

WES2013 – FOREST ENERGY & BIOECONOMY 2013

Koli National Park, Finland 11.-15.2.2013

Conference Programme

Tuesday 12.2.2013

Opening 9:00–10:15

- Welcome words
Pekka Nuutinen, Joensuu Regional Development Company JOSEK Ltd
Pentti Hyttinen, North Karelia Regional Council
- Biorefining the future
Tuula Mäkinen, VTT Technical Research Centre of Finland
- The world's first biorefinery to produce wood-based biodiesel
Pekka Jokela, UPM

Break & Trade show

Canada & Russia: Opportunities and challenges 10:30-12:00

- Chair: *Timo Tahvanainen, Development manager, Joensuu Science Park Ltd*
- Canada, Forest Bioenergy's Giant
Douglas Bradley, CanBio
 - Promoting heat entrepreneurship, case Matapédia, Quebec, Canada
Dominik Röser, FPInnovations & Yoland Légaré, Coopérative forestière de la Matapédia
 - Development of biofuel markets in Russia
Olga S. Rakitova, The Bioenergy International, Russia
 - Panel discussion

Lunch & Trade show

Forest energy businesses 2020 13:30-14:20

- Chair: *Jussi Heinimö, Lappeenranta University of Technology*
- Business potential in the energy use of forest biomass
Antti Asikainen, Metla
 - Assuring quality in the forest energy value chain
Janne Hämäläinen, Fortum Heat & Power

Coffee & Trade show

Efficient wood energy harvesting, logistics and handling 14:40-16:15

- Chair: *Jouko Parviainen, Joensuu Regional Development Company JOSEK Oy*
Kalle Karttunen, Lappeenranta University of Technology
- Proven and novel technology (in alphabetic order, to be confirmed later)
- Tom Sangder, BMH Technology Oy*
Jari Nevalainen, Kesla Oyj
Pauli Tahvanainen, Kit-Sell Oy/Bioinno PaTu Oy
Karina Zaitseva, Konepaja Antti Ranta Oy
Janne Häikiö, Pentin Paja Oy ja Outokummun Metalli Oy
Marko Mattila, Ponsse Oyj

B2B meetings "Creating partnerships overseas" & Trade show 16.30-18:30

Conference dinner 19:30 (hosted by JOSEK Ltd, Central Karelia Development Company KETI Ltd, and North Karelia Regional Council) with *Songs of the Finnish life* by the "Laulutuuli" choir

Wednesday 13.2.2013

Decentralized energy solutions 08:30-9:15

Chair: *Asko Saatsi, Mayor, Town of Nurmes*

- Energy solutions for communities
- *Jukka Huttunen, Savonia University of Applied Sciences*
- Heat entrepreneurship

Asko Puhakka, Karelia University of Applied Sciences (Karelia UAS)

Break & Trade show

Novel technology: Adding value to forest biomass 9:25-10:45

Chair: *Asko Saatsi, Mayor, Town of Nurmes*

- Towards better solid biofuels
Lauri Sikanen, University of Eastern Finland (UEF)
- Pyrolysis oil is dropping!
Jussi Orhanen, Metso
- Biocoal production, case Nurmes
Jarmo Ylinen and Esko Mikkonen, Feedstock Optimum Oy
- Replacing oil and natural gas by wood gas (0.5-2 MW)
Tomi Väänänen, GASEK Oy

Break & Trade show

Mission possible: Tackling challenges in the use of forest energy 11:00-12:30

Chair: *Jyrki Peisa, Bioenergia ry (Bioenergy Association of Finland)*

- *Mathieu LeBanc, Gestion forestière ACFOR, Prince Edward Island & New Brunswick, Canada*
- *Raluca Cibu-Buzac, Regional Development Agency West Romania (Adrvest)*
- Regional forest resource assessment and feasibility study of heating plants in Berzasca, Romania
Markus Hirvonen, Karelia University of Applied Sciences
- Review also from Russia
- Panel discussion

