



La Bioeconomia in Europa: tendenze e prospettive di ricerca

Associazione Italiana Società Scientifiche Agrarie

Bologna, 16-17 February 2023

Giampiero Genovese,

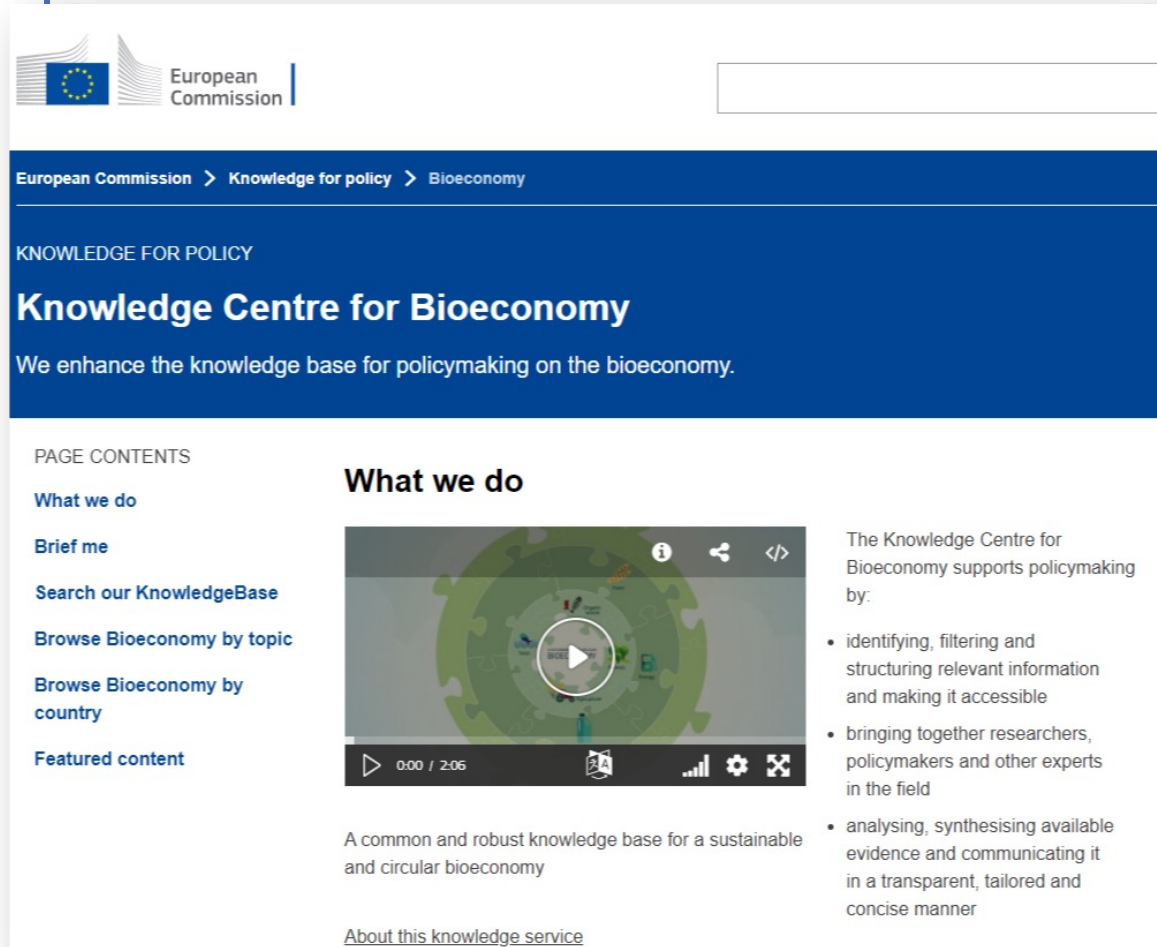
Capo Unità, Centro Comune di Ricerca, Economics of the Food System, Direzione Sustainable Resources

MISSIONE:

Come servizio scientifico e della conoscenza della Commissione Europea, il Centro Comune di Ricerca ha la missione di supportare le politiche Europee con evidenza scientifica indipendente attraverso tutto il ciclo delle politiche.

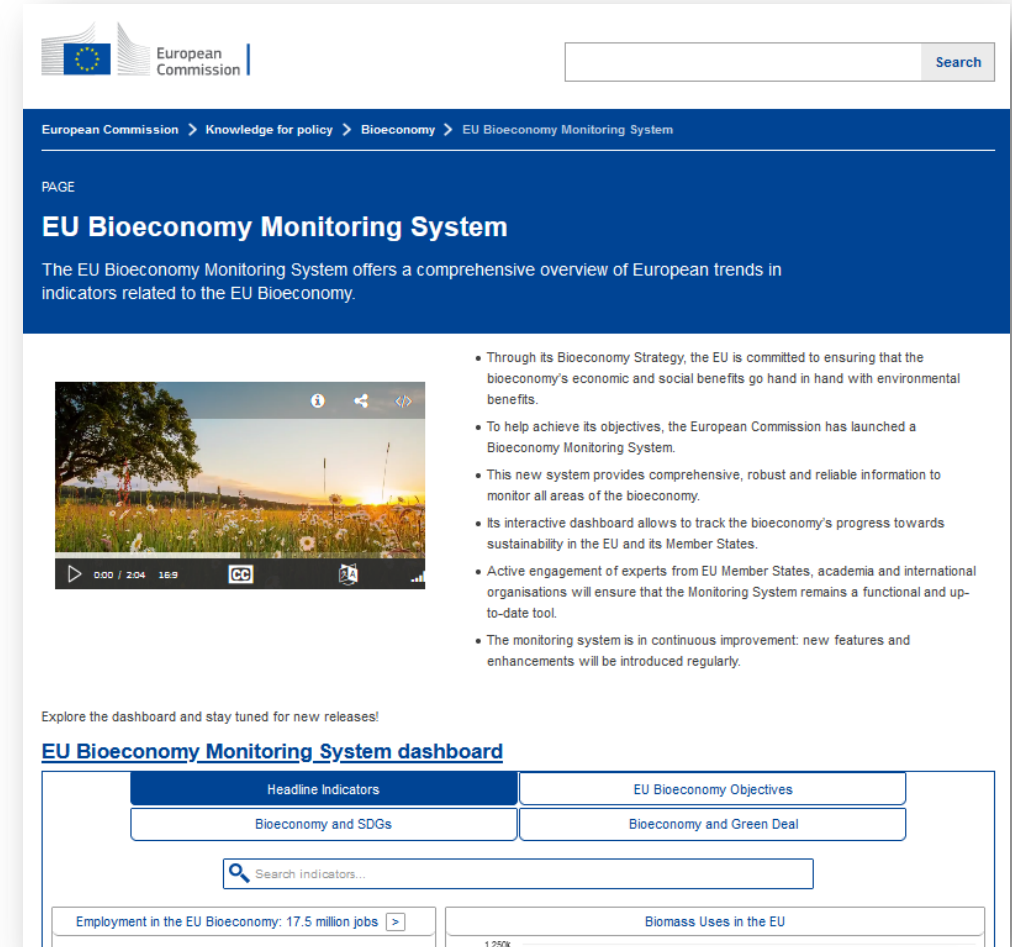


Knowledge Centre for Bioeconomy and Monitoring System



The screenshot shows the homepage of the Knowledge Centre for Bioeconomy. At the top left is the European Commission logo. Below it is a navigation breadcrumb: "European Commission > Knowledge for policy > Bioeconomy". The main heading is "KNOWLEDGE FOR POLICY Knowledge Centre for Bioeconomy" with the tagline "We enhance the knowledge base for policymaking on the bioeconomy." On the left, under "PAGE CONTENTS", there are links for "What we do", "Brief me", "Search our KnowledgeBase", "Browse Bioeconomy by topic", "Browse Bioeconomy by country", and "Featured content". The main content area features a video player titled "What we do" showing a circular diagram of interconnected gears. To the right of the video, text explains that the Knowledge Centre supports policymaking by identifying, filtering, and structuring information, bringing together researchers and policymakers, and analysing available evidence in a transparent manner. A link "About this knowledge service" is at the bottom.

