EU RESEARCH & INNOVATION
FOR A CIRCULAR AGRICULTURE

OECD - CRP Biological Resource Management for Sustainable Agricultural Systems

CRP Governing Board meeting
30 November 2018 - Paris

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Unit B.2 - Research and Innovation
Overview:

- The bioeconomy as the renewable segment of the circular economy (updated EU Bioeconomy Strategy)
- EU R&I funding and the CAP working in synergy to develop and deploy the circular(bio)economy and contribute to a more resource efficient agriculture with farmers at the centre
- Guaranteeing higher ambitions for the future with greater use of knowledge and innovation
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CIRCULAR ECONOMY - an industrial system that is restorative by design

1. Hunting and fishing
2. Can take both post-harvest and post-consumer waste as an input

SOURCE: Ellen MacArthur Foundation - Adapted from the Cradle to Cradle Design Protocol by Braungart & McDonough
The updated EU Bioeconomy Strategy 2018

EU Bioeconomy Conference 2018

Sustainable & Circular Bioeconomy, the European way

22 October 2018
Brussels

Website: https://bit.ly/2yvLKXM
Realising the potential of the Bioeconomy requires investments, innovation, developing strategies and implementing **systemic** changes that cut across different sectors (agriculture, forestry, fisheries, aquaculture, food, biobased industry).
A sustainable Bioeconomy for Europe: strengthening the connection between economy, society and the environment

Updated Bioeconomy Strategy

1. Strengthen and scale-up the bio-based sectors, unlock investments and markets
   - Mobilise stakeholders in development and deployment of sustainable bio-based solutions
   - Launch the EUR 100 million Circular Bioeconomy Thematic Investment Platform
   - Analyse enablers and bottlenecks for the deployment of bio-based innovations
   - Promote and develop standards, labels and market uptake of bio-based products
   - Facilitate the development of new sustainable biorefineries
   - Develop new biodegradable products, including bio-based plastic substitutes

2. Deploy local bioeconomies rapidly across Europe
   - Launch a Strategic Deployment Agenda for sustainable food and farming systems, forestry and bio-based products
   - Launch pilot actions for the development of bioeconomies in rural, coastal and urban areas
   - Support regions and Member States to develop Bioeconomy Strategies
   - Promote education, training and skills across the bioeconomy

3. Understand the ecological boundaries of the bioeconomy
   - Enhance knowledge on biodiversity and ecosystems
   - Monitor progress towards a sustainable bioeconomy
   - Promote good practices to operate the bioeconomy within safe ecological limits
   - Enhance the benefits of biodiversity in primary production
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EU Research & Innovation funding for agriculture

CAP / Rural development (regional/national level)
- Farmers
- NGOs
- Advisors
- Researchers
- Agri-business

Funding for:
- OG preparation
- OG projects
- Innovation support services

Research projects (knowledge base)

Multi-actor projects and thematic networks (interactive innovation)

EIP network(s)

Unique EU knowledge repository of contacts and practice abstracts

Operational Group

HORIZON 2020

Spread the results
OG distribution by theme

- Farming/forestry competitiveness and diversification: 175
- Agricultural production system: 198
- Farming practice: 286
- Animal husbandry and welfare: 187
- Plant production and horticulture: 249
- Farming equipment and machinery: 98
- Soil management/functionality: 138
- Fertilisation and nutrients management: 145
- Soil management: 109
- Water management: 109
- Forestry: 32
- Genetic resources: 37
- Climate and climate change: 93
- Energy management: 42
- Food quality/processing and nutrition: 167
- Biodiversity and nature management: 100
- Supply chain, marketing and consumption: 154
- Waste, by-products and residues management: 73
- Pest/disease control: 151
- Landscape/land management: 71
Operational Group FLAMBE

Emilia-Romagna (IT) (2017-19)

- Treatment of waste:
- Digestion by larvae $\rightarrow$ fats and proteins $\rightarrow$ biodiesel and biogas
- Pyrolysis of residue $\rightarrow$ energy, biochar, food additives
- Multi-actor, practice-oriented!
- Local, small-scale (200,000 €)
OG Biorefinery “Glas” (IE)

Small-scale farmer-led green biorefineries
2-year project 2019-2020

- First demonstration of small-scale biorefining in Ireland
- Changing the role of farmers in the bioeconomy
- Optimises the use of grass by separating it into a spectrum of co-products
- 5 partners
R&I funding opportunities

In 2019:

CE-SFS-39-2019: High-quality organic fertilisers from biogas digestate (EU-China) → € 5 M

CE-RUR-08-2018-2019-2020-B: Bio-based fertilisers from animal manure (IA) → € 8 M

CE-RUR-10-2019: Circular bio-based business models for rural communities → € 20 M

In 2020:

CE-RUR-08-2018-2019-2020-C: Bio-based fertilisers from other by-products of the agro-food, fisheries, aquaculture or forestry sectors (IA)

CE-SFS-36-2020 - Diversifying farmers’ income through small bio-based concepts (EU-Africa)
Jun 2016 - May 2019
€ 7 M EU contribution
25 partners
EU-China cooperation
Holistic food chains analysis
Fuels & energy, fertiliser, chemicals, biopolymers, etc.
Multi-actor

www.agrocycle.eu
Thematic Network
Mar 2016 – Aug 2018
2 M €
16 partners
Non-food value chains
Target: farmers, foresters, (bio)industry, researchers
3 'Biomass Innovation Design Hubs'
Sidestream Value tool

http://www.agriforvalor.eu/
R&I funding opportunities

2018 Work Programme (closed 6 Nov 2018)

BBI 2018. SO1.D1 – Improve the logistical and pre-processing steps of locally sourced biomass to serve as feedstock for the bio-based industry → 7 M €

Oct 2016 – Sep 2020

€ 12.5 M EU contribution

Demonstrating **combined flexible biorefinery processes** for valorising crops & food processing wastes.

**Final products:** bio-packaging, food products, bio-based agricultural products (e.g. bio-degradable mulching films and pots, biofertilisers), bioenergy...

[http://agrimax-project.eu/](http://agrimax-project.eu/)
Knowledge exchange within EIP-AGRI:

Workshop 'Building new biomass supply chains for the bio-based economy', 27-28 May 2015, Sardinia

Workshop 'Opportunities for Agriculture and Forestry in the Circular Economy ' 28-29 October 2015, Finland

Focus Group on Nutrient recycling: How to improve the agronomic use of recycled nutrients (N and P) from livestock manure and other organic sources?

Focus Group on 'Circular horticulture': How to increase circularity in protected horticulture?

Focus Group on enhancing production and use of renewable energy on the farm
Circular economy as important source of diversified and stable income for farmers and foresters, high quality job creation, competitiveness and growth in rural areas,

Focus: innovative business models that make better use of waste streams, for example:
• developing new products
• developing joint initiatives with the industry

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CAP and R&I working together for the circular (bio)economy

- CAP proposal promotes the bioeconomy
- *CAP strategic plans articulated with bioeconomy strategies*
- More emphasis on rural development
- Articulation with EIP-AGRI
- €10 bn under Horizon Europe for food and natural resources, including the bioeconomy (*EC proposal*)
Thank you

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