

Trends and opportunities in the Biomethane production, in Italy and in Europe

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&

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Biobased industry (BBI JU), iii) Bioeconomy at OECD
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CON IL PATROCINIO



PARTNER PRINCIPALI



PARTNER SOSTENITORI

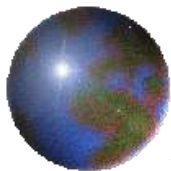


PARTNER

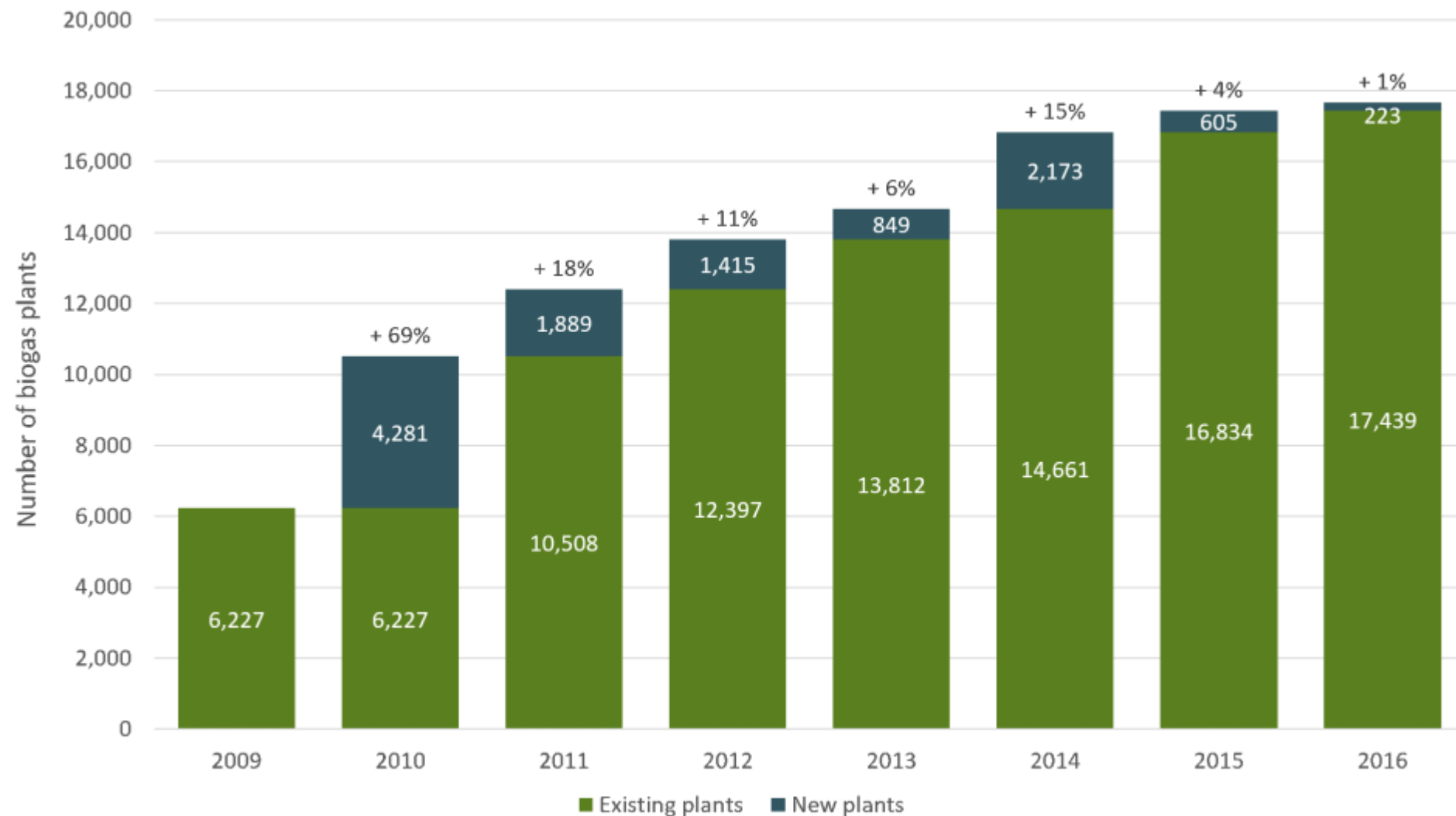


MEDIA PARTNER

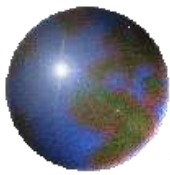




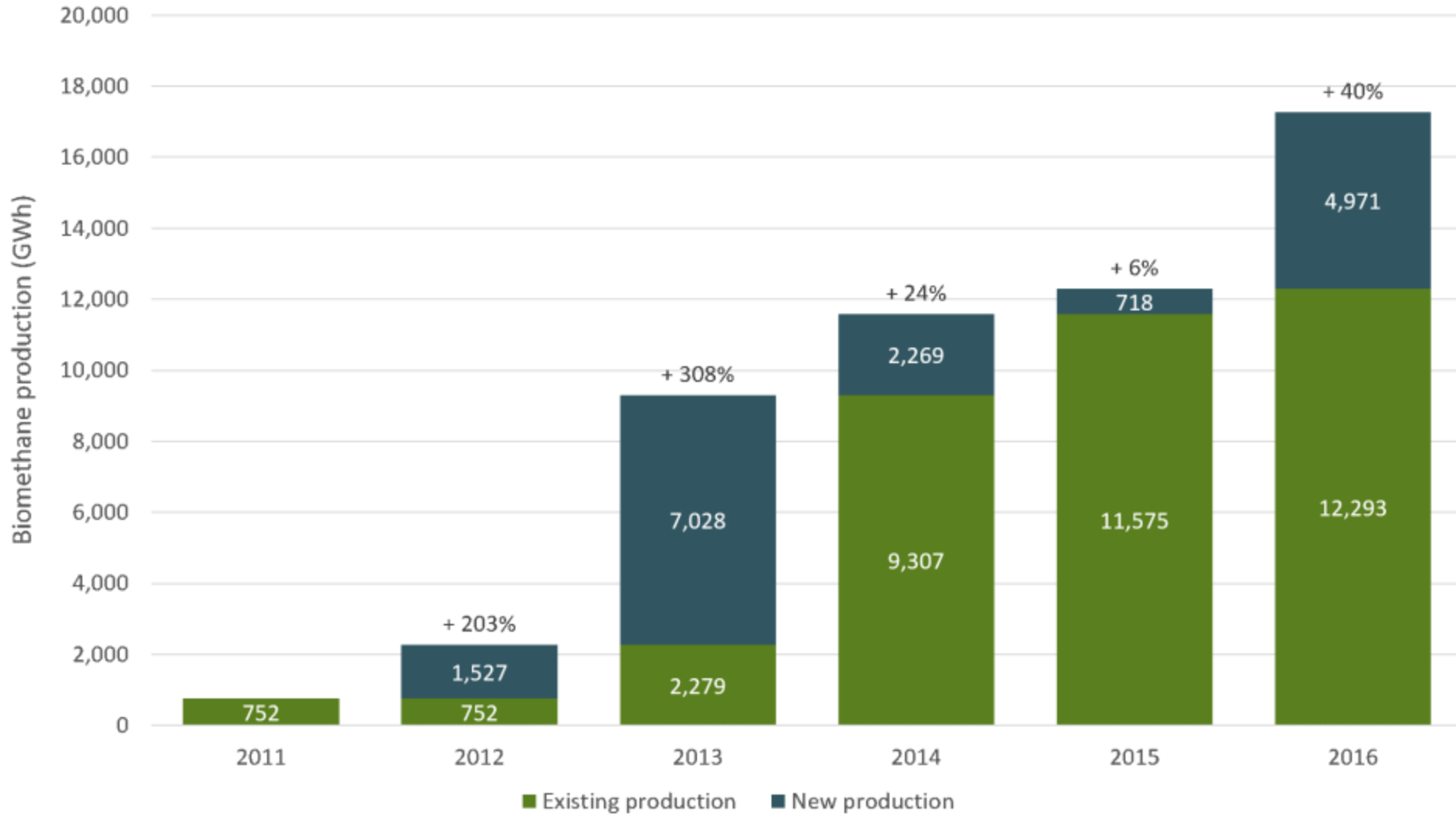
Number of Biogas plants in Europe