Lunch & Trade show

To use or not to use? More harvesting, more impacts? 14:00-16:00

Chair: *Lauri Sikanen, University of Eastern Finland (UEF)*

Centralized or distributed energy production

Aimo Aalto, Ministry of Employment and the Economy (TEM)

Urpo Hassinen, Finnish Forestry Centre

- Could we keep forests green? Carbon sinks of sources?
Antti Asikainen, Finnish Forest Research Institute (Metla)
- *Giuliana Zanchi, Lund University, Sweden*
- Canada's Sustainable Forest Management
Seppo Vihersaari, Canadian Embassy in Finland
- Burning or refining? Wood for energy or more valuable products?
Antti Asikainen, Metla
- *Aimo Aalto, Ministry of Employment and the Economy (TEM)*
- Panel discussion

Closing of the conference

Snow4U: Finnish winter experiences and warm sauna pleasure

Dinner 19:30 for the participants of the study tours, hosted by the Canadian embassy in Finland

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Study Tour Programmes

Pre-conference DH course & a visit to biorefinery, Monday 11.2.2013

Price €85 including lunch and taxes.

District heating course “Expertise and experiences in 50 years” 9:00 am

Joensuu Science Park, Temple of Challenge

- How the Finns do it – experiences in four seasons
- Mentored by Dr Arto Nuorkivi, a leading expert and ambassador (over 20 countries) in CHP, DH and energy efficiency

Lunch

DH course, to be continued

3:15 pm

Fortum pyrolysis oil plant in Joensuu (10 km, 0h15min)

- Pyrolysis oil plant (50,000 t/a) integrated with a large scale CHP and DE system (200 MW)
- First integrated bio oil plant in the world
- Need for wood chips 225,000 solid-m³/a
- Technology provided by **Metso** (www.metso.com)
- Under construction; installation of the machinery, to be finished in the Fall of 2013
- Extensive R&D on the potential use of the oil (energy, chemicals, medicine)
- The town of Joensuu DH system providing heat for ca 43,000 inhabitants
- Large scale forest fuel supply, logistics and handling: 300,000 solid-m³/a (later over 500,000)

Drive to Koli (75 km, 1h), arrival at 6 pm

- on the way: road-side chipping of small diameter stems in Eno

Accommodation at Sokos Hotel Koli (www.sokshotels.fi/Koli; www.koli.fi)

- reservations sales.koli@sok.fi

8.00 pm

Icebreaker at the hotel; hosted by the town of Lieksa and Pielinen Karelia Development Center Ltd

Post-Conference study tour “Bioeconomy from small to large scale” 14.-15.2.2013;

Price €185 including meals and accommodation and taxes.

Thursday 14.2.2013

Start 8:00 am, Koli

8:30 am

Tulikivi Oyj, Bioheat and aesthetics for homes and saunas, Nunnanlahti (25 km, 30min)

- World leading manufacturer of heat retaining stoves out of soapstone
- Domestic scale of heating
- Exhibition and factory (www.tulikivi.com; see also: http://www.tulikivi.com/usa-can/news/The_Power_of_Two_Dual_Tulikivi_Fireplaces_Bring_Warm_Aesthetics_to_Super-Efficient_Connecticut_Home)

11:00 am

Nurmes Lämpö Oy Vinkerlahti heating plant and the KME forest fuel supply business (50 km, 45min)

- 4 MW wood chip boiler
 - Use of wood chips 23,000 m³/a, heat production 18.000 MWh
- Bioeconomy on regional scale: Karjalan Metsä ja Energia KME Oy (www.kmeoy.fi/; pages only in Finnish)
- Established 2007 by two forest machine entrepreneurs
 - Wood chip producer for Nurmeksen Lämpö Oy and other heating plants in North-Karelia and Northeast Savo, total production ca 100,000 m³ in 2012 (estimation)
 - 20 employees (one of the biggest out of the large forest industry companies)

Lunch hosted by the town of Nurmes

1:45 pm

Farm size combined heat and power (chp) plant by Volter Oy (10 km, 10 min)

