

Training Webinar 8: Supporting policies for bioeconomy - focus on food and feed

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Overview

1. Overview of bio-based economy (BBE) and policy instruments
2. EU policy instruments supporting food and feed sector
3. Barriers and opportunities related to policy development and implementation
4. Good policy examples
5. Conclusions and recommendations

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Policy instruments for the bioeconomy

- ▶ The bioeconomy is defined as *the production of renewable biological resources and their conversion into food, feed, bio-based products and bioenergy. It includes agriculture, forestry, fisheries, food, and pulp and paper production, as well as parts of chemical, biotechnological and energy industries* (Bioeconomy strategy, EC, 2012).
- ▶ **5 objectives of the revision of the Bioeconomy Strategy (EC, 2018)**
 1. - Ensuring food security
 2. - Managing natural resources sustainably
 3. - Reducing dependence on non-renewable resources
 4. - Mitigating and adapting to climate change
 5. - Creating jobs and maintaining European competitiveness.
- ▶ To understand how policies can regulate the development of a bioeconomy in a direction that is environmentally and economically sustainable, a **bioeconomy system overview** is required.

Bio-economy system overview

Socio-economic drivers

Markets



Policies



Science & technology



Social organisations



Individual actors



Bioeconomy activities

Enabling environment (transport infrastructure, R & D, Regulations,

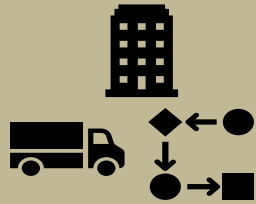


Food environment (food labelling & promotion, quality & taste, access to food)

Industrial environment (product quality, labelling, promotion, standards)



Biomass



Logistics, pre-treatment, storage & trade



Processing & conversion



Market, retail & distribution



End products/uses

Business services



Consumer characteristics/ preferences



Environmental drivers

Minerals



Climate



Water



Biodiversity



Fossil fuels



Land Soils



Policies in the bio-economy system: chain

Supply chain	Regulations	Economic instruments	Other 'soft instruments'
Biomass supply	<ul style="list-style-type: none"> • Requirements of good agricultural practice (GAEC) (in relation to EU-CAP) as precondition for financial support • Restrictions on use of soil improvers on agricultural land (fertilizers, manure, compost, digestate, sludge (e.g. EU Nitrates Directive, Sewage sludge Directive, New fertiliser regulation)) • Ecological zoning & restrictions (in relation to EU Natura2000 & Habitat Directive) to grow crops • Food safety rules • Animal welfare regulations 	<ul style="list-style-type: none"> • First Pillar CAP support, direct payments • CAP-Pillar I Payment for young farmers commencing their agricultural activity 	<ul style="list-style-type: none"> • CAP-Pillar II support for investments including linked to the achievement of agri-environment-climate objectives • CAP-Pillar II - support to farming in Natura 2000 and HNV farmland • CAP-Pillar II Voluntary payments for farmers in areas with natural constraints • CAP Pillar II: Organic farming payments; • Support for farm diversification; and • Support to revitalize rural areas.

Policies in the bio-economy system: chain

Supply chain	Regulations	Economic instruments	Other 'soft instruments'
Logistics	<ul style="list-style-type: none"> • Phytosanitary requirements • Animal welfare regulations 	Support of infrastructure development such as biomass hubs or yards	Setting up collection systems (separated streams) Creating standards for food and feed products
Conversion	<ul style="list-style-type: none"> • Food safety requirements • Product norms • Requirements/restrictions for the use of co-products & residues (e.g. for compost/digestate) 	Subsidies / loans for conversion installations Producer tax incentives Taxes for fossil fuels in energy production CO2 tax R&D support for process development, demo and scale-up installations	Guidelines how to use standards SMART specialisation clusters/platforms CAP-Pillar II – RDP measure 16.2 Support for pilot projects and for the development of new products, practices, processes and technologies CAP-Pillar II – Measure 16.6 Support for cooperation among supply chain actors for sustainable provision of biomass for use in food and energy production and industrial processes

Policies in the bio-economy system: chain

Supply chain	Regulations	Economic instruments	Other 'soft instruments'
Distribution	<p>Grid connection requirements (electricity, natural gas grid, district heating)</p> <p>Obligations to develop alternative fuel infrastructure</p>	Trade import tariffs	<p>Labelling / certificates of origin</p> <p>Destination of Origin (D.O.P.) certificates</p>
End use/markets	<p>Green public procurement</p> <p>Organic product regulation</p>	Taxation - tax differential for (energy) products according to renewable and/or CO2 advantage	Green procurement (private)