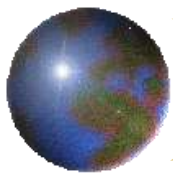
After European Biogas Association



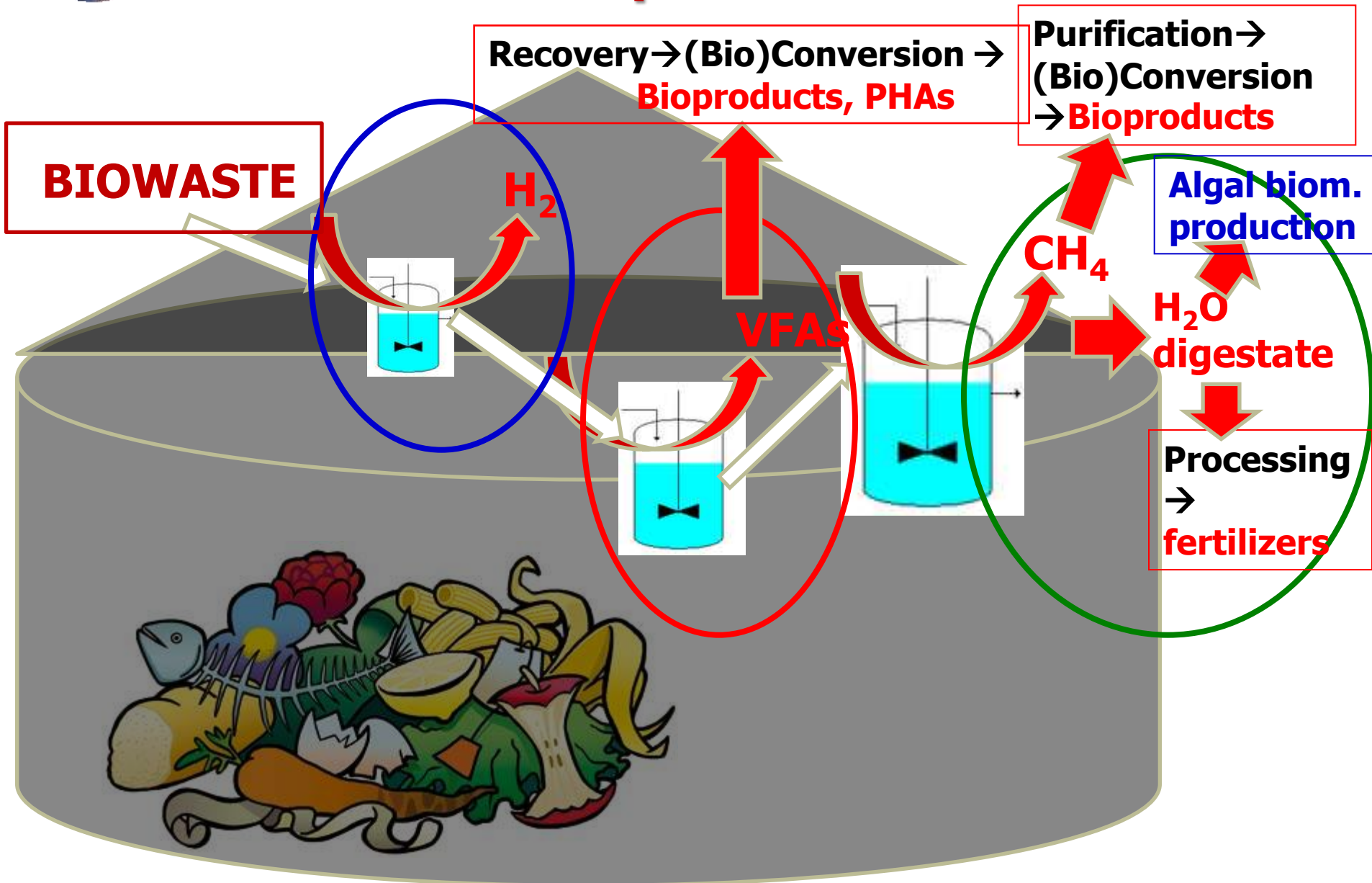
Biomethane production in Europe



After European Biogas Association



(Bio)methane industry opportunities: new products





(Bio)methane industry opportunities: be part of multiproduct biorefineries (a)

