



*Decarbonization and circular economy: a priority for the
European Union for sustainable development
and against climate changes*

Circular economy and bioeconomy

Ministry for Economic Development

16 February 2017

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OUTLINE OF A CIRCULAR ECONOMY

PRINCIPLE

1

Preserve and enhance natural capital by controlling finite stocks and balancing renewable resource flows
ReSOLVE levers: regenerate, virtualise, exchange

PRINCIPLE

2

