

Strategy development for regional forest fuel supply chains in Southeast Europe

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Project framework

The FOROPA project focuses on Southeast Europe and includes organisations from 10 countries – Austria, Bosnia-Herzegovina, Greece, Italy, Romania, Serbia, Slovakia, Slovenia, Switzerland and Ukraine. A major objective is to develop strategies for increasing the competitiveness of bioenergy from forest fuel in Europe.

Previously, different regional forest fuel supply chains in each country were selected. For in-depth analysis a guided interview method was used. The results were structured and used for identifying possible problems, optimization potentials and good practice examples. For strategy development the SWOT method was applied.

Table 2: Detail of the matrix for compiling the relevance of different strategies in the single countries.

Recommendation / Country	Romania	Serbia	Average of 10 countries
SO-Strategy			
Promotion of local producers (e.g. match-making events, demo events)	high (h)	moderate (m)	2.5
Promoting available biomass fuel standards	high (h)	moderate (m)	2.4
ST-Strategy			
Increase harvested wood quantities, e.g. utilise more forest area, abbreviate rotation period, utilise new assortments	high (h)	high (h)	3.0

Joint-SWOT Analysis

For the first time a strategic analysis on forest fuel supply chains was carried out on a European scale within the FOROPA project. The SWOT (Strengths, Weaknesses, Opportunities and Threats) approach was used to evaluate regional supply chains. Based on that a supraregional Joint-SWOT analysis was compiled and strategies maximising strengths and opportunities resp. minimising threats and weaknesses were formulated. Table 1 shows the Joint-SWOT for forest fuel supply chains in Southeast Europe. National experts indicated the relevance of each developed strategy for the individual countries; thus, the ranking of the strategies reflects the average importance in the countries. Table 2 shows a detail of a matrix for ranking the strategies within individual countries. However, only such strategies were formulated, which could actively be implemented by the players of the supply chain.

We conclude that the formulation of supraregional strategies for the forest fuel sector will lead to increased cooperation and integration and thus to increasing efficiency and decreasing supply chain costs.

References

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Wolfsmayr U and Rauch P (2013) Transportketten forstlicher Biomasse – Stand der Technik und Innovationen. Schweiz Z Forstwes 164(12), 365-373

Table 1: Integrated Joint SWOT and TOWS matrix for forest fuel supply chains in Southeast Europe

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Internal		
Strength		Weaknesses
S1. Sufficient wood quantity S2. Utilisation of otherwise not marketable timber qualities S3. Short distribution distances S4. European Biofuel Standards S5. Short raw material transport distances		W1. Low profitability due to high procurement resp. investment costs W2. Lack of all year round available forest roads and low forest road accessibility W3. Weather dependency of harvesting & logging operations W4. Information deficits and lack of coordination resp. transparency in the supply chain W5. Excessive bureaucracy W6. High variation of quality and moisture in wood fuels W7. Lack of qualified work force
SO-Strategies		WO-Strategies
1) Promotion of local producers, e.g. match-making events, demo events (S1/S2/S3/S5–O1/O5) 2) Promoting available biomass fuel standards (S4–O1)		1) Disseminate specific inventory management strategies to overcome common biomass market disturbances like fluctuation in supply/production and demand, periodical undersupply due to fast increasing market weather conditions, or short-term orders (W2/W3–O1/O2) 2) Dissemination of actual research results in advanced processes for pre-processing (e.g. natural drying, technical drying), harvest and transportation of wood biomass (W1–O3) 3) Re-engineer processes in the biomass supply chain (W1/W4–O3) 4) Design organizational structures or new business models to improve the economic performance of biomass supply, especially under preconditions of small scale forests (W1/W4–O1/O2) 5) System of permanent education for high qualified work force, e.g. periodical trainings (W7–O3) 6) Establishment and promotion of smart quality system, also for smaller companies (W6–O1) 7) Public presentation and education on ICT opportunities– applicable also for smaller companies (W4–O3) 8) Establishment of private forest owners networks to improve supply chain integration (W1/W4–O3) 9) Reduce interaction costs by minimizing bureaucracy and intra-organisational transactions (W5–O3)
Threats		WT-Strategies
T1. Raw material competition with forest based /wood processing industry (leading to increasing feedstock price) T2. Unpredictable periodical undersupply T3. Natural conservation (e.g. Natura 2000) restricting harvesting T4. Competition with fossil fuels T5. Restrictive capital market		1) Sharing investment cost between companies / introducing forest owner cooperatives (W1/T5) 2) Establish a monitoring system for wood fuel prices (W1/W4–T1/T4) 3) Establish public available cost calculation models for SCORPs (W1/W4–T1/T4) 4) Develop innovative transshipment points, biomass terminals or biomass trade centres (W1/W2/W3–T2)
Opportunities		
O1. Fast growing market (since growing ecological attitude of the society, Biomass = CO2-neutral, General the society has a good attitude regarding DHP's) O2. Increasing wood land area resp. growing stock and high regional biomass resource potential O3. Innovation due to R&D in advanced processes for biomass procurement (including ICT), pre-processing and conversion (Exploring new biomass raw materials for energetic use) O4. Governmental/EU support: CO2-taxes, subsidies, feed in tariffs, research projects O5. Instability of fossil fuel supply and volatile fossil fuel prices		
External		