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# **Scandinavian Forest Economics**

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**Finn Helles and Petrine Steen Nielsen (eds.)  
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## ABSTRACTS

### **Improving International Forest Products Price Information**

Ibrahim Favada<sup>1</sup>, Paul Rogieux and Aljoscha Requardt  
<sup>1</sup> European Forest Institute – EFI

The existence of pertinent, timely and accurate forest products price information is crucial for efficiency of the timber and timber product markets. The only free international forest products price database is that of UNECE/FAO. However, the current database is limited in coverage and not necessarily user-friendly. In cooperation with UNECE Timber Section, this study seeks to offer the best options for improving international forest products price information for different users. The study will extract metadata from forest products price information websites using extended Dublin Core Metadata Schema, analyze and compare them, identify gaps and constraints of metadata sources, and finally propose data collection, maintenance and dissemination for an improved forest products price database. In addition, user needs and database design, in terms of data coverage, system interface and data retrieval will be analyzed. The study will show the availability of forest products price information in Europe. A metadata portal will be created from the various sources of price information. Finally, the data coverage, quality of the price data, the methods of data collection, maintenance and dissemination will be analyzed and different options for an improved European forest products price database will be proposed.

**Keywords:** forest products price, international, information system, database.

## Assessing the Finnish targets for the energy use of forest chips with a spatial market model

A. Maarit I. Kallio<sup>1</sup>, Perttu Anttila<sup>2</sup>, Megan McCormick<sup>1</sup> and Antti Asikainen<sup>2</sup>

<sup>1</sup> Finnish Forest Research Institute, Vantaa

<sup>2</sup> Finnish Forest Research Institute, Joensuu

We develop a spatially elaborate partial equilibrium model for the forest chips market in Finland and demonstrate its use by examining the targets outlined by the government for the increase in the use of forest chips for energy. In April 2010, the Ministry of Employment and the Economy proposed a target that some 25 TWh of forest chips should be used as fuel in energy production in Finland by 2020. In addition, three units producing 7 TWh of wood-based biofuels should be on stream by 2020. The planned policy measures to support these goals include subsidies for heat and power plants for chipping small trees from early thinning for fuel, and a support for wood-based electricity production tied to the price of CO<sub>2</sub> emission allowance. Our results suggest that in light of the recent decline in the production capacities and output of the Finnish forest industries, the above target is overly ambitious. Reaching it would require new investments in the forest industry production capacity. In particular, the industries using sawlogs would need to get back to the high levels seen few years ago. Thereby, for instance, policies leading to increased use of wood in construction would support the renewable energy goals as well. Also, the subsidies for CHP-production at sawmills could be beneficial in this respect. Nevertheless, the use of forest chips will continue increasing, further boosted by the planned new subsidies. The tight carbon policy alone would lead to a considerable increase in the use of forest chips, but because the CO<sub>2</sub> prices are difficult to foresee, subsidies are needed to decrease the uncertainty faced by the market players. The government is proposing to implement feed-in tariffs for bioelectricity, which would be tied to carbon price. Based on our results, we recommend that the potential subsidy for chipping thinning wood for fuel would be coupled to the carbon price as well. If any biodiesel plants should come into operation and the carbon policies are not too slack, the forest chips prices are likely to rise to the levels that make it economic for the heat and power plants to combust increasing amount of pulpwood at least in some regions in Finland.

**Keywords:** harvest residues, forest chips, renewable energy, co-firing, biodiesel, energy policy, feed-in tariffs.

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## **Multidimensional sustainability framework to evaluate forest and wood energy production (BioSus-project)**

Katja Lähtinen

Finnish Environment Institute, Joensuu Research Unit

Renewable energy business and pressures on using forest resources in energy production are increasing rapidly as a result of aims to decrease greenhouse gas emissions and to secure the supply of energy. Simultaneously with the climate change mitigation, also urbanization and globalization set new needs on sustainable use of forest resources. Sustainability is a multi-dimensional concept including ecological, economic, social and cultural aspects, which all should be taken into account in making decisions of forest utilization. In order to take into account the various perspectives linked to natural resource management, new effective tools for decision-making situations are needed. The focus of the BioSus-project is to monitor the multidimensional (ecological, economic, social and cultural) sustainability effects of using the forest biomass for energy in four alternative production systems: local heat entrepreneurship, wood pellets production, wood and peat combustion in large combined heat and power (CHP) plant and biodiesel produced from both woody biomass and peat. The multidimensional sustainability assessments are employed with the multi-criteria decision analysis (MCDA) and life-cycle analysis (LCA) methodologies. The project is expected to open up new approaches for assessing the sustainability of bioenergy production especially at regional level. In addition, the results are envisioned to provide new information of the relative benefits of different bioenergy production systems and their development potential.