



Bioeconomy: a perspective on the Biobased Industries Joint Undertaking (BBI JU)



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Background

- Member Lead Market Initiative (LMI) for biobased products (2007-2011).
- Member EC expert group biobased products (2013- present)
- Chair of the Scientific committee BBI JU (2014- present)



A bioeconomy for Europe

- **Europe** has to address key **inter-related challenges**
 1. **Food security**
 2. **Energy security**
 3. **Climate change**
 4. **Re-industrialisation of Europe**
 5. **Reducing our dependence on fossil resources**

A balanced bioeconomy

- The sustainable production of renewable biological resources and their conversion into food, feed, bio-based products, biofuels and bioenergy.
- Food production is at the heart of the Bioeconomy
- We must not negatively impact food production
- We can use the need to make chemicals, fuel and energy from biobased resources as an opportunity to increase the land and biomass exploitation efficiency

Bioeconomy and growth

- Economic opportunity
- Annual turnover of €2 trillion
- 22 Million Jobs
- 10 % of workforce in EU
- 12% of the EU27 turnover
- > 700,000 jobs (80% rural) by 2030
- New value chains – securing existing jobs and creating new jobs

Bioeconomy – Impacts

- New products, processes, and value chains
- Diversifying agriculture and industrial activity
- Replace existing petrochemical products and producing new products
- Socioeconomic and environmental benefits



Bio-based Industries Joint Undertaking

Public Private Partnership
supporting R&I for bio-based
industries:

Partners: European
Commission and Biobased
Industries Consortium (BIC)

Budget: € 3.705 billion (about
75% from industry)

Objectives: New bio-based
value chains for Europe based
on 2nd generation/advanced
biorefineries.

www.bbi-europe.eu

BBI Joint Undertaking
Using renewable natural resources and
innovative technologies for greener
everyday products

www.bbi-europe.eu

Bio-based Industries Joint Undertaking

Post petroleum / sustainable society

environmental & socioeconomic benefits



sustainability



competitiveness



technological & economic development

BBI JU perspective

Technology

- Economic growth potential is a major driver of industrial interest in the BBI JU
- Technological achievements in research are ready to be translated (Lignocellulose)
- BBI JU is a way of sharing the risk between public and private sector in the scaling of these technologies
- BBI JU is much more than technology scaling (Policy, standards, sustainability, consumers, market)

BBI JU perspective

- **Policy and standards**
- Clear policy framework to allow investment in emerging technologies and products of the bioeconomy.
- Examine policy which will incentivise farmers, increase their engagement and promote inward investment in biorefining in Europe.
- Develop standards for biobased and biodegradable products (CEN TC 411).
- Examine measures to allow efficient biobased resource mobilisation (sustainability criteria; costs, logistics, availability).

BBI JU perspective

- **Policy and standards**
- Lack of common European policy is impeding widespread business growth in the bioeconomy
- Distortive policy for bioenergy and no policy for Biobased products is also an impediment
- Energy and biofuels are part of the bioeconomy they are NOT the Bioeconomy.
- Biochemicals will be the economic driver for the European Bioeconomy. Co products such as biofuels and bioenergy will be viable as a result of biochemical production.

BBI JU perspective

- **Consumer behavior and acceptance**
- Open and transparent communication
- Showcasing biorefinery activity
 - Product performance
 - Job creation (rural development)
 - Environmental benefits

BBI JU perspective

- **Sustainable value chains**
- Examine the entire process and value chain when developing technologies
- Focus on biomass/biobased resource value cascading
- Bioresource mapping needed
- Improve resource efficiency of agriculture/food production, and food processing value chains to reduce waste and produce biobased products.
- Life cycle thinking (from TRL 1) and life cycle analysis (From TRL 3 onwards)

BBI JU SC perspective

- **Market**
- Examine means of encouraging the uptake of biobased products e.g. Green public procurement
- Analysis of the conditions for supporting industry investment is required, as well as the possible mechanisms for reducing their risk.
- Standards and certification – global standards
- Incentives to stimulate market activity e.g. incentives for the valorisation of biological waste
- Industry cooperation for mutual benefit is a major challenge

BBI JU perspective

- **BBI JU conclusions**
- Great opportunity to operate flagship and demonstration plants across Europe
- Need major investment in the Bioeconomy
- Need coordination and support actions (CSAs) – e.g. policy, life cycle analysis, standards, certification, biomass supply
- Need a robust policy landscape
- Biorefining - Value Cascading is critical
- Improved resource efficiency and diversification



Thank you for your attention