https://knowledge4policy.ec.europa.eu/bioeconomy_en



The screenshot shows the EU Bioeconomy Monitoring System dashboard. At the top left is the European Commission logo and a search bar. Below it is a navigation breadcrumb: "European Commission > Knowledge for policy > Bioeconomy > EU Bioeconomy Monitoring System". The main heading is "EU Bioeconomy Monitoring System" with the description "The EU Bioeconomy Monitoring System offers a comprehensive overview of European trends in indicators related to the EU Bioeconomy." Below this is a video player showing a field of flowers at sunset. To the right of the video is a list of bullet points describing the system's objectives and features. Below the video, there is a section titled "EU Bioeconomy Monitoring System dashboard" with a search bar and two data cards: "Employment in the EU Bioeconomy: 17.5 million jobs" and "Biomass Uses in the EU" (with a value of 1 250k). The European Commission logo is at the bottom right.

https://knowledge4policy.ec.europa.eu/bioeconomy/monitoring_en

La Bioeconomia nell'Unione Europea: facciamo il punto

Introduzione-Contesto
Tendenze dal 2012
Bisogni e analisi delle
Ricerca

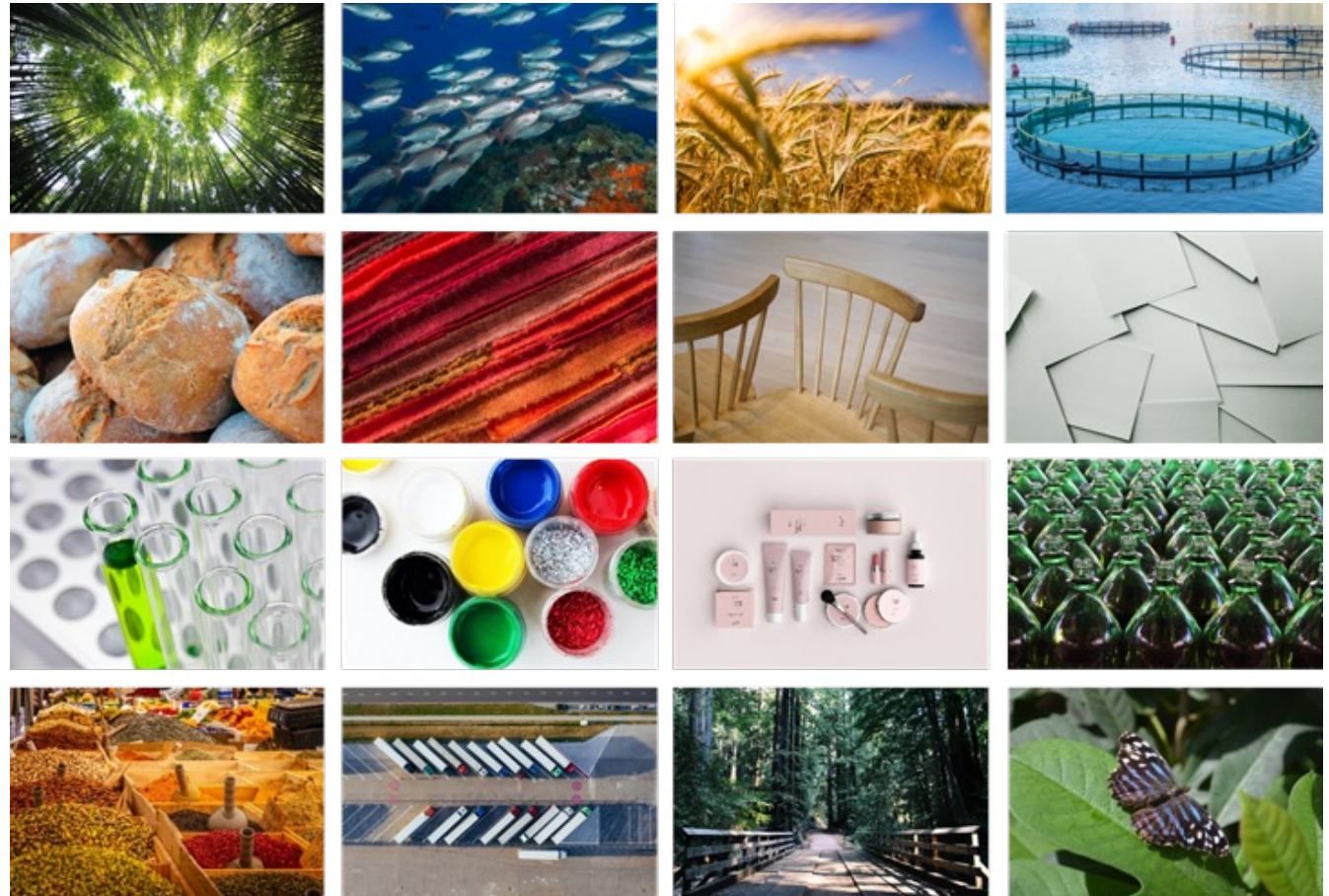


La Bioeconomia nell'Unione Europea

Definizione UE

La Bioeconomia racchiude tutti i settori, i servizi associati e gli investimenti, che producono, utilizzano, processano, distribuiscono e consumano risorse biologiche, inclusi gli ecosistemi

In quanto tale é una facilitatrice naturale e prodotto del Green Deal Europeo



Perché abbiamo bisogno della Bioeconomia?

Obiettivi della bioeconomia attraverso le politiche



Le politiche legate alla Bioeconomia

- hanno una **prospettiva inter-settoriale** per migliorare la coerenza delle politiche stesse, e identificare e risolvere tensioni e trade-offs.
- contribuiscono alla costruzione di una strategia che copre le **tre dimensioni della sostenibilità**

Il cammino da strategia a “politica” rispettando le 3 dimensioni della sostenibilità’

2012



Strategia Bioeconomia

- Uso efficiente delle risorse rinnovabili
- Focus su R&I

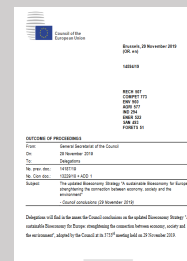
2018



Aggiornamento Della strategia

- +Sostituzione di prodotti nocivi
- +Sviluppo Regionale
- +Comprensione dei limiti ecologici

2019

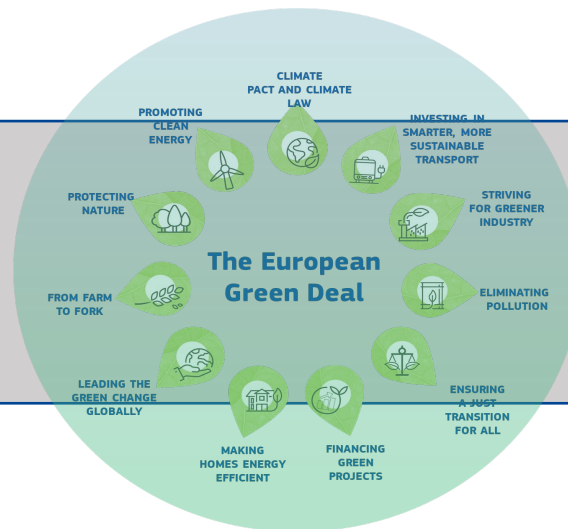


Conclusione del Consiglio

2022



Rapporto sullo stato di avanzamento della strategia



Verso la transizione verde e giusta

Tre dimensioni della sostenibilità:

- (1) Gestione del suolo e delle risorse biologiche nel rispetto dei limiti ecologici
- (2) Catene di valore e consumi sostenibili
- (3) Equità sociale e transizione giusta

EU BIOECONOMY CONFERENCE

BIOECONOMY

Enabling the European Green Deal
in challenging times

6-7 October
2022



“A truly circular & sustainable bioeconomy is a critical tool to support the objectives of the green transition. We need to make sure that we reach our objectives in a fair & balanced way.”

