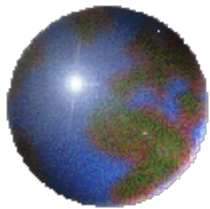


**Presidency of Council of Ministers
Roma, May 14, 2019**



Bioeconomy in Italy and the updated Italian Bioeconomy strategy

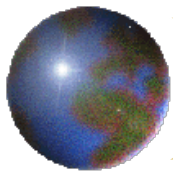
Fabio Fava

Italian Representative, i) *Horizon2020 SC2* Programming Committee; ii) "States Representatives Group" of *Public Private Partnership Biobased industry (BBI JU)*; and iii) *BLUEMED Initiative* GSO WG. European Commission, Brussels-fabio.fava@unibo.it

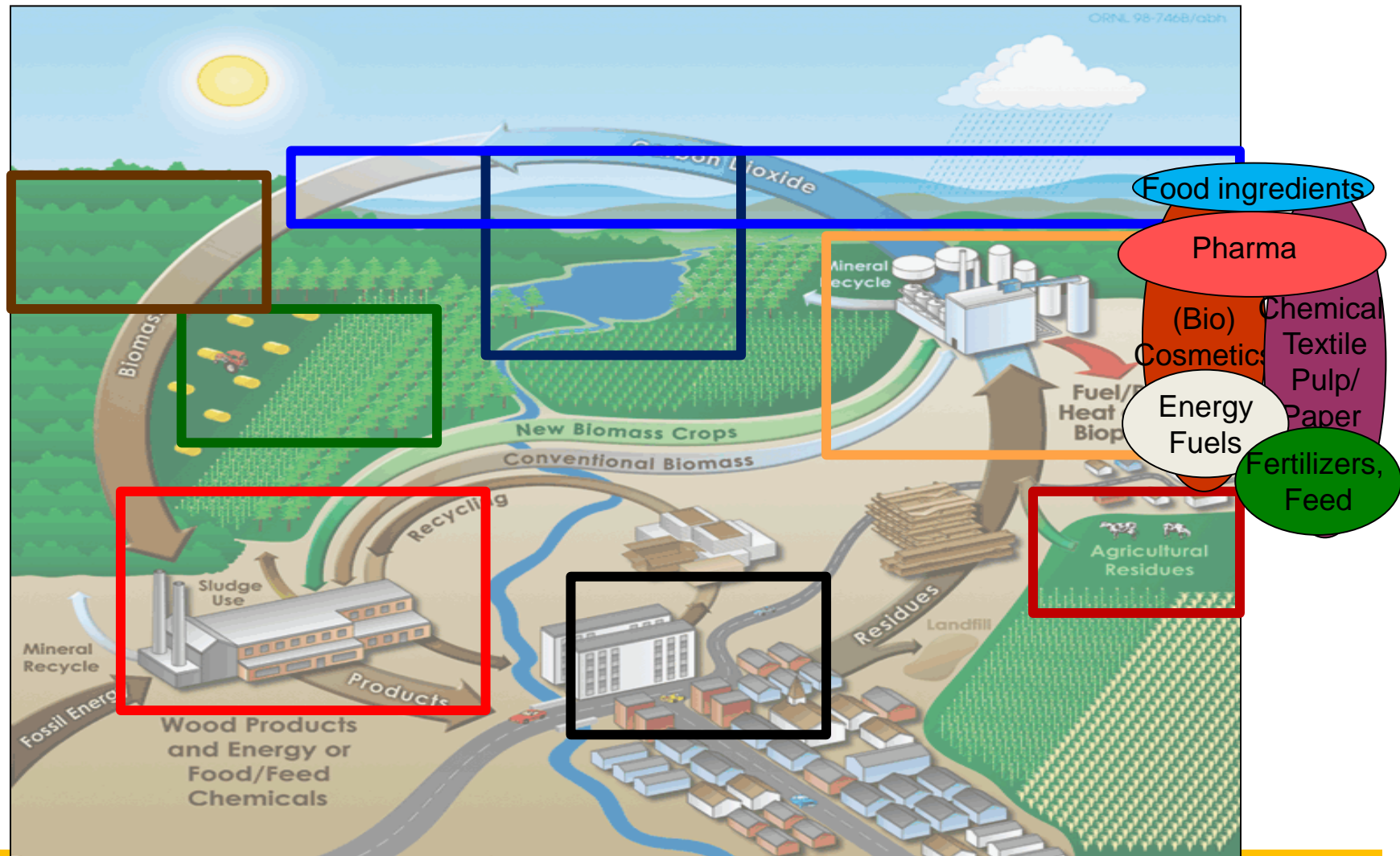
Andrea Lenzi

President, *National Committee on Biosafety, Biotechnology Life Sciences, Presidency of Council of Ministers* - andrea.lenzi@governo.it