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EU bioeconomy strategies and policies for food & feed

- ▶ EU Green Deal
 - ▶ Farm to Fork (F2F) strategy
 - ▶ EU Common Agricultural Policy (CAP)
 - ▶ Common Fisheries Policy (CFP)
- ▶ (New) legislation:
 - ▶ New Food law
 - ▶ New fertilizer Directive
 - ▶ EU Waste Directive (*2008/98/CE*)
- ▶ European Innovation Partnership - Agri (EIP-Agri)

Relevant elements of Green Deal for food and feed sectors

A new growth strategy that aims to transform the EU into a fair and prosperous society, with a modern, resource-efficient and competitive economy where there are no net emissions of green-house gases in 2050 and where economic growth is decoupled from resource use (EC, 2019).

- ▶ More ambitious EU strategy on climate change mitigation:
 - ▶ Climate Law: 2050 climate neutrality is anchored in legislation also at national level
 - ▶ Adjustment in Regulation on land use, land use change and forestry (LULUCF)
 - ▶ Carbon pricing instrument introduced throughout the economy: a carbon border adjustment mechanism, to reduce 'carbon leakage' risk
- ▶ From 'Farm to Fork': designing a fair, healthy and environmentally-friendly food system



Relevant elements of Green Deal for food and feed sectors ELABORATED IN Farm to Fork

- ▶ Ensure sustainable food:
 - ▶ Farming practices that remove CO2 from the atmosphere should be rewarded via new CAP or through the carbon market
 - ▶ New sustainable use of pesticides Directive on way
 - ▶ An integrated nutrient management action plan
 - ▶ Promote animal welfare and organic farming
 - ▶ Accelerate sustainable fish and seafood production
- ▶ Ensuring food security
- ▶ Stimulate sustainable food processing, wholesale, retail, hospitality and food services
- ▶ Promote sustainable food consumption and shift to healthy diets
- ▶ Reduce food loss
- ▶ Combat fraud in food supply system



<http://capreform.eu/agriculture-in-the-european-green-deal/>

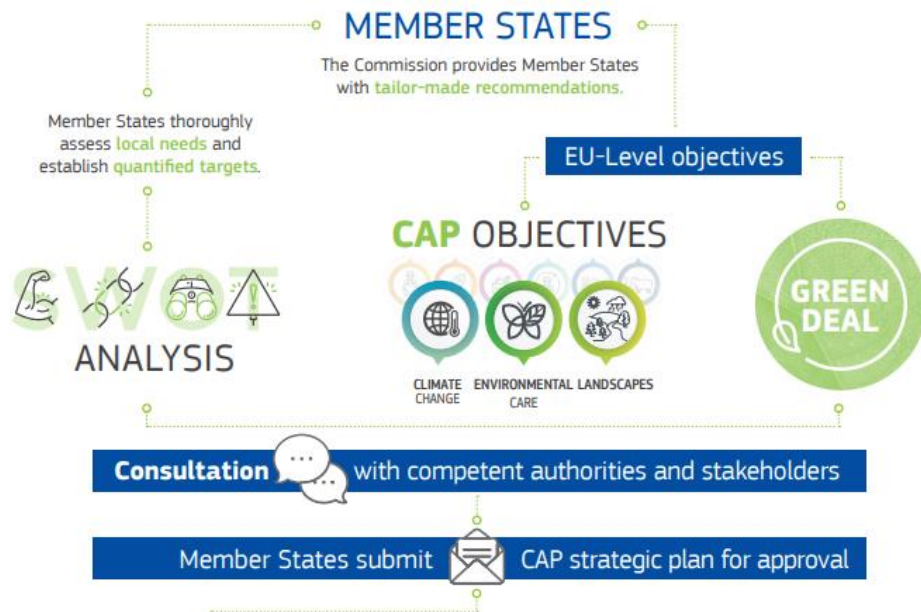
EU bioeconomy strategies and policies for food & feed: Farm to Fork strategy: Agenda in Annex

ACTIONS

Proposal for a legislative framework for sustainable food systems	2023
Develop a contingency plan for ensuring food supply and food security	Q4 2021

