

**“State of implementation of the sustainable and circular Bioeconomy in Europe and worldwide”**

November 28, 2023. Presidency of Council of Ministers, Rome

**Italian contribution to the  
Implementation of Bioeconomy in  
Europe and worldwide**

**Fabio Fava & Andrea Lenzi**

On behalf of the *National Bioeconomy Coordination Board*, CNBBSV, Presidency of Council of Ministers, Rome

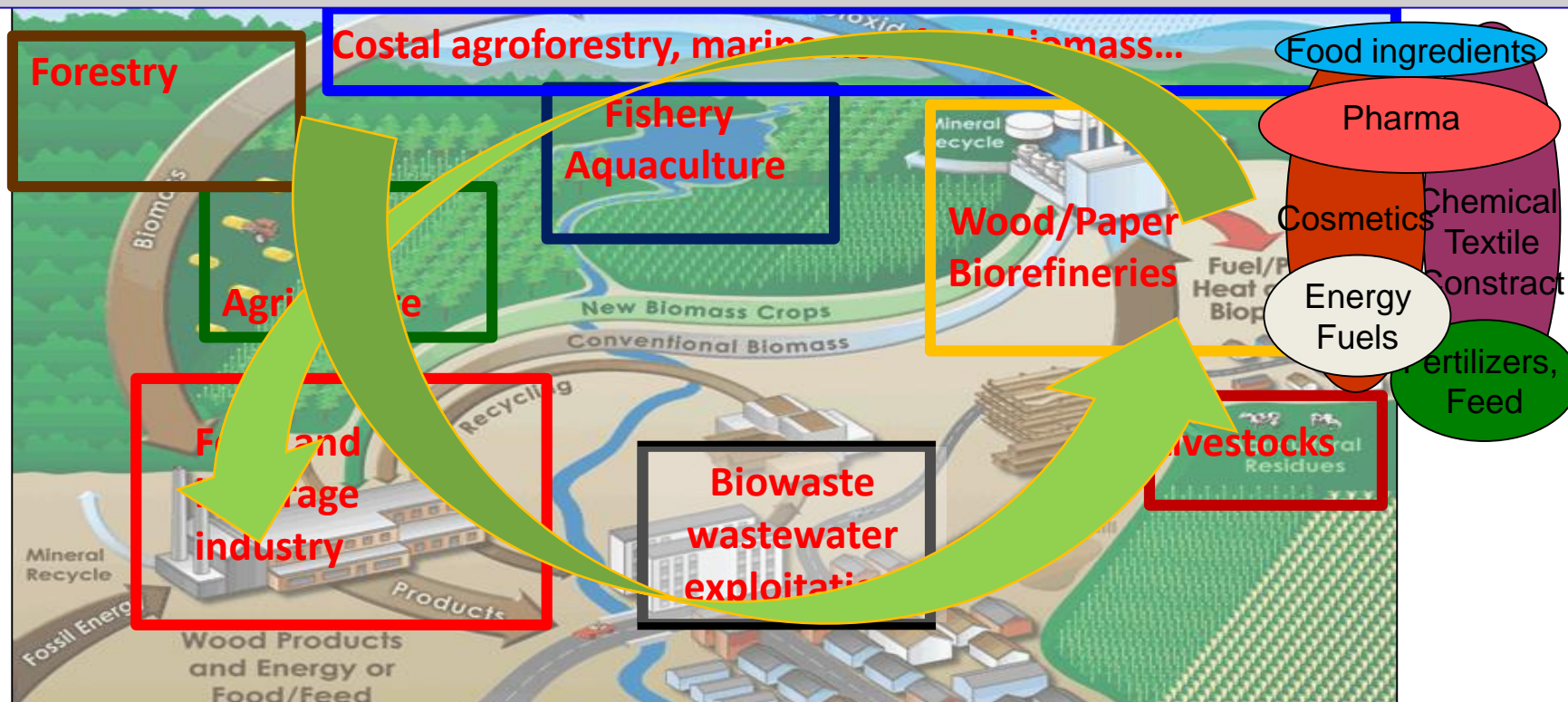
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## Outline

- Bioeconomy in Italy: its relevance, priorities and implementation actions.
- Italian contribution to the promotion of Bioeconomy in Europe;
- Italian contribution to the promotion of Bioeconomy in worldwide.

# The Italian Bioeconomy landscape

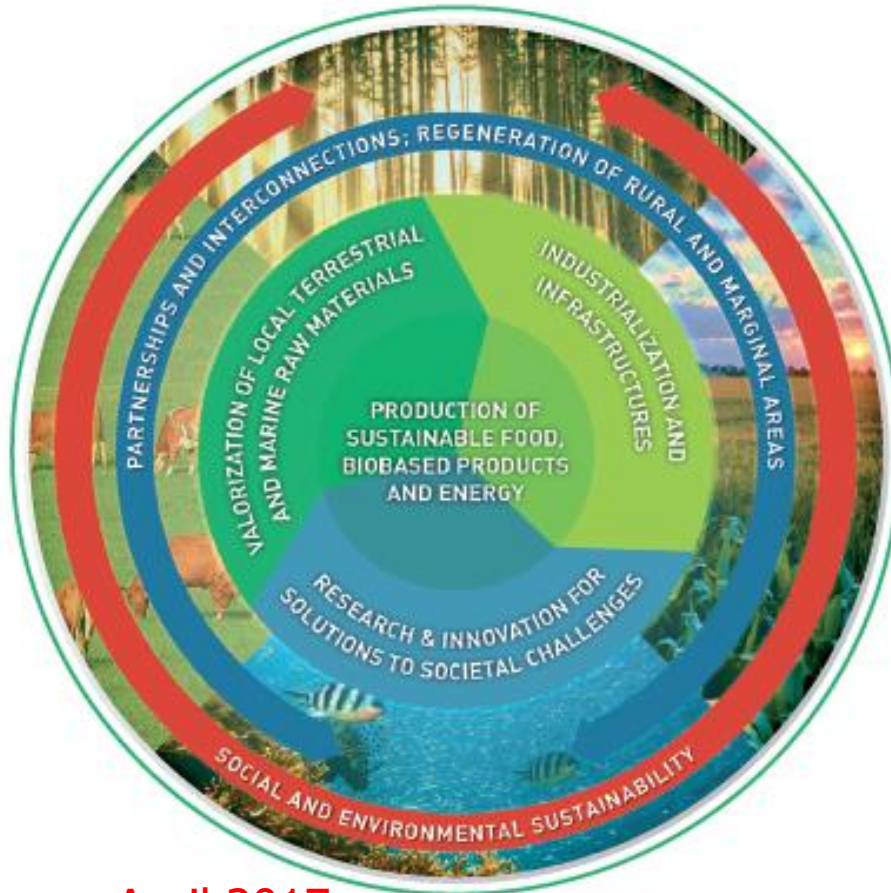
**Agriculture**, ~13Mln ha, 90% in rural areas; Abandoned lands, ~3Mln ha;  
**Forestry**, ~12Mln ha, poorly exploited; **Coastline**, ~ 8,000 km, poorly exploited;  
**Food&Drink companies**, ~58,000, 88% with <9 employees.....