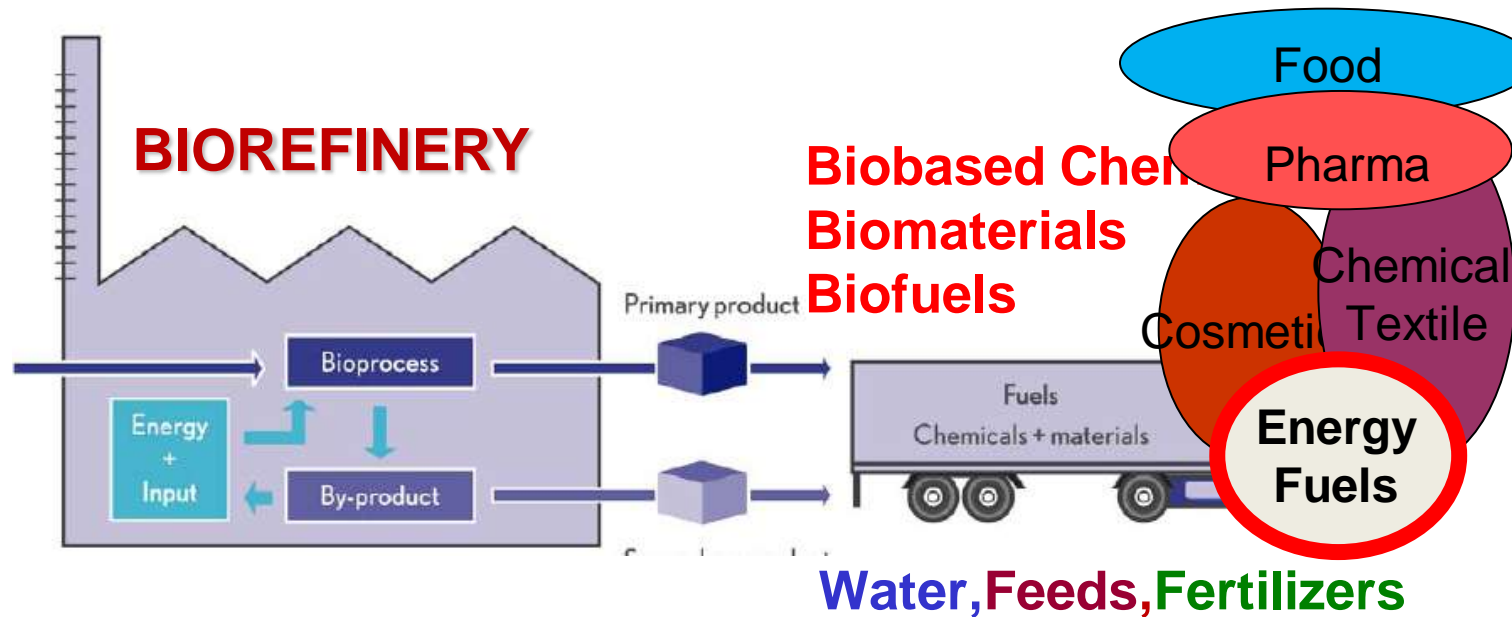
Towards a bio-based society: an integrated, multipurpose biorefinery