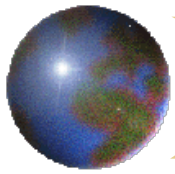
**On behalf of the *National Bioeconomy Task Force* of the Italian
Presidency of Council of Ministers**



The Italian Bioeconomy landscape



**About 330 Bln €/y and 2 Mln of jobs (3rd in EU)
(In Europe: about 2.300 Bln €/y and 18 Mln of jobs)**



Italian performances in Bioeconomy

...but it is often the 2nd EUMS as presence in H2020SC2 & BBIJU funded projects..

Italian presence in the proposals funded by H2020 SC2 + SMEinst

2014 - 4th

2015 - 3rd

2016 - 3nd

2017 - 1st

2018 - 3nd

Budget received: ~ € 145 M

Italian presence in the proposals funded by BBI JU

2014 - 5th

2015 - 3rd

2016 - 2nd

2017 - 1st

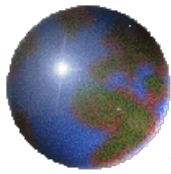
2018 - 2nd

Budget received: ~ € 75 M

...and the 1st in biodiversity richness, high quality bioproducts on the market, etc

Thus, Italy can do more but this requires to:

- i) increase coordination among Ministries, Ministries and Regions, for policies and regulations, R&I funding programmes, infrastructures, etc.
- ii) face challenges and exploit opportunities existing in each the internal Bioeconomy sectors, better interconnect them and their public/private actors.



Primary production: main challenges and opportunities

Agriculture, Livestock and aquaculture

Used land: ~ 13 M
ha, 80% in
rural areas

~ 55 Billion €/y
~ 910,000 jobs

Problems:

- ❑ Low size and low revenue farms, poorly organized value chains → abandonment, reduction of cultivated land surface;
- ❑ Poorly innovative agricultural practices and systems;
- ❑ Depletion of soil organic matter and water scarcity.

Opportunities:

- ❑ Valorize plant/animal biodiversity and ecosystem services;
- ❑ Use improved of crops/agricultural practices, precision farming and new breeding techniques;
- ❑ Apply new business models, diversify rural incomes; exploit urban farming.

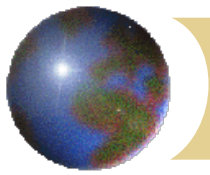
Forestry Used area: ~ 12 M ha

Problems:

- ❑ Fragmentation of ownership, poor valorization of forest products -> abandonment with biodiversity depletion, also due to climate change;

Opportunities:

- ❑ Adopt integrated management of forest with valorization its biodiversity, ecosystem services, wood and other products, also via business innovation on local value chains.



Food and biobased industries: main challenges and opportunities

Food Industry

~137

Billion €/y
~ 450,000
jobs

Problems:

- ☐ Structural limitations (very small SMEs), lack of value chain coordination;
- ☐ Strong products counterfeiting and imitations;
- ☐ Low efficiency of food chains with remarkable food/biomass losses, energy and water consumption and by-products/waste production;

Opportunities:

- ☐ Leading position for “typical/quality” food products (DOP, IGP, STG, etc.);
- ☐ Digitalization for food production and delivery; novel packaging
- ☐ food products from byproducts/new protein sources

Biobased Industry (Wood, Pulp & Paper, Biorefinery & BioWaste)

~130

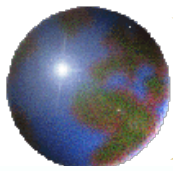
Billion €/y
~ 600,000
jobs

Problems:

- ☐ Wood industry uses imported wood and produces low value products;
- ☐ Lack of low cost non-food feedstocks; legislative barriers to use biowaste;
- ☐ National market of biobased products limited and affected by the occurrence of products that do not comply to international standards;

Opportunities:

- ☐ Use IT wood for IT wood industry; produce new/higher value products;
- ☐ agrifood byproducts/effluents/waste and urban waste as feedstocks
- ☐ Use of abandoned/marginal lands for producing biomass for biorefineries and former industrial sites/plants for installing them;
- ☐ Exploit wastewater/biomethane plants for also producing biocompounds



Blue Bioeconomy: main challenges and opportunities



About 8,000 km of coastline

~ € 45 Billion €/y
~ 835,000 jobs
~ 15% due to
Bioeconomy

*After: VII RAPPORTO
SULL'ECONOMIA DEL MARE
Unioncamere, 2018*

Problems:

- ❑ Unsustainable fishery and fish reproduction highly affected by climate changes;
- ❑ Market with fish imported from areas with uncertain regulations/monitoring;
- ❑ Sea pollution (due to chemicals, litter, etc), presence of invasive species;
- ❑ Coastal urbanization, over- and un-sustainable exploitation of beaches.

Opportunities:

- ❑ Exploit marine aquaculture (also off shore) and multi-trophic aquaculture;
- ❑ Exploit local marine biodiversity and bioenergy potential;
- ❑ Exploit agroforestry, cultural heritage, ecosystem services at the land/sea interface.

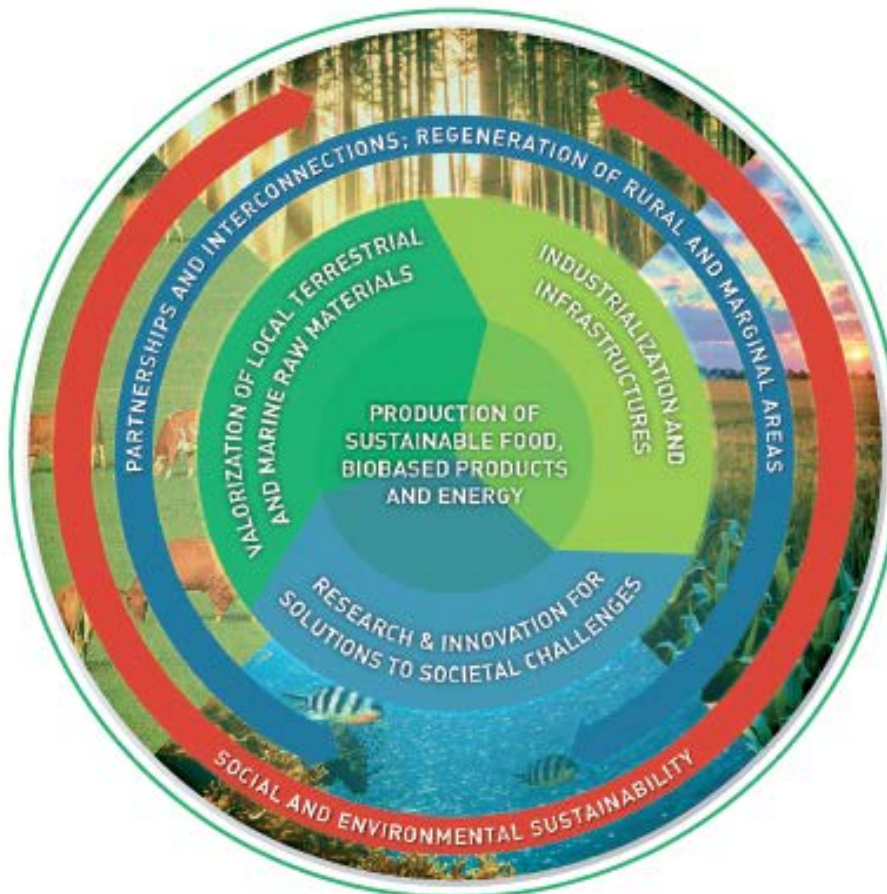
BIT

Bioeconomy in Italy

The Italian Bioeconomy strategy BIT I

AVAILABLE AT:

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



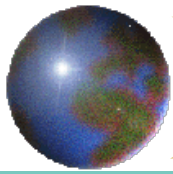
Roma, April 20, 2017

A unique opportunity to reconnect

ECONOMY, SOCIETY
and the **ENVIRONMENT**

Promoted by Italian Presidency of Council of Ministers and endorsed 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 and AgriFood



The new European Bioeconomy strategy

A new
bioeconomy strategy for a sustainable Europe



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 €50 million Circular Bioeconomy Thematic Investment Platform.

