



Biomass terminals for securing wood chip supply

According to Hakevuori Ltd's CEO Reijo Wuorio, the main function for their terminals is to secure the supply of wood chips to heat and power plants, especially when direct supply from roadsides is not possible during frost-heave and bad road seasons in spring and autumn. "In addition, chip supply is solely executed from terminals during weekends, and as a balancing supply at times with a simultaneous occurrence of high fuel demand and failures of chippers."

While the share of small sized whole trees and delimbed stemwood has risen, the need of terminals for storage and terminal chipping has increased. "The supply costs of delimbed stemwood chips are lower via terminals due to high payloads of timber trucks and nearly too times higher chipping productivity compared to chipping at roadside storages." Wuorio highlighted that many heat and power plants have limited storage capacity to only a few days' buffer at fuel yards, which again increases the importance of terminals for securing the uninterrupted supply to plants.

In the Nordic context, forest biomass terminals are typically large and are usually uncovered, thus resulting in lower investment costs compared to warehouse type of terminals requiring expensive construction. Large terminals with big heaps and piles of fuel feedstock, snow removal, and asphalt pavement will improve the quality of forest chips. Smaller terminals with no pavement are also essential to store uncomminuted wood transported from the roads with low trafficability and expensive road care (e.g. snow ploughing) in winter during high fuel demand.

Facts

In Finland in 2021, the forest chips use in heat- and power plants was 9.4 milj. solid-m³, consisting of chips of small wood (62%), logging residues (29%), low quality roundwood (7%) and stumps (3%). Chipping at roadside still dominates the wood chip supply (53 %), while chipping at terminal has raised to new record (36%) rest being chipping at end-use facilities (11%).



KEY WORDS

Bioenergy, rural areas, biomass, biomass terminals, forest chips, logistics

COUNTRY/REGION

Southern Finland

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Case Hakevuori Ltd

Hakevuori Ltd is one of the biggest companies in the Nordics operating forest chip supply for heat and energy facilities. After the latest acquisitions in the spring, Hakevuori Ltd. is expected to supply about 2 milj. loose-m³ of forest chips in 2022. Over 75 % of business comprises chip supply contracting to customers and the rest is conducting own procurement, harvesting and sales. The operating area is large including regions of Uusimaa, Päijät-Häme, Kanta-Häme, Kymenlaakso and Etelä- ja Keski-Savo. The company employs over 100 persons with an extensive fleet of machinery (e.g. 18 chippers, several chip trucks, timber trucks, wheel loaders, excavators, harvesters and forwarders).

Hakevuori owns 5 large asphalt paved and uncovered terminals in Askola, Tolkkinen, Nastola, Myllykoski and Loviisa. In addition, they have smaller terminals or intermediate storages along the roads of main chip transport routes. For example, the capacity of Askola terminal is 60,000 solid-m³ being at maximum during autumn and emptied by the end of April. Of the total supply of forest chips by Hakevuori, nearly 20% is delivered via terminals to combustion facilities. Typically, loading chip trucks and maintaining the terminal area is done by one terminal-person operating a front wheel loader. Terminal comprises a few heaps of forest chip storages in the middle and uncomminuted small wood piles at rounds of the terminal (figure below).



ABOUT BRANCHES

BRANCHES is a H2020 “Coordination Support Action” project, that brings together 12 partners from 5 different countries. The overall objective of **BRANCHES** is to foster knowledge transfer and innovation in rural areas (agriculture and forestry), enhancing the viability and competitiveness of biomass supply chains and promoting innovative technologies, rural bioeconomy solutions and sustainable agricultural and forest management.



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