**Italy:** ~335 Bln €/y, ~2.0 Mln of jobs (2018); ~365 Bln €/y, ~ 2.13 Mln of jobs (2021);  
**In EU:** 3<sup>rd</sup> turnover/jobs, 2<sup>nd</sup> as presence in H2020SC2 & BBIJU funded projects,  
 1<sup>st</sup> Biodiversity richness and number of high quality products (DOP, IGP, etc) on markets

# BIT

## Bioeconomy in Italy



Roma, April 2017

A unique opportunity to reconnect  
**ECONOMY, SOCIETY**  
and the **ENVIRONMENT**

## The Italian Bioeconomy strategy (2017)

### AVAILABLE AT:

<http://old2018.agenziacoessione.gov.it/it/S3/Bioeconomy.html>

Coordination Board established in Sept 2016 at the Italian Presidency of Council of Ministers and composed by:

- Ministry Education, University, Research;
- Ministry Agriculture, Food, Forestry;
- Ministry Economical Development;
- Ministry Environment, Land, Sea;
- Ministry for territorial cohesion;
- Committee Productive Activities, Regions Conference;
- Agency for Territorial Cohesion;
- IT Technology Clusters Green Chemistry, AgriFood.



# IT Bioeconomy strategy (BIT II, 2019) & Implementation Action Plan (2021)

## "National Bioeconomy Coordination Board" CNBBSV, Presidency Council Ministers, Rome



[http://cnbbsv.palazzochigi.it/media/1774/bit\\_en\\_2019\\_02.pdf](http://cnbbsv.palazzochigi.it/media/1774/bit_en_2019_02.pdf)

Composition (PdC 2019, decree 2021):

- Ministry Agriculture....;
- Ministry University & Research;
- Ministry of industry...;
- Ministry Environment/Ecological Transition..;
- Ministry Education....
- X and XI Conferences of Regions & autonomous Provinces;
- *Agency for the territorial cohesion*
- SVIMEZ;
- Institute for Environmental Protection and Research;
- Italian Technology Clusters: Circular Bioeconomy (SPRING), AgriFood (CLAN), BlueGrowth (BIG), *Forestry and Wood*

## IMPLEMENTATION ACTION PLAN (2020-2025) FOR THE ITALIAN BIOECONOMY STRATEGY BIT II



**January, 2021**

Presidenza del Consiglio dei Ministri  
**CN BBSV**  
COMITATO NAZIONALE PER LA BIOSICUREZZA  
E LE BIOTECNOLOGIE E LE SCIENZE DELLA VITA

<http://cnbbsv.palazzochigi.it/en/areas-of-work/bioeconomy/strategies-and-implementation-action-plan/>

<http://cnbbsv.palazzochigi.it/en/areas-of-work/bioeconomy/>

## IT Bioeconomy Implementation at the national/regional level

- **Promotion and assessment implementation of Bioeconomy priorities (agrifood systems; forestry and biobased industry and blue Bioeconomy) in the frame of the Next Generation EU (PNRR) plans and programmes;**
- **Contribution to the definition of priorities and contents of the IT Circular Economy Strategy and of the IT Forestry and wood Strategy** (and to the set up of the national Technology Cluster Forestry/Wood);
- **Bioeconomy Taxonomy for S3:** assessment of projects funded by Regions under S3 and related structural funds in 2014-2020 under the Bioeconomy domains and re-classification of sectors under the Bioeconomy landscape;
- **Working Group «implementation of the innovation generated by H2020 and BBI JU programmes on the territories »** in cooperation with APRE and the Clusters SPRING, CLAN e BIG, the Agency of Cohesion, Committees of the Regions and autonomous provinces;
- **Set up and delivery of the IT Position towards the “single use plastics”** (with MiTE, MISE, MIPAFF, SPRING, CLAN, ISPRA, Confindustria);
- **Promotion revision or set up of tailored policies** (End of Waste, “Salvamare” Decree, etc);
- **Assessment existing/identification most suitable Indicators for measuring Bioeconomy implementation;**
- **National and first EU actions to set up and promote the adoption of ATECO/EU NACE codes for biobased products and value chains;**
- **Survey on Bioeconomy relevance in the current University programs and set up of the Pilot on Bioeconomy Education for the primary and secondary schools** in the frame of the National Plan “Rigenerazione Scuola” (site <https://prgs.fvaweb.eu> English version);

# Outline

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Torino BioEconomy 2014

## BioEconomy Stakeholders' Conference

*"From sectors to system, from concept to reality"*



**Torino 8-9 October 2014**

Torino Incontra – Camera di Commercio

<http://bioeconomy.miur.it>

***Follow live on Twitter: #Tobe2014***



# The updated European Bioeconomy strategy



Brussels, October 2018

<https://ec.europa.eu/research/bioeconomy/index.cfm?pg=policy&lib=strategy>

## Rapidly deploying bioeconomies across Europe

- set up an EU Bioeconomy Policy Support Facility for EU countries to develop national/regional agendas;
- launch pilot actions for the development of bioeconomies in rural, coastal and urban areas, interconnecting the sectors.

**Scaling up and strengthening the bio-based sectors** via a €100 million **Circular Bioeconomy** Thematic Investment Platform.

