



Social and Regional Economic Impacts of Use of Bioenergy and Energy Wood Harvesting in Suomussalmi

Green Cities and Settlements

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Ville Manninen



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Project group

- Writers
 - Sirpa Korhonen, Anna-Mari Kynsijärvi and Ville Manninen
- Specialists
 - Jouni Ponnikas and Timo Karjalainen



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Research material

- Existing material

- Earlier reports of energy wood resources of Suomussalmi (Karjalainen 2003, 2005 and 2009)
- Topical publications of forestry sector's operators (Finnish Forest Research Institute Metla, Forestry Development Cente Tapio)
- Publications and newsletters of energy sector and different kind of statistics.



Research material

- Collected material

- Three separate questionnaires
 - professionals in forest industry, represents of the largest forest owners and both public servants and councillors of the municipality of Suomussalmi.
- Phone interviews
 - 3 suppliers and 4 harvesting companies



Collected material

Group	Number of people reached	Answers	Answer percentage
Forestry professionals	11	4	36,4
Largest forest owners	6	4	66,7
Public servants and councillors	39	15	38,5
Energy suppliers	3	3	100,0
Logging companies	16	4	25,0
Total	75	30	40,0

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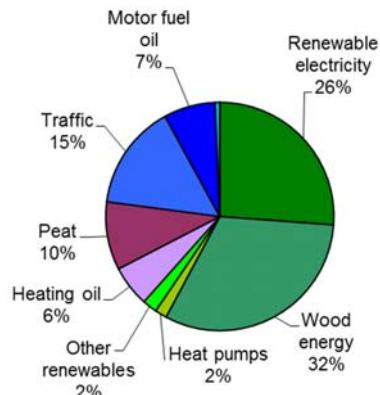
Suomussalmi

- 8813 inhabitants (2012)
- Area 5 857,61 km²
- Located in northeastern part of the province of Kainuu

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Primary energy consumption in Kainuu Region 2012 (4,7 TWh)

- The share of renewable of primary energy consumption is high, 62 %.
 - Wood energy 32 %
- Wood pellets and briquette production
- Integrated production of timber/pulp wood and energy wood
- Huge forest energy potential (young stands and residues from final cuttings).



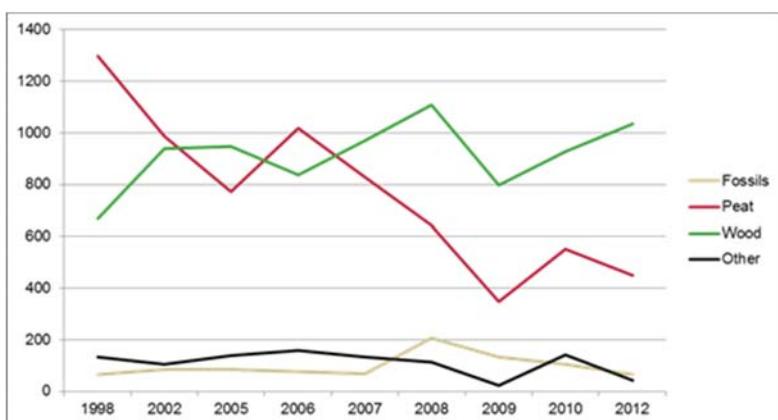
The share of renewables 62 %

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The use of fuels in District heating Plants in Kainuu 1998–2012



Source: Kainuu Bioenergy Programme

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The use of fuels in Siikaranta district heating plant in 2012

Fuel	Use of fuel GWh
Forest chips	58,5
Peat	0,4
Bi-products from mechanical wood industry (Saw dust, bark)	1,5
Heavy oil	2,8
Total	63,2

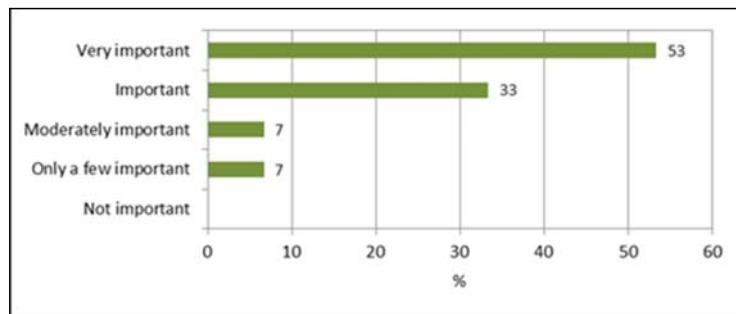


Number and share of energy wood of Siikaranta by procurement area in 2012

Procurement area	k-m3	%
Suomussalmi	11915	39,5
Other municipalities in Kainuu	7367	24,3
Other areas in Finland	9964	33,0
Russia	954	3,2
Total number of energy wood	30200	100,0



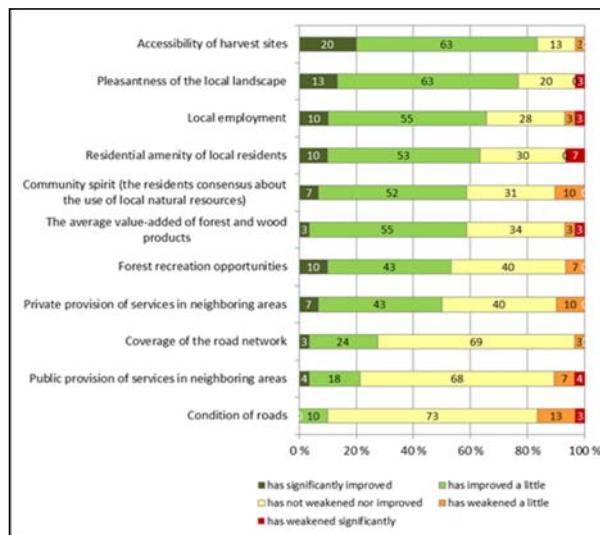
How important is the use of local energy wood?



