

3rd Task 34 Meeting Triennium 2019-2021 May 12th 2020 (videoconference)

Recognition of Meeting Participants

Bert van de Beld	(BvB)	NTL The Netherlands
Paul Bennett	(PB)	NTL New Zealand
Justin Billing	(JB)	NTL U.S.A.
Alex Böhm	(AB)	Assistant Task Lead
Ben Bronson	(BB)	NTL Canada
Axel Funke	(AF)	Task Lead/ NTL Germany (Minutes)
Lasse Rosendahl	(LR)	NTL Denmark
Linda Sandström	(LS)	NTL Sweden
Christian Lindfors	(CL)	NTL Finland

Guests (present partially for specific agenda items):

Philip Bulsink	Canmet/ Canada
Kirk Torr	Scion/ New Zealand
Suren Wijeyekoon	Scion/ New Zealand

Discussion of Work Packages

Review techno-economic assessment of DTL technologies (1.1): JB organized that this WP will be prepared by Prof Shonnard from Michigan Technological University, who is expert in TEA's. The scope remained the same and the order is almost set (some minor legal issues remain), i.e. work is expected to start soon.

Collaboration with Task 39 (1.2): T39 works on report about marine biofuels, the scope is being set at the moment. PB will circulate the finalized scope to get the work started.

Validation of analytical method (2.1): The Round Robin will be conducted by testing new sample types (HTL biocrude and intermediates from hydrotreatment) with existing analyses (ASTM 7544 and/or EN 16900).

Report on standardization of bio-oil analysis for co-processing in refineries (3.1): The scope is set to collect information from different projects and compare them. Naturally, this will be restricted to the information available when finalizing the report (it is expected that the related project work is ongoing beyond 2021).

Country reports (4.6): The first country reports have been published. AB and AF will prepare an example how a website version could look like based on database entries. Decision can follow subsequently how the second country report publication (due end 2020) will look like.



Website content refresh (4.3):

This WP was discussed as part of two previous videoconferences (April 28th, 2020 and May 5th, 2020); the results of this discussion are included here for completeness.

The meetings started with a brainstorming session around the question of a ‘perfect’ IEA Bioenergy Task 34 website. The results are summarized in Figure 1. Many of the items put forward are already included. There are certainly items that can be improved in the existing website version such as e.g. ‘Aim of Task’ and others that can be added for future improvements such as e.g. ‘Enable networking’ and ‘Safety considerations’. These addition of such new website features will be followed up at a later stage und are not included in the ongoing website update.

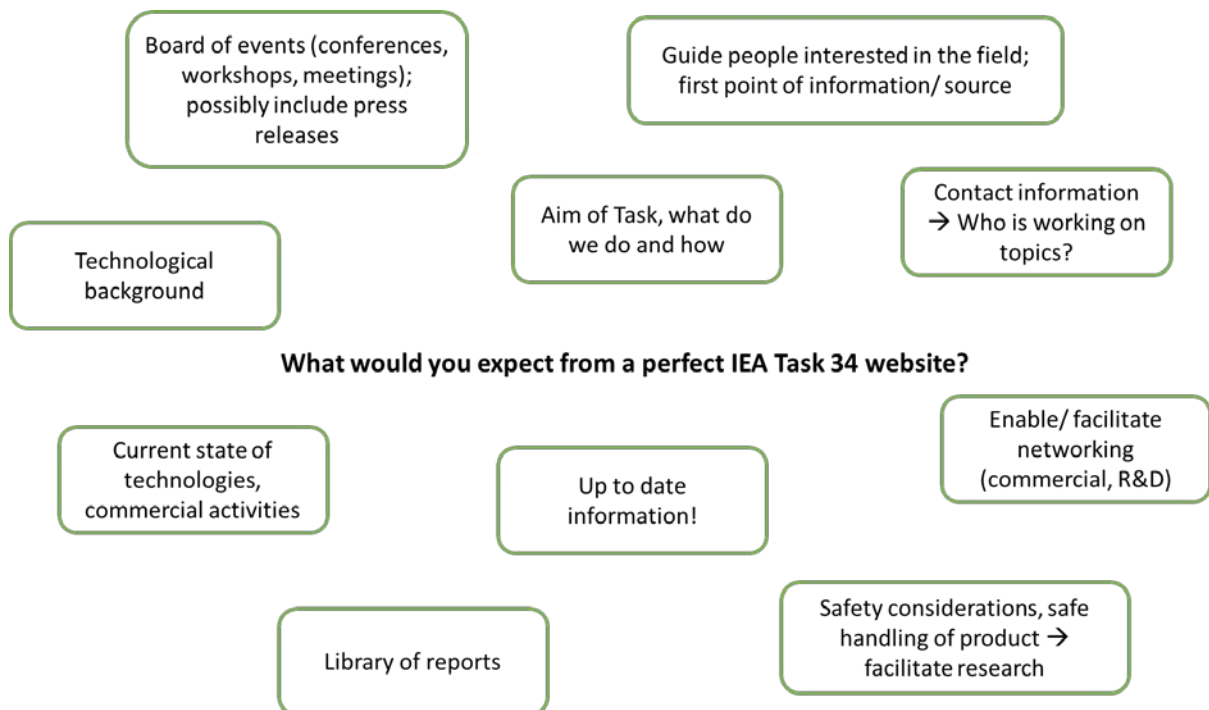


Figure 1: Brainstorming around the question , What would you expect from a perfect IEA Task 34 website?'