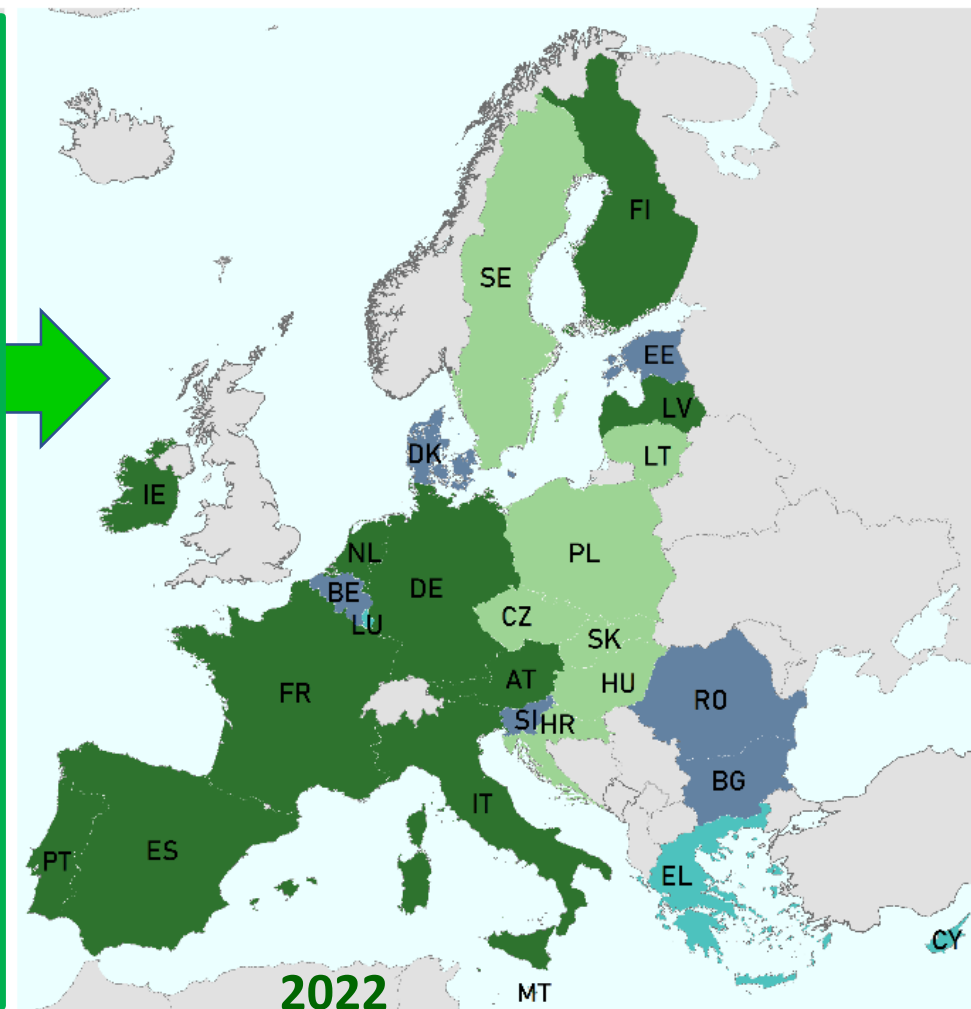
Protecting the ecosystem and understanding the ecological limitations of the bioeconomy

# The national Bioeconomy strategies in Europe

## Status of the national bioeconomy policies in the EU-27

- **10 Member states** with dedicated bioeconomy strategies at national level (AT, DE, ES, FI, FR, IE, IT, LV, NL, PT)
- **6 MS** in the process of developing their respective dedicated national strategies (CZ, HR, HU, LT, PL, SK)
- **7 MS** are involved in other macro-regional (BG, DK, EE, RO, SI, SE) or sub-national (BE) policy initiatives dedicated to the bioeconomy.
- **4 MS** have bioeconomy related strategies (CY, EL, LU, MT)

- Dedicated bioeconomy strategy at national level
- Dedicated bioeconomy strategy at national level under development
- Other policy initiatives dedicated to the bioeconomy
- Other related strategies at national level



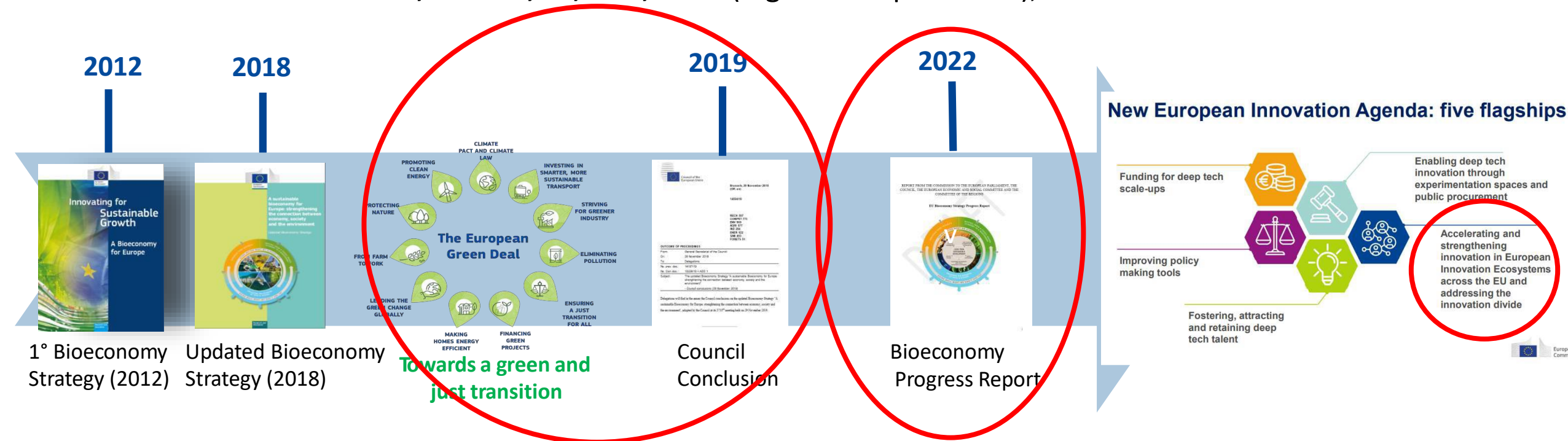
Status before the adoption of the European Bioeconomy Strategy (left side) and in February 2022 (right side)

Source: European Commission's Knowledge Centre for Bioeconomy  
Administrative Boundaries: © EuroGeographics © UN-FAO © Turkstat