- 30 kWe + 60 kWth wood chip gasification unit
- Power and heat for the consumption of the farm, excess power to national grid

3:30 pm

Savotta forest harvesting demo by Ponsse Oyj (80 km, 1h)

- Integrated & energy wood harvesting
- Latest harvesting technology

5:30 pm

Ponsse, factory visit (70 km, 1 h)

- One of the world's leading manufacturers of forest machines
- Products cover the diverse requirements of efficient harvesting faced by machine entrepreneurs
- Dinner hosted by Ponsse
- www.ponsse.com

8:30 pm

Accommodation at Runni Terveyskylpylä (30 km, 25min)

- Guesthouse with spa (<http://www.runni.fi/?lang=en>)
- Heat provided by Runni Bioenergia Oy (heating plant visit on Friday)

Friday 15.2.2013

Morning spa & Breakfast: 6:30 am

8:00 am

Runni Bioenergia Oy 1 MW wood chip heating system

- Small scale (local) heat entrepreneurship

9:00 am

MW Power Oy in Kiuruvesi (20 km, 20min)

- Provider of medium- and small-scale power and heating plant solutions for sustainable energy generation
- Focus on flexible utilization of local renewable fuels, innovative technologies and service capabilities
- 100 % Metso owned entity
www.mwpower.fi

11:30 am

Valio Lapinlahti Dairy (Creamery) (65 km 55 min)

- Industrial application of the CHP; steam and heat needed by Valio's Lapinlahti milk processing plant
- Fuelled by wood chips and peat (wood chips by 50–60% fuel mix, but could be used up to 100 %)
- Boiler solution (20 MWth) by MW Power Oy
- In the boiler solution and automation, particular attention has been paid to the boiler plant's load variations, as the production plant's steam requirement varies greatly owing to the nature of the process
- Efficient fuel handling solution by BMH Oy (www.bmh.fi).

Lunch

2:15 pm

Leppävirta, a district heating system on municipal scale (110 km, 1h30min) (tbc)

3:30 pm

Varkaus, Navitas Building, (25 km 30min)

- Large scale biomass plant & biorefinery production

Return to Joensuu (Joensuu 130 km, 1h45min) at 6:30 pm

- Flight to Helsinki at 7:35 pm (at the desk not later than 7:00 pm)

Those who leaving on Saturday 16.2.2013

Accommodation in Joensuu Sokos Hotel Kimmel or Vaakuna

Saturday at 7:50 am

Bus transfer to the Joensuu airport (10 km, 10min)

- Flight to Helsinki at 8:50 (1 h)

Post-Conference North Karelia study tour

Price €85 including dinner 13.2. & lunch 14.2. and taxes

Thursday 14.2.2013

Start 8:15 am, Koli

9:00 am

Eno Energia Osuuskunta (Eno Energy Coop), (50 km, 45min)

- 1 + 1 MW wood chip plant & 300 loose-m³ fuel storage in Uimaharju
 - o Heating pipe network: 3 914 m
 - o Heat production: 7 000 MWh
 - o Back-up system based on pellets
- 160 kW pellet heating system in a container in Uimaharju
- 1.2 + 0.8 MW wood chip plant & new innovative drying system in Eno Alakylä
 - o Fuel storage: 300 loose-m³
 - o Heating pipe network: 3 950 m
 - o Heat production: 7 500 MWh
- wood chip supply chain: Kesla mobile chipper

Lunch at Parppeinpirtti: traditional Karelian buffet (50 km, 45 min)

1:00 pm

University of Eastern Finland Mekrijärvi Research Station (15 km, 15min)

- Pellet heating system (250 + 700 Kw) and research on raw materials

3:30 pm

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Large scale forest fuel supply, logistics and handling: 300,000 solid-m³/a (later over 500,000)

Bus stops:

- Airport at 5:00 pm (flight to Helsinki 17:40)
- Joensuu railway station at 5:30 pm (train to Helsinki 18:17)
- Downtown at 5:40 pm