Bio-Based Industries Joint Undertaking (BBI JU)

BBI programme as particular instrument to support regional development

Agata PIENIADZ
Project Manager BBI JU

Triple-Helix Conference on Bio-Based Economy
Budapest, 19 July 2016
Content

• About BBI JU
• BBI Calls for proposals
• Project examples
About BBI JU

- **Public Private Partnership (PPP)** between European Commission (EC) & Bio-based Industries Consortium (BIC) supporting R&I for Bio-based industries

- **Budget** €3.7 billion (27% EU + 73% industry)

- **Independent** legal entity since 26 October 2015

- **Horizon 2020** rules for participation

www.bbi-europe.eu
Focus of BBI Programme
- Bio-based economy -

Bio-Based Products and Markets

Bio- based chemicals, building blocks and materials

Biorefineries

Biomass and organic waste

Co-products, side streams and residues
- Residues from forestry and agriculture
- By-streams from biorefineries
- Agro-industrial side streams
- Other pre-consumer side streams
- Waste streams
- Food processing residues
- Process and waste water
- Municipal organic waste

Terrestrial biomass feedstock
- Wood and Agricultural crops
- Dedicated ligno-cellulosic / fibre crops

Aquatic biomass
- Algae and others

Carbon-rich gaseous streams from bio-based operations

BBI contributes to creation of new markets

Bioplastics / biopolymers / biomaterials

BBI contributes to circular economy

BBI contributes to resource efficiency
BBI’s objectives

Developing sustainable and competitive bio-based industries in Europe, based on advanced biorefineries that source their biomass sustainably by:

- **Demonstrating new technologies** to fill the gap in value chains
- **Developing business models** integrating all economic actors along the value chain
- **Set-up flagship biorefinery plants** deploying business models & technologies to keep investment in EU

COUNCIL REGULATION (EU) No 560/2014 of 6 May 2014 establishing the BBI JU
Expected impact for Europe by 2030

• Shift to bio-based products
  → Replace 30% of oil-based chemicals & materials
  → Reduction of 50% GHG emission (BB products)

• Reduce EU dependency on import of fossil raw materials, protein and P – K

• Diversify & grow farmers’ incomes

• Create 700,000 jobs – 80% in rural areas

• Develop potential of agric. waste & forestry residues

• For maximum impact: synergies between BBI & other EU programmes (education, competitiveness,…); the European Structural and Investment Funds (ESIF) / Smart Specialisation
How are the BBI objectives implemented?

Strategic level: SIRA
Strategic Innovation and Research Agenda guiding document developed by BIC

Operational Level
Annual Work Plan

Drafting – Approval – Supporting

Scientific Committee States Representatives Group

Call for proposals (RIAs, IAs, CSAs)

Publication & Implementation
BBI programme Implementation - Types of Actions -

CSA Coordination and Support Actions

RIAs and IAs (DEMO & Flagship)

TRL 1: Basic technology research
TRL 2: Development and validation of technology
TRL 3: Demonstration of technology
TRL 4: Industrial scale-up
TRL 5: Commercialisation
TRL 6: *RIA (Research & Innovation Action): Technology validated in lab/pilot level
TRL 7: *IA (Innovation Action): Demo: A demo-scale production facility in Europe
TRL 8: *IA (Innovation Action): Flagship: A first-of-a-kind application, large scale production facility in Europe
Content

• About BBI JU
• BBI Calls for proposals
• Project examples
BBI’s Calls Evolution

Call 2014
- 10 running projects: 1 Flagship, 2 Demo, 7 RIAs

Call 2015.1
- 3 Flagship projects (just started)

Call 2015.2
- 23 proposals selected (RIA, DEMO, CSA). GA Preparation

Call 2016
- Published. Deadline for proposals submission 8 Sept 16

Call 2017
- Will be published Dec 2016 (BBI website)
- Will be open by April 2017

More information on the projects: BBI JU website
27 topics in different Types of Actions

- **12 RIAs** to fill specific gaps in the value chain (TRL 3-5)
- **9 DEMO** topics to demonstrate the technology, process, product or service or value chain (TRL 6-7)
- **2 Flagship** topics to deploy a demonstrated technology (TRL8) for successful commercial operation
- **4 CSAs** to support value chains development

**Budget**

- total BBI JU budget € 188.65 million
- Estimated value of industrial in kind contributions: min € 110m

**Submission of proposals:**

- Deadline: 8 September 2016
Content

• About BBI JU
• BBI Calls for proposals
• Project examples
# BBI on-going projects

**Calls 2014 + 2015.1 + call 2015.2 (●)**

<table>
<thead>
<tr>
<th>VC</th>
<th>RIA (TRL = 4-5)</th>
<th>IA-DEMO (TRL = 6-7)</th>
<th>IA-Flagship (TRL = 8)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>VC1</strong> (lignocellulose)</td>
<td>US2GREENCHEM</td>
<td>ValChem</td>
<td>BIOSKOH LIGNOFLAG</td>
</tr>
<tr>
<td><strong>VC2</strong> (forest-based)</td>
<td>SmartLi</td>
<td></td>
<td>EXILVA</td>
</tr>
<tr>
<td><strong>VC3</strong> (agro-based)</td>
<td>Carbosurf</td>
<td>Pulp2Value</td>
<td>FIRST2RUN</td>
</tr>
<tr>
<td><strong>VC4</strong> (organic waste)</td>
<td>NewFert</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>across VCs</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