EVP Frans Timmermans

“The bioeconomy enables a green and socially fair transition by developing sustainable business models and by promoting sustainable trade and social fairness in Europe and beyond, adding value to the regional economies.”

Mairead McGuinness

European Commissioner for Financial Stability, Financial Services and the Capital Markets Union



“Local and regional decision-makers need further help to realise the potential and opportunities of the bioeconomy!”

Jácint Horváth

Member at

European Committee of the Regions

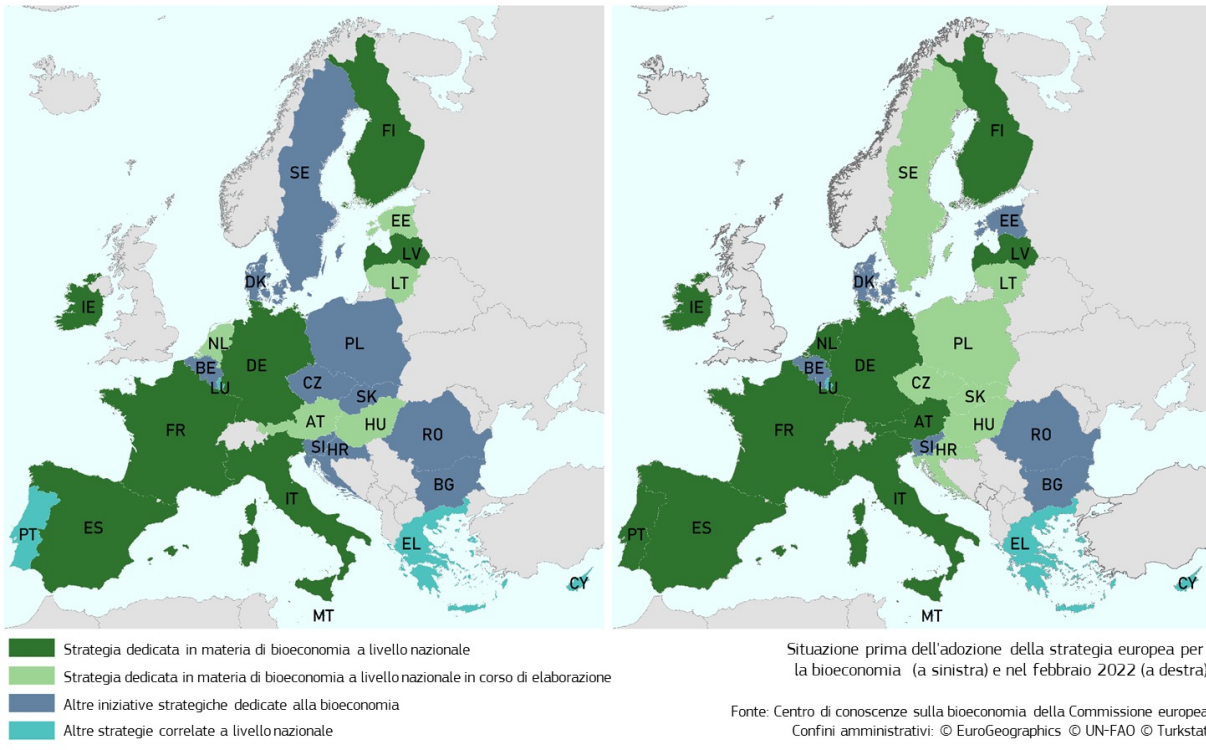


AGRIFISH council 30.1.2023

- **Bioeconomia e agricoltura**

- La discussione ministeriale si é concentrata sui **benefici della bioeconomia per le aree rurali** ed ha riconosciuto la capacità di indirizzare molte delle sfide di oggi, dal cambiamento climatico alla creazione di posti di lavoro, dalla competitività all'energia, alla resilienza dell'economia.
- Azioni sono già in corso a livello Europeo e degli stati Membri, ma c'è consenso che molto di più puo' essere fatto per sbloccare il potenziale. Per esempio **mobilizzare risorse finanziarie per l'innovazione e assicurare che la politica europea supporti lo sviluppo di una bioeconomia sostenibile.**
- <https://www.consilium.europa.eu/en/meetings/agrifish/2023/01/30/>

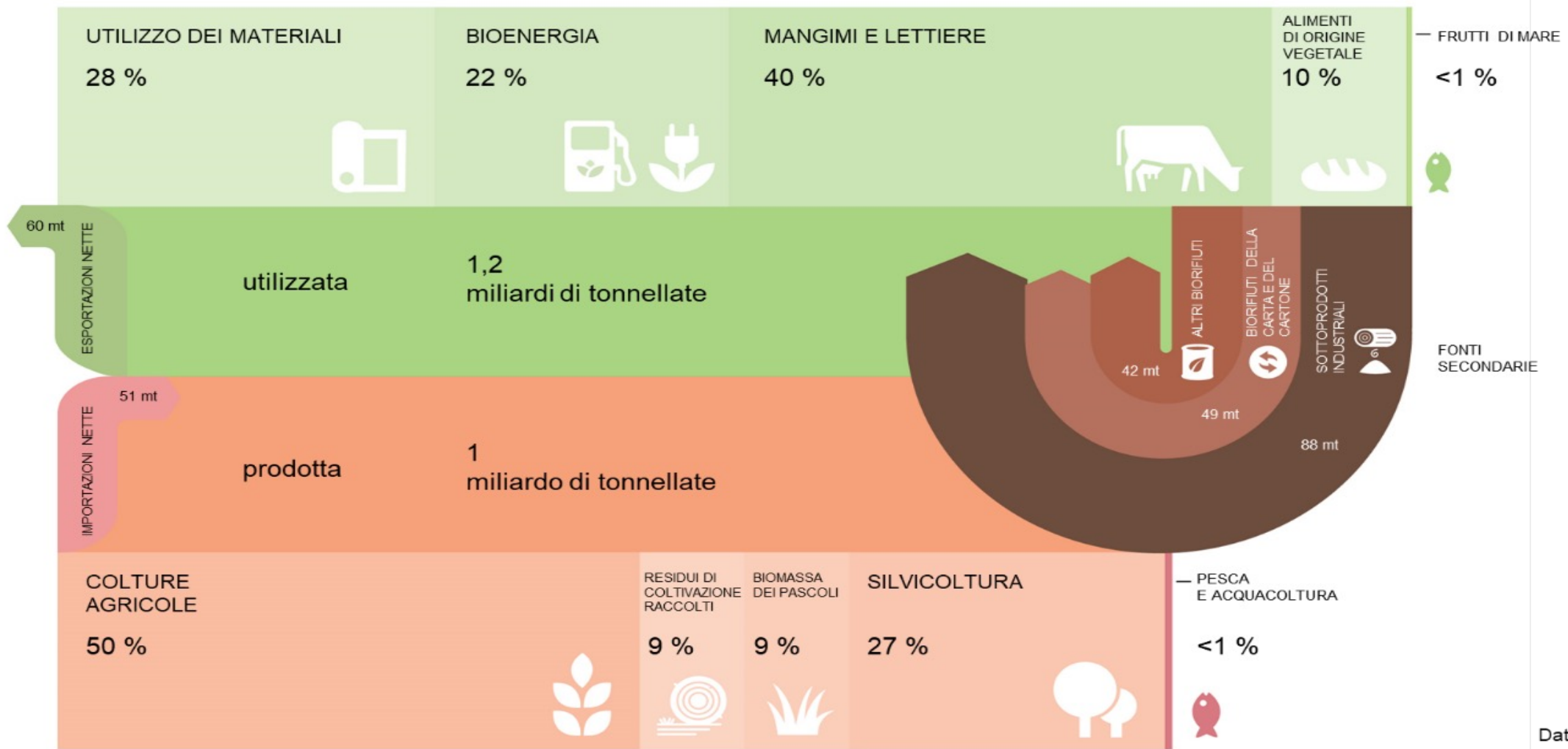
Aumento delle adozioni di strategie a livello Nazionale e regionale