ENSURE SUSTAINABLE FOOD PRODUCTION

Adopt recommendations to each Member State addressing the nine specific objectives of the Common Agricultural Policy (CAP) , before the draft CAP Strategic Plans are formally submitted	Q4 2020
Proposal for a revision of the Sustainable Use of Pesticides Directive to significantly reduce use and risk and dependency on pesticides and enhance Integrated Pest Management	Q1 2022
Revision of the relevant implementing Regulations under the Plant Protection Products framework to facilitate placing on the market of plant protection products containing biological active substances	Q4 2021
Proposal for a revision of the pesticides statistics Regulation to overcome data gaps and reinforce evidence-based policy making	2023
Evaluation and revision of the existing animal welfare legislation, including on animal transport and slaughter of animals	Q4 2023
Proposal for a revision of the feed additives Regulation to reduce the environmental impact of livestock farming	Q4 2021
Proposal for a revision of the Farm Accountancy Data Network Regulation to transform it into a Farm Sustainability Data Network with a view to contribute to a wide uptake of sustainable farming practices	Q2 2022
Clarification of the scope of competition rules in the TFEU with regard to sustainability in collective actions.	Q3 2022
Legislative initiatives to enhance cooperation of primary producers to support their position in the food chain and non-legislative initiatives to improve transparency	2021-2022
EU carbon farming initiative	Q3 2021



EU bioeconomy strategies and policies for food & feed: Farm to Fork strategy: Agenda in Annex

STIMULATE SUSTAINABLE FOOD PROCESSING, WHOLESALE, RETAIL, HOSPITALITY AND FOOD SERVICES' PRACTICES

Initiative to improve the corporate governance framework , including a requirement for the food industry to integrate sustainability into corporate strategies	Q1 2021
Develop an EU code and monitoring framework for responsible business and marketing conduct in the food supply chain	Q2 2021
Launch initiatives to stimulate reformulation of processed food, including the setting of maximum levels for certain nutrients	Q4 2021
Set nutrient profiles to restrict promotion of food high in salt, sugars and/or fat	Q4 2022
Proposal for a revision of EU legislation on Food Contact Materials to improve food safety, ensure citizens' health and reduce the environmental footprint of the sector	Q4 2022
Proposal for a revision of EU marketing standards for agricultural, fishery and aquaculture products to ensure the uptake and supply of sustainable products	2021-2022
Enhance coordination to enforce single market rules and tackle Food Fraud , including by considering a reinforced use of OLAF's investigative capacities	2021-2022

EU bioeconomy strategies and policies for food & feed: Farm to Fork strategy: Agenda in Annex

PROMOTE SUSTAINABLE FOOD CONSUMPTION, FACILITATING THE SHIFT TOWARDS HEALTHY, SUSTAINABLE DIETS	
Proposal for a harmonised mandatory front-of-pack nutrition labelling to enable consumers to make health conscious food choices	Q4 2022
Proposal to require origin indication for certain products	Q4 2022
Determine the best modalities for setting minimum mandatory criteria for sustainable food procurement to promote healthy and sustainable diets, including organic products, in schools and public institutions	Q3 2021
Proposal for a sustainable food labelling framework to empower consumers to make sustainable food choices	2024
Review of the EU promotion programme for agricultural and food products with a view to enhancing its contribution to sustainable production and consumption	Q4 2020
Review of the EU school scheme legal framework with a view to refocus the scheme on healthy and sustainable food	2023

EU bioeconomy strategies and policies for food & feed: Farm to Fork strategy: Agenda in Annex

REDUCE FOOD LOSS AND WASTE

Proposal for EU-level targets for food waste reduction	2023
Proposal for a revision of EU rules on date marking ('use by' and 'best before' dates)	Q4 2022

New Common Agricultural Policy (CAP)

