

Transforming Black Liquor to Biofuel

Research and Innovation Action  
H2020-LC-SC3-2019-NZE-RES-CC

# D7.3 - Report on the mid-term workshop

**WP7 - Task 7.2**

March 2022 [M24]

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## Document Information

<b>Grant agreement</b>	884111
<b>Project title</b>	Black Liquor to Fuel by Efficient Hydrothermal Application integrated to Pulp Mill
<b>Project acronym</b>	BL2F
<b>Project coordinator</b>	Prof. Dr. Tero Joronen
<b>Project duration</b>	1 <sup>st</sup> April 2020 – 30 <sup>th</sup> September 2023 (42 Months)
<b>Related work package</b>	WP 7 – Dissemination and Communication
<b>Related task(s)</b>	Task 7.2 – Dissemination
<b>Lead organisation</b>	LGI
<b>Contributing partner(s)</b>	All Partners
<b>Due date</b>	31 March 2022
<b>Submission date</b>	31 March 2022
<b>Dissemination level</b>	Public

## History

Date	Version	Submitted by	Reviewed by	Comments
28/03/2022	N°1	Emma Buchet		
30/03/2022	N°2	Emma Buchet	Vaibhav Agrawal Tero Joronen	Changed HTL to iHTL Updated the post-event survey numbers

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## Abbreviations and acronyms

Acronym	Description
WP	Work Package
DCP	Dissemination and Communication Plan
BL	Black Liquor
BL2F	Black Liquor to Fuel
MTW	Mid-term workshop
iHTL	integrated HydroThermal Liquefaction

## Executive Summary

The Report on the mid-term workshop presents the results of the first stakeholder workshop organised in M24 of the project (March 2022). This report summarises the organisation, proceedings of the workshop, and preliminary findings from the post-event survey.

## Keywords

Black liquor, fuel, aviation, shipping, dissemination, stakeholder engagement, visual identity, event, workshop

# 1 Introduction

## 1.1 Communication and Dissemination Objectives

Communication and dissemination activities have become a top priority in European collaborative research projects funded under the EU's Horizon 2020 programme and so the BL2F Dissemination and Communication Plan is one of the key outputs of WP7.

Based on the needs of the project, the BL2F project's main **communication and dissemination objectives** are to:

- raise awareness of biofuels and the EU's commitment to becoming carbon neutral by 2050
- interact with other related initiatives (see table 1)
- generate interest in the project, helping its sustainability and exploitation
- motivate transport industries and public transport organisations to adopt a greener fuel alternative
- widely promote and ensure the visibility of the BL2F project through tailored communication tools, channels, and an overall strategy
- inform and educate key decision-makers, NGOs, initiatives, and the general public about the benefits of iHTL based biofuels as a sustainable alternative for the aviation and shipping sectors in the context of climate change and needs for global reduction of carbon emissions
- disseminate the knowledge and results achieved in BL2F to the project's stakeholders
- foster collaboration between researchers, industrials and policymakers who work in the biofuel technologies, transport, and energy sectors

To achieve these goals the DCP will follow the EU's five-stage model:

- **Step 1 – Why:** the objectives of communication
- **Step 2 – What:** the results to communicate
- **Step 3 – Who:** sharing the responsibilities with all partners
- **Step 4 – How:** the best channels and tools to get the word out
- **Step 5 – How good:** monitor and evaluate actions

## 1.2 Workshop Objectives

The objective of this workshop was to disseminate the milestones achieved, the preliminary results of the project, but also to have an overview of the fields of:

- Pulp and paper mills
- Alternatives to fossil fuels

- Sustainable transport fuels (aviation and marine transport)
- Catalyst production for HTL and HDO

The workshop themes were based on both sharing knowledge and a two-way communication to gather feedback and foster dialogue within the community to boost engagement.

## 2 Introduction

### 2.1 Role of the BL2F Partners

A core workshop organisation team was made up of the partners including TAU, KIT, VTT, LGI and SINTEF. Regular meetings were held in order to define and determine the themes, speakers, and timings.

### 2.2 Target audiences

The main target groups of the BL2F workshop were technical stakeholders such as members from academia, industry (including biofuel manufacturers, transport industry, oil industry...) and scientific/research stakeholders.

### 2.3 Promotional Materials:

**Save-the-Date visual:** a graphic was designed to pique interest in the workshop and was disseminated widely on the BL2F social media, with the first post sent out in December 2021.



Figure 1: Save-the-Date visual

**Flyer:** a flyer with the final agenda was designed and disseminated before the workshop. The full flyer is included in Annex I of the document.