Stato delle politiche/strategie sulla bioeconomia in EU-27

- 10 Stati Membri con piani strategici nazionali dedicati (AT, DE, ES, FI, FR, IE, IT, LV, NL, PT)
- 7 SM in corso di elaborazione (CZ, HR, HU, LT, PL, SK, SE)
- 6 SM altre iniziative strategiche macro-regionali (BG, DK, EE, RO, SI) o sub-nazionali (BE) dedicate alla bioeconomia.
- 4 MS con strategie correlate (CY, EL, LU, MT)

Approvvigionamento e uso della biomassa

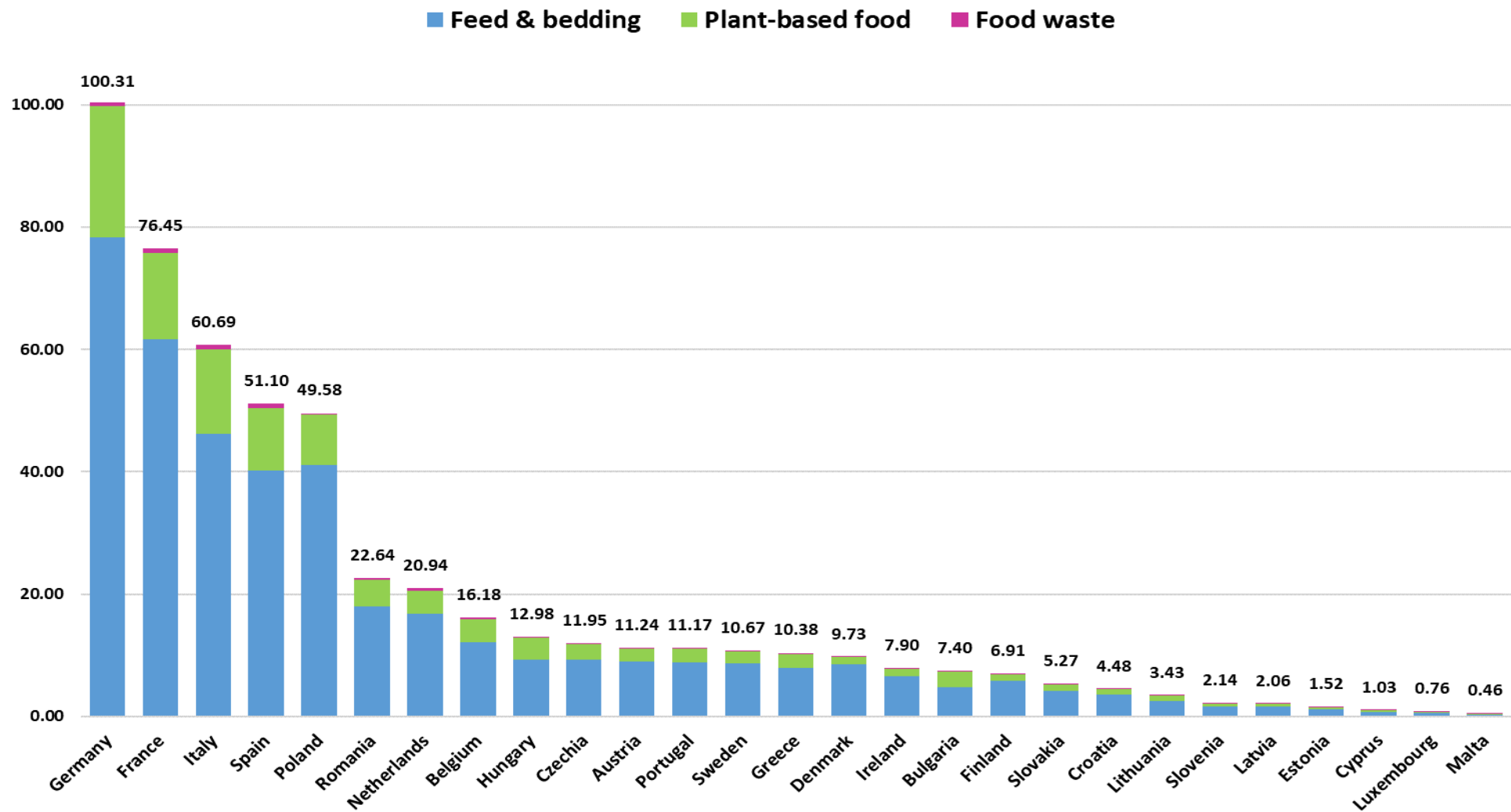


Dati 2017 sostanza secca

2017 data dry matter

Source: European Commission, Knowledge Centre on Bioeconomy, 2022

Food and feed uses, net trade, 2019 (Mtdm).



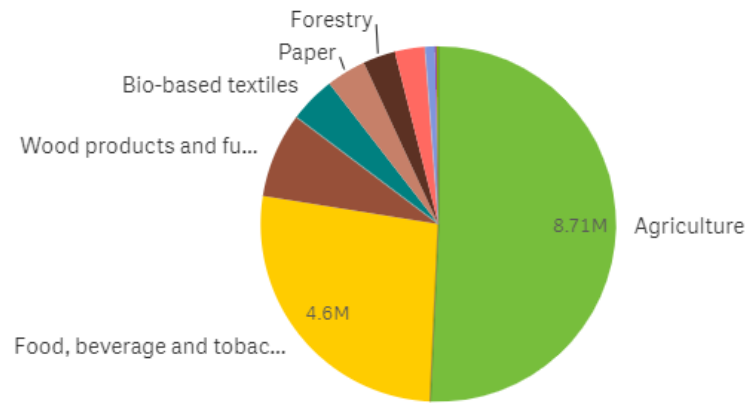
Source: JRC 2022 (based on data from the JRC EU Biomass Flows).