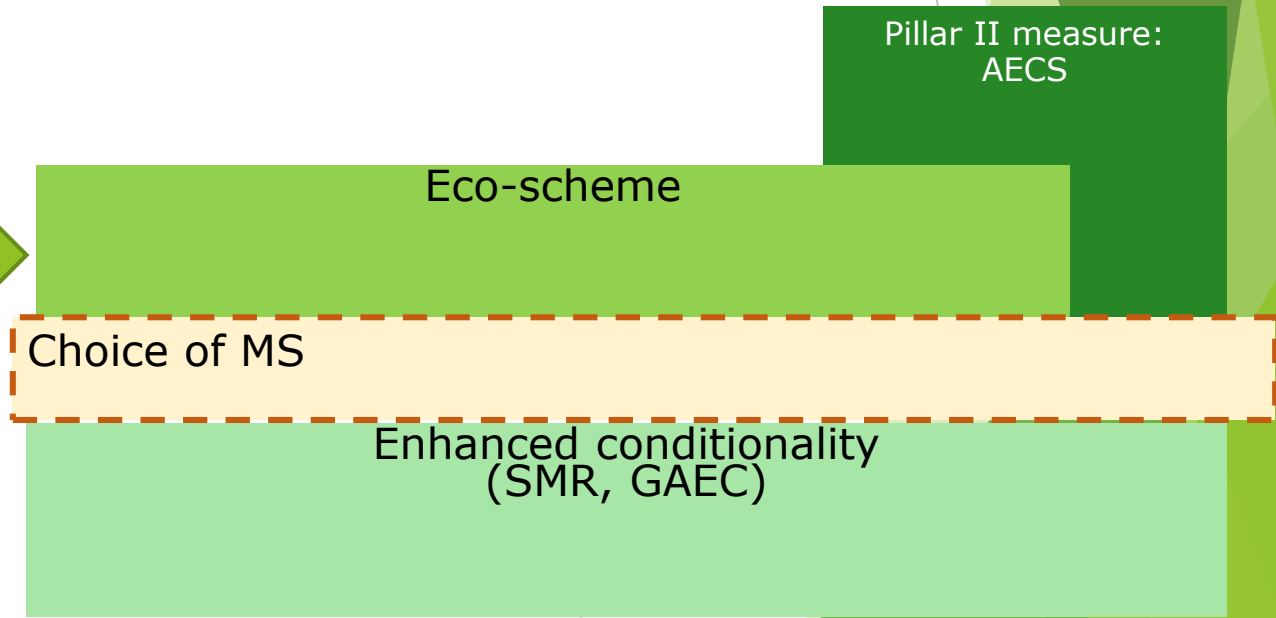


Green architecture of the CAP

(UAA= utilized agricultural area; SMR= Statutory management requirements; GAEC= Good Agricultural and Environmental Conditions; AECS=Agri-environment-climate-scheme)

To boost sustainable practices such as precision agriculture, carbon farming, agro-ecological (incl. organic farming) & agroforestry

Level of environmental requirements



<- area of eligible UAA->

Figure 1 The

Process (d

- SWOT a

in every EU MS

- End 2020: draft strategic plans from to EC

- Review of strategic plans by EC

- September 2021: Final strategic plans

- Start new CAP January 2022

New Common Agricultural Policy (CAP): 2nd Pillar measure examples for agrofood chains

1. Organic farming measure to stimulate transition to organic or to support organic farmers. F2F aims at increasing the area under organic production to 25% (now 8%)
2. CAP investment support: support for a wide range of investments to improve or maintain the economic viability of farm businesses
3. CAP support to young farmers: to set-up business or improve viability of the business.
4. Farm diversification support
5. Support to revitalise rural areas: e.g. establishment of producer or interbranch organisations
6. Compensation payments to Areas facing Natural Constraints (ANC)

Common Fisheries Policy (CFP)

- ▶ Already in 1970s Common Fisheries Policy (CFP), with regular updates
 - ▶ Fisheries management (catch limits, fish stock management etc.)
 - ▶ Regulates operation of EU fishing boats outside EU waters and international trade in fisheries products
 - ▶ Market organisation (marketing standards, consumer information, competition rules)
- ▶ European Maritime and Fisheries Fund (EMFF) is used to co-finance projects, along with national funding (budget based on size of fishing industry)

In Farm to Fork announced:

- ▶ Farmed fish and seafood generate a lower carbon footprint than animal production on land.
 - ▶ Therefore sustainable fish and seafood production must be accelerated
 - ▶ Large support for next European Maritime and Fisheries Fund for sustainable seafood farming and EU guidelines for Member States' sustainable aquaculture development

New food law

As from 1st of January 2018, the new Regulation (EU) 2015/2283 on Novel Foods is applicable.

The new Regulation improves conditions so that food businesses can easily bring new and innovative foods to the EU market, while maintaining a high level of food safety for European consumers.

