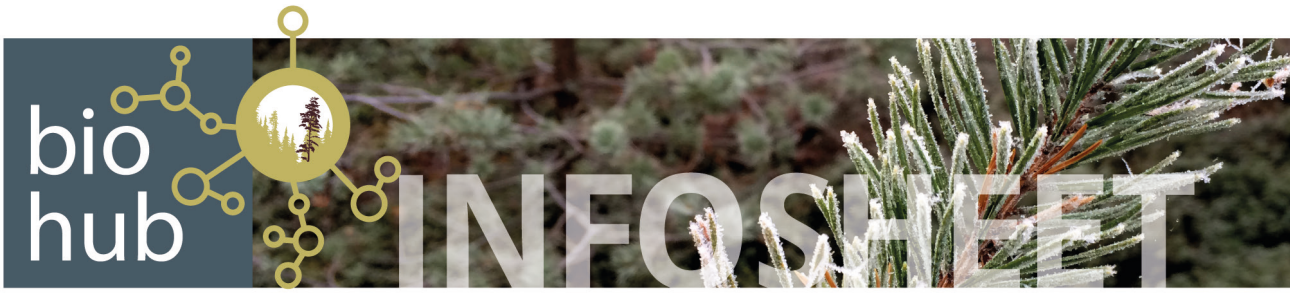

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Advices for terminal development

Interviews with terminal operators has been summarized and this infosheets gives advise on how to develop a terminal. It also identifies different bottlenecks for terminals. The interviews was carried out during 2017 in Västerbotten and Västernorrland in Sweden and Southern Ostrobothnia, Ostrobothnia and Central Ostrobothnia in Finland.

ADVICES FOR TERMINALS

The best tools for a profitable terminal can be found from the business support in the BioHub model homepage.

- Use already existing infrastructure
- Reserve a big enough area with space for future development
- Handle both round wood and wood fuels to become more flexible and effective
- Be an open terminal or rent out space
- Guarantee quality on your services
- Use of remote-camera measurement can be a cost-effective solution

USE ALREADY EXISTING INFRASTRUCTURE

Investments in a terminal facility starting from scratch is often not economically realistic. Instead, terminal owners often try to make use of already existing infrastructure such as an abandoned industry or railway area.

To better suit the terminal owner's future needs, the area is often reorganized step by step with limited investments e.g. more paved area. The old infrastructure can sometimes restrict development when not new space can be made available.

RESERVE A BIG ENOUGH AREA

A big enough area should be reserved for future terminal expansion already from the start. This would allow more flexibility in the future development of the terminal.

TERMINAL FLEXIBILITY FOR GREATER PROFITABILITY

Volumes handled per year is a critical factor for profitability and all terminal owners wants to increase volumes. It is important for the logistic system to be able to adapt to new situations as decreased or increased demand of biomass, and the addition or removal of assortments have a large impact on the system.

To quickly respond to a changing environment, it is essential to have good relations with regional suppliers of round wood and wood fuels. This is a guarantee to handle enough volumes for customer satisfaction and terminal profitability.

Many biomass assortments have a large seasonal variation. Wood fuel is commonly consumed in the winter and the need for buffer storage is great in summer and autumn. Round wood is piled up in terminals, when the regional harvesting conditions in the forest are favourable, especially during winter. To handle both wood fuels and round wood, can make more flexible and effective use of terminal space all year around.

BE AN OPEN TERMINAL

A terminal open for all actors and to be able to rent out space is also favorable for increased volumes.

Some terminals also handle other material as road salt, industrial chemicals and recycled paper. However, it is important to not mix different assortments to guarantee quality in deliveries to end consumers.

The lack of long-term energy policy on the Finnish side makes it very difficult to invest in expanded terminal activities. "With the energy policy changing all the time, it is impossible to plan ahead; it will become expensive."

A more stable operational environment coupled with more even utilisation of forest biomass around the year

were important factors affecting the ability to make investments (e.g. land area, paving, electricity, scales, etc.).

REMOTE CAMERA MEASUREMENT

Biomass assortments delivered to terminals are measured in different ways. Volumes are often too small to afford authorized personnel in place. To have the terminal accessible for deliveries as much as possible, remote camera measurement can be a cost-effective solution. In terminals near big power plants, queuing at the weighing bridge or access only during day time can sometimes be a problem.

SOLUTIONS FOR MORE EFFECTIVE TRAIN TRANSPORT

Many terminals on the Swedish side are located 200-400 km away from end-user (satellite terminals) and have a main function to increase long distance biomass supply efficiency with truck to rail transshipment of round wood.

Train transportation can be difficult to arrange as train length and availability is affected by many factors, as geography, loading abilities, signal systems, electrification and train times on the rail road. Some terminals have limited size and cannot accommodate long trains, while others have problem that the inclination of the track limits the length of the train as the locomotive cannot handle a full set of wagons. All these options add to the loading time and cost of the train transportation. Ideally should a full train set be driven in to the terminal and loaded at once.

The track into the terminal is often not electrified. Trains that can run on both diesel and electricity (Duel) would solved this problem. New wagons better designed for effective loading/unloading is also asked for.

Access to main railway is a main bottleneck for many terminal owners. For end consumers, railway connection all the way into the factory yard would also be of be great advantage. A long-term plan for investments in better railway infrastructure is very much asked for. But terminal owners are having fears that, with the big focus on the enormous investments needed in high speed railway line along the cost, investments room in traditional railway infrastructure will be limited.

FUTURE TERMINAL INFREASTRUCTURE

A suggested solution is to have one terminal every 100-120 km along the main inland railway (inlandsbanan). This would improve the overall round wood logistic flow and shorten the truck transport distance into terminals. The forest from this area must be harvested and transported out from the forest within a short time period on frozen ground. This happens mainly from January to March. During this time all available machinery and terminal infrastructure in the region is used. As not all-round wood can be transported just in time to the regional end consumers, terminals are important to solve this logistical challenge. A more developed terminal infrastructure can also mobilize other biomass assortments (logging residues, young trees and stumps), not economical available today.

AUTHOR
Magnus Matisons
BioFuel Region
magnus.matisons@biofuelregion.se
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Interreg Botnia-Atlantica
EUROPEAN UNION
Österbottens förbund
Pohjanmaan liitto
REGION VÄSTERBOTTEN
Region Västernorrland