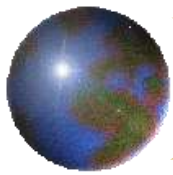
Forestry/ligno
cellulosic
biomass

Non food
crops

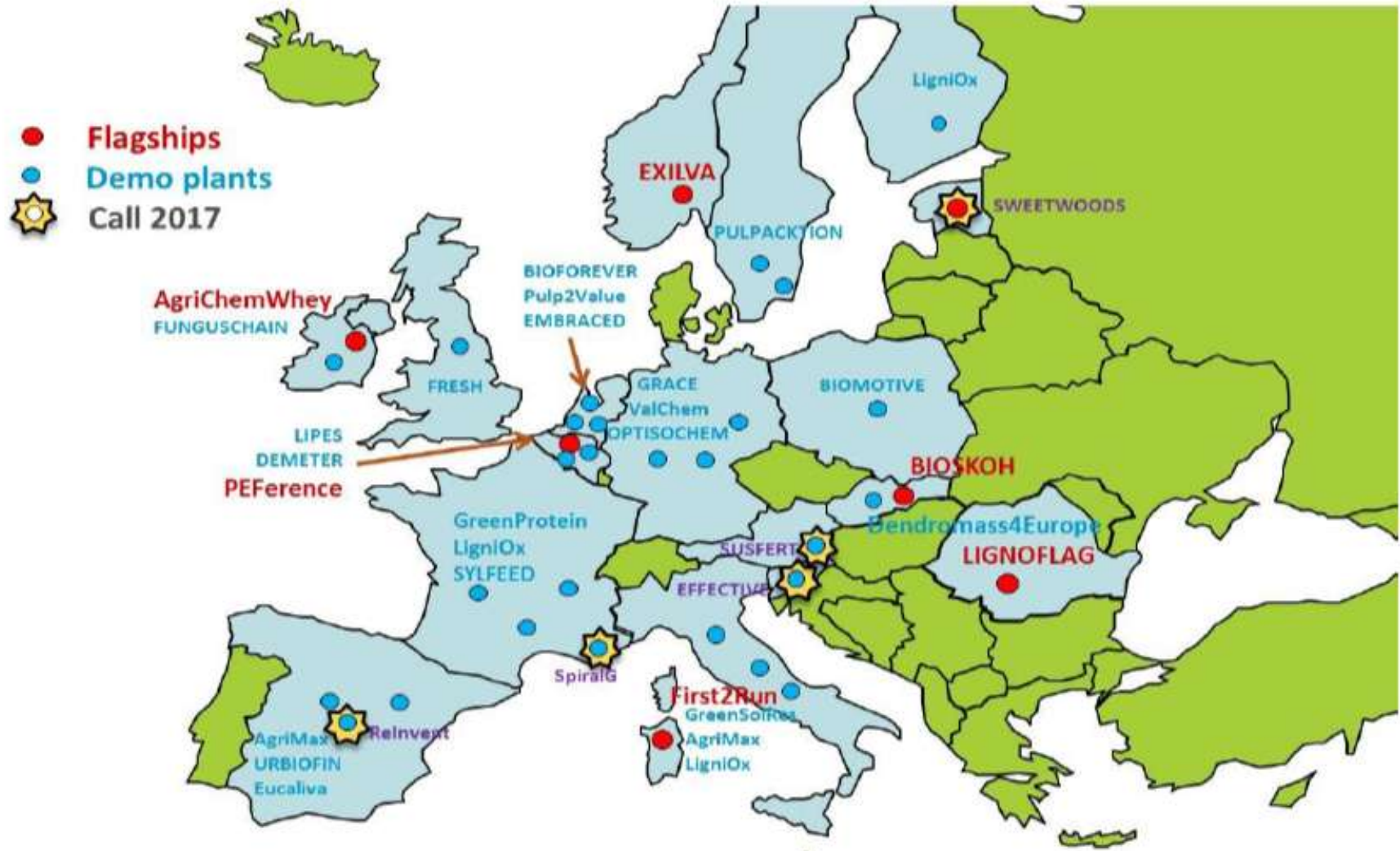
AgriFood by-
products &
waste

Urban





(Bio)methane industry opportunities: be part of multiproduct biorefineries (b)





(Bio)methane industry opportunities: be part of multiproduct biorefineries (c)

PIEMONTE

- R&D CENTRE BIOPLASTICS AND BIOCHEMICALS FROM RRM (NOVARA)
- R&D CENTRE CHEMISTRY FROM RENEWABLES (NOVARA)
- R&D CENTRE BIOCHEMICALS AND BIOFUEL FROM RENEWABLES (RIVALTA SCRIVIA - AL)
- PILOT PLANT FATTY ALCOHOL (RIVALTA SCRIVIA - AL)
- PILOT PLANT BIOMONOMERS (NOVARA)
- PILOT PLANT GREEN GLYCOL (RIVALTA SCRIVIA - AL)
- INDUSTRIAL PLANT LIGNOCELLULOSIC BIOETHANOL (CRESCENTINO - VC)
- FLAGSHIP SUCCINIC ACID (CASSANO SPINOLA - AL)