- ▶ Expanded categories of novel foods
- ▶ Generic authorisations of Novel Foods
- ▶ Establishment of a Union list of authorised Novel Foods
- ▶ Simplified, centralised authorisation procedure managed by EC
- ▶ Centralised, safety evaluation of the Novel Foods will be carried out by the European Food Safety Authority (EFSA)
- ▶ Efficiency and transparency will improve reducing the overall time spent on approvals
- ▶ A faster and structured notification system for traditional foods from third countries on the basis of a history of safe food use
- ▶ Promotion of innovation: granting individual authorization for 5 years

New fertilizer directive

The scope of the Fertilisers Regulation (Regulation (EC) No 2003/2003 relating to fertilisers) is currently limited to mineral, i.e. inorganic fertilisers. As a result, some categories of organic fertilisers, such as manure, sewage sludge, animal by-products, are not covered or their components are not covered as part of compound fertilisers.

The EC wishes to incentivize large scale fertilizer production in the EU from domestic organic or secondary raw materials in line with the circular economy model (e.g. transforming waste into nutrients for crops).

Also increased production and trade in innovative more diversified fertilisers is needed to contribute to making production more cost- and resource-effective.

For this purpose, these categories were included in the legislative proposal for Circular Economy Fertilising Products Regulation (EU 2019/1009) that has been recently approved on June 5, 2019.

It has two objectives:

- (1) to incentivise large scale fertiliser production from domestic sources, transforming waste into nutrients for crops; and
- (2) to introduce harmonised cadmium limits for phosphate fertilisers.

The proposed new Regulation also aims to address concerns shared by nearly all Member States over the risk of contamination by heavy metals, particularly cadmium, present in phosphate-rich fertilisers, both organic and inorganic.

Although the proposal repeals the 2003 Regulation, its main overall principles remain unchanged. These aim to fully implement the principles of the free internal market for mineral fertilisers used in agriculture, while ensuring certain quality standards regarding nutrient content, safety, and environmental impacts.

Sources:

<http://www.europarl.europa.eu/legislative-train/theme-new-boost-for-jobs-growth-and-investment/file-review-of-the-fertilising-products-regulation>

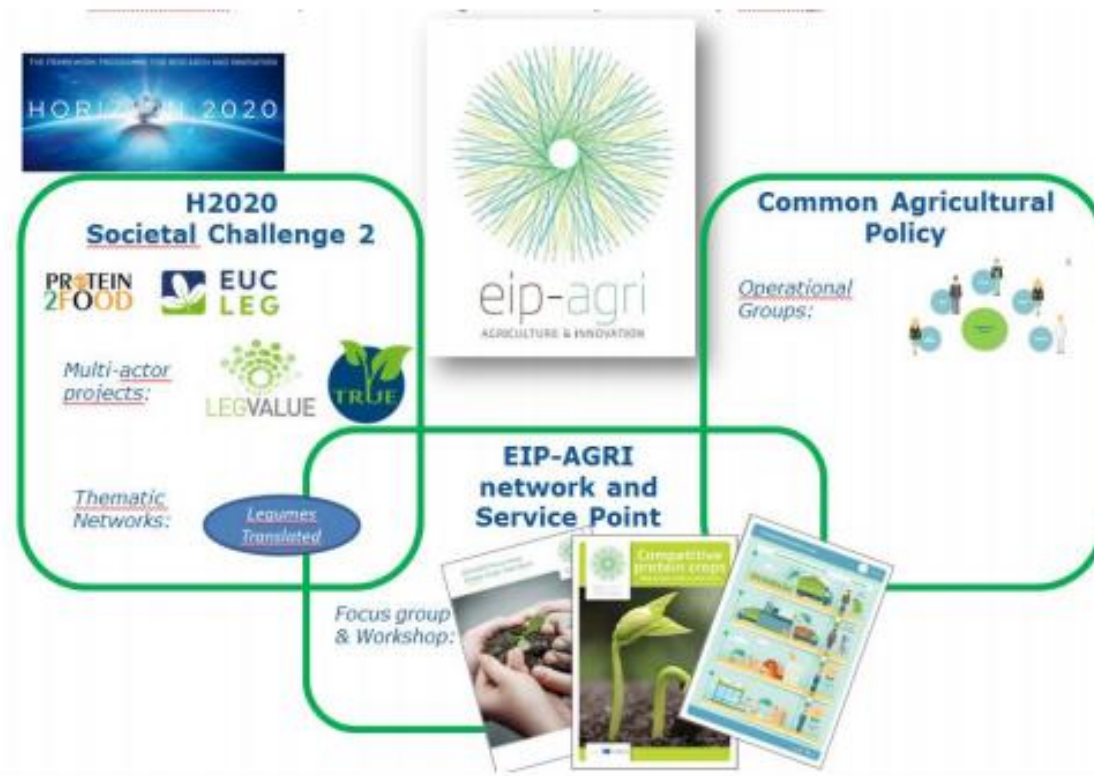
McNeill et al. (2018)

