The European Bioeconomy strategy and the Bio-based Industries Initiative

Bridging the gap between lab and market

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About BIC

- **Established** in 2012/2013 to represent the private sector in the Public-Private Partnership on Bio-based Industries (BBI)

- **Main tasks** to date:
  - Define the BBI’s Strategic Innovation and Research Agenda (SIRA)
  - Lead the development and drafting of the annual BBI Work Plans and Call for Proposals topics
  - Mobilise industry (large, SMEs, SME Clusters), research organisations, universities, regions and all relevant stakeholders across Europe that are active or interested in the field of bio-based.
  - Improve (conditions for) “Access to finance” in Europe

- **A multi-sector organisation**, and still growing:
  - Agriculture
  - Agro-food
  - Forestry / Pulp and Paper
  - Biotechnology / Technology providers / End users
  - Chemicals
  - Energy
Our members
More than 200, and still growing

77 Full members
- 43 Large industries
- 19 SMEs
- 15 Clusters

142 Associate members
- 47 Universities
- 71 RTOs
- 10 European Associations
- 7 Associations
- 5 Technology platforms
- 1 Public institution
- 1 Bank
Dedicated Bioeconomy Policies
Competing in the global race

**US**
- About $50 billion invested over the last decade on biofuels and biochemicals.
- In 2012, President Obama committed to further invest and support the development of the bioeconomy as “a major engine for American innovation and economic growth”

**CHINA**
- $308.5 billion investment on science & technology with biotechnology as a major priority over 2011-2015
- Substitute 20% of crude oil imports by 2020

**BRAZIL**
- Aims to be N°1 Global Bioeconomy
- R$ 3.3 billion support for 2nd generation bioethanol, biochemicals and biomass gasification technologies
• Adopted on 13 February 2012

• Focus: production of renewable biological resources and their conversion into products and bio-energy.

• Under the lead of DG R&I, co-signed by DG Agri, DG Env, DG Maritime Affairs, and DG Grow.

• Tree pillars:
  • Investments in research, innovation and skills;
  • Reinforced policy interaction and stakeholder engagement;
  • Enhancement of markets and competitiveness.

• The Strategy is also needed to ensure that fossil fuels are replaced with sustainable natural alternatives as part of the shift to a post-petroleum society.

• Review and update of the Strategy by 2017
Bio-based: the concept

**Biomass and organic waste**
- Industrial side-streams:
  - Residues from the wood industry/saw mills and other bio-based processes
  - By-streams from biorefineries
  - Agro-industrial side-streams, partly now utilised as feed, other pre-consumer side-streams and waste streams
- Wood, recovered paper and side-streams from forestry, landscape, nature
- Agricultural residues, partly now being left on the land or burned
- Agricultural crops
- Dedicated ligno-cellulosic / fibre crops
- New promising biomass sources (e.g. aquatic biomass, such as algae)
- Process and waste water
- Municipal organic waste
- Agricultural surplus produced by the EU member states
- Animal manure

**Bio-based products & markets**
- Bio-based chemicals
- Bioplastics / biomaterials / packaging
- Advanced biofuels (incl. aviation)
- Specialties (e.g. Biosurfactants, lubricants, pharmaceuticals)
- Food ingredients and feed
- Bioenergy
### Focus

#### Feedstock
- Fostering a sustainable biomass supply and building new value chains

#### Biorefineries
- Optimising efficient processing through R&D and upscaling in large-scale demo/flagship biorefineries

#### Markets, products and policies
- Developing markets for bio-based products and optimising policy frameworks
Strategic Innovation & Research Agenda

• **Value Chain 1:** From lignocellulosic feedstock to advanced biofuels, bio-based chemicals & biomaterials
  realising the feedstock and technology base for the next generation of fuels, chemicals and materials

• **Value Chain 2:** Next generation forest-based value chains
  utilisation of the full potential of forestry biomass by improved mobilisation and realisation of new added value products and markets

• **Value Chain 3:** Next generation agro-based value chains
  realising the highest sustainability and added value by improved agricultural production, and new added value products and markets

• **Value Chain 4:** New value chains from (organic) waste
  from waste problems to economic opportunities by realising sustainable technologies to convert waste into valuable products

• **Value Chain 5:** Integrated energy, pulp and chemicals biorefineries
  realising sustainable bio-energy production, by backwards integration with biorefinery operations isolating higher added value components