# The European Bioeconomy Policy Forum



All MSs, EC DGs, EP, CoR, EESC (high and expert-level), 2020



# IT Bioeconomy Implementation at the EU and international level

- **Contribution to the set up of IT position** in the frame of the **Programming Committees** of SC2 Horizon 2020 and of the current **Cluster 6 of Horizon EU (DG RTD)**, the **State Representatives Group** of BBI JU and the current **CBE JU (DG RTD & BIC)** and the **Programming Committee of EU Missions «Restore our Ocean and Waters by 2030»** and **“A Soil Deal for Europe” (2019-)** ; Contribution to the EU SET PLAN initiative (via Prof. F Cotana);
- **Promotion of IT positions in the frame of the European Bioeconomy Policy Forum via:**
  - i) participation in different web panels; ii) presentation of the Pilot on Bioeconomy Education for the primary and secondary schools in the frame of the National Plan “Rigenerazione Scuola” (site <https://prgs.fvaweb.eu> English version), iii) presentation IT proposal for new NUCE codes for Biobased products and value chains) (2020-)
- **Assessment existing/identification most suitable Indicators for measuring Bioeconomy implementation and their promotion in the frame of the JRC task forces (2020-);**
- **Set up and submission to the EU Commission by the Prime Minister Mario Draghi the IT Position towards the “single use plastics”** (with MiTE, MISE, MIPAFF, SPRING, CLAN, ISPRA, Confindustria) (2022);
- **Contribution to the set up of a national position on biofuels submitted by Ministry of Environment and energy security to different DGs of the EU commission** (*Doc “Sustainable biofuels production and use in car transports to 2030 and beyond” approved by 4 Ministers*) (2023);
- **Cooperation with the Ministerial Representatives for Bioeconomy from France, Island, Finland and the German Bioeconomy Council (2020-). Presentation of IT Bioeconomy value and implications at the EU parliament (2023)**
- **Several EU joint Coordination and Support Actions** led by Italy via APRE (2018-);



# Bioeconomy in Horizon 2020 (79 Bln, 2014-2020)

## Societal challenges



**Tackling  
societal  
challenges  
for a better  
society**

**1. Health, demographic change and wellbeing (7.472 Bln)**

**2. Food security, sustainable agriculture and forestry, marine and maritime and inland water research, and the bioeconomy (3.851 Bln)**

**3. Secure, clean and efficient energy (5.931 Bln)**

**4. Smart, green and integrated transport (6.339 Bln)**

**5. Climate action, resource efficiency and raw materials (3.081 Bln)**

**6. Inclusive, innovative and reflective societies (1.310 Bln)**

**7. Secure societies (1.695 Bln)**

**Bioeconomy in Horizon 2020 (79 Bln, 2014-2020)**

# A Public-Private Partnership on Bio-Based Industries

Realising the European Bio-economy Potential



**€ 3.7 Bln, 2014-2020**

Supported by



<http://www.bbi-europe.eu/>

 **Bio-based Industries  
Consortium**



## BBI JU projects funded (2014-2020)

**FLAGSHIP projects**  
**DEMO projects**



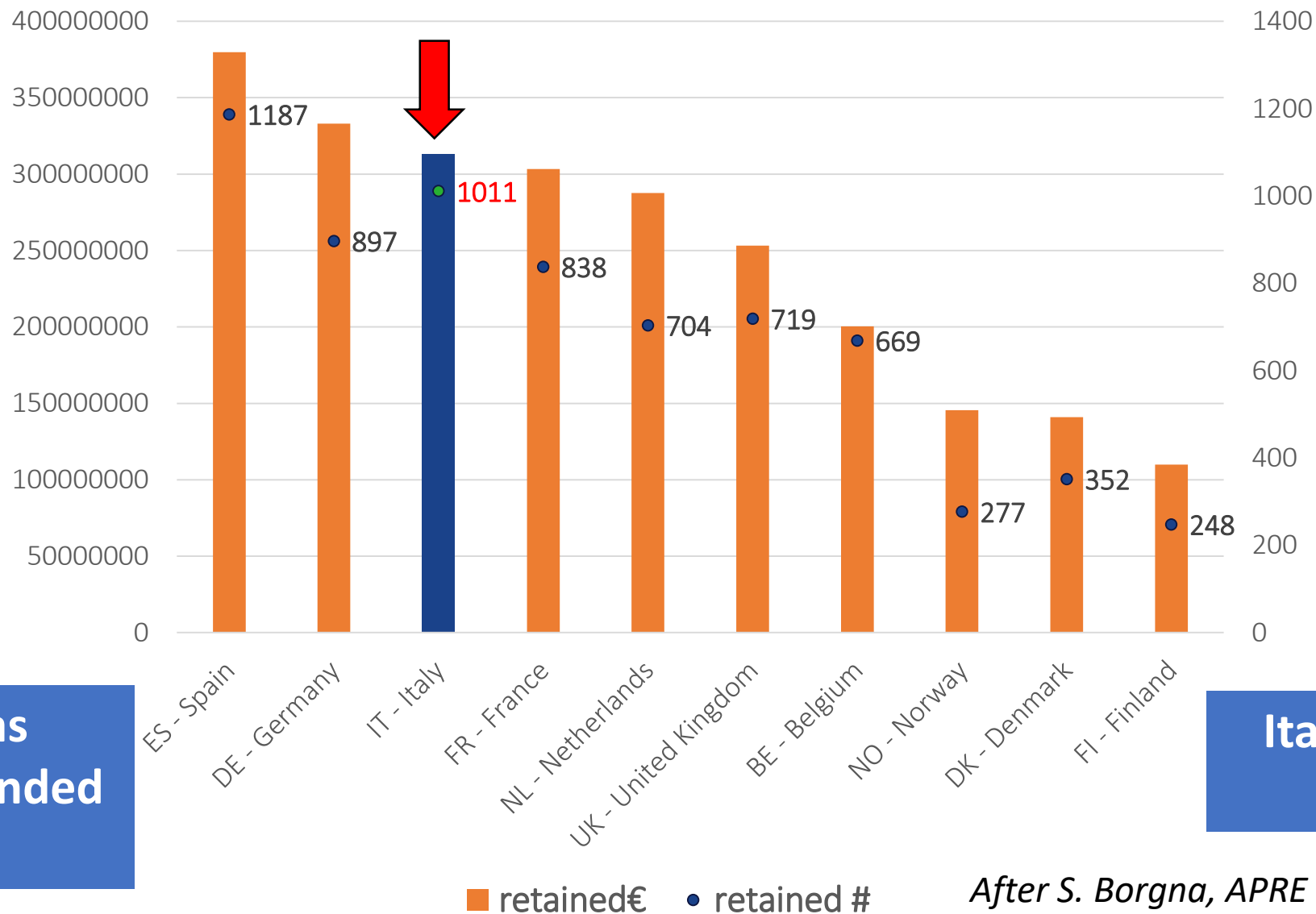
**142 projects , ~1100  
beneficiaries, ~40% SMEs**

