BioEconomy 2017 Plenary IV: Catalyzing a Global Advanced Bioeconomy

Biomass Feedstocks for Energy – IEA Bioenergy Task 43

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Presented on behalf of Task 43 Lead, Ioannis Dimitriou, Swedish University of Agricultural Sciences (SLU) Uppsala, Sweden

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Gustaf Egnell, SLU Sweden; Inge Stupak, University of Copenhagen Denmark; Hans Langeveld, Biomass Research, The Netherlands; Thomas Schuler, USDA Forest Service, USA; & others (see final Acknowledgements)
Task 43 Biomass Feedstocks for Energy

• Objective:
  – Promote sound bioenergy development driven by well-informed decisions of land owners, businesses, governments & other stakeholders.
  – Investigate & communicate best practices, engage with stakeholders to build trust, & make a difference on-the-ground

• Global Scope:
  – Commercial, near-commercial & promising feedstock systems
  – Agriculture & forestry

• Countries:
  – Germany
  – Australia – Ireland
  – Canada – The Netherlands
  – Croatia – Norway
  – Denmark – Sweden
  – Finland – USA
  – European Commission

Source: Gustaf Egnell, Swedish University of Agricultural Science, Uppsala; Task 43 presentation in ‘Generating Renewable Energy Business Enterprise’ (GREBE) workshop, Joensuu, Finland; February 2017.

More information
  – Task 43 biomass feedstocks: http://www.ieabioenergytask43.org/
  – Sustainability Inter-task including workshop presentations: http://itpsustainable.ieabioenergy.com/iea-publications
GRASSLANDS AND PASTURES: BRAZILIAN EXPERIENCES AND GLOBAL OUTLOOK

SUSTAINABLE FEEDSTOCKS FOR BIOGAS

SUSTAINABLE FOREST RESIDUE RECOVERY & LOGISTICS

NEW: FAO, IRENA & IEA Bioenergy position paper, June 2017
Biomass Feedstocks – 3 Work Packages (WP)

WP1 - Multi-stakeholder landscape management and design for bioenergy and the bioeconomy

- Technology, learning, and efficiency
- Matrix and needs for new landscape designs
- Policy and stakeholder decisions on changes in land use and land management

WP2 – Developing effective supply chains for sustainable bioenergy deployment

- Increased demand for biomass increase the need for sustainability requirements

WP3 – Governing sustainability of bioenergy supply chains

- Sustainability requirements and policies affect biomass availability

Sustainability requirements set a framework for landscape design

Adapted landscape management and design directs governance and adds to its legitimacy
Work Package 1:

- Improve landscape design & management for the bio-economy
- Share new knowledge for increased biomass production that also supports biodiversity & generates ecosystem services
- Current & planned activities include:
  - Case studies for landscape management approach (forest & agriculture)
  - Land-use scenarios to achieve regional ecosystem-service goals & illustrate implications of alternative land-use management choices
  - Practical approaches for implementing landscape indicators
  - Compilation: “Attractive systems for bioenergy feedstock production in sustainably managed landscapes” (contact bkulisic@eihp.hr if interested)
Biomass Feedstocks - Research Collaborations

Work Package 2:
• Identify opportunities, strategies & practices for improved supply chains & supply chain technology to support large-scale bioenergy deployment

• Current & planned activities include:
  – EU influence on international biomass supply chains
  – Challenges & benefits of supply chain integration
  – Depots & integration for improved supply chains & flexibility
  – Efficient woody biomass supply within multi-forest product supply chains
  – The role of financing bioenergy projects in effective supply chains
  – Lessons learned from best supply chains
Work Package 3

• How can regulatory systems governing land use & bioenergy supply chains be improved?

• Current & planned activities include:
  – LUC/ILUC analysis inventory
  – Assessment of governance addressing LUC impacts
  – Develop more consistent approaches to
    • consider stakeholder perspectives
    • monitor, assess & promote beneficial LUC
  – Improvement of LUCUCF methodologies & implications for carbon dynamics of forest-based bioenergy systems (with Task 38)

Sexton et al., 2015. Conservation policy & the [challenges in] measurement of forests
Upcoming conference: “Governing sustainability of bioenergy, biomaterial, & bioproduct supply chains from forest & agricultural landscapes”

- 17-19 April 2018 in Copenhagen, Denmark
- Contact: Inge Stupak (University of Copenhagen, Denmark, ism@ign.ku.dk)

Photos: Johannes Ravn Jørgensen, Aarhus University and Inge Stupak, University of Copenhagen
Biomass Feedstocks – WP3 and Inter-task

Future challenges:
• Risk-based approaches for sustainability assessment & management of high-conservation-value areas
• Creating incentives for continual improvement & adaptive management
• How & where to assign accountability?
• Jurisdictions for defining sustainability priorities & goals?
• Building trust with stakeholders & making a difference on the ground

Case studies:
Interfaces with BETO and USDA

IEA Bioenergy Task 43
- Case studies, landscape approach
- Communication

US Dept. Agriculture
- Monitoring
- Information

US Dept. of Energy
- Landscape design
- Indicators
Thank you!

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Biomass Feedstocks - Objectives

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