(Public servants and councillors, N 15)



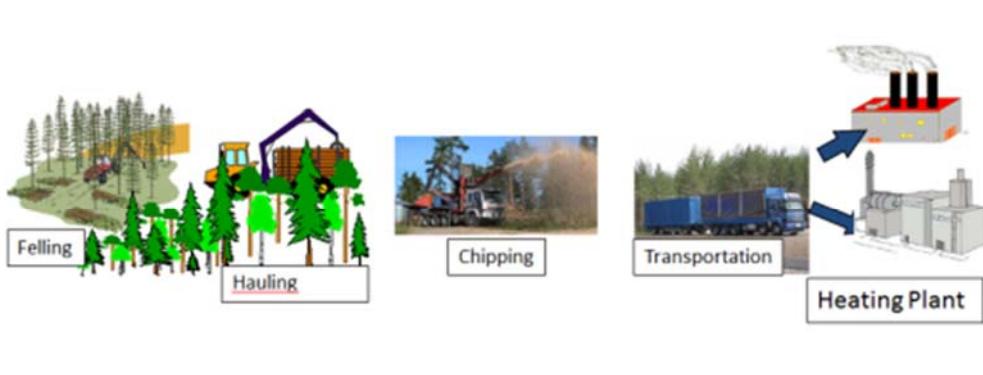
How the use of the local energy wood from the region of Suomussalmi has influenced in following subjects?



(Forest specialists, forest owners, public servants and councillors, wood suppliers, entrepreneurs, N 28-30)



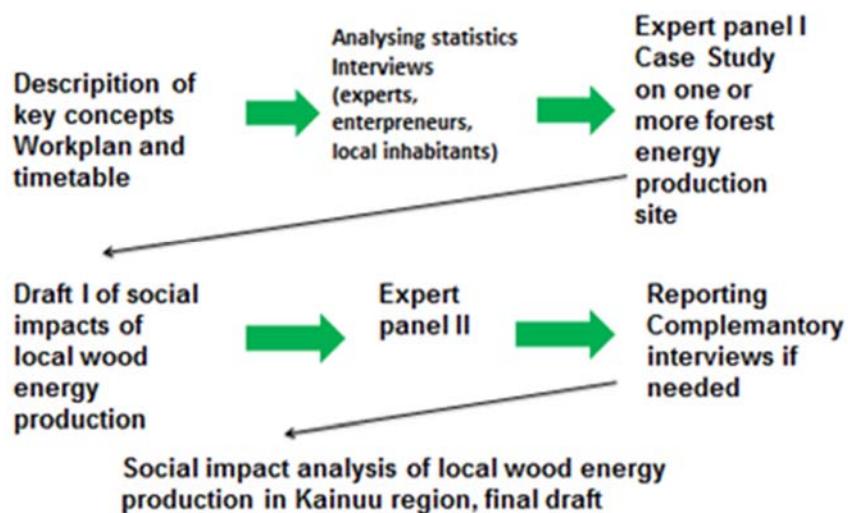
The energy wood chain



(Source: Koneyrittäjien liitto (Association of Machine Entrepreneurs),
Asko Piirainen, figure is modified by Timo Karjalainen)



Social impact analysis of local forest energy production: working model



(Ponnikas,
2012)

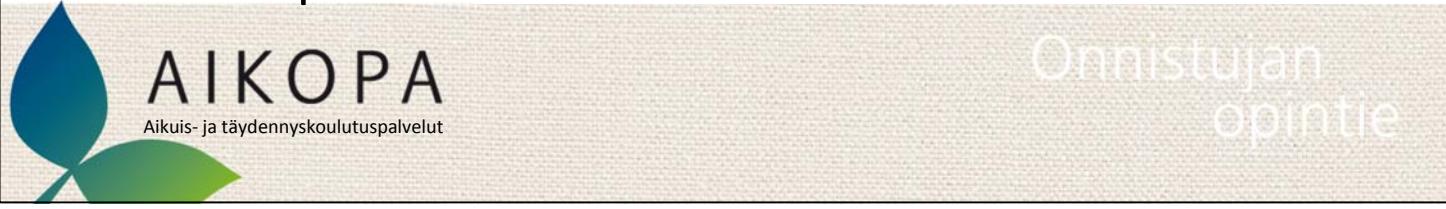
Recommendations

- In order to further develop local wood energy sector needs economical support or steering mechanism by government (f.ex. workable emission trade-system).
- The local wood energy sector needs long term and predictable subsidy policy.
- Research, development and innovation activities should be supported and activated.



Recommendations

- Development activities should be focused on the logistics of the supply chain and bettering the quality of wood energy.
- In order to minimize negative impacts on refreshment use of forest, for example stumps have to be removed in softest way.
- The regional benefits concerning the use of forest biomass must be underlined and informed to the municipal decision makers.





Thank you!

Contact information

ville.manninen@aikopa.fi

+358 40 678 7684



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