

**IEA Task 39 7<sup>th</sup> Business Meeting**

**IEA Bioenergy Task 39  
Biofuels to decarbonize transport**

**25<sup>th</sup>–27<sup>th</sup> /October/2023**

**Leipzig, Germany**

## Task 39 Fourth Business Meeting Minutes

### Details

|                           |                                                                                                                                                                                                                                                                                                                                                           |
|---------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Class/Project</b>      | IEA Task 39 7 <sup>th</sup> Business Meeting, IEA Bioenergy Task 39: Biofuels to decarbonize transport                                                                                                                                                                                                                                                    |
| <b>Date/Time/Location</b> | October 25–27 <sup>th</sup> , 2023, DBFZ, Leipzig, DE                                                                                                                                                                                                                                                                                                     |
| <b>Goal</b>               | Discuss the current state of biofuel programs around the world, current state of development of ongoing projects of Task 39, propose and discuss new projects and next steps.                                                                                                                                                                             |
| <b>Attendees</b>          | Tomas Ekbom, Glaucia Souza, Hannah Edgren, Marco Buffi, Isabelle Ausdal, Dina Bacovsky, Paul Bennett, Mackenzie Boubin, Stephan Janbroers, Aafke Jansen, Kiki Klerks, Yajun Liu, Rubens Maciel, Jose Muisers, Franziska Muller-Langer, Jack Saddler, Yuta Shibahara, Allison Simmonds, Andrea Sonnleitner, Paul Stuart, Ling Tao, Sune Thomsen, Tom Walsh |

### Meeting notes

#### October 25<sup>th</sup>

- Internal Meeting, introduction with welcome (10 min)
- Task 39 status update: Tomas & Glaucia. Project update: BioTheRoS. Tomas distributed magazine. Tomas highlighted the need to finish all projects by the end of 2024. Tomas informed of an interest from ePURE as Limited Sponsor with email to Tomas. This was forwarded to ExCo for due process. There was discussion on possible participation and Tomas asked the meeting of support for ePURE to be a limited sponsor which was granted unanimous. Request sent to ExCo. IETS expressed interest to work with T39. Paul Stuart participated in the meeting representing IETS.
- Task 39 budget status and project invoices: Tomas informed the budget status as overspent in salaries in 2022 and 2023. There is risk of not having funds for managing. The total hours for management needed until the end of 2024 was informed as unknown. Tomas mentioned 9 out of 10 projects are ongoing. Glaucia mentioned in 2024 time needed for management would possibly increase since many reports would need review. Bennett mentioned reviewing is a collective responsibility of the group. Tomas proposed to have 3 meetings per year and 2 magazines decreasing dedicated hours. Allison suggested to reallocate travel and material funds to management. Glaucia asked clarifications

on how much exactly the overspending was. Tomas was not able to provide clarifications at the time. Tomas asked approval for overspent funds in 2023. Jose mentioned in kind contribution is in place for activities within projects. Allison suggested that help could be allocated to quality control of reports. ExCo has issued guidelines on reviewing reports. It is responsibility of the whole group of T39 to review reports. Ongoing projects will not have budget cuts. It was not clear by when ExCo needs a reply on budget approval but soon. Regarding invoicing, a meeting will be organized to discuss difficulties, but general rule is Task 39 SVEBIO will only invoice Task project leadership and they should approve deliverables and distribute funds (later, a new discussion was conducted on invoicing – see below). Tomas will send a detailed budget for approval, but the date was not defined.

- Project update BioTheRoS presented by Andrea. Status: Approved, focus on pyrolysis, gasification, increase of the European role in sustainable biofuels production, improve sustainability and cost effectiveness, collaborations with Tasks 33, 34, 39, 40, and ETIP. ICARUS project was also approved.
- Presentation of proposed project T39-T3. Identifying and lowering hindrances for increased use of Marine biofuels, \$43,000 requested to T39, participants from Ireland, Sweden, New Zealand, Denmark, and the Netherlands. Approved.
- Joint AMF (Advanced Motor Fuels) meeting and workshop discussion. Franziska described that AMF contributes more on the engine end-use side while T39 focuses more on the fuel, technologies, and process side. She indicated difficulties to work together as the related procedures for that are not clear. A joint white paper was suggested. Tomas proposed a Fact Sheet for policy makers. For next triennium, Franziska suggested T39 to develop a Dashboard. Jose highlighted AMF has an extensive database.