**~ € 822 Mln EC + 2.5 Bln  
private contribution**

**14 FLAGSHIPS**  
**Total Grant: € 272 Mln**  
**€1.8 Bln private investment**  
**> 4.700 direct**  
**15.000 indirect jobs**

**Italy: involved in 81 funded  
projects (108 beneficiaries, 65%  
from the private sector, 45%  
SMEs); € 83 Mln of public funds**  
**9 coordinated projects, lead or  
co-lead of 2 flagships**

## Italy in H2020 SC2 & BBI JU projects (2014-20)



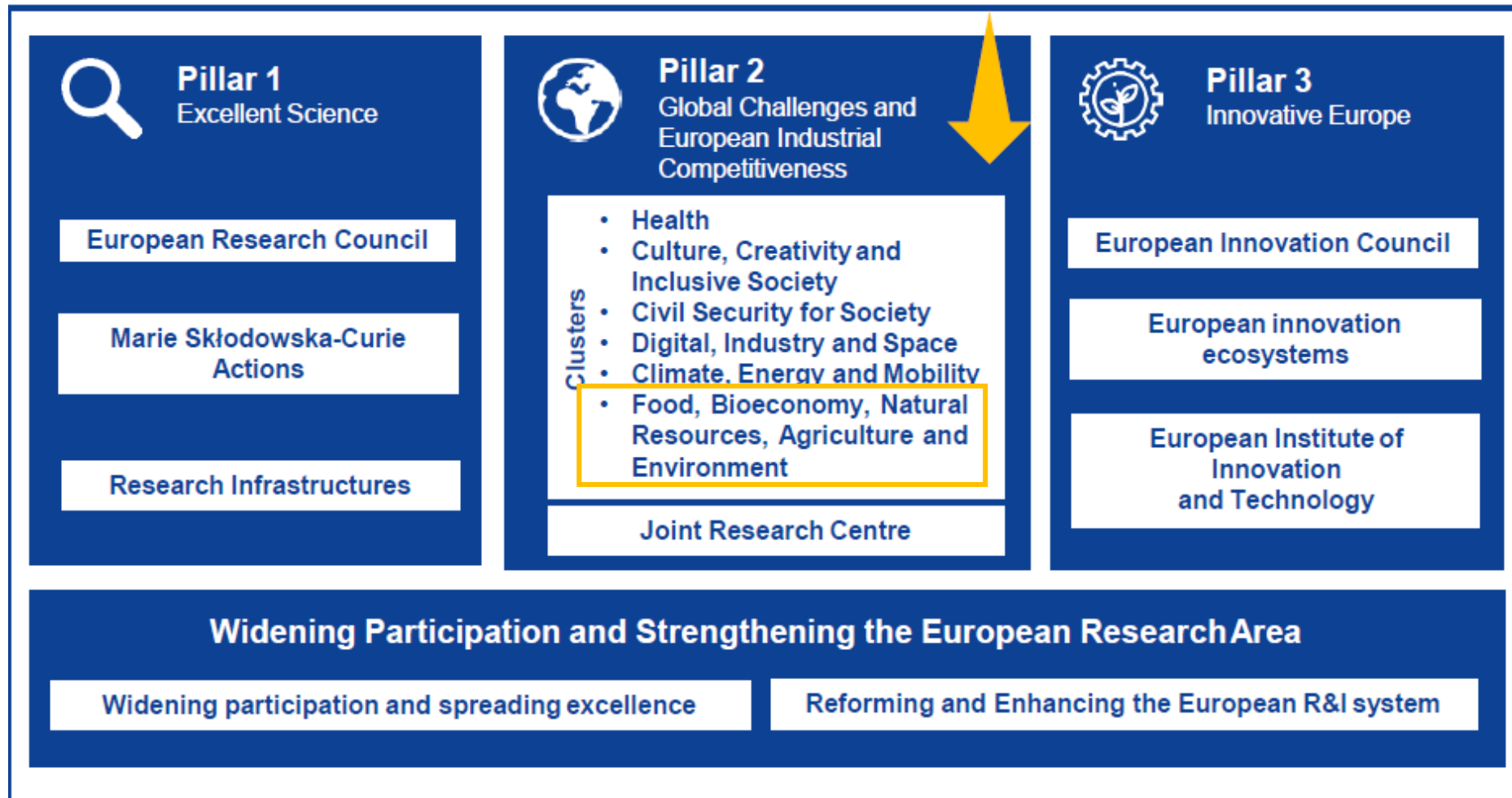
**Italy: 2nd as  
presence in funded  
projects**

**Italy, 3rd in budget  
received**

*After S. Borgna, APRE*



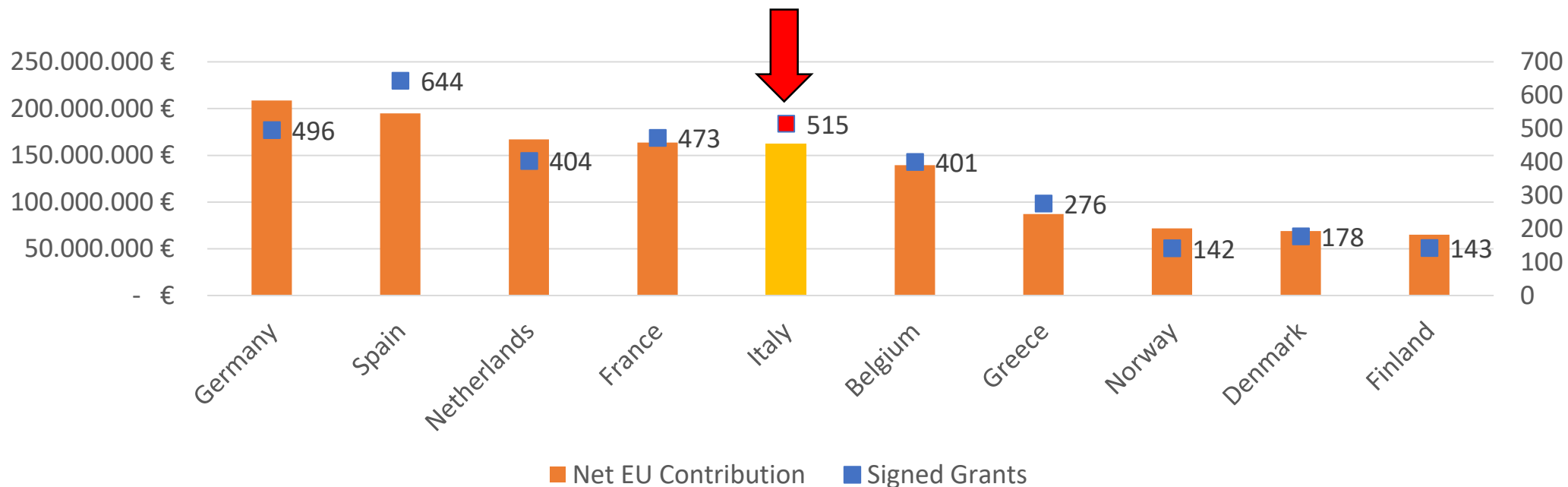
# Horizon Europe (€ 95,5 Bln, 2021-2027)