SARDEGNA

- 1 FLAGSHIP AZELAIC ACID AND PELARGONIC ACID (PORTO TORRES - SS)
- 1 FLAGSHIP BASIS FOR BIOLUBRICANTS AND BIOADDITIVES FOR RUBBER
- R&D CENTRE

LAZIO

- INDUSTRIAL PLANT BIODEGRADABLE POLYESTERS (PATRICA - FR)

LOCATION TBD

- EXPERIMENTAL CROPS AND FLAGSHIP FOR EXTRACTION OF NATURAL RUBBER AND OTHER VALUABLE PRODUCTS (RESINS ETC.)

LOMBARDIA

- R&D CENTRE GREEN CHEMISTRY, PROCESS ENGINEERING AND BIOLUBRICANTS (MANTOVA)
- R&D CENTRE BIOLUBRICANTS (SAN DONATO MILANESE - MI)
- PILOT PLANT FOR BIOBASED BUTADIENE (MANTOVA)

VENETO

- FLAGSHIP 1,4 BDO FROM RRM (ADRIA - RO)

EMILIA ROMAGNA

- R&D CENTRE BIOELASTOMERS (RAVENNA)

UMBRIA

- R&D CENTRE, PILOT AND DEMO PLANTS OLEAGINOUS CROPS AND BIOLUBRICANTS FROM LOCAL CROPS (TERNI)
- INDUSTRIAL PLANT BIOPLASTICS BASED ON STARCH AND POLYESTERS FROM VEGETABLE OILS (TERNI)

PUGLIA

- R&D CENTRE, PILOT AND DEMO PLANT AROMATIC BIOCHEMICALS FROM LIGNIN (MODUGNO - BA)
- FLAGSHIP AVIATION FUEL (MODUGNO - BA)

CAMPANIA

- BIOTECHNOLOGICAL R&D CENTRE (PIANA DI MONTE VERNA - CE)
- INDUSTRIAL PLANT LEVULINIC ACID (CASERTA)