An email was sent to related projects and initiatives to inform them and invite them to register to the workshop. The BL2F partners were also encouraged to disseminate the promotional material to their contacts and interested stakeholders.

EU projects/Initiatives		
• Pulp and Fuel	• COMSYN	• BRISK2
• WASTE2ROAD	• 4REFINERY	• NextGenRoadFuels
• HyFlexFuel	• LignoHTL	• Bio4A
• Biomates	• BioNEXT	• Heat-to-Fuel

**Table 1: A non-exhaustive list of EU projects and initiatives that were invited to the workshop**

## 3 Workshop Proceedings

The workshop was held as planned on 15 & 22 March 2022 using Microsoft Teams.

### 3.1 Day 1

14:00 - 14:10 Day 1 Welcome and Introduction		
14:10 - 15:00 Paper Mills to Transport Fuels		
Biofuels Production at Pulp Mills: Challenges and Opportunities	Alexandre Gaspar	The Navigator Company
Major Trends in Future Biofuel Demand, emphasis on their market potential	Adéola Jaiyola	LGI Sustainable Innovation
15:00 - 15:50 Applications of Hydrothermal Liquefaction		
State of the Art of HTL	Daniele Castello <i>(replacing Lasse Rosendahl)</i>	Aalborg University
BL2F – Opportunities of HTL at Pulp Mills	Tero Joronen	Tampere University
15:50 – 16:00 Break		
16:00 - 16:55 Biofuels for Aviation and Shipping		
Potential of Different Sustainable Alternatives to Fossil Fuels Used in Transport	Noora Kaisalo	NESTE
Refinery co-processing alternatives towards biofuels	Duncan Akporiaye	SINTEF

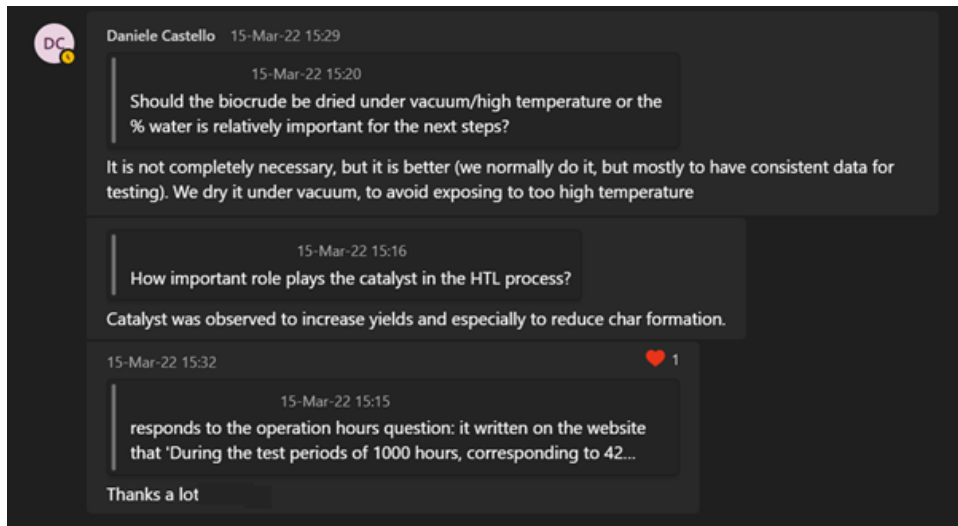
16:55 - 17:00 Wrap-up of Day 1

## 3.2 Day 2

14:00 - 14:05 Day 2 Welcome and Introduction		
14:05 - 14:45 Corrosion & Material Selection for Hydrothermal Liquefaction Equipment		
Material Selection	Mikko Uusitalo	Valmet
Experiments & Corrosion tests	Daniel Blucher & Judit Sandquist	SINTEF
14:45 - 15:45 Downstream Catalytic Processes		
Catalysts For Renewables And Sustainable Fuels	Pavel Kukula	Ranido
Continuous Hydroprocessing of Hydrothermal Liquefaction Biocrudes: Challenges and Prospects	Muhammad Salman Haider	Aalborg University
Catalyst development for HDO & Aqueous Phase Reforming	Juha Lehtonen	VTT
15:45-15:55 Break		
15:55 - 17:00 Preliminary Results from the BL2F project		
HTL of Lignin and Impact of Sulfur Salts	Maximilian Wörner	KIT
Preliminary results of Salt Separation	David Baudouin <i>(replacing Darius James Yeadon)</i>	PSI
Reactor design for combined salt separation and HTL	Tero Joronen	Tampere University

**Table 2: Schedule of the MTW**

Participants were automatically muted but were given the possibility of raising questions in the chat which were either answered by the speaker directly or in the chat after their presentation.