## October 26<sup>th</sup>

### Selected projects T39+AMF

#### *Demoplants*

Demoplants: database on operational and planned plants with several search options. 50 SAF plants, most of them using hydrotreatment. Syngas plant highlighted. Diversification and combination of technologies is trending. Non-biological origin for advanced fuels using waste streams and suggestion to include ammonia pathways.

#### *Drop-in and co-processing*

Oil companies' involvement, focus on CI intensity calculation of the final co-processed product, HEFA, HVO, gasification, ATJ, Brazilian ethanol has the lowest carbon intensity, e-fuels important as part of a mix of fuels

#### *AMFI*

Fuel Information System from AMF Task 28, focus on end-use, performance, emissions, compatibility with infrastructure.

#### *e-fuels*

TEA indicates very high costs, and electrolyser and electricity costs need to decrease. Methanol as the carbon source is a very promising option with high TRL.

### T39 project updates

### ***Implementation Agenda***

Report to be made public in one week.

### ***SAF***

Jack suggested inviting Boeing to a T39 meeting. It makes more sense producing renewable diesel than SAF. Draft report in 5 weeks.

Implementation agenda could be made public immediately since policy changes rapidly (mentioned by Glaucia, Allison, Bennet), for authors impact also increases if immediately released (mentioned by Sune).

### ***LCA***

Project proposed in the POW dropped, no champion. Discussion started for next triennium on routes (Glaucia), perhaps one route in several models (Allisson), student working on LCA showing analysis to be very complex (Tom), Jose asked how Brazil proposes to model LCA and Glaucia clarified that the model used is the Brazilian Virtual Biorefinery. AMF was suggested as a partner (tank-to-wheel) with T39 (well-to-wheel).

### ***Certification***

Fact sheets are going well. They will change IRA into California and they will contact people working on the field. First WP (WP1) will be finished early next year, and they will collect invoices from the group and send to Tomas. Final results include two small reports and a slide deck. By the end of Q1 2024, a first report on WP 1, 2 and 3. Jose will discuss with Agroicone that more details are needed if they are to receive the 5k requested by Glaucia. A meeting it needed to sort out invoicing, and the NTL needs to contact Tomas for that.

### ***Demoplants***

Collaborating with IEA Bioenergy, Task 33, Task 34, ETIP (European facilities), and several presentations. Article will be planned after update of database (possibly during next spring). Project meetings to be scheduled with Brazilian delegates. Glaucia mentioned Rubens could help with the article.

### ***Hydrogen***

Brazil delivered two cases and need to deliver other two. Webinar not scheduled yet, project month 30. Organized by ETA Florence. Invoice procedure discussed and suggestion made to contact Andrea Rossi for guidelines. Payments of invoices should be responsibility of Task Leaders management. The issue on invoicing was picked up again. Bennet mentioned SVEBIO should be responsible for all payments as it is responsible for the Task's financing.

Glaucia suggested to add to a timetable in the project template for next triennium for the intended invoicing dates and amount.

