Bio-hubs as keys to successful biomass supply integration for bioenergy within the bioeconomy

Joint IEA Bioenergy Task 43 & BioEast Initative Workshop, 10th October 2019, Sopron, Hungary

IEA Bioenergy Task 43: Sustainable Biomass Supply Integration for Bioenergy Within the Broader Bioeconomy has launched an initiative to identify successful examples of biomass logistic and distribution points for bioenergy and the bioeconomy. The goal of this initiative is to explore integrated bioeconomy supply chains to develop solutions for the reliable production and supply of more high-quality biomass for energy. These examples are also meant to serve as sources of inspiration that other biomass producers can use to enhance the sustainability of their own activities as well as for policy makers to familiarize with the bio-hub concept.

This event takes us a step forward towards new biomass supply chains within a concept of bioeconomy. The innovative examples selected for this workshop show how biomass can be produced together with wood products and food in sustainably managed landscapes.

The aim of the workshop is to develop a framework for the successful establishment of bio-hubs in support of the bioeconomy. Examples of existing bio-hubs will be presented, and an analysis of strengths, weaknesses, opportunities and threats (SWOT analysis) of existing and potential projects will be performed by participants. The workshop will have a proactive format, consisting of dynamic exchange of showcase presentations and work in groups. The results of the workshop will feed into the development of the framework for bio-hubs, which will then be further applied and tested as part of following activities.

BioEast Initiative and the IEA Bioenergy foresee that the gathered knowledge and shared experience at the workshop will contribute to the improvement of sustainable biomass mobilisation for energy purposes, notably in the BioEast macro-region and in other member countries of the IEA Bioenergy.

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Agenda draft

09:30 – 10:00	Registration with welcome coffee and introduction
	Host: welcome IEA Bioenergy Task 43 (Brown): Welcome BioEast Initiative (Kovacs): Welcome
10:00 – 10:40	Thiffault: WP2 Integrated supply chain and logistics for sustainable bioenergy in the bioeconomy Slovakian representative: TWG Forestry within BioEast Initiative Croatian representative: TWG Bioenergy and BioMaterials within BioEast Initiative
10:40 – 12:40	Bio-hubs concepts (20' each)
	Bergstrom: Nordic examples with wood focus (confirmed) SRC examples (tbc) Kindler (LWK Steiermark, Austria): Tschiggerl Agrar bio-hub (confirmed) European Network of Regions on Sustainable WOOD Mobilisation: virtual bio-hub, Horizon 2020 Rosewood project (confirmed)
12:40 – 13:30	Lunch break
13:30 – 15:30	Work in groups with coffee
	4 questions: SWOT, H forms Survey on biomass supply (WP1) (<15') Wrap up discussion with IEA Bioenergy Task 43 & BioEast Initative

Background of the Workshop

IEA Bioenergy Task 43 addresses issues critical to mobilizing sustainable bioenergy supply chains, including all aspects of feedstock production, its markets and environmental, social and economic impacts. The objective is to promote sound bioenergy development that is driven by well-informed decisions by landowners, businesses, governments and others. The Task has a global scope and includes commercial, near-commercial and promising feedstock production systems in agriculture and forestry. The primary focus is on exploring technical and economic strategies to increase the quantity & quality of biomass for bioenergy within a profitable bioeconomy.

Scope: explore technical and economic strategies to increase the quantity & quality of biomass for bioenergy within a profitable bioeconomy.

The Task explores technical and economic strategies to increase the quantity of biomass available, improve the quality of the biomass delivered for different energy purposes, and explore strategies to increase the value and foster confidence in biomass supply, for both direct and cascade use of biomass for bioenergy.

Objectives	Develop sustainable integrated land management strategies for biomass mobilisation Explore integrated bioeconomy supply chains to develop solutions for the reliable production and supply of more high-quality biomass for energy

The Task works exclusively with terrestrial biomass sources including residues, by-product or co-product production from forest and agriculture production systems; residues, by-products or co-products from bio-based manufacturing industries; cellulosic biomass from post-consumer waste; as well as dedicated biomass crop systems as part of broader land management strategies. The Task focus is on the production and supply of biomass feedstock for energy leading to value creation within the broader context of bioeconomy.