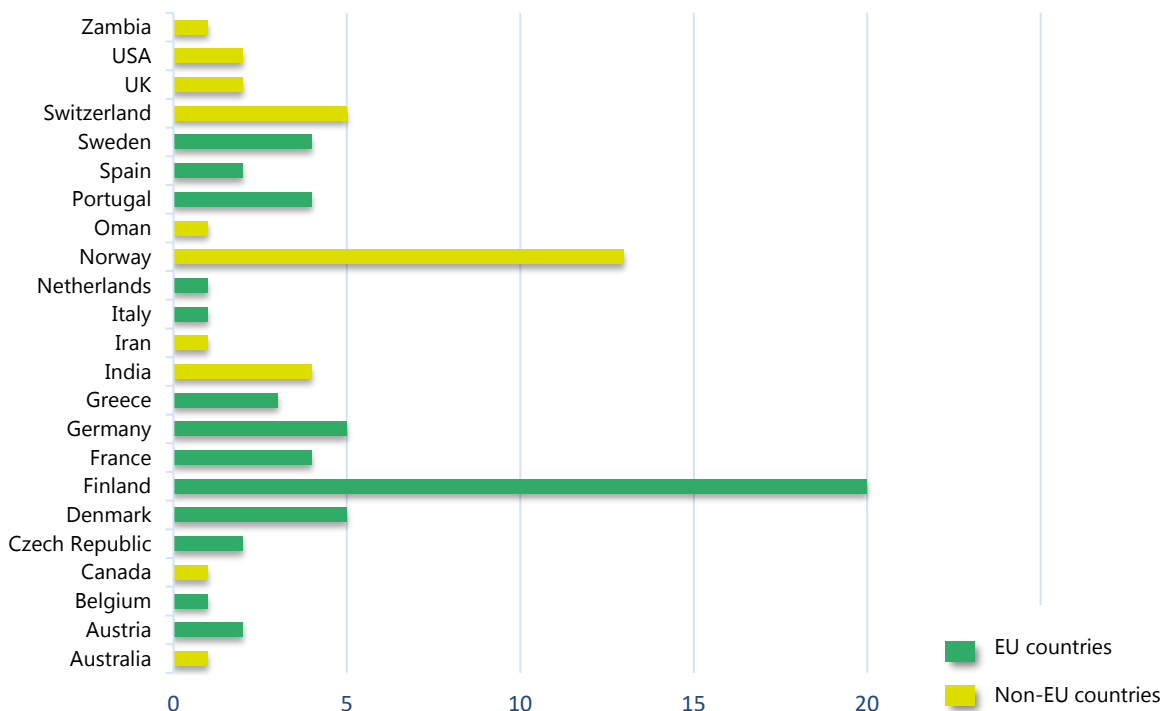
**Figure 2: Example of an exchange between speaker and participants**

## 4 Post-event statistics

### 4.1 Registration and Attendance

<b>Registrations</b>	<b>Attendees Day 1</b>
97	Maximum 50 Minimum 37
<b>Registrations Day 2</b>	<b>Attendees Day 2</b>
100	Maximum 35 Minimum 28

**Table 3: Number of registrations and attendees**



**Figure 3: Origin countries of the participants**

## 4.2 Post-event survey

A survey was created to measure the satisfaction of the MTW attendees and other statistics such as attendance rates of both sessions. As of 30 March, 10 responses have been collected. The questions are included in Annex II.

The event was successful and the participants were satisfied; they rated it as 4.1/5. They particularly appreciated the content of the presentations:

- *"Good coverage of both status, achievements and challenges ahead",*
- *"I thought the quality of the presentation content was very high",*
- *"balanced program of BL2F members and guests",*
- *"Highly interesting subprojects. Quality presentations."*

Areas that some participants identified for improvement was to have more interaction/discussion, some *"short papers"*, and another highlighted that the audio from some of the presenters was not the highest quality.

The participants came almost equally from academia and industry, which suited the more technical and results-oriented aspects of the workshop. They also plan to further interact with the BL2F consortium and mention that they can use the inputs of the workshop in their research

- *"I'm working in HTL field. So information will help me in my research."*

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- *"...it definitely gave me some ideas",*
- *"[the] Presentations are valuable for planning the path for carbon neutrality of pulp and paper.",*
- *"It is helpful for my research project".*