Brussels, October 22, 2018

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

Protecting the ecosystem and understanding the ecological limitations of the bioeconomy

BIT

bioeconomy in Italy



Roma, May 14, 2019
A new bioeconomy
strategy for a
sustainable Italy

The Italian Bioeconomy strategy BIT II

AVAILABLE AT:

<http://cnbbsv.palazzochigi.it/en/communication/news/bioeconomy/>

1 Bioeconomy – Basics

- 1.1 In the global and EU context
- 1.2 At Italian level
- 1.3 Bioeconomy at regional levels

2 Raw materials sources and the opportunities of biowaste

3 Bioeconomy in everyday life

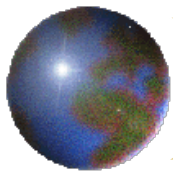
4 The social dimension of the bioeconomy

5 Legislative framework, funding measures and market pull measures

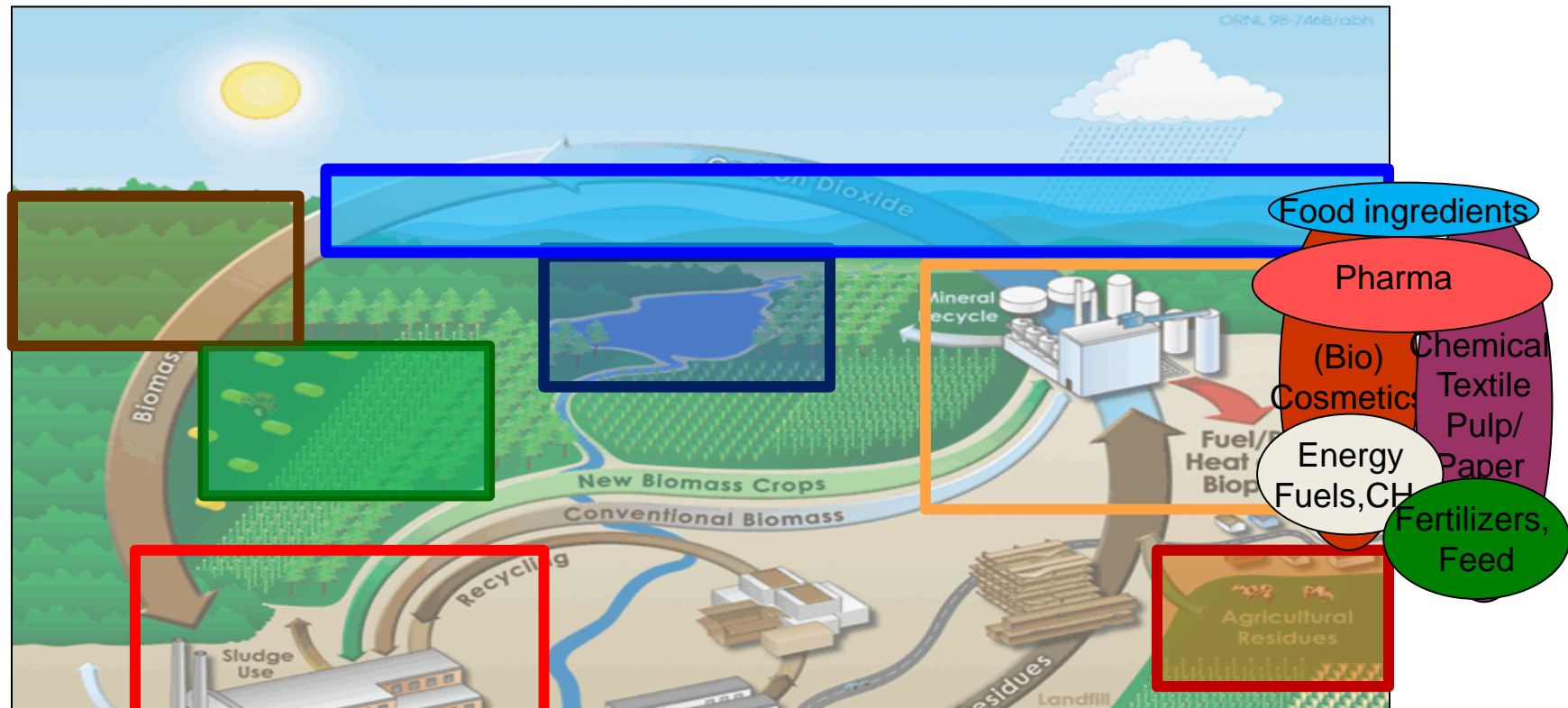
6 Challenges and action plan for the Italian bioeconomy