Bioeconomia nella UE (2020 cifre preliminari)

L'Europa in generale si muove verso gli obiettivi della Strategia ma le sfide a livello ambientale persistono

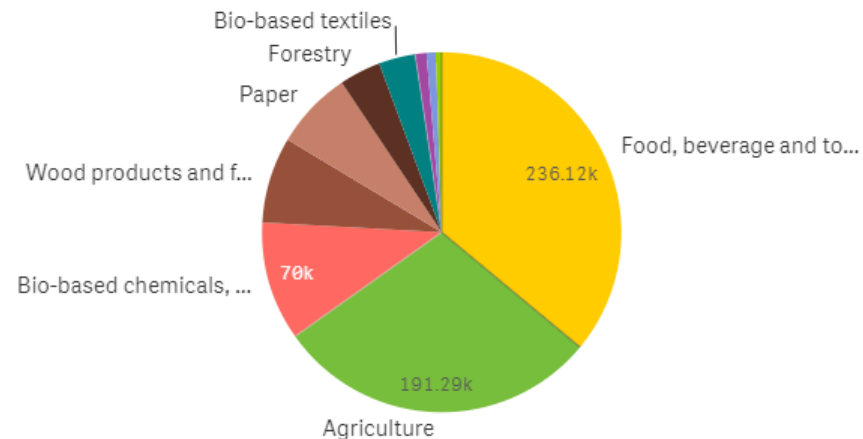
Employment by sector in EU27 (2020)

(number of people employed)



Value added by sector in EU27 (2020)

(million €)



- **~8.3%** della forza lavoro Europea
- **~75% impiegati** in agricoltura, e nell'industria alimentare e bevande
- **4.9%** of PIL
- Nel 2020 (anno COVID) il valore aggiunto della bioeconomia é sceso del 2.4% rispetto al 2019 mentre il PIL totale é sceso del 4.0%.
- Nel settore agricolo il valore aggiunto é sceso solo dello 0.8% (nell'industria alimentare -1.4%), dimostrando forte resilienza

Bioeconomia in Italia nel contesto Europeo (2020 cifre preliminari)

Number of people employed in biomass producing and converting sectors

1.87M

Value added of biomass producing and converting sectors (Billion €)

€90

Value added per person employed in biomass producing and converting sectors

48 k€ - 38 k
EU27

Share of people employed in biomass producing and converting sectors

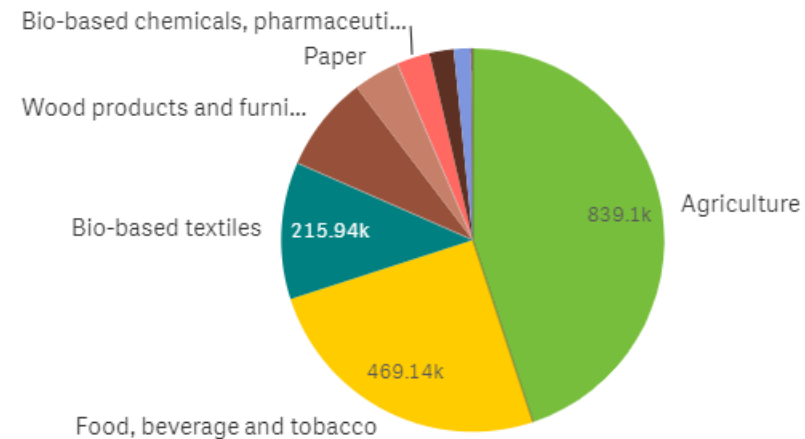


Value added of biomass producing and converting sectors (vs....)



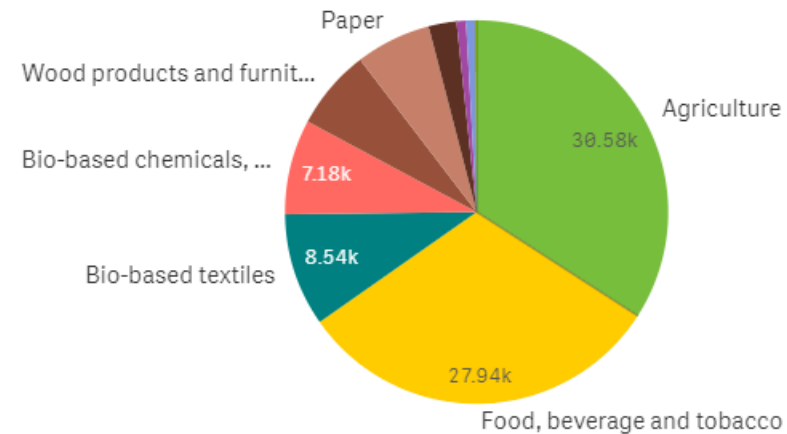
Employment by sector in Italy (2020)

(number of people employed)



Value added by sector in Italy (2020)

(million €)



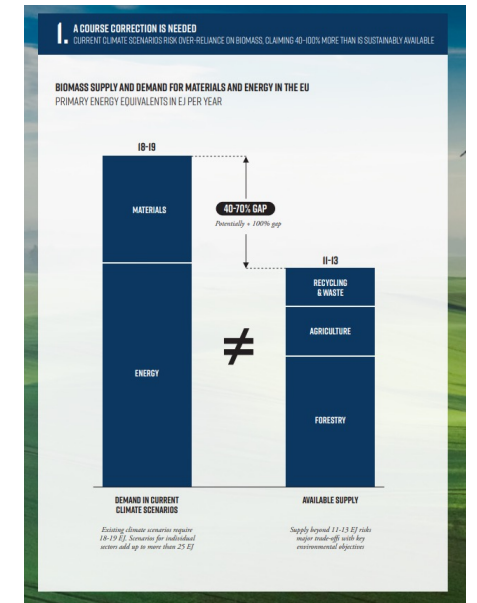
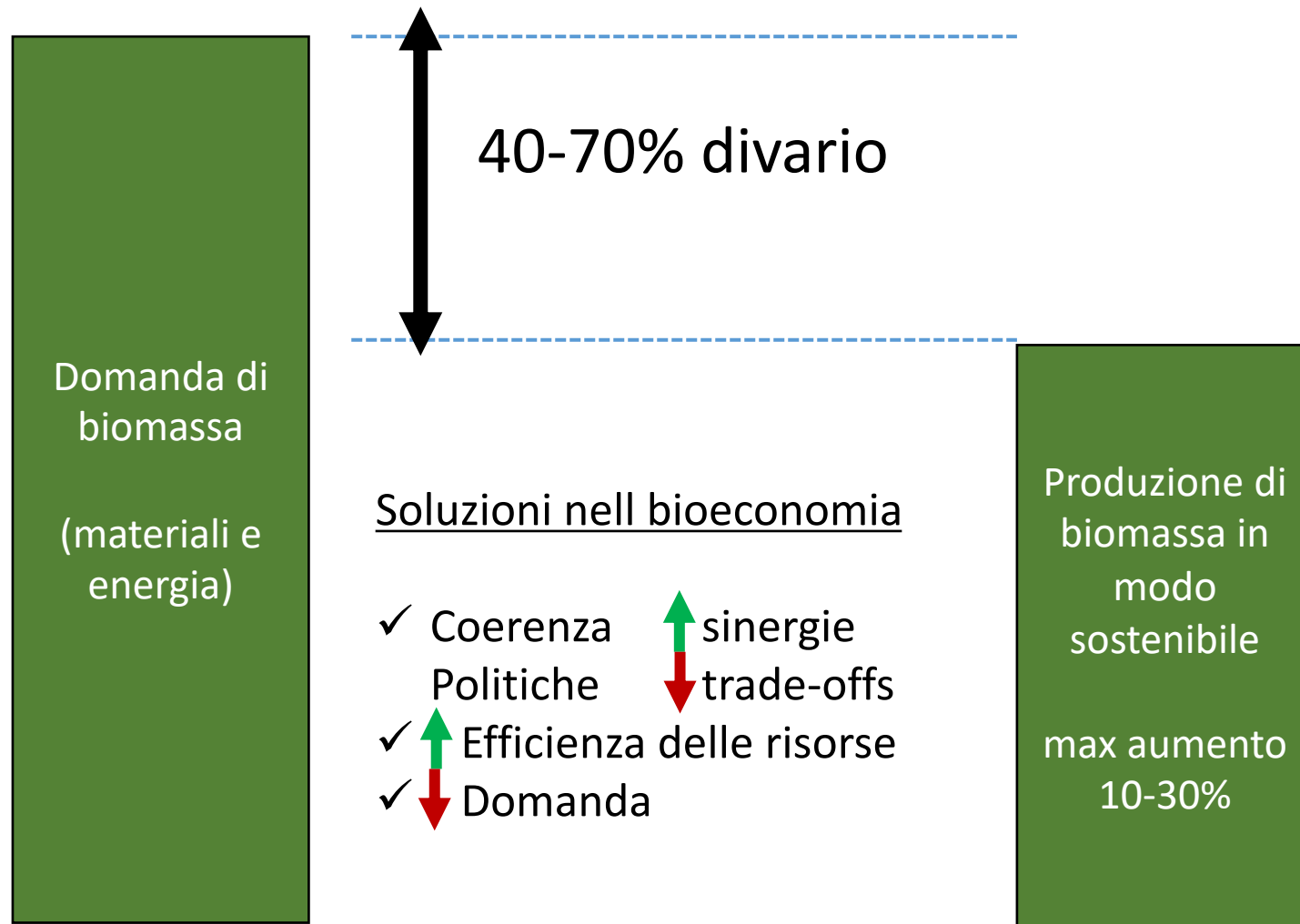
- Più coerenza nelle politiche per affrontare le tensioni sull'uso del suolo e la domanda di materiali (biomassa)
- Trasformare/riqualificare la forza lavoro