- EXPERIMENTAL FIELDS
- R&D CENTRES 9
- PILOT PLANTS 5
- DEMO PLANTS 2
- INDUSTRIAL SITES 4
- FLAGSHIPS 6



In Europe: about 2.300 Bil €/y and 18 Mil of jobs

BIT

Bioeconomy in Italy

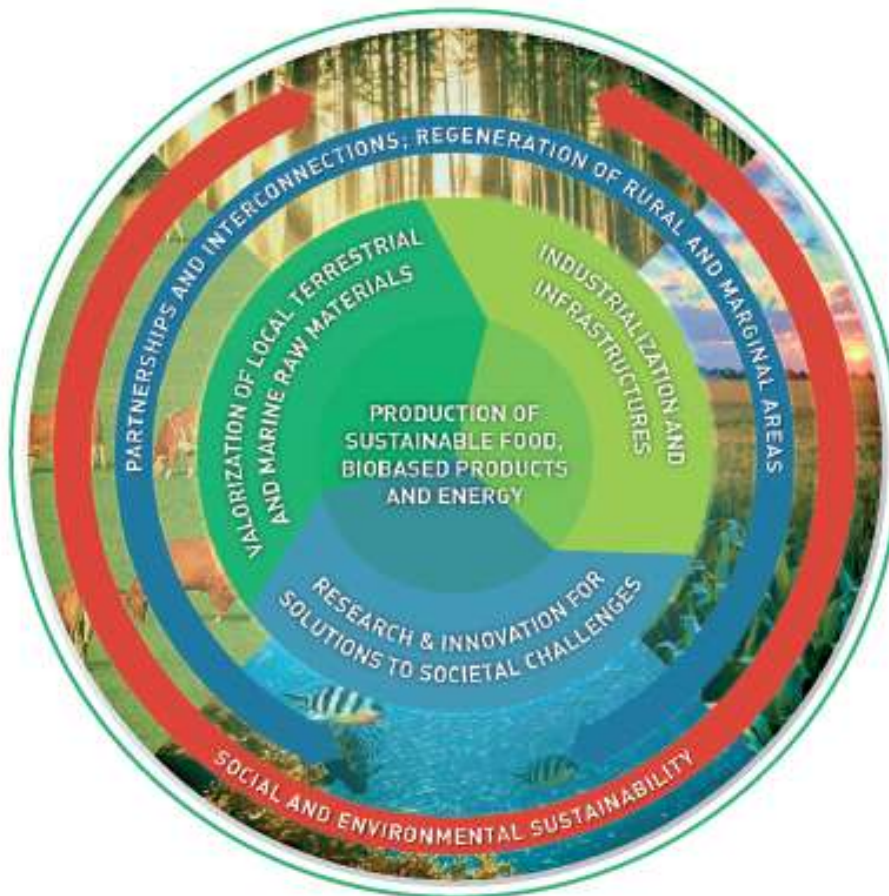
The Italian Bioeconomy strategy

AVAILABLE AT web site:

www.agenziacoessione.gov.it/it/S3/Consultazioni_pubbliche/Bioeconomy.html

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

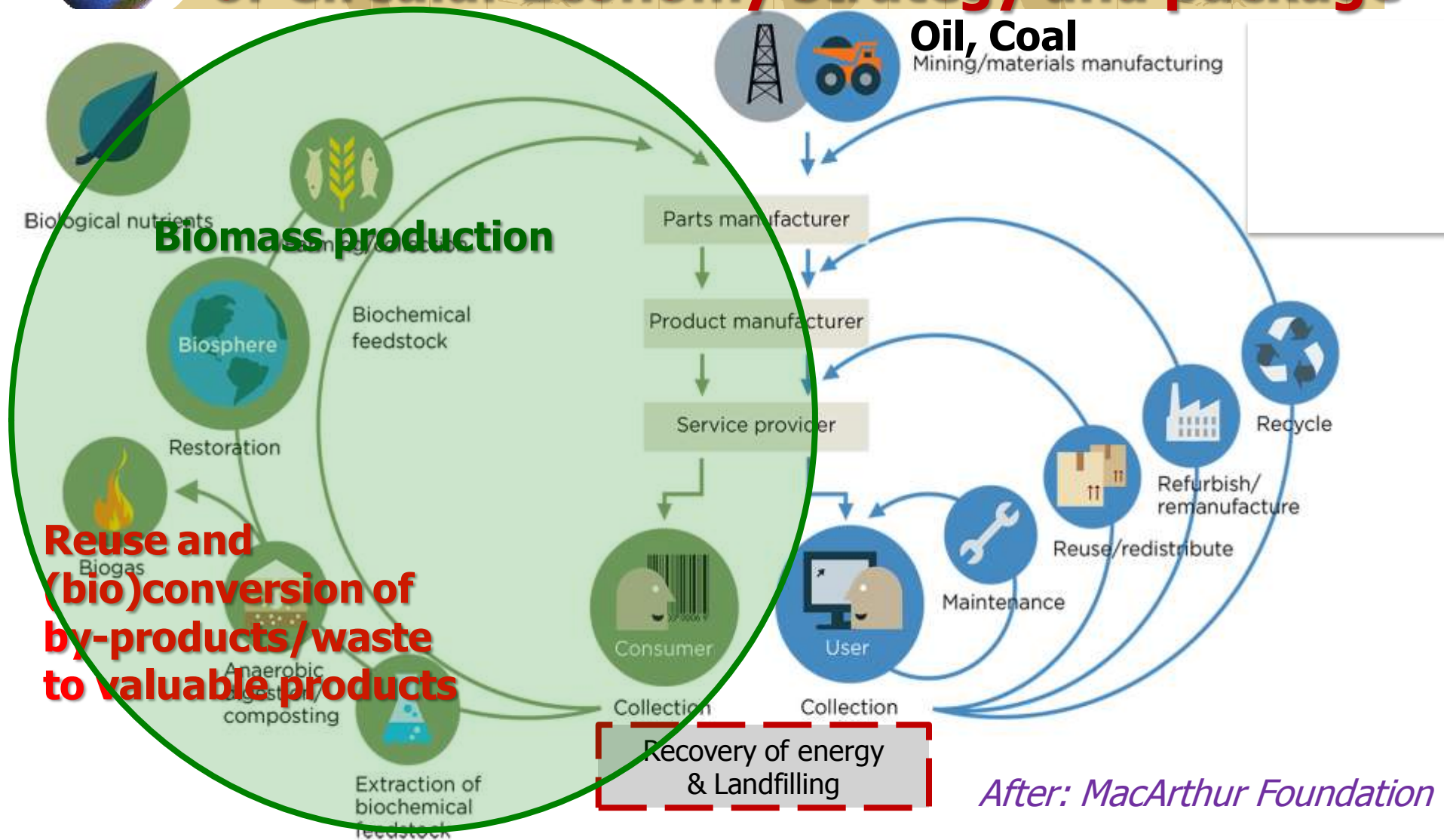
- Ministry Education, University, Research;
- Ministry Agriculture, Food, Forestry;
- Ministry Economical Development;
- Ministry Environment, Land, Sea;
- Ministry for territorial cohesion;
- Committee Productive Activities, Regions Conference;
- Agency for Territorial Cohesion;
- IT Technology Clusters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