**MISSIONS:** Restore our Ocean and Waters by 2030; A Soil Deal for Europe;

**PARTNERSHIPS (public/public):** Biodiversity, Agro-ecology & living-labs, Agro-digitalization, Water4all, Animal health, Sustainable food systems, Sustainable blue economy

## Italy in H EU, cluster 6 projects (2021-22)



Italy: 2nd as presence  
in funded projects

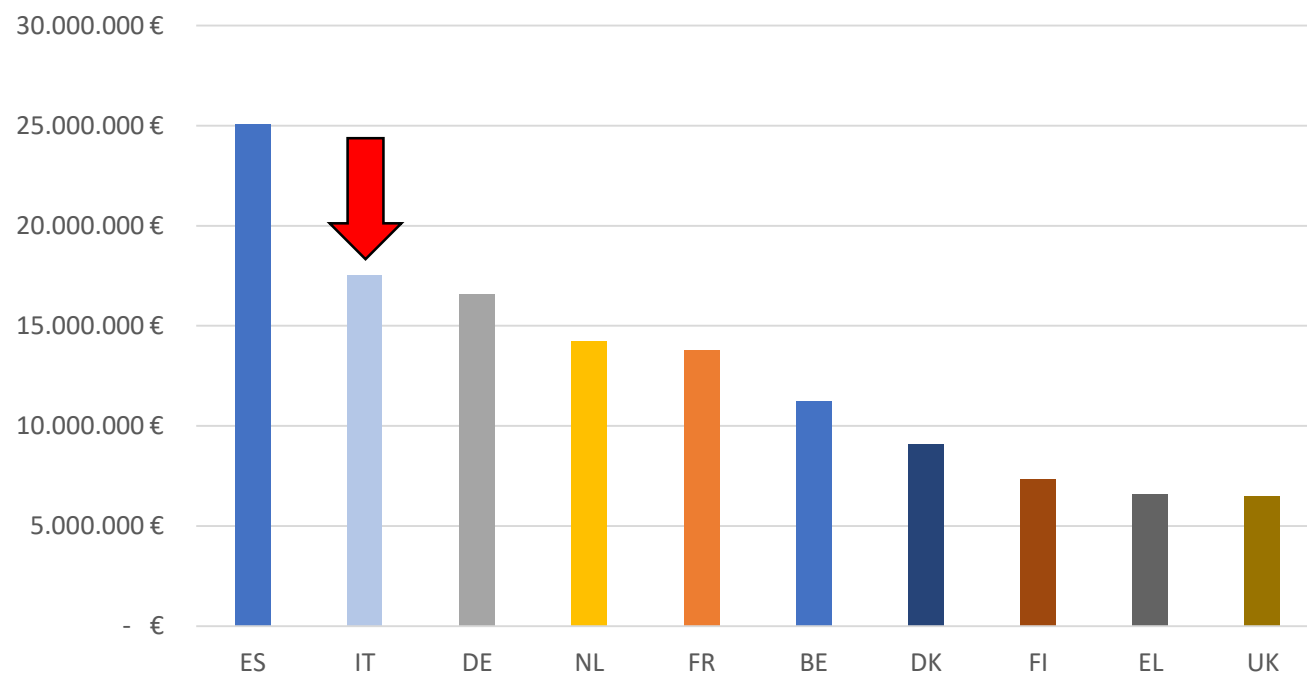


Italy, 5th in budget  
received

*After S. Borgna, APRE*

## Italy in H EU, Mission Soil for Europe (2021-22)

Paesi	Partecipanti	Requested EU contribution
ES	91	25.052.378 €
<b>IT</b>	<b>58</b>	<b>17.503.809 €</b>
DE	43	16.588.362 €
NL	39	14.198.119 €
FR	44	13.795.516 €
BE	46	11.219.562 €
DK	15	9.079.679 €
FI	17	7.344.393 €
EL	24	6.578.816 €
UK	16	6.461.736 €