### ***IETS Industrial Energy-Related Inter-TCP Collaboration***

Paul Stuart gave the IETS presentation. IETS/Task XI was presented as being more technically-oriented and less policy-oriented (which we are not), and that perhaps this could be a good basis for complementarity and synergy. Also, without doubt the Sub-Task level methodologies used in IETS Sub-Tasks are different than the portfolio of methodologies and information that are addressed by Task 39 – another opportunity for

synergy. Tomas invited IETS to consider an invitation to collaborate (possibly in three of Task XI Sub-Tasks), identify a couple of specific follow-up action items including hopefully a specific collaboration possibility. The generic model was expressed as identifying a joint Task 39-Task XI workshop opportunity, whose goal would be to identify a joint white paper building on activities otherwise already being executed. Tomas suggested regular short information calls between TCP ExCo's on upcoming activities so others could join in, and he extended the suggestion that subject matter experts could be invited to meetings to offer comments – IETS especially from a systems analysis perspective. Franziska introduced a possibility related to an inter-Task project considering H<sub>2</sub>/CO<sub>2</sub> feedstock for biofuels production. IETS has a few projects in the Task XI Sub-Tasks that may relate to this idea.

No next steps were defined as dates for a call. Joint project proposal by April, 2024 will be needed.

## POW 2025-2027

Too many projects with low budgets (total \$250,000/yr could be split in larger amounts if sub-groups were established). LCA, possibly with AMF, to compare to e-fuels. End use, well-to-wheel or tank-to-wheel discussed. Implementation Agenda: policy is very dynamic matter — what can be done to keep up? Demoplants: only commercial? Landscape is changing, carbon intensity as focus. Hydrogen (AMF) as a possible goal (later in the week there was more discussed on this). Long distance transport as focus. Project with UNIDO not a priority. Define WHAT TO IMPACT and OUR EXPERTISES. Biofuels as an enabler of other technologies (chemicals and biochemicals, bioproducts). Socio-economic will be an ExCo activity. E-Pure participation as Limited sponsor seen as a positive addition. ExCo to decide if USGC can continue as Limited sponsor.

## Webinars

TBD

## October 27<sup>th</sup>

Jesper Schramm, AMF  
Nils-Olof Nylund, AMF  
Glaucia Souza, Task 39  
Dina Bacovsky, both