EU Green Deal Initiatives and the BE Strategy

		Ensuring Food and Nutrition Security	Managing Natural Resources Sustainably	Reducing dependence on non-renewable unsustainable resources, whether sourced domestically or from abroad	Mitigating and adapting to climate change	Strengthening European competitiveness and creating jobs	
Circular Economy	[1]						Ben focalizzata
Industry Strategy	[2]						
Biodiversity Strategy	[3]						Contribuisce
Farm to Fork Strategy	[4]						
Renovation Wave	[5]						Richiede attenzione
European Climate Law	[6]						
Chemicals Strategy for Sustainability	[7]						
Adaptation Strategy	[8]						
Sustainable Financing	[9]						
Zero Pollution Action Plan	[10]						
LULUCF	[11]						
Renewable Energy	[12]						
Forest Strategy	[13]						
Sustainable Carbon Cycles	[14]						

Source: European Commission, EU Bioeconomy Strategy Progress Report, 2022

Produzione, trasformazione e uso della biomassa



Material Economics. "EU Biomass Use in a Net-Zero Economy. A Course Correction for EU Biomass," 2021.

<https://materialeconomics.com/latest-updates/eu-biomass-use>.

Bisogno di ulteriore attenzione attraverso le politiche

Competizione sull' uso del suolo e mare

Strategia di gestione della biosfera*

Valutazione integrata dell'uso del suolo nel settore della bioeconomia

Strategie territoriali per la biomassa

Quadro concettuale per risolvere le tensioni

Consumo delle risorse biologiche in una visione globale

Modello di consumo sostenibile

Monitoraggio del footprint del consumo

Spostamento della domanda su consumi sostenibili

Modelli di business inclusivi e sostenibili

Source: European Commission, EU Bioeconomy Strategy Progress Report , 2022

*Johan Holkstromm

2018 EU Bioeconomy Action Plan

14 actions in three priority action areas

Strengthen and scale up the bio-based sectors, unlock investments and markets

CBE-JU

ECBF

Blue bioeconomy forum

Deploy local bioeconomies rapidly across the whole of Europe

European Bioeconomy Policy Forum

BIOEAST

Understand the ecological boundaries of the bioeconomy

Knowledge Centre Bioeconomy

Bioeconomy Monitoring System

https://knowledge4policy.ec.europa.eu/bioeconomy_en

Horizon 2020 + Horizon Europe WP





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

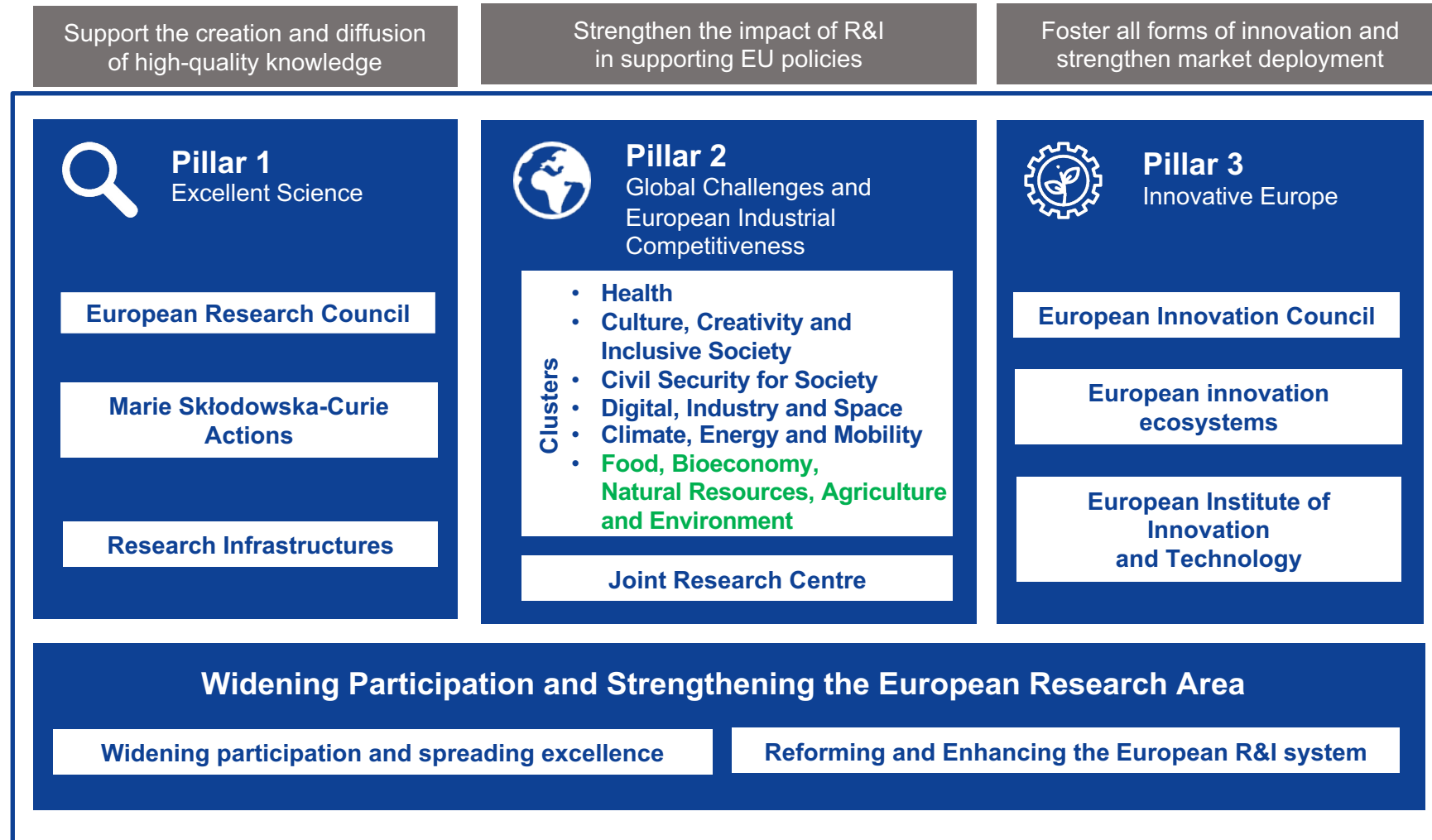
-  Launch a Strategic Deployment Agenda for sustainable food and farming systems, forestry and bio-based products
-  Launch pilot actions for the development of bioeconomies in rural, coastal and urban areas
-  Support regions and Member States to develop Bioeconomy Strategies
-  Promote education, training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