**Italy: 2nd as presence  
in funded projects**



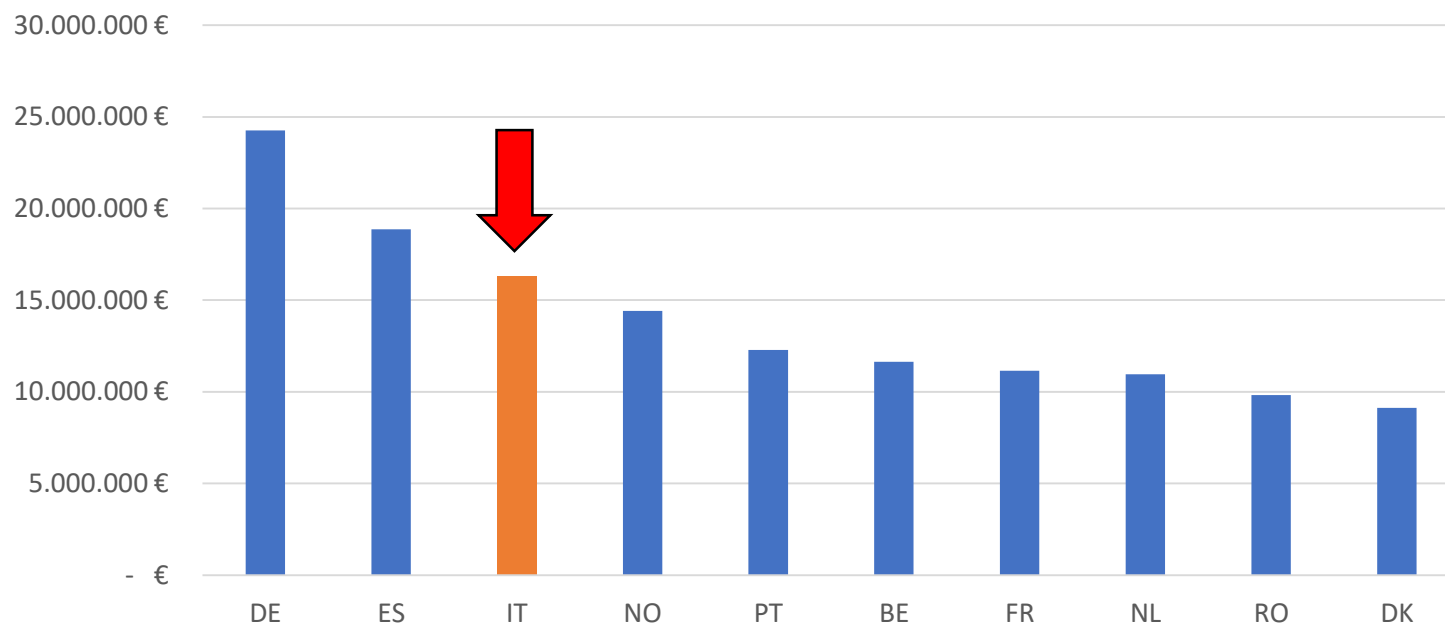
**Italy, 2nd in budget  
received**

*After S. Borgna, APRE*

# Italy in H EU, Mission Restore our Ocean and wasters by 2030 (2021-22)

Paesi	Partecipanti	Requested EU contribution
DE	67	24.254.246 €
ES	50	18.861.362 €
<b>IT</b>	<b>50</b>	<b>16.299.437 €</b>
NO	35	14.410.966 €
PT	41	12.276.913 €
BE	25	11.631.640 €
FR	35	11.146.680 €
NL	31	10.959.806 €
RO	42	9.815.027 €
DK	33	9.129.926 €

**Italy: 2nd in presence  
in funded projects**



**Italy, 3rd in budget  
received**

*After S. Borgna, APRE*



# A Public-Private Partnership on Bio-Based Industries (2022-2027)



A €2 billion partnership between the European Union and the Bio-based Industries Consortium (BIC) that funds projects advancing competitive circular bio-based industries in Europe.

## CBE JU's objectives

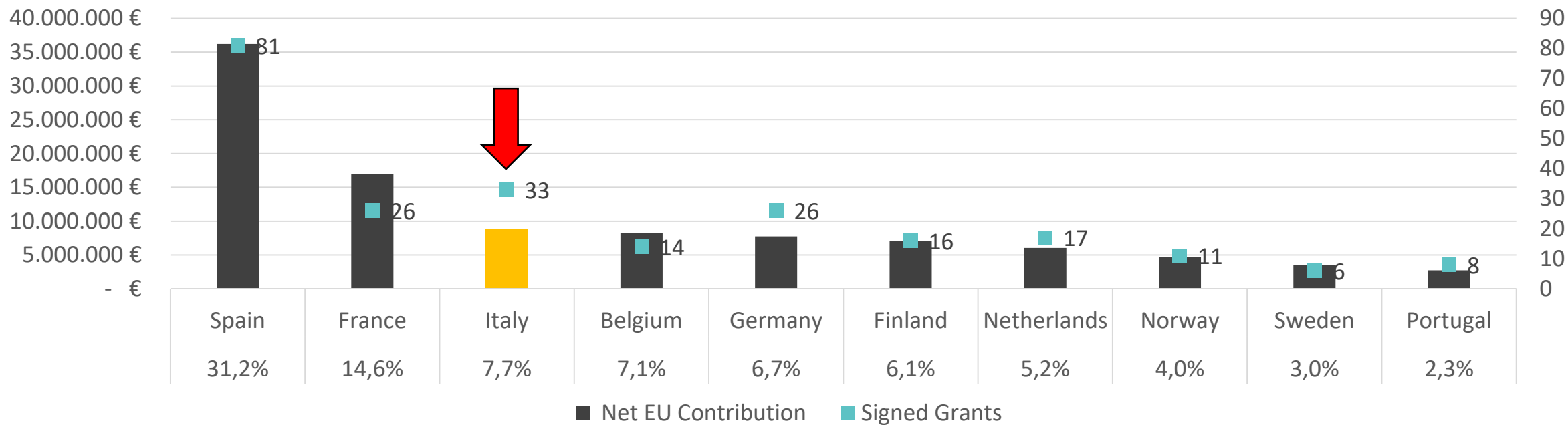
- Accelerate the innovation and development of bio-based solutions
- Accelerate market deployment existing and innovative bio-based solutions
- Ensure high environmental performance of bio-based industrial systems

CBE JU is building on BBI JU's success while enlarging its scope and addressing the remaining challenges of Europe's bio-based industries by:

- Supporting R&I for sustainable bio-based solutions
- De-risking investments in innovative, circular bio-based production plants
- Addressing technological, regulatory & market challenges of the sector
- Strengthening the collaboration of all bioeconomy sectors and actors
- Engaging with more stakeholders along the value chains

**<https://www.bbi.europa.eu/about/circular-bio-based-europe-joint-undertaking-cbe-ju>**

# Italy in H EU, CBE JU (2021-22)



**Italy: 2nd as presence  
in funded projects**



**Italy, 3rd in budget  
received**

*After S. Borgna, APRE*

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# IT Bioeconomy Implementation at the EU and international level

- **Cooperation with FAO tasks forces on sustainable Bioeconomy and Microbiome;**
- **Cooperation with OECD, Working Party on *Biotechnology, Nanotechnology and Converging Technologies*, Paris. Publication of joint documents. Ex: launch of OECD's Report on Carbon Management: Bioeconomy and Beyond. December 6, 2023. Norwegian Pavilion, COP28 Dubai.**
- **Cooperation with the G20 Presidencies (Env and R&I) on the organization of the:**
  - i) **G20 –env- OECD WORKSHOP: *Bioeconomy in the G20 and OECD countries: sharing and comparing the existing national strategies and policies for co-designing more effective Bioeconomy governance mechanisms and monitoring systems*. Presidency of Council of Ministers, Roma, July 16, 2021**
  - ii) **G20 –env- OECD workshop: *Circular Bioeconomy and biofuels for the decarbonization and the habitat restoration*. Planned for this year and post poned to 2024. Organizer and hosting institution: National Bioeconomy Coordination Board, Presidency of Council of Ministers, and Ministry of Environment and Energy Security, 2024.**
- **Other activities not mapped by the *National Bioeconomy Coordination Board*....**