7 Implementation and monitoring

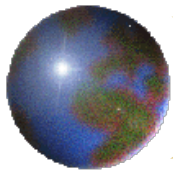
8 Actors involved and road map



The Italian Bioeconomy strategy II: the vision

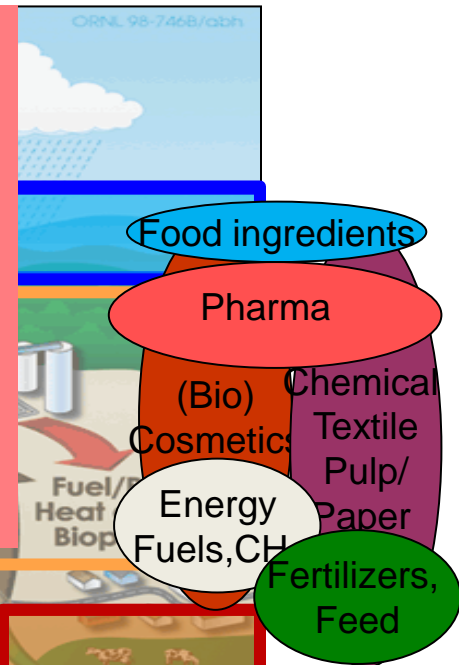
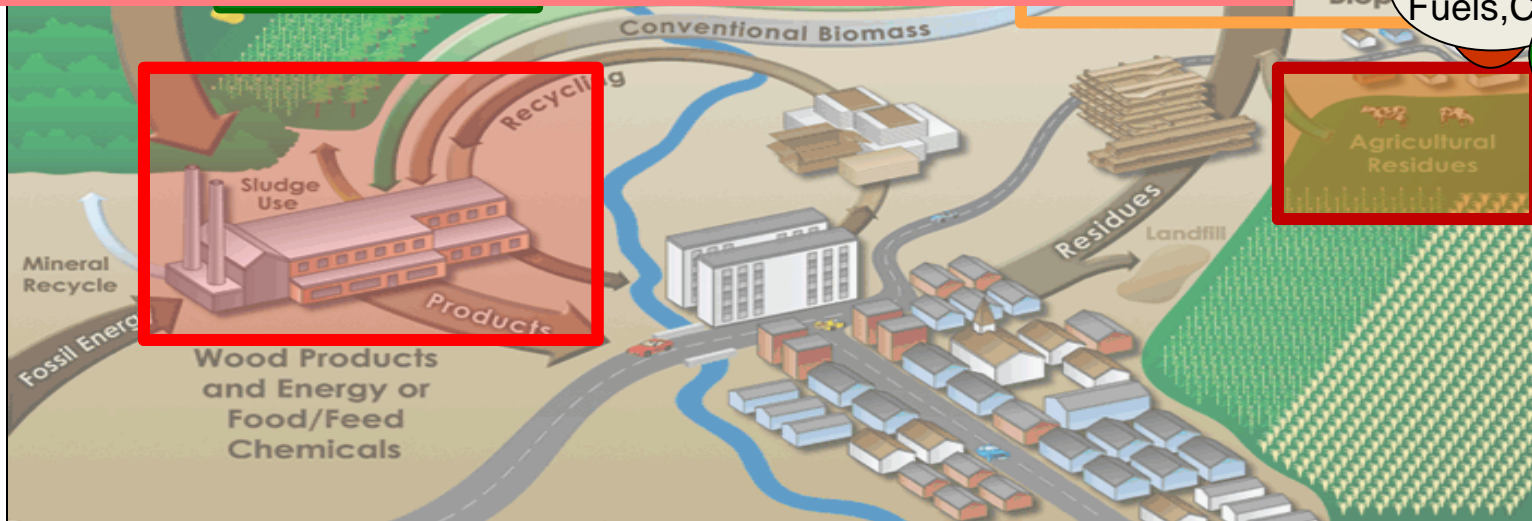