Horizon Europe: Structure & resources



for Cluster 6 “Food, Bioeconomy, Natural Resources, Agriculture and Environment”

Horizon Europe - Cluster 6: Food, Bioeconomy, Natural Resources, Agriculture and Environment



EUR 8.952 billion under Horizon Europe



Biodiversity and Ecosystem Services

Fair, healthy and environmentally-friendly food systems from primary production to consumption

Circular economy and bioeconomy sectors

Clean environment and zero pollution

Land, oceans and water for climate action

Resilient, inclusive, healthy and green rural, coastal and urban communities

Innovative governance, environmental observations and digital solutions in support of the Green Deal

Thank you



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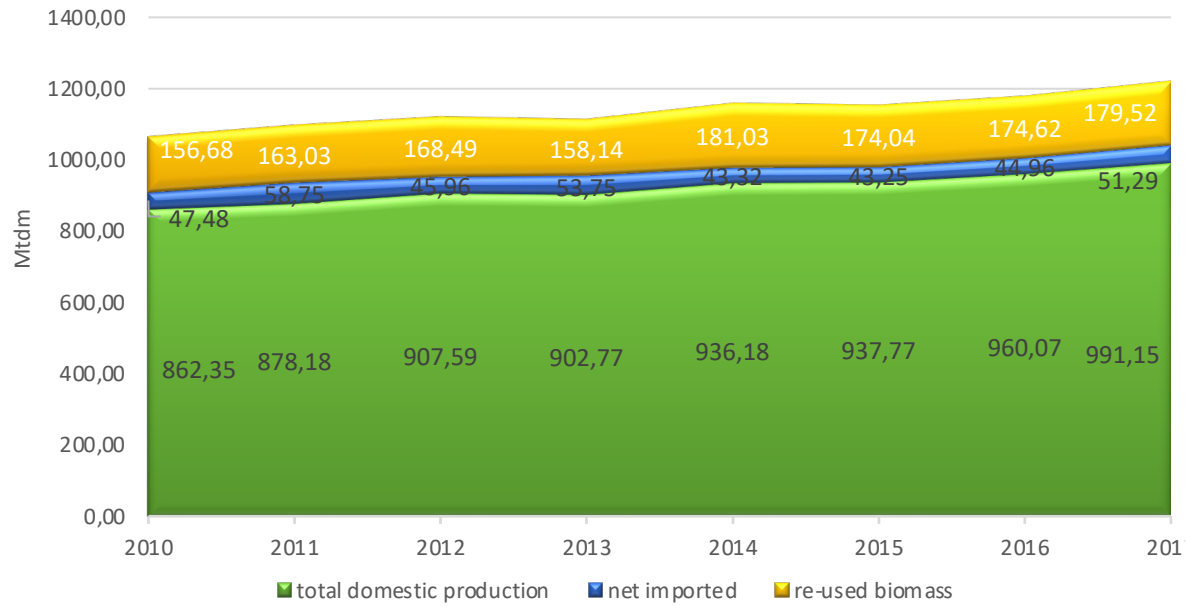
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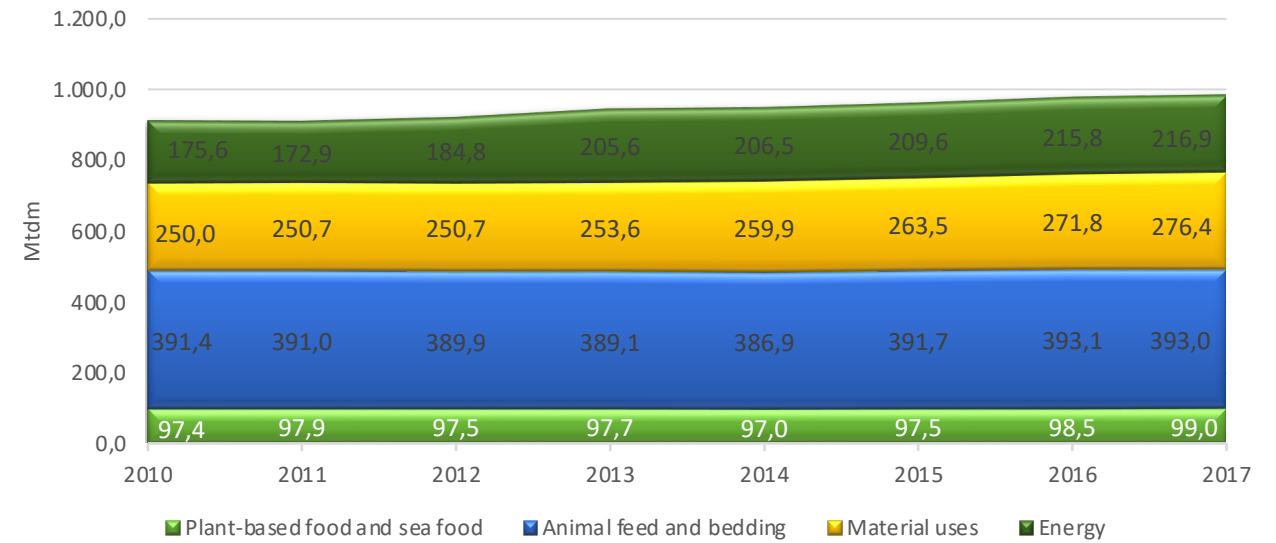


ANNEX

Biomass supply, EU-27 (2009-2017)

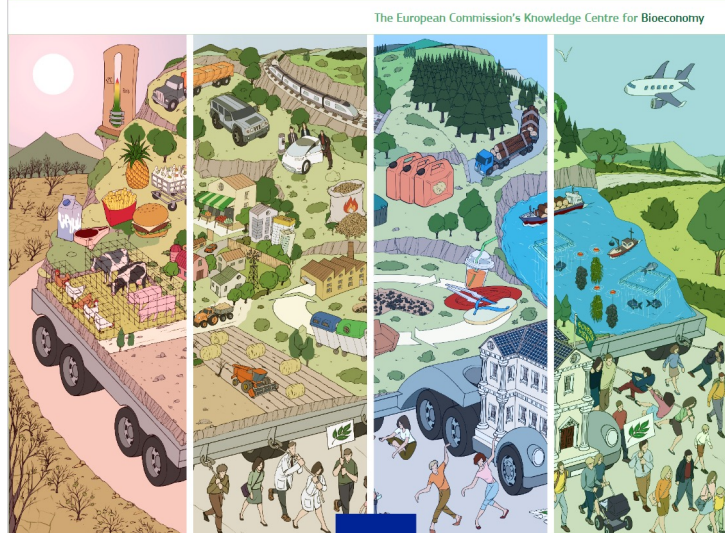
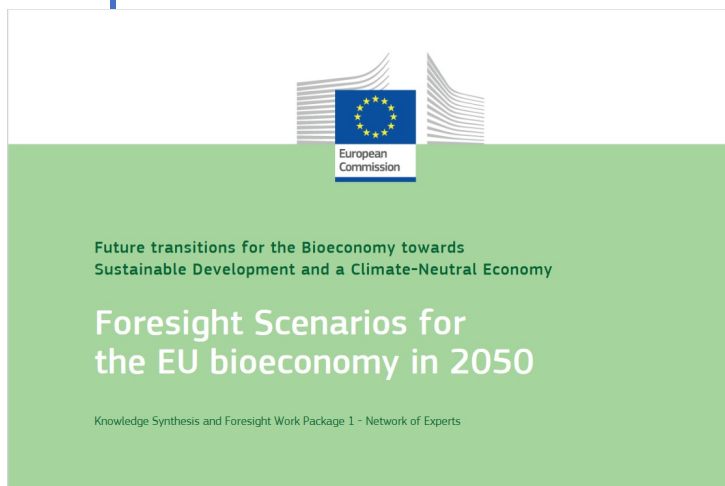