Research and Innovation in agrofood chain

European Innovation Partnership (EIP-AGRI) :

2 Funding sources:

- 1) Horizon 2020
- 2) Rural Development Programs supporting Operational Groups (OG)



EC, COM (2018) 757 final

Promotion of plant proteins from EU sources

Partly using EU policy instruments, Germany, France (in cooperation with an Interbranch Organisation), and Poland¹³ have set up national plans to support the cultivation of protein crops.

Germany	France	Poland
<i>Network of demonstration farms, AECM and stakeholder dialogue</i>	<i>Reinforcing supply chains, creating value through certification, research</i>	<i>Increasing use of domestically sourced protein for animal feed</i>
<p>R&I programme together with demonstration networks for soya (over 100 farms), peas and beans (over 75 farms) and lupins (over 50 farms), both organic and conventional.</p> <p>These networks test varieties and transfer knowledge between organic and conventional farmers.</p> <p>AECM measure for crop rotation with legumes.</p> <p>A dialogue platform for stakeholders about more sustainable protein feed.</p>	<p>A focus on creating and reinforcing supply chains, both for feed and food.</p> <p>Targets for production (500 000 ha of protein crops by 2022, with 10-20 % better return), and environment (20-30 % less pesticide use and greenhouse gas emissions).</p> <p>Main elements are: R&I, improving the exploitation of whole product types, and certification schemes.</p>	<p>Multiannual R&D programmes to increase the production of domestically grown plant protein through research (breeding, varieties adaptation, agronomics practices, supply chain developments, improving protein use in animal feed).</p> <p>The main objective is to decrease dependency on soya imports.</p>



Brussels, 22.11.2018
COM(2018) 757 final

REPORT FROM THE COMMISSION TO THE COUNCIL AND THE EUROPEAN PARLIAMENT

on the development of plant proteins in the European Union

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Good policy example: Regulation on use of olive mill effluents on agricultural soils (I)

- ▶ For Andalusia: **Regulation on use of olive mill waste waters (effluents) from olive oil industry as fertilizers on agricultural soils**
- ▶ The use of effluents in agricultural soils has many advantages:
 - ▶ Recycle nutrients (mineral nutrients e.g. potassium (K₂O: 2.4-10.8 g/l) and phosphorus (P₂O₅: 0.3-1.5 g/l), and a wide-range of micronutrients
 - ▶ Declines fossil based fertilizer demands which leads to lower GHG emissions and costs
 - ▶ Replace water resources from outside the system
- ▶ In most olive oil mills a modernisation of the process took place in recent years that led to a reduction of the pollutants occurring in the effluents from the washing of the olives and the olive oil. The risk of accumulation of hazardous substances in the effluents has therefore declined.

Good policy example: Regulation on use of olive mill effluents on agricultural soils (II)

► Needs to be made consistent with other laws:

- Laws that regulate water quality (*Ley de Aguas Real Decreto Legislativo 1/2001 & Ley de Aguas de Andalucía (Ley 9/2010)*)
- Law that regulates the integrated management of environmental quality in agriculture (*Gestión Integrada de la Calidad Ambiental, artículo 84 de la Ley 7/2007*).

Effluent use on soils only allowed if it does not create any risk for water, soil, air, flora and fauna

► *Directive on Waste (2008/98/CE)*: gives specifications on the use of effluents from industry as fertilisers. It regulates precisely:

- on what type of land and soils the types of effluents can be used;;
- the land application mechanisms;;
- the commitments of the mills;
- consent of the holders of the receiving parcels and the managers of the irrigation systems through which the effluent is applied;
- the required analytical controls

Applies to effluents in general but not to olive mill effluents. So type of effluents and standards setting is left to EU MSs

Good policy example: Regulation on use of olive mill effluents on agricultural soils (III)

Still this new law is essential as it regulates some additional issues specifically for olive mill effluents:

1. The confirmation that olive oil effluents are produced as an integral part of the virgin olive oil production process and therefore comply with the EU waste law 2008/98/EC declaring that these residues are indeed considered by-products and not wastes.
2. Specific rules for the application of effluent
3. The requirement for asking permission for the use of effluents as fertilisers in agriculture
4. The effluent management plan will need to be approved by the Ministry responsible for agriculture in every Andalusian province which has 6 months for this decision.
5. When the effluent is applied to soil and written consent of all involved
6. **Control on rightful application of law and consequences of breaches**

Good policy example: Regulation on use of olive mill effluents on agricultural soils (V)

Why good example?

