



Summary Minutes

Task 34 Pyrolysis meeting - Hengelo, Netherlands May 19-21, 2015



*Update from
Doug Elliott,
Task 34
Leader*

Task 34 members convened in Hengelo, Netherlands, on May 19-21, 2015.

Agenda of the Task 34 Meeting

On May 19, many of the meeting participants gathered for technical tours. The tour stops included OPRA, Twente University, and BTG.

The Task meeting convened on May 20.

Introductions:

Participating countries were represented by their national team leaders: Douglas Elliott, US; Dietrich Meier, Germany; Anja Oasmaa, Finland; Bert van der Beld, Netherlands; Tony Bridgwater, UK; Magnus Marklund, Sweden; and Kai Toven, Norway. Also in attendance were observers from participating countries: Irene Watkinson, UK; Tim

Schulzke and Axel Funke, Germany; Weihong Yang, Sweden; and Paul de Wild, Ron van der Laan, Gerrit Brem, Sascha Kersten and Robbie Venderbosch, Netherlands. The participants also included observers from Italy, David Chiaramonti and Andrea Rizzo.

Country Reports:

Reports on current activities of interest were presented by representatives from US, UK, Finland, Germany, Sweden, Norway and the Netherlands.

Pyrolysis Brochure:

A publication plan for the information collected on bio-oil applications is underway. The effort involves an update of the earlier IEA Bioenergy Biomass Pyrolysis document. Input from the various participants was

Continued on next page



The IEA Bioenergy Task 34 members and observers (pictured left) visited the Empyro fast pyrolysis plant located in Hengelo, the Netherlands (pictured right) as part of the three-day meeting agenda.

Summary Minutes...continued

identified. A limited run of paper copies will be printed.

Round Robin:

The round robin to examine the consistency of bio-oil production within the fast pyrolysis community is nearing completion. Three standard feedstock forms were tested in 16 participating laboratories. Analysis of samples is nearing completion at the Thünen Institute. Results of the Round Robin will be distributed to the participants and published by the end of the year. An important initial finding is that all laboratories produced a two-phase bio-oil product when processing the wheat straw feedstock provided.

Norms and Standards:

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

Oasmaa, A.; van de Beld, B.; Saari, P.; Elliott, D.C.; Solantausta, Y. 2015 "Norms, Standards & Legislation for Fast Pyrolysis Bio-Oils."

Energy & Fuels 29, 2471-2484, web published: March 18, 2015, DOI:10.1021/acs.energyfuels.5b00026.

Newsletter:

Writing assignments were made for the next issue of the newsletter due out in June 2015.

Task Plan for Next

Triennium:

The full proposal, prepared based on Task member input, was presented and accepted at the ExCo meeting Dublin on May 19th. At the ExCo meeting five countries indicated their plan to participate (US, Germany, Sweden, Netherlands and new member, New Zealand) while three others (UK, Norway and Canada) indicated interest in the task. Finland was not

represented but is expected to participate. Denmark was also not represented at the meeting, but back channel communication suggests their participation as well. Based on the expanded membership it is likely that the per country participation fee may be reduced. Confirmation is expected in the final proposal to ExCo to be prepared by September. After further discussion, a TEA work element was included into the Task plan at the request of the UK.

Next meeting:

It was confirmed that the last meeting of the task in the current triennium will be held October 29, 2015, in conjunction with the ExCo end of triennium conference scheduled for Berlin. The Task is participating in the ExCo conference and arranged speakers for a session on Pyrolysis in the afternoon of October 28.

On May 21st the Task members participated in the Empro Symposium at the BTG fast pyrolysis site in Hengelo. The morning agenda included presentations given on IEA Bioenergy Task 34 by Task Leader Doug Elliott, European status by Kyriakos Maniatis, and on the status of the Empro plant by Gerhard Muggen and Ardy Toussaint of BTG-BTL. Tours of the plant followed. In the afternoon the symposium continued with presentations on sustainability by Martijn Vis of BTG, CEN standardization by Pia Saari of Fortum, Bio-oil firing at Friesland Campina, and in OPRA turbines and tests in catalytic cracking by Petrobras with a final overview by Patrick Reumerman of BTG.

Doug Elliott
Task 34 Leader



On May 20 2015, the IEA Bioenergy Task 34 members and observers met at Hengelo in the eastern part of the Netherlands (top photo). On the following day, they attended the international symposium at Empro which was attended by 75 participants from 15 countries (bottom left). There then followed a tour of the newly opened fast pyrolysis plant (bottom right).