forests are increasingly required (nature tourism, biodiversity, etc.), and conflicts may arise
- We must take care of the sustainability and acceptability of forestry
Wood flow from forest to mill in Finland 2013 (mill. m$^3$ sob)

- Annual growth: 104
- Total drain: 72
- Total removals: 59
- Commercial roundwood: 54
- Imported wood and chips: 10
- Industrial use: 64
- Pulp and paper industry: 38 + 9
- Chips: 9
- Wood products industry: 26
- Logging residues, natural drain: 13
- Firewood: 5

SOURCE: FFIF, Luke
On grounds of forest statistics: use of wood is sustainable

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Wood stock increases all the time; carbon sink

Mill. m³

- Broadleaved
- Spruce
- Pine

SOURCE: FFIF, Luke
Increasing cuttings sustainably?

• On grounds of the statistics: for sure, we can increase cuttings sustainably from the viewpoint of wood production

• However, sustainability can be defined in various ways; there are no “correct” weights of different dimensions of sustainability; different interests and preferences ⇒ different weights

• Global biodiversity loss is a result of global warming ⇒ mitigating climate change is ecologically advisable ⇒ sink, substitution, storage

• In the long run, total drain will approach the total growth in any case; if we do not cut the trees they’ll die and decay away
More efficient wood production

• Anyway, increasing wood biomass supply will mean an increase in the total area of cuttings and an increase in harmful effects of cuttings – if wood production per hectare remains the same as it is now
• A silver bullet in the long term: let’s increase the growth of forests (m3/ha) and, correspondingly, the sustainable allowable cut
  ⇒ More wood per each hectare harvested
  ⇒ More wood from the same area cut ⇒ similar impacts on sceneries, biodiversity, recreation etc.; more positive social and economic impacts
• How to still increase wood production? Possible even without the help of the climate change? But this would be worth of another presentation
Growth of bioeconomy must be profitable for all the actors of the whole wood products value chain

- Forestry must be sustainable not only ecologically but socially and economically, too, for the whole value chain being sustainable
- In the short run, there is more worrying about how to get forest owners sell wood than about the ecological sustainability of increasing harvests
- In market economy, a tool of central importance is the price of raw wood; enough for sellers but not too high for buyers?
- In the long run, the profitability of forestry is a must for motivating wood producers to increase wood production and for securing wood supply in future – which is crucial for the whole value chain
- Fair distribution of income and benefits within the value network is important
Thanks For Your Attention!
Main points once more

• Forest-and-wood-based bioeconomy is growing rapidly in Finland ⇒ demand for forests and wood for multiple purposes will increase

• Growth of bioeconomy in Finland cannot be sustainable without the use of forests being sustainable

• More efficient wood production is needed in order to secure the sustainability of forestry in the long run (when harvests must be increased)

• Producing and using wood products instead of relying on fossil resources helps us to mitigate climate change and, thus, also to slow down the global biodiversity loss – sink, substitution, storage

• For the wood products value chain being also economically and socially sustainable, we must secure that using wood for wood products is profitable for all the actors of the whole value network