Possible topics mentioned: White paper, E-fuels, bio-efuels, LCA, SAF, Marine

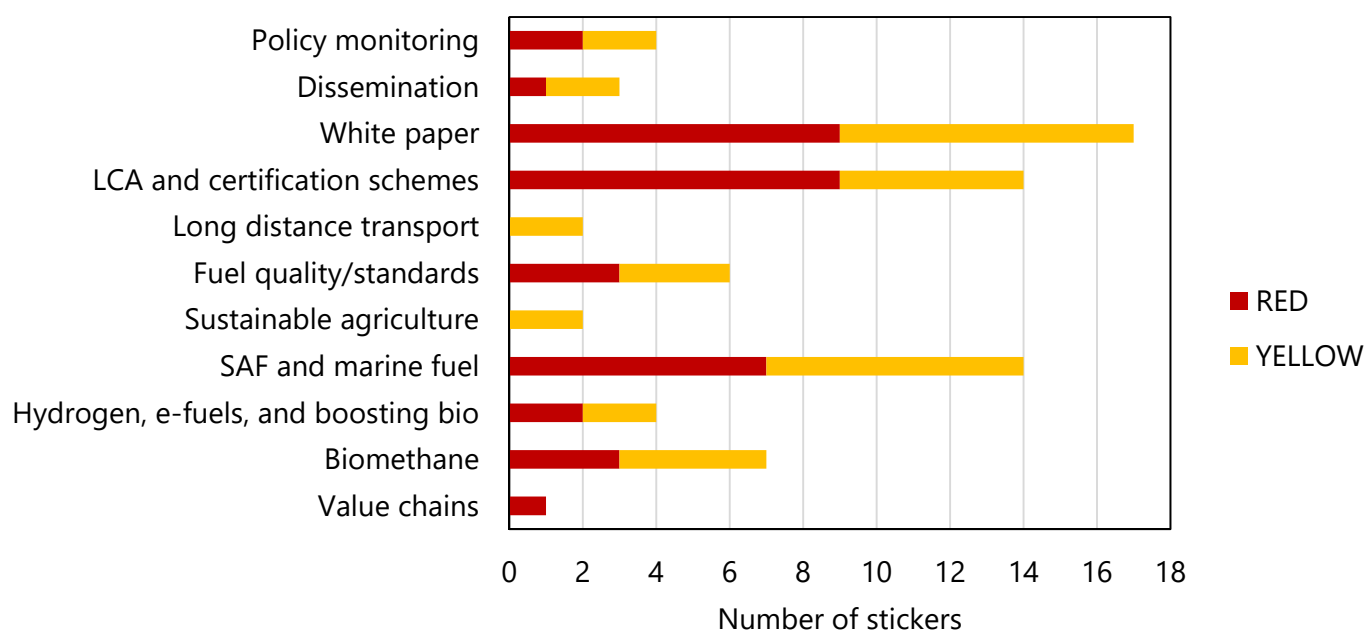
Dina

1. Regular information exchange (via webinars)
2. Joint objective: harmonized scope of complementary activities and overlapping timelines – SAF end use, jet engine turbines etc (Jose slides on building blocks linking to engines)
3. Joint project: one joint deliverable (task leaders) that really collaborate in the same timeline (administration of budget issues).  
T39 could link biofuels with engine performance. LCA is a focus area in T39 not on AMF. Commentaries from AMF into our reports. Webinars with a commentary from AMF

Several comments and suggestions were made:

- AMF focus on standards for engines.
- White paper on internal combustion engines, turbines, and sustainable fuels.
- How applicable are fuels to engines?
- Most economical solutions to decrease CO<sub>2</sub>.
- Sustainable food production, circular economy with biofuels and engines.
- White paper on SAF.
- Global map opportunities.
- Specifications of marine fuels.
- Acid number, weak acids, aldehydes, corrosion, acidity.
- Agricultural sector not going to electrify, renewable diesel, biodiesel, circular way to achieve this.
- Bio-e-fuels.
- Task 39 could have a focus on methane: comparison of studies, upstream.
- LCA, downstream for end use, combine tasks, systems for defining carbon intensity, compare electrification technologies for difficult to decarbonize sectors.
- Hydrogen from biomass: development of biorefineries and LCA.
- Dashboards, combining information, information database.
- Fuels infosystem.
- Efficiencies, prevention of CO<sub>2</sub> emissions, processes that do not make residual gases and CO<sub>2</sub>, biocrude most efficient.
- Long distance transportation: low hanging fruits.
- Policy monitoring.
- LCA and continued benchmark of marine, hydrogen, marine at an earlier stage, IMO at preliminary stages
- e-fuels ISO developing hydrogen specifications.
- Marine work, experts should refer do a back and forth to respective works and present an overview of what is coming up.
- Circularity in farming to decarbonize food and biofuel production.
- Pyrolysis fuels for marine.
- Sustainable bio-chains, practical market applications, sound sustainability certification.
- White paper on ethanol fuel cells.
- What can be said to policymakers: solutions, easy to sell, added value.
- Supply feedstock abundant, LCA as a tool for decision making.
- Concentrate strategies for carbon neutrality, especially in trucks with ICE.
- LCA may need other experts.
- Competing uses for biomass and renewables for e-fuels and fuels.
- LCA IETS of interest too.
- AMF has data to input on LCA.
- LCA benchmark, GREET, European, maritime, hydrogen pathways that might really be convenient, biomethane, gasification assessment to hydrogen etc.
- A white paper draft will be prepared by Dina and Franziska

Flip chart



## Follow-ups

| Task                                                                                                        | Responsible | Completed? |
|-------------------------------------------------------------------------------------------------------------|-------------|------------|
| Project leaders that are not able to receive funds and pay invoices need to start a conversation with Tomas | NTLs/Tomas  | [ ]        |
| Budget revision and presentation to Task                                                                    | Tomas       | [ ]        |
| Preparation of the POW + meetings                                                                           | NTLs/Tomas  | [ ]        |

## Approvals

| Decisions                                  | Approver |
|--------------------------------------------|----------|
| Marine project led by Tom Walsh (\$43,000) |          |