***G20 –env- OECD-BNCT WORKSHOP: Bioeconomy in the G20 and OECD countries: sharing and comparing the existing national strategies and policies for co-designing more effective Bioeconomy governance mechanisms and monitoring systems.***

Web meeting, Presidency of Council of Ministers, Rome. July 16, 2021

ORGANIZERS: The “National Bioeconomy Coordination Board”, CNBBSV, Presidency of Council of Ministers, IT Ministry for the Ecological Transition and OECD BNCT

- ***OECD report 2021***
- ***Policy paper on EFB Bioeconomy Journal (Elsevier) 2023 at:  
<https://www.sciencedirect.com/science/article/pii/S2667041023000083>***

# G20 OECD-BNCT workshop: countries involved



Japan, South Africa and  
USA also include:  
Health/medical biotech

- Dedicated bioeconomy strategy
- Bioeconomy-related strategy
- Be-related strategy; dedicated be-strategy is under development
- Dedicated be-strategy is under development

# G20 OECD-BNCT workshop: main identified needs

## Wider and more effective national governances, inter-ministerial governances

- Intensify involvement of primary producers and citizens
- Greater access to risk capital
- Enable rapid commercialisation of biomanufacturing technologies
- Updated regulatory system (eg., new or revised EU NACE codes for biobased products)
- Foster the role of Bioeconomy and its relevant technologies in context of the European Green Deal and related policies (from the EU MSs)

More robust, established and harmonized indicators, along with high quality, homogeneous and aggregated data, and monitoring systems tailored for both products and territories, addressing both general and site specific priorities. Also simple to use and cheap tools... “open access databases” would help.

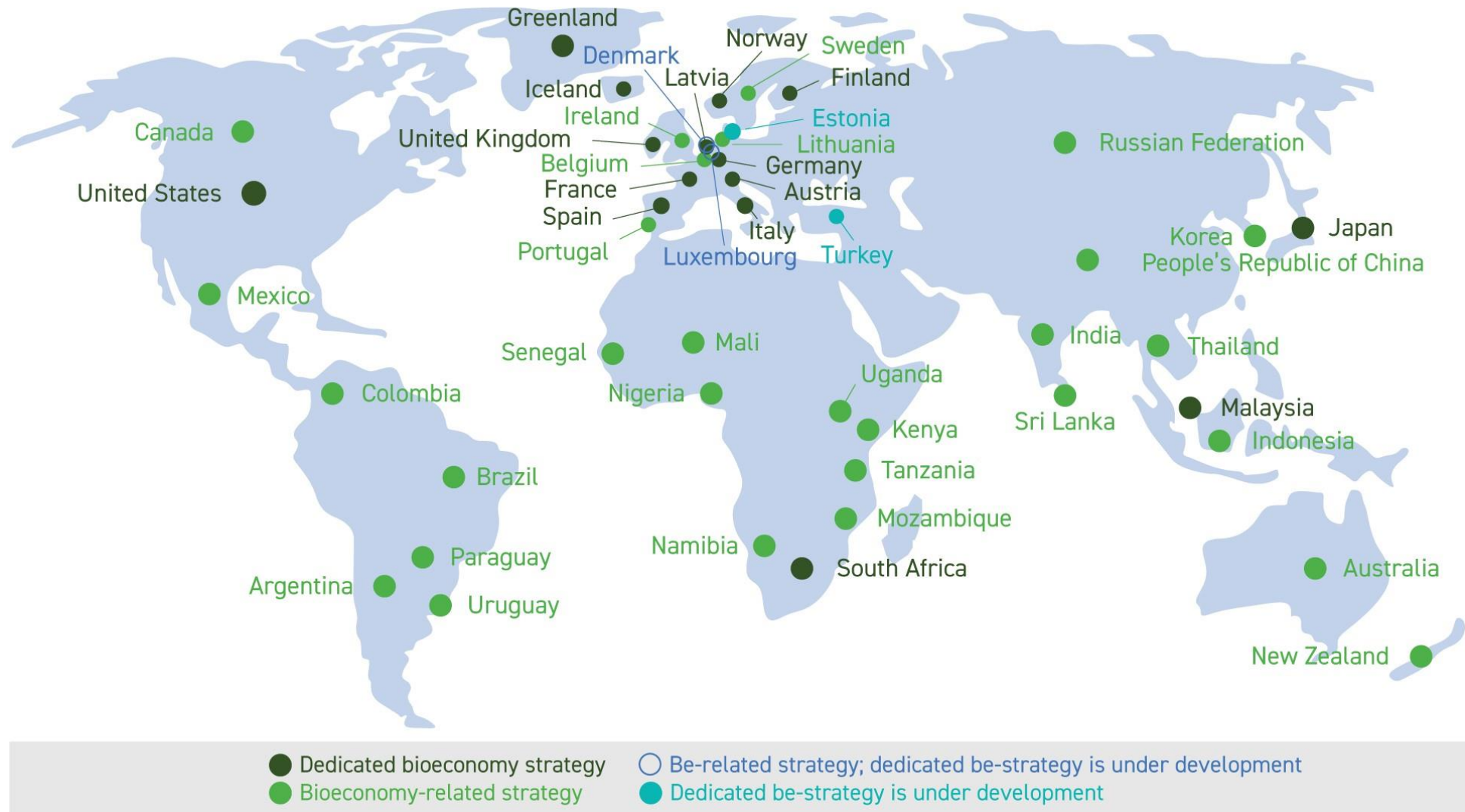
Suggested additional indicators (in addition to the ones used eg., material flows of resources and of residuals and waste streams; sustainability under economic -e.g. employment-, social -e.g. wellbeing-, and environmental -e.g. accounting of natural capital and ecosystem services such as carbon sequestration):

- household food security, entrepreneurial opportunity, skills development; wealth and well-being;
- GHG balances and reduction, biodiversity protection, UN SDGs implementation.





# The national Bioeconomy strategies at the global level



More than 40 States worldwide currently pursue explicit political strategies to expand and promote their Bioeconomy. However, the available Bioeconomy strategies are often considerably different in focus sectors, governance and framework to monitor progress in reaching the planned targets.