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## Some Observations on the Biomass Terminals Survey Data – Is there a typical biomass terminal from a business perspective?

*Altogether 21 biomass terminals, of which 11 are located in Sweden and 10 in Finland, answered to a survey questionnaire that focused on the aspects of their business models. This infosheet presents some first findings of the survey. Despite some variation in the individual elements, a picture of a typical business model of a biomass terminal can be drawn based on the data.*

### STUDYING TERMINALS' BUSINESS MODELS

The study targeted at exploring biomass terminals as economic entities rather than viewing them solely as technical or other operations. Following the structure of a business model presented by Morris, Schindehutte, and Allen (2005), the main research questions are as follows:

- How does the terminal create value?
- For whom does the terminal create value?
- What is the terminal's internal source of advantage?
- How does the terminal position itself in the marketplace?
- How does the terminal make money?
- What are the entrepreneur's/owner's time, scope, and size ambitions?

### DATA COLLECTION VIA QUESTIONNAIRES

The data were collected using paper questionnaires that were handed to the representatives of the terminals in connection with site visits. The respondent could either fill in the questionnaire during the visit or afterwards, in which case he or she had to submit it to a representative of the BioHub research team.

The questionnaire included mainly multiple-choice questions on the main aspects of the business model, and both multiple-choice and open questions as regards the background information. Ten responses from both Sweden and Finland was considered sufficient to conduct basic statistical analyses, although the original aim was somewhat higher. The data were analyzed using the SPSS software.

### ON THE NATURE OF BIOMASS TERMINALS AS BUSINESSES

The overall rationale for forest biomass terminals stems from the potential added value that these terminals can create as intermediate phases in the traditional value chain from individual harvesting sites to processing at specific industry sites. In particular, the diversification of forest end-user industries due to the emergence of so-called new forest industries (UNECE/ FAO 2012, 2013, 2014), such as bio-chemical and bio-fuel refineries may have a substantial impact on the entire net of activities involved in the pre-refinery stages.

Potential value-added functions that biomass terminals may conduct include, for example, storing and sorting, but also processing activities such as delimiting, debark-



ing, crushing, compaction, etc. At best, the terminal-based operations can generate new economic activity, which, by meeting the requirements of various customer groups, can generate sustainable economic value.

Biomass terminals should, therefore, be seen as important and independent – although closely connected to the earlier and later phases of the overall wood processing system – businesses that can and should be managed not only to cover their costs, but also and in particular to generate prosperity to their owners. However, to the best of the authors' knowledge, the examination of biomass terminals as businesses has been extremely rare to date.

The business model approach offers a practical way to analyze a single business such as a biomass terminal. The developers of various business model presentations (see, e.g., George and Bock, 2011) emphasize in particular the mutual harmony of various elements of the model in order to reach, maintain, and enhance profitability. In the following, six different aspects of the chosen business model (Morris et al., 2005) will be reported.

## RESULTS

### Activities

Six optional activities were presented in the questionnaire, including transportation from the forest, storing, sorting, refining, transportation to further refining or end-user, and marketing. The respondent could also mention other activities that were not pre-listed. Of the activities, the majority of the respondents listed storing (85%) and refining (62%), or both (57%). Among the rarest activities were marketing (5%) and sorting (14%).



### Customers

Options for different customer groups included other independent companies, public organizations, private consumers, and entities belonging under the same organizational umbrella (in case of a corporation of many business areas, for example). The most typical customer groups were other independent companies (57%) and entities belonging under the same organizational umbrella (38%), whereas the number of terminals serving private customers was relatively small (19%). Altogether 57% of the respondents identified only one customer group or could not identify any group from the list.



### Competences

The third aspect of the business model was competences held by the terminal, which were considered to make its internal source of competitive advantage. The options

included forest breeding and forestry, transportation and/or treatment of raw material, knowhow of refining stages and/or technology, procurement or purchasing expertise, sales or marketing expertise, financial planning, knowledge of IT or automation, R&D expertise, personnel management, or other, not pre-listed competence. The most frequently mentioned competences were transportation and/or treatment of raw material (85%), knowhow of refining stages and/or technology (76%), and financial planning (62%). On average, the respondents identified four competences.



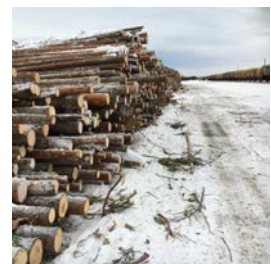
### Competitive factors

Competitive factors relate to the above-mentioned competences, but with the exception that they are externally visible whereas competences do not manifest themselves as clearly to an outsider. The options for competitive factors in the questionnaire were location, high quality of the product or service, mastery of production/refining, good relationships with raw material suppliers, good connections with customers, new innovations, cost-efficient operations, and good reputation. As the most typical competitive factors were mentioned location (90%), good relationships with raw material suppliers (57%), and cost efficient operations (52%). On average, the respondents identified three competitive factors.



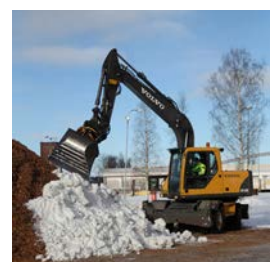
### Earnings logic

In the core of any business model is the question of how the firm strives to make money, i.e. what is its earnings logic like. The earnings logic was approached by studying the terminal's choices related to the price level, cost structure, volume, and quality. As regards these variables, no single dominant logic could be identified, and the terminals appeared to utilize many different combinations rather evenly. Only a pursuit toward low fixed costs and greatly varying variable costs was identifiable as a somewhat typical option (52%).



### Goals of the owner/entrepreneur

The final element of the business model included the future ambitions of the terminal owner. The options were ensuring decent income, reaching good income within current context, expanding business, and exiting busi-



ness. Only the last option (exiting business) was not selected at all, whereas other options were selected evenly. So, no dominant goal for continuing businesses could be identified.

#### IS THERE, THEN, A TYPICAL BIOMASS TERMINAL?

Based on the results above, one can draw a somewhat clear picture of a typical biomass terminal from a business perspective. Such terminal is engaged in relatively low added-value activities, like storing and basic refining; serves mainly other independent companies; emphasizes the mastery of operative, “must-do” type of competences like transportation, treatment of raw material, and refining technology; and trusts in location as its most important competitive factor. As regards the utilization of different elements of the business model, the terminals in the two countries appear more similar than different.

One can conclude that biomass terminals can obviously be analyzed and managed as businesses just like operations in any industry. However, more diversity in the elements of their business models is to be expected in the future.

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