Biomass uses, EU-27 (2009-2017)



Scanning the horizon with foresight

Foresight scenarios 2050



Bioeconomy objectives (EU scope)	S1 'Do it for us'	S2 'Do it together'	S3 'Do it ourselves'	S4 'Do what is unavoidable'
Mitigate/adapt to climate change	+	++	+	--
Reduce non-renewable, unsustainable resources	0	++	+	0
Manage natural resources sustainably	0	+	0	-
Strengthen EU competitiveness, create jobs	+	++	-	-
Reduce inequality	-	+	+	-
Improve food security	0	++	+	-
Improve health	0	++	++	-
Improve resilience	0	++	+	--



Source: https://bioeast.eu/wp-content/uploads/2021/10/BIOeast-Report-2021_FINAL_compressed.pdf

2030




- Legally protect a minimum of 30% of the EU's land area and 30% of the EU's sea area
- Integrate ecological corridors, as part of a true Trans-European Nature Network
- Give 3-10% of the land area strict limits that leave "natural processes essentially undisturbed"
- Strictly protect at least 1/3 of the EU's protected areas, including primary and old-growth forests
- 3 billion new trees to be planted in the EU, in full respect of ecological principles
- At least 25,000 km of free-flowing rivers to be restored
- A minimum of 10% of agricultural land under high-diversity landscape features
- A minimum of 25% of agricultural land under organic farming management
- Increased implementation of agroecological practices




- Food waste reduced by 50% by 2030
- All packaging to be reusable or recyclable in an economically viable way
- All plastic packaging recyclable by 2030
- Residual Municipal Solid Waste (MSW) reduced by 50%
- 65% recycling of MSW
- 70% recycling of packaging waste
 1. 85% paper and cardboard
 2. 55% plastics
 3. 30% wood
- A maximum of 10% of MSW diverted to landfill (2035)

2050

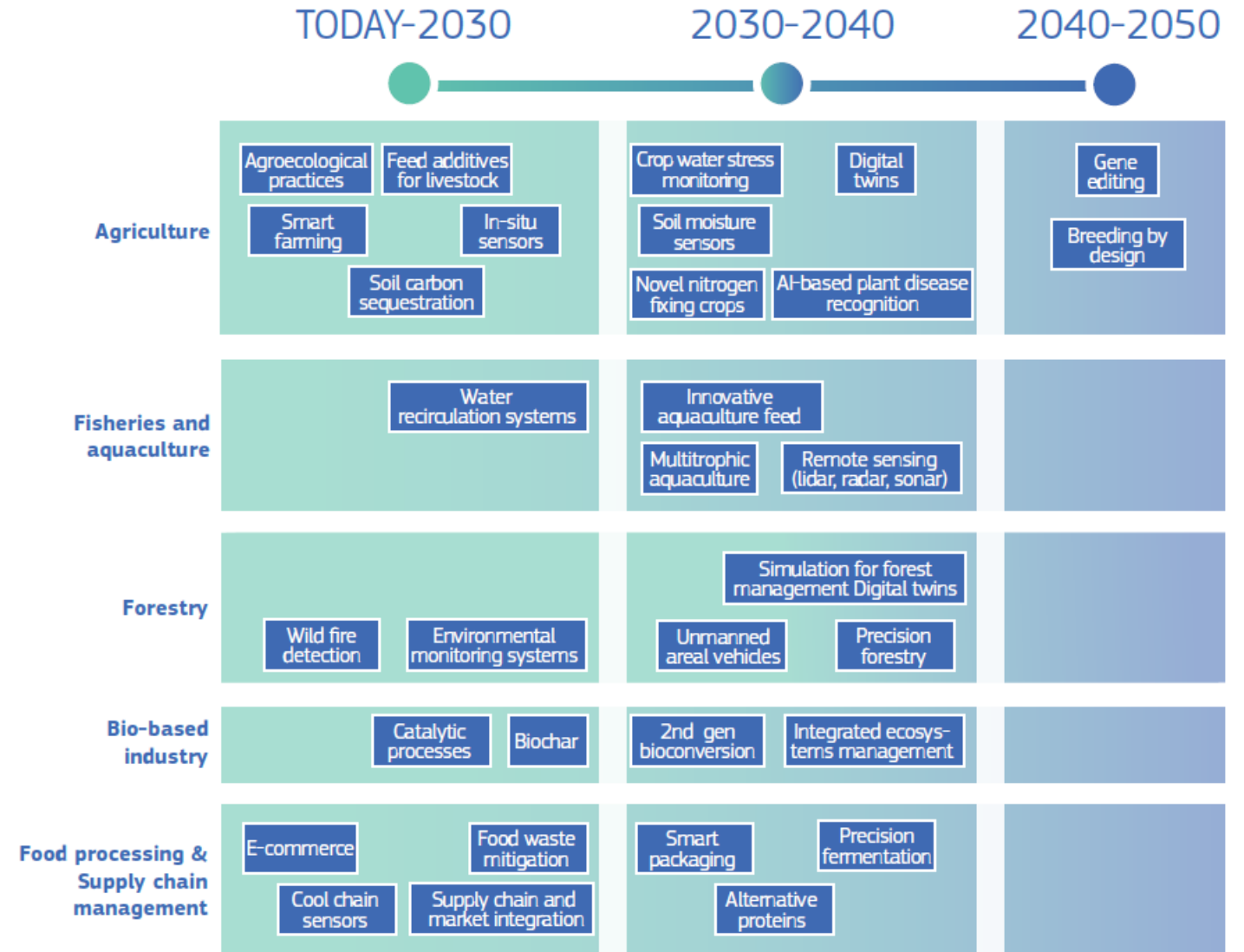


- Climate neutrality
- GHG emissions reduced by 55%
- CH4 emissions reduced by 50%



- 50% reduction of use and risk of pesticides
- A minimum of 20% less fertilizer use
- 50% reduction in sales of antimicrobials for agriculture and aquaculture
- 25% of total farmland is organic
- Nutrient losses reduced by a minimum of 50%

Figure 2: Green technology innovation timeline in the agriculture sector



Source: JRC

Note: These are approximate development timelines based on expert discussions and indicate when a certain technology might be available to the market.





EUROPEAN UNION

EU MISSIONS

Linking EU's research and innovation to major societal needs; with strong visibility and impact



Concrete solutions for our greatest challenges



Adaptation to Climate Change



Restore our Ocean and Waters



Cancer



Soil Deal for Europe



Climate-neutral and Smart Cities

A mission is a portfolio of actions across disciplines intended to achieve a **bold and inspirational and measurable goal** within a set timeframe, with **impact** for society and policy making as well as relevance for a significant part of the European population and wide range of European citizens.

#EUmissions #HorizonEU