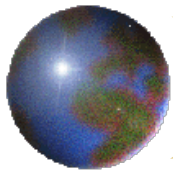
- Improve sustainable and climate/stress resilient primary production, valorizing local biodiversity, microbiomes knowhow, new hybridization and production techniques, and digitalization;
- Soil, water and marine ecosystems preservation and regeneration;
- Production of quality products (also «organic»), their certification, and promotion
- Ecosystem services, urban and costal farming



The Italian Bioeconomy strategy II: the vision

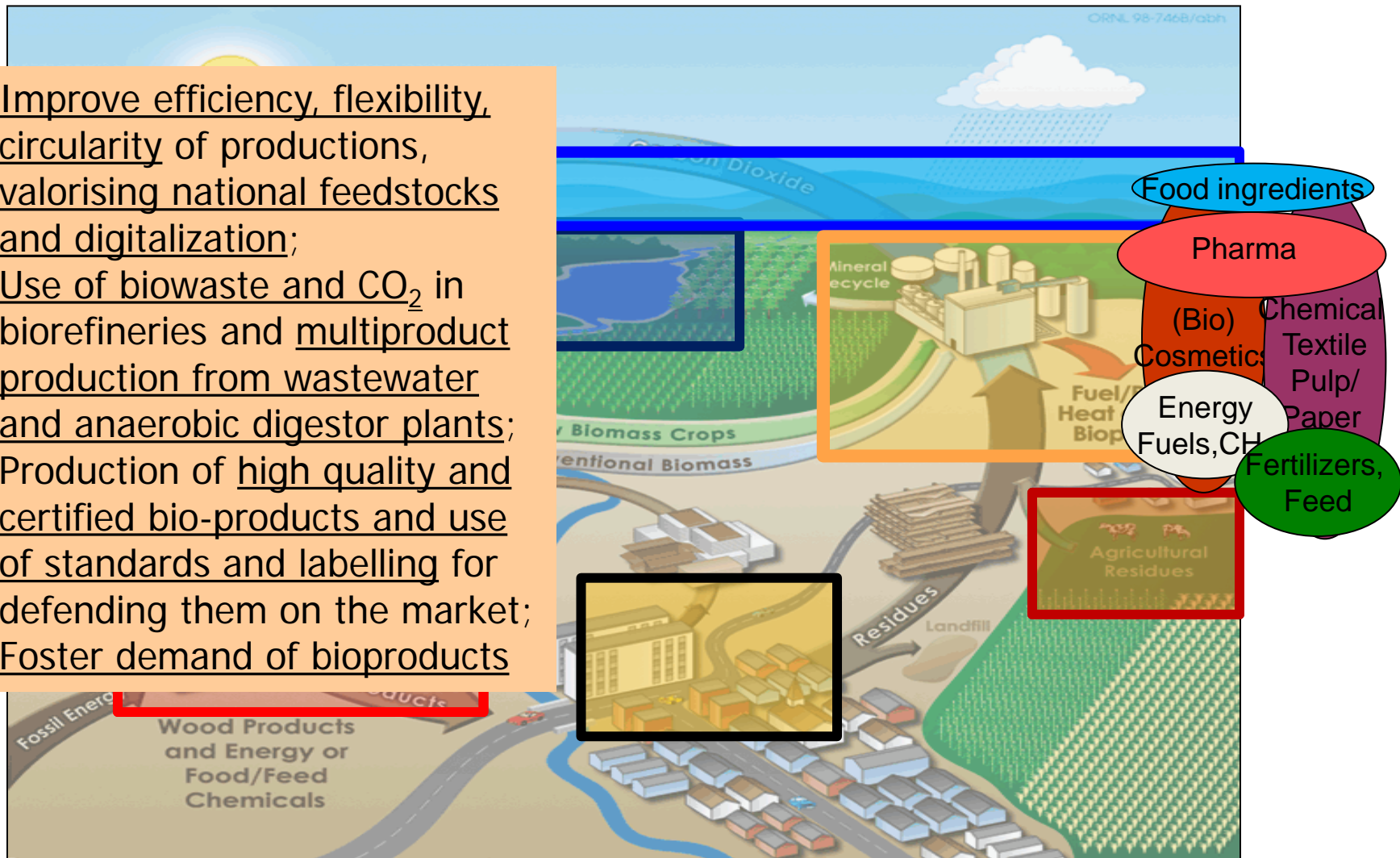
- Improve efficiency, flexibility, safety, biocompatibility and circularity of the production chains, and of the products delivery and use, especially in the Cities, valorizing digitalization, new bio-packaging, etc
- Production of new Typical/Quality foods, development of personalized and healthier diets, defending their authenticity and traceability;
- New symbiotic society models to improve competitiveness, resilience, sustainability of the sector

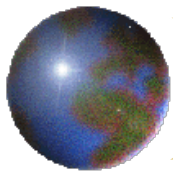




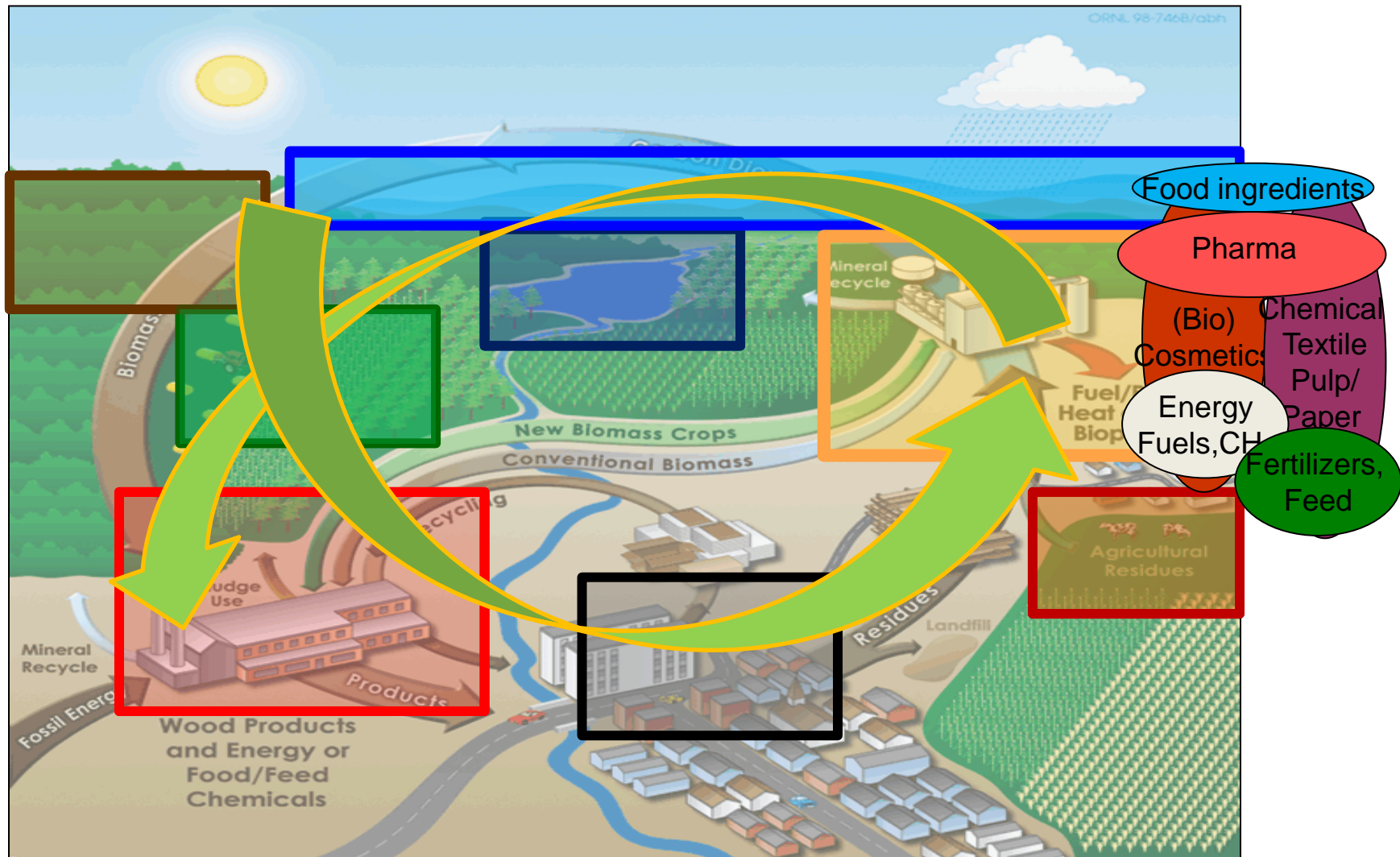
The Italian Bioeconomy strategy II: the vision

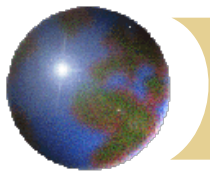
- Improve efficiency, flexibility, circularity of productions, valorising national feedstocks and digitalization;
- Use of biowaste and CO₂ in biorefineries and multiproduct production from wastewater and anaerobic digester plants;
- Production of high quality and certified bio-products and use of standards and labelling for defending them on the market;
- Foster demand of bioproducts





The Italian Bioeconomy strategy II: the vision





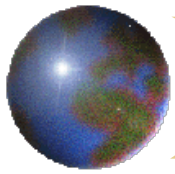
The Italian Bioeconomy strategy II: main objectives and priorities

Main priorities:

- a) Improve sustainably the productivity and quality of products of each of the sectors and more efficiently interconnect them, by creating longer and more locally routed value chains, where the actions of public and private stakeholders integrate across all major sectors;
- b) Exploit national terrestrial/marine biodiversity, ecosystem services and circularity, and regenerate abandoned/marginal lands and former industrial sites;
- c) Contribute to the growth of Bioeconomy in the Mediterranean area via PRIMA and BLUEMED initiatives, for a greener and more productive region, a wider social cohesion and political stability in the area;
- d) Create: i) more coherent political commitment and coordination among regional and national institutions/stakeholders, ii) more investments in R&I, start ups, infrastructures and consistency with policies/regulations, iii) increased demand for bio-products via tailored standards, labels, and incentives, and tailored communication; iv) education and training.

Objective:

Increase Italian Bioeconomy turnover and jobs by 15% by 2030.



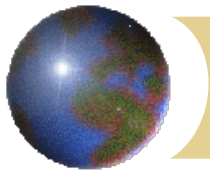
Implementation of BIT II: the road map

The *National Bioeconomy Task Force* of the Presidency of Council of Ministers will proceed with its action according to following road map:

- i) Develop a national *Implementation Action Plan* (IAP) on Bioeconomy (by November 2019, via a national consultation). BIT II and related IAP will be then updated biannually with new/emerging needs and opportunities;
- ii) Assist and monitor the adoption BIT II and IAP at the national and regional level, ensuring coordination among public authorities;
- iii) Promote BIT II and related IAP towards European and international policy authorities and R&I funding institutions;
- iv) Promote BIT II and related IAP implementation also in the Mediterranean area, also throughout PRIMA and BLUEMED initiatives;
- v) Facilitate Italian public-private partnerships formation and effective participation in national and European funding programs, reducing fragmentation/duplication, fostering effective innovation in the Country.



IN COOPERATION WITH REGIONAL CLUSTERS AND INNOVATION CENTERS



The National Bioeconomy Task Force

The *National Bioeconomy Task Force* of the Presidency of Council of Ministers is composed by:

- G. Giorgetti, P. Morassi, G. Vigna - *Presidency of Council of Ministers, Coordination*
- A. Lenzi, F. Fava, A. Camilli – *National Committee on Biosafety, Biotechnology Life Sciences, Presidency of Council of Ministers. Technical/Scientific coordination*
- F. Fava, F. Cotana - *Ministry of Education, University and Research*
- E. Lorenzini, D. Rogges, C. Tonci, D. Carosi - *Ministry of Economical Development*
- E. Gatto, V. de Paolis, A. Zezza - *Ministry of Agriculture, Food, Forestry, Tourism*
- P. Morone, O. Carlo, P. Paolina - *Ministry of the Environment, Land and Sea*
- M. Bora, R. Liberali - *Committee Productive Activities, Regions Conference*
- C. Bastioli, G. Gregori, L. Gardossi - *IT Technology Cluster on Green Chemistry*
- L. Scordamaglia, P. Brigidi, M.C. Di Domizio - *IT Technology Cluster AgriFood*
- R. Cimino, E. Campana - *IT Technology Cluster for BlueGrowth*

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