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The Work Programme is organized in two work packages:

WP1 - **Biomass production systems for sustainable bioenergy within the bioeconomy**	WP2 - **Integrated supply chain and logistics for sustainable bioenergy in the bioeconomy**
Strategies to integrate innovated biomass crops to leverage and expand existing residue and co-product supply chains Scale of biomass crops required to economically supply bioenergy production as sole source and as an integrated contribution to residue supply chains Quantifying the socioeconomic values of biomass crops as a part of a local, regional and national renewable energy strategies. Influencing biomass sustainability through strategies to increase volume, value and quality of biomass supply.	Key biomass quality drivers as they relate to bioenergy technology needs Identifying and managing technology bottlenecks in biomass supply chains Opportunities to economically extend the range of biomass supply chains through new and emerging biomass technology. Improving biomass quality and value with pre-processing or pre-treatment within the supply chain.

The IEA Bioenergy Task 43 WP2 goals' echo within the efforts of **TWG Forestry and the emerging TWG Bioenergy and New Value-Added Materials within the BioEast Initiative**.

http://www.bioeast.eu/

BioEast Initiative: **Central-Eastern European Initiative for Knowledge-based Agriculture, Aquaculture and Forestry in the Bioeconomy offers a platform to 11 Central and Eastern European (CEE) countries for a shared strategic research and innovation framework for working towards the development of a sustainable bioeconomy. Members of the BioEast Initiative are mostly Ministries of Agriculture from 11 CEE countries, supported with a topic related science/research institution.**

In 2018, Slovakian Government established TWG Forestry with an aim to build on intensive analysis of demands in CEE region on the forest-based sectors, the institutional and governance frameworks, and stakeholder perceptions on potentials and obstacles for implementing a forest-based bioeconomy. In 2019, Croatian Government initiated establishment of TWG Bioenergy and New Value-Added Materials where bioenergy is perceived as an embedded activity in farming practice, as a both GHG emission savings and competitiveness tool. New value-added materials seek for research and innovation to produce bioeconomy goods from byproducts of bioenergy (digestate, ash, CO2…). This workshop interlinks of the two TWGs and reinforces the aim to produce more value added per unit of biomass.

BioEast Initiative recognises that this workshop could unlock a **significant improvement of mobilizing biomass for bioenergy, but also for bioeconomy in BioEast macro-region:**

- mobilization of usable biomass resources of lower quality to production and non-production functions of ecosystems and cascading use of wood
- improving the supply chain of fuel biomass in terms of security of supply, biomass energy properties and cost of production,
- increasing the efficiency of energy conversion processes from biomass, technical-economic and environmental parameters of heat, electricity, cooling production from liquid biofuels,
- optimizing the energy use of biomass in terms of mitigating the impacts of climate change and increasing the energy self-sufficiency of regions,

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- achieving higher implementability of proposed and proven solutions in partner countries (considering economic, legislative, social and political aspects).

This workshop will bring together efforts by IEA Bioenergy Task 43 and BioEast Initiative in promoting sustainable and reliable biomass supply in a form of bio-hubs for bioenergy within the broader scope of bioeconomy. The objective is to disseminate attractive examples among bioenergy market stakeholders fostering wider implementation.

Aims of the workshop

- Sharing experiences and knowledge that strengthen the BioEast and IEA Bioenergy Task 43 vision in terms of mobilizing sustainable biomass supply and increased value added along the value chain.
- Exchanging worldwide concepts, programmes and projects with high replicability potential
- Inspiring novel solutions that will accelerate promotion of both IEA Bioenergy Task 43 and BioEast's efforts

The contributions from the workshop will be presented in a Report published by IEA Bioenergy Task 43.

BFWG proposed activities for the achievement of the objectives:

- - Analysis of the current state in the production of wood biomass and its energy utilization.
- - Assessment of unused fuel wood biomass resources in terms of quantity, quality, economic availability and sustainability of utilization.
- - Analysis of possibilities to increase the production of electricity, heat, cold or liquid fuels from wood biomass.
- - Analysis of the woody biomass supply chains activities efficiency with regard to the deployment of biomass resources, current and prospective consumption sites and proposals to improve their activity.
- - Analysis of real possibilities for increasing the quality of wood biomass fuel.
- - Assessment of the efficiency of processes of conversion of energy from wood biomass in specific operating conditions and design of procedures for improvement of technical-economic and environmental parameters of energy conversion.
- - Identification of legislative, economic and technical barriers complicating the achievement of the objective and proposal of steps to mitigate or eliminate them.
- - Suggestion of viable practices to optimize regional energy self-sufficiency, reduction greenhouse gas emissions and economic sustainability.

Participation at the workshop is free of charge but the number of seats is limited.
Please register at the on-line form and wait for confirmation email.

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