## Annex I



<b>March 15, 2022</b> Times in CET	<b>March 22, 2022</b> Technical Session Times in CET
<b>SCHEDULE</b>	<b>SCHEDULE</b>
<p><b>14:00 - 14:10 Welcome and Introduction</b> Tero Joronen <i>Tampere University, Coordinator of BL2F</i></p>	<p><b>14:00 - 14:05 Day 2 Welcome and Introduction</b> Tero Joronen <i>Tampere University, Coordinator of BL2F</i></p>
<p><b>14:10 - 15:00 Paper Mills to Transport Fuels</b></p> <ul style="list-style-type: none"> <li>• <b>Biofuels Production at Pulp Mills: Challenges and Opportunities</b> - Alexandre Gaspar <i>The Navigator Company</i></li> <li>• <b>Major Trends in Future Biofuel Demand, emphasis on their market potential</b> - Adéola Jaiyeloá <i>LGI Sustainable Innovation</i></li> </ul>	<p><b>14:05 - 14:45 Corrosion &amp; Material Selection for Hydrothermal Liquefaction Equipment</b></p> <ul style="list-style-type: none"> <li>• <b>Material Selection</b> - Mikko Uusitalo <i>Valmet</i></li> <li>• <b>Experiments &amp; Corrosion Tests</b> - Daniel Blucher, Torstein Lange &amp; Judit Sandquist <i>SINTEF</i></li> </ul>
<p><b>15:00 - 15:50 Applications of Hydrothermal Liquefaction</b></p> <ul style="list-style-type: none"> <li>• <b>State of the Art of HTL</b> - Daniele Castello <i>Aalborg University</i></li> <li>• <b>BL2F - Opportunities of HTL at Pulp Mills.</b> - Tero Joronen <i>Tampere University</i></li> </ul>	<p><b>14:45 - 15:45 Downstream Catalytic Processes</b></p> <ul style="list-style-type: none"> <li>• <b>Catalysts For Renewables And Sustainable Fuels</b> - Pavel Kukula <i>Ranido</i></li> <li>• <b>Catalyst Development for HDO &amp; Aqueous Phase Reforming</b> - Juha Lehtonen <i>VTT</i></li> </ul>
<p><b>15:50 - 16:00 Break</b></p>	<p><b>15:45 - 15:55 Break</b></p>
<p><b>16:00 - 16:50 Biofuels for Aviation and Shipping</b></p> <ul style="list-style-type: none"> <li>• <b>Potential of Different Sustainable Alternatives to Fossil Fuels Used in Transport</b> - Noora Käsälä <i>NESTE</i></li> <li>• <b>Refinery co-processing alternatives towards biofuels</b> - Duncan Akporiaye <i>SINTEF</i></li> </ul>	<p><b>15:55 - 17:00 Preliminary Results from the BL2F project</b></p> <ul style="list-style-type: none"> <li>• <b>HTL of Lignin and Impact of Sulfur Salts</b> - Maximilian Wörner <i>KIT</i></li> <li>• <b>Preliminary results of Salt Separation</b> - Darius James Yeadon <i>PSI</i></li> </ul>
<p><b>16:50 - 17:00 Wrap-up of Day 1</b> Tero Joronen <i>Tampere University, Coordinator of BL2F</i></p>	<p>• <b>Reactor design for combined salt separation and Integrated HTL</b> - Tero Joronen <i>Tampere University</i></p>
<p><b>REGISTER HERE</b> <a href="https://bit.ly/314JER2">HTTPS://BIT.LY/314JER2</a></p>	<p><b>REGISTER HERE</b> <a href="https://bit.ly/314JER2">HTTPS://BIT.LY/314JER2</a></p>

## Annex II

# Post-event survey - BL2F Workshop

Thank you for attending the BL2F workshop: *Can pulp mills produce fuel in the future?* Please fill out this short, anonymous post-event survey. We hope to see you again soon!

1.How did you hear about this event?

- Somebody told me about it
- BL2F social media accounts
- Other social media accounts
- BL2F website
- Email invite
- Other

2.Which sessions did you attend?

- Both sessions (15 & 22 March)
- Session 1 only (15 March)
- Session 2 only (22 March)

3.How satisfied are you with the content of the event? from 1 to 5 (5 being the highest)

- 1
- 2
- 3
- 4
- 5

4.Please specify

*Free text*

5.How could you make use of the inputs or data presented?

*Free text*

6.Do you intend to seek further engagement with BL2F or the consortium after the event?

*Free text*

7.Please choose the career field description that fits you the best

- Academia/Research (e.g. University, Research Institute)
- Industry (e.g. Oil Refinery, Pulp Mill, Plane/Ship Manufacturer)
- Association (e.g. Biomass Association)
- Public Sector (e.g. Civil Servant, Public Transport)
- Forestry/Agriculture (e.g. Forest Owner)

8.Do you have any suggestions for us to improve future events?

*Free text*

9.Any other comments?

*Free text*