- ▶ It is good that the use of olive oil mills effluents are regulated in a way that they can be declared by-products according to the EU Waste Law. This is not the case in all Mediterranean regions.
- ▶ This legal arrangement supports the more circular use of these olive oil residues and supports both the environmental and economic sustainability of the olive oil sector.
- ▶ In countries and regions where this is not arranged, the options to create a more circular olive oil production system are more limited.
- ▶ Good example of policy integration, vertical and horizontal

Within Spain, beside Andalusia, the autonomic regions of Cataluña (since 2015) and Valencia (since 2018) have regulated the use of effluents from the olive oil mills as fertilisers on land.

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Conclusions on policies with focus on agrofood chains in BBE

1. Follow the EU's bioeconomy and circularity strategies as much as possible as they already build on established policy frameworks and give solid guidance taking account of policy integration (EU - National - regional) needs.
2. Check the contents of the Green Deal and the Farm to Fork strategy, particularly the agenda for new proposals, strategies, regulations, code of conducts, etc. over next years!
3. At EU level important policies to understand and link to at regional level are:
 - ▶ (New) CAP - Check SWOT and needs analysis report! Check draft strategic plans, final strategic plan due September 2021. Ensure relevant support measures are included in either Pillar 1 or Pillar 2 that will link to regional needs
 - ▶ New Food Law: Novel foods development is supported in this law, identify opportunities at regional level
 - ▶ *Directive on Waste (2008/98/CE)* in relation to residues in the food chains and opportunities to recycle when it is declared a residue in local law
 - ▶ New fertiliser regulation: supports in making agrofood systems more circular in terms of nutrient recycling and avoid fossil-based fertiliser use (GHG mitigation options)
 - ▶ European Fisheries Policy developments

Recommendations


- ▶ SMART specialisation platforms and EIP-Agri operational Groups are good examples to set-up vertical collaboration clusters and research and innovation activities within the region and outside the region for agrofood chain development
- ▶ Map and characterise accurately the policies of relevance that are already in place and specify how they are further embedded in wider national and EU policies as presented here
- ▶ Identify whether the national and regional actions for EU policy implementation have all been followed up in your country and region, how they are followed up and where there are still gaps that may hamper the bioeconomy development base on all opportunities for bioeconomy activities to be developed in your region
- ▶ Include in your BBI roadmap actions needed on the short and longer run to make the ambitions regarding goals for the region and the related instrumental bioeconomy activities develop. Including aspects like policy development, collaboration needs (e.g. in PPPs); Finances and financial resources accessible, Research development actions, Skill and education development actions, Infrastructural and logistical development options.

Recommendations

- ▶ Regions that have the ambition to transform their economy to a more biobased and circular economy need to develop regional strategies and roadmaps
- ▶ How? See D4.2 (Recommendations in chapter 7):

<https://doi.org/10.18174/524319>

The image shows the cover of a report titled "An overview of suitable regional policies to support bio-based business models (Deliverable 4.2)". The cover features the POWER4BIO logo at the top right, which consists of two hands holding a green leaf. The title is centered in a bold, dark green font. Below the title, the authors' names are listed: WAGENINGEN RESEARCH, BEREN ELBERSEN, JOSIE HOUTAMP, INGRID CONIIX & MARTEN VAN DEN OEVER; BAY ZOLTÁN, NORA HATVANI, ÁKOS KÖCS & KORNEL MATEFFY; and AKI, ISTVÁN KUUMANN & VIKTÓRIA VÁSÁRY. The date is listed as 30 APRIL 2020, and the document is marked as PUBLIC. At the bottom, there is a disclaimer about agency responsibility and a note that the project received funding from the European Union's Horizon 2020 research and innovation programme under Grant Agreement No 818351, accompanied by the European Union flag logo.


 **POWER4BIO**
REGIONS FOR
BIOECONOMY

**An overview of suitable regional policies to
support bio-based business models**
(Deliverable 4.2)

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Thank you for your attention!

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