The website structure was reviewed and a slightly different structure of the pages/ the dropdown menu bar agreed upon (see below). It was generally agreed that the clickable menu headers (1st level) should be kept; the path of the displayed web page should be included in future to improve website navigation



Modified website structure:

1. About
 - a. Task 34 Objectives
 - b. Country Members
 - [remark] This page should include areas of expertise, roles and responsibilities, institutions, and interests
 - c. Participate
 - d. Contact/ Disclaimer
2. Newsletter
 - a. Search for Articles
 - b. All Issues
3. Direct Thermochemical Liquefaction
 - a. Technology Information
 - i. Pyrolysis explained
 - ii. Pyrolysis Reactors
 - iii. Hydrothermal Liquefaction explained
 - iv. HTL Reactors
 - v. Bio-crude
 - vi. Bio-oil
 - vii. DTL Oil Characteristics
 - viii. DTL System Components
 - b. Bio-oil Applications
 - i. Heat and Power
 - ii. Biofuels
 - iii. Materials and Products
 - iv. Round Robin Archive
 - c. Commercial Activities
 - Technology status [and summary]
 - Demoplant Database
4. Publications
 - a. Task 34 Reports
 - b. IEA Bioenergy Reports
 - c. Links
5. Events
 - a. Conferences
 - b. Task 34 meetings

Based on this structure, the web pages summarized in Table 1 are being created and/ or updated during Q2/3 2020 with the action items and responsible NTL's indicated.

Table 1: Web page changes, action items, and responsible NTL's

Page	To Do	Who
/Direct Thermochemical Liquefaction	Short version from DTL brochure	AF
/Direct Thermochemical Liquefaction/Technology Information	n/a	n/a
/Direct Thermochemical Liquefaction/Technology Information/Pyrolysis Explained	Review	AF, BBr LS
/Direct Thermochemical Liquefaction/Technology Information/Pyrolysis Reactors	Review	AF, BvB, CL
/Direct Thermochemical Liquefaction/Technology Information/Bio-oil	Review	LS
/Direct Thermochemical Liquefaction/Technology Information/HTL Explained	Review (formerly 'Solvent Liquefaction explained')	JB, LR
/Direct Thermochemical Liquefaction/Technology Information/HTL Reactors	Create this new page	LR
/Direct Thermochemical Liquefaction/Technology Information/Bio-crude	Review	JB
/Direct Thermochemical Liquefaction/Technology Information/DTL oil characteristics	Create this new page after bio-crude and bio-oil information has been updated as a merger of those two (comparison)	BvB, PB
/Direct Thermochemical Liquefaction/Technology Information/System Components	Review	AF, CL
/Direct Thermochemical Liquefaction/Bio-oil Applications/	n/a	n/a
/Direct Thermochemical Liquefaction/Bio-oil Applications/Heat and Power	Review	BvB
/Direct Thermochemical Liquefaction/Bio-oil Applications/Biofuels	Review	BvB
/Direct Thermochemical Liquefaction/Bio-oil Applications/Materials and Products	Review	BvB
/Direct Thermochemical Liquefaction/Bio-oil Applications/Round Robin Archive	Creat this new page	AB
/Direct Thermochemical Liquefaction/Commercial Activities	n/a	n/a
/Direct Thermochemical Liquefaction/Commercial Activities/Technology Status and Summary	Update/ change with summary from report around commercial activities	PB
/Direct Thermochemical Liquefaction/Commercial Activities/Demoplant Database	Review page and update database	AB

Intertask project: High temperature heat for industry (ITP1): Draft is finished; BvB is still expecting the 'all-clear' from Friesland Campina for publication of the data.

Material compatibility workshop (Add3.2): BB will continue organization of this event in conjunction with TCS 2020 in Richland despite the uncertainty due to the ongoing pandemic.

Overview commercialisation activities DTL (Add3.3): Suren Wijeyekoon and Kirk Torr from Scion joined for this part of the discussion. It was agreed that all NTL's return remarks/ updates on DTL installations by the end of May by email. The structure/ approach for this report was agreed upon. Database entries that are not covered with detailed portfolios, including those that are research pilot activities, will be used to update the demoplant database on T34 website.

PyNe archive/ article database on website (Add 4.3): The archive is finished, only keywords for articles are missing. Alex asked NTL's to return missing feedback on keywords.

Collaboration with Task 44 'flexible bioenergy and system integration' (ITP2): Scope is with AF; he will circulate it so that the work can start.

Audited Accounts 2019

AF presented the accounts from 2019 for Task 34 budget. There is some overspent (task management and PyNe) which is expected to be reduced significantly in 2020/2021. Website management budget is also overspent – effort is likely to remain high given the planned work on the website and needs to be closely followed throughout 2020.

Carry-over from last triennium (PNNL) has been transferred to KIT and is now available for the additional work packages.

Round Robin 2018 Manuscript

Philip Bulsink joined the meeting to discuss the manuscript.

Report from ExCo

AF gave some feedback from last (virtual) ExCo meeting. New IEA Bioenergy templates will be formally introduced May 20th, 2020.

Proposal

The time schedule for new Task proposals for the next triennium (2022-2024) is as follows: Willingness for continuation and potential key areas should be identified prior to ExCo 86 (Oct 2020 Lyon). A full draft proposal and draft costs, including potential ITP's, is to be presented in ExCo87 (May 2021 Vienna). The final task proposal is to be decided in ExCo88 (Oct 2021 Sidney).

There was consensus on continuing with Task 34. Potential topics that were discussed and found of interest are:

- Transportation fuels from HTL and FP
- Continue lessons learnt/ technical notes
- BECCS (feasibility study of process concepts?)



AF will start a separate email circulation to follow up on the proposal and detail the topics.

Next Meeting

NZ in general and Scion in particular bans travels until end of 2020; no other restrictions foreseeable from participating countries. Based on this, plans remain for a meeting in Richland in conjunction with TCS 2020 and further developments are observed closely.