

## IEA Bioenergy ExCo84 workshop

Tuesday 22 October 2019, Tallinn – Estonia

### Developing business models for efficient use of biomass

Workshop organized by IEA Bioenergy, in collaboration with the Estonian Ministry of Economic Affairs and Communications

#### Introduction

Bioenergy - in future potentially combined with carbon capture and storage (BECCS) for the removal of CO<sub>2</sub> from the atmosphere - may play a vital role in meeting the objectives of the Paris Agreement. A substantial amount of energy will need to be provided by biomass; according to the International Energy Agency, modern bioenergy would have to increase by a factor 2 in the 2030 timeframe (compared to 2015), and a factor 4 by 2060. So there will be a need for further deployment at the global level, also implying that economically viable and bankable business models need to be developed in terms of setting up biomass supply chains, efficient conversion processes and end markets.

Moreover, society will further move towards a circular economy - of which the bio-based economy will constitute a significant share – which will entail a more efficient use of resources, including more effective utilization of biomass for various purposes, for energy, chemicals and materials, also taking into account food, feed and fiber markets, i.e. the bioeconomy. Business models will increasingly have to target more efficient use of biomass - biorefining to different energy and material products (as is done in oil refineries) will be an important concept. In future, CO<sub>2</sub> capture and storage (CCS) or utilization (CCU) will also become part of such business models.

This workshop will discuss setting up biobased business models from an industry point of view, sharing examples, approaches and future prospects. The programme contains four sessions:

1. Setting up biomass supply chains
2. Examples of developing biobased business models
3. CO<sub>2</sub> capture as part of future biomass business models
4. Debate on barriers for setting up biobased business models and recommendations to overcome those barriers

## Programme - (status 8 October 2019)

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### 8.30 Registration

#### 9.00 **Welcome & Introduction**

- Timo Tatar, Deputy Secretary General for Energy, Estonia
- Jim Spaeth, Chair IEA Bioenergy, US Department of Energy
- Estonian study on Maximising added value and efficient use of raw materials in bioeconomy sectors - *Liina Joller, University of Tartu, Estonia*

#### 9.30 **Session 1 - Setting up biomass supply chains**

##### **Moderator: Mark Brown, USC**

- SWOT of biohubs in deploying biobased supply chains – *Ioannis Dimitriou, Swedish University of Agricultural Sciences*
- The biomass exchange – virtual transmission grid in biomass markets - *Vaidotas Jonutis, Baltpool, Lithuania*
- The logistics of capturing, extracting, handling and delivering residue to bioenergy markets – *Mark Brown, University of the Sunshine Coast, Australia*
- Short reaction to the session presentations – *Matthew Clancy, Sustainable Energy Authority of Ireland*
- Q&A

### 10.30 Tea/Coffee

#### 11.00 **Session 2: examples of developing biobased business models**

##### **Moderator: Kees Kwant, RvO.nl**

- Sweetwoods: turning wood into high purity lignin and wood sugars to industrialize innovative biomaterials and bioproducts - *Peep Pitk, Graanul Biotech, Estonia*
- Building a business case with pyrolysis of woody biomass - *Mark Richters, BTG, the Netherlands*
- Investing in the biobased economy - *Juha-Erkki Nieminen, Neste, Finland*
- Setting up business models for advanced cellulosic ethanol production - *Gloria Gaupmann, Clariant, Germany*
- Short reaction to the session presentations – *Bert Annevelink, Wageningen Food & Biobased Research, the Netherlands*
- Q&A

### 12.30 Lunch

#### 13.45 **Session 3: CO<sub>2</sub> capture as part of future biomass business models**

##### **Moderator: Janne Kärki, VTT**

- Outlook on bioenergy combined with carbon capture, utilization and storage (BECCUS) – *Janne Kärki, VTT, Finland*
- Developing CCS infrastructure for European CO<sub>2</sub> storage - *Emil Yde Aasen, Equinor, Norway*

- Piloting bioenergy carbon capture storage in the UK – Luc Pelkmans on behalf of *Karl Smyth, Drax, UK*
- Trading platform for negative CO<sub>2</sub> emissions – *Marianne Tikkanen, PURO.earth, Finland*
- Short reaction to the session presentations – *Olle Olsson, Stockholm Environment Institute, Sweden*
- Q&A

15.00 Tea/Coffee

**15.30 Panel discussion on barriers for setting up biobased business models and recommendations to overcome those barriers**

***Moderator: Jim Spaeth, US DOE***

*Panelists: Mark Brown (USC), Gloria Gaupmann (Clariant), Emil Yde Aasen (Equinor), Olle Olsson (SEI), Karel Lember (Estonian Ministry of Economic Affairs and Communications)*

Central items:

- Challenges and opportunities to expand biomass mobilization in a sustainable way and setting up supply chains
- Main barriers for industry investments in biobased business models and BECCS
- Recommendations to overcome these barriers.

**16.30 Summary and conclusions**

17.00 Closure of the workshop

## Practical information

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**Date:**

Tuesday 22 October  
2019, 8.30-17.00

**Meeting location:**

Swissotel Tallinn  
Tornimäe street 3,  
10145 Tallinn  
Estonia



**Recommended hotels:**

Swissotel Tallinn, <https://www.swissotel.com/Tallinn/>  
Metropol Spa Hotel, <https://www.metropol.ee/spa/>  
Tallink City Hotel, <https://www.tallinkhotels.com/tallink-city-hotel/>  
Nordic Hotel Forum, <https://www.nordichotels.eu/en/>

**Participation:** invitation only.

Participation is to be confirmed to Lilian Urba, Orangetime Event OÜ at [lilian@orangetime.ee](mailto:lilian@orangetime.ee) before Tuesday 15 October 2019.

**More information:**

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