

# IEA Bioenergy

## Task 34 - Pyrolysis



## Summary Minutes

### Task 34 Pyrolysis meeting - Espoo, Finland October 28-30, 2014



*Update from  
Doug Elliott,  
Task 34  
Leader*

Task 34 members convened in Finland, on October 28-30, 2014.

#### **Agenda of the Task 34 Meeting**

On October 28, many of the meeting participants gathered for a technical tour to Joensuu in eastern Finland. The tour consisted of a visit to the Fortum plant, Joensuu Science Park, University of Eastern Finland and the Finnish Forest Research Institute (Metla) all in Joensuu. Janne Hämäläinen of Fortum provided the task members with a detailed overview of the operation of the integrated fast pyrolysis plant and answered questions before leading the members on a site tour. Mr.

Timo Tahvanainen hosted the task members at the Joensuu Science Park. University of Eastern Finland staff presentations included Dr. Jouni Hiltunen's laboratory tour in spectral imaging. At the Metla House, staff presentations included Prof. Antti Asikainen's discussion of sustainable biomass, Dr. Erkki Verkasalo's discussion of sourcing optimal raw materials, Prof. Janne Jänis's talk on chemical fingerprinting bio-oil with Prof Ari Pappinen's discussion of pyrolysis research and Prof. Antti Haapala's discussion of wood science research and finished with a tour of the bio-oil analysis laboratories by Dr. Marko Mäkinen.

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The IEA Bioenergy Task 34 task members and observers (pictured left) visited the Fortum power plant located in Joensuu, Finland (pictured right) as part of the three-day meeting agenda.

# Summary Minutes...continued

The Task meeting convened at VTT in Espoo on October 29.

## Introductions:

Participating countries were represented by their national team leaders: Douglas Elliott, US; Dietrich Meier, Germany; Anja Oasmaa, Finland; Bert van de Beld, Netherlands; Tony Bridgwater, UK; and Magnus Marklund, Sweden. Also in attendance were observers from participating countries Irene Watkinson and Katie Chong from the UK, Ville Paasikallio from Finland, and Alan Zacher from the US. In addition, Kai Toven was an observer from Norway and the Finnish ExCo member, Kai Sipilä, were both present.

## Country Reports:

Reports were presented by representatives from the US, Netherlands, Germany, UK, Sweden and Finland. Kai Toven indicated that the growing interest in pyrolysis in Norway would lead to their participation in the Task beginning in 2015.

## Status of Inter-Task Collaborations:

The effort with Task 32 involved discussions of bio-oil combustion relative to biomass combustion between the Task 32 Leader with BTG-BTL of the Netherlands. Relative to Task 33, Task 34 will be represented in their upcoming task meeting and discussions

of bio-oil gasification should be on the agenda. With Task 38, the LCA produced by the US and Finland was provided for review. The collaboration with Task 39 has developed into an effort to produce an online database of pyrolysis systems. A contract has been signed with Bioenergy 2020+, who will develop the web interface. Demo plant information will be validated by the task for posting. For Task 42, Task 34 arranged a review of their fact sheet on bio-oil production, gasification, and product synthesis.

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On October 28, the tour of Joensuu included a visit to the University of Eastern Finland (top left) and Metla, the Finnish Forest Research Institute (top right). Presentations were given by a number of Metla staff (bottom left). On October 29, task members and observers convened at VTT Technical Research Centre of Finland, located in Espoo (bottom right).



# Summary Minutes...continued

## Round Robin:

The Round Robin to examine the consistency of bio-oil production within the fast pyrolysis community is underway. The US (Idaho National Laboratory) has provided the feedstock in three standard forms; clean poplar wood, wheat straw, and a blended feedstock of those two with pine forest residue. 20 labs have joined the round robin representing all six participating countries. It is anticipated that the bio-oil production runs will be completed by the end of the year. Results of the Round Robin will be distributed to the participants early in 2015 and should be published later in 2015.

## Bio-oil Applications:

Development of a publication plan for the information collected on bio-oil applications is underway. The expected effort involves an update of the earlier IEA Bioenergy Biomass Pyrolysis document.

## Newsletter:

Writing assignments were made for the next issue of the

newsletter due out in December 2014.

On October 30, the task members participated in the BEST (Sustainable Bioenergy Solutions for Tomorrow) seminar at Pörssitalo in central Helsinki. The morning agenda included presentations given on IEA Bioenergy Task 34 by Task Leader Doug Elliott, the Joensuu plant by Joakim Autio of Valmet, on the status of the Empyro plant in the Netherlands by Bert van de Beld, Green Nordic Fuels by Jerkko Starck, Bio-oil combustion by Oilon and CEN standardization by Pia Saari of Fortum, who chairs the Working Group. There then followed a Question and Answer session.

After the seminar, the task meeting reconvened at VTT in Espoo.

## Norms and Standards:

Developments within the CEN working group were presented and discussed. An update paper on bio-oil norms and standards is in the works with Anja Oasmaa as the lead author.

## Task Plan for Next Triennium:

The proposal summary, prepared based on task member input, was presented and accepted at the ExCo meeting the week previous to the task meeting. Discussion of the comments from ExCo led the task to conclude that expansion of the industrial links will be emphasized in the full proposal for prolongation, which is due to ExCo in April 2015.

## Next meeting:

It was decided that it will be held May 20-22, 2015, in Hengelo, Netherlands, to include a tour of the BTG-BTL commercial fast pyrolysis plant. The last meeting of the Triennium will be held in conjunction with the ExCo end of Triennium conference scheduled for Berlin, October 26-28, 2015. Task 34 will participate in the ExCo conference and make suggestions for speakers. The task meeting will be on 29-30 October.

## Doug Elliott Task 34 Leader



On October 30, the IEA Bioenergy Task 34 meeting participants attended the BEST seminar at Pörssitalo in central Helsinki (left), which included a presentation from Doug Elliott, Task Leader (right) about the current activities and future plans of IEA Bioenergy Task 34 - Pyrolysis.