More information on the projects: [BBI JU website](#)
Distribution of participants per country - 2015 BBI calls -

305 uczestników w konkursach w 2015 r. (Call 2015.1 & Call 2015.2)

- Hungary: 2015: the highest number of participants among NMS 5 beneficiaries in 2 different projects (Flagship, Demo)
- In 2015 higher geographical diversity than in Call 2014
- Increasing participation of EU 13 (‘NMS‘) & Associated Countries
### First2Run

**Focus**  
Integrated biorefinery for dry crops  
sustainable exploitation towards biobased materials production

<table>
<thead>
<tr>
<th><strong>Action Type</strong></th>
<th>Flagship (TRL 8), agro-based VC (cardoon)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Coordinator</strong></td>
<td>NOVAMONT, Italy</td>
</tr>
<tr>
<td><strong>Consortium</strong></td>
<td>6 partners (incl. 3 SMEs, 1 research organisation) from 4 different countries (IT, SK, NL &amp; UK)</td>
</tr>
<tr>
<td><strong>Start Date</strong></td>
<td>1 July 2015 (4Y)</td>
</tr>
<tr>
<td><strong>End Date</strong></td>
<td>30 June 2019</td>
</tr>
<tr>
<td><strong>Funding</strong></td>
<td>€ 16,995,882,00</td>
</tr>
<tr>
<td><strong>Website</strong></td>
<td><a href="http://www.first2run.eu/">http://www.first2run.eu/</a></td>
</tr>
</tbody>
</table>
First2Run
Focus & Objectives

• Sardinia, IT: former crude oil refinery transformed into a bio-refinery

• Biomass: oil crops (cardoon); farming on marginal land
  Large scale cultivation/ strong involvement of local farmers

• Demonstration of the technological, economic and environmental sustainability at an industrial scale:
  → processing of cardoon into bio-monomers and esters
  that will be further transformed into bio-based products, such as biolubricants, cosmetics and bioplastics

• Valorization of by- and co-products for energy, feed products and added value chemicals

• Certification & standardization of developed products & proc.
First2Run
Expected Impact

• Valorization of currently unexploited marginal land (3500 ha) for production of vegetable oil (at least 0.375 ton/ha) to be processed to bio-based products and energy using the lignocellulosic fraction

• Revitalization of the local economy through:

  Reindustrialisation (reconverting of abounded oil refinery)

  Creation of skilled jobs: estimated 60 new skilled jobs for each kton of produced bioplastics, in the whole value chain, from agriculture to the end life of the final products (incl. municipalities, composting plants)
# Pulp2Value

<table>
<thead>
<tr>
<th><strong>Title</strong></th>
<th>Processing Underutilized Low value sugar beet Pulp into VALUE added products</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Action Type</strong></td>
<td>DEMO project (TRL 6-7), agro-based value chains</td>
</tr>
<tr>
<td><strong>Coordinator</strong></td>
<td>Royal Cosun (Cooperative), the Netherlands</td>
</tr>
<tr>
<td><strong>Consortium</strong></td>
<td>7 partners (including 3 SMEs &amp; 3 research org.) from 4 different EU countries (NL, BE, DE &amp; UK)</td>
</tr>
<tr>
<td><strong>Start Date</strong></td>
<td>July 1, 2015 (4Y)</td>
</tr>
<tr>
<td><strong>End Date</strong></td>
<td>June 30, 2019</td>
</tr>
<tr>
<td><strong>Funding</strong></td>
<td>€ 6,589,180 BBI JU contribution</td>
</tr>
<tr>
<td><strong>Website</strong></td>
<td><a href="http://pulp2value.eu/">http://pulp2value.eu/</a></td>
</tr>
</tbody>
</table>
Pulp2Value
Objectives

• Demonstration of an integrated and cost-effective cascading biorefinery system to refine sugar beet pulp that allows the conversion of 65% of its dry mass into high value products: micro-cellulose fibers (MCF), arabinose and galacturonic acid.

• For each of these products, value chains will be developed.

• **Targeted market**: detergents, personal care, oil & gas, paints & coatings (*from MCF*), flavour and food products (*from arabinose*) or cosmetics (*from galacturonic acid*).

• Creation of **local cross-sectoral value chains** involving the sugar, chemical and food industries.
Pulp2Value
Expected Impact

• **Demonstration of 9 new value chains** for the processing sugar beet pulp into bioproducts with a market potential of 350,000 tons and 200 million Euro

• **Improved valorisation of side streams** from production of sugar beet (currently valorisation of beet pulp is mainly towards animal feed & biogas, whereas Pulp2Value will convert this biomass to high-value advanced applications)

• **Job (maintenance & creation)**: extra jobs for involved companies, the whole sugar beet supply chain, and the business partners (famer cooperatives, linked industries), support rural development in general

• **Reduction of carbon footprint**
More Info on BBI and Call 2016?

BBI website  www.bbi-europe.eu

- Calls and Topics Info
- FAQ and Guide for Applicants
- Partnering platform
- and more….

Please consider registering as an **expert** on the **Participant Portal**

BBI Info Day 2016:

Presentations (**here**) and a video stream of the event is available. **Watch** the 2016 BBI Info Day.
Thank You

Agata PIENIADZ
BBI JU Project Manager
Agata.pieniadz@bbi.europa.eu