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

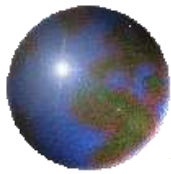


(Bio)methane industry opportunities: be part of Circular Economy strategy and package



After: MacArthur Foundation

Parliament Resolution: Jul 9 2015; EU adoption of Circular Economy package: Dec 2, 2015
In **EU by 2030: +30% resource saving; -50% CO₂ emission; +4% GDP; +1 M jobs**



EU actions delivered: investments in R&I

Horizon2020, the EU Commission R&I funding programme
(~79 Billion, 2014-2020) (www.ec.europa/research/horizon2020)

Excellent Science

- **European Research Council**
- **Future and Emerging Technologies**
- **Marie Curie Actions**
- **Research Infrastructure**

Industrial Leadership

- **Leadership in enabling and industrial technologies (NMPB)**
- **Access to risk finance**
- **Innovation in SMEs**

Societal Challenges

- 1. Health, demographic change and wellbeing**
- 2. Food security, sustainable agriculture, marine and maritime research & bioeconomy**
- 3. Secure, clean and efficient energy**
- 4. Smart, green and integrated transport**
- 5. Climate action, resource efficiency and raw materials**
- 6. Inclusive, innovative and reflecting societies**
- 7. Secure societies**

~ € 950 Millions (2016-2020) via Horizon2020
(incl. SMEs instrument)

€ 300 Millions via PPPs "Factories of the Future",
"Sustainable Process Industries" and "Bio-based
Industries", **LIFE projects etc.**

€ 5.5 Billion via structural funds (2014-2020)

A Public-Private Partnership on Bio-Based Industries

Realising the European Bio-economy Potential



Supported by



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

 Bio-based Industries
Consortium





The BBI JU: structure and priorities

Public partner
27% of
investment



€3.7
billion

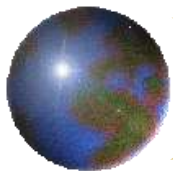


Private partner
73% of investment

A structured approach via 5 **Value Chains** (VC)...

- ❏ VC 1: From ***lignocellulosic*** feedstock to advanced biofuels, bio-based chemicals & biomaterials
- ❏ VC 2: Next generation ***forest***-based value chains
- ❏ VC 3: Next generation ***agro***-based value chains
- ❏ VC 4: New value chains from (organic) ***waste***
- ❏ VC 5: ***Integrated*** energy, pulp and chemicals biorefineries

Plus a marine bioresource exploitation value chain...



The Italian (Bio) Methane platform: a strategic alliance



The Italian (Bio) Methane platform: strategic actions



THE BIOMETHANE NATIONAL TECHNOLOGICAL PLATFORM: Renewable gas
in the European and national Climate strategy

When: Thursday, November 8, 2018 14:00 – 18:00

Where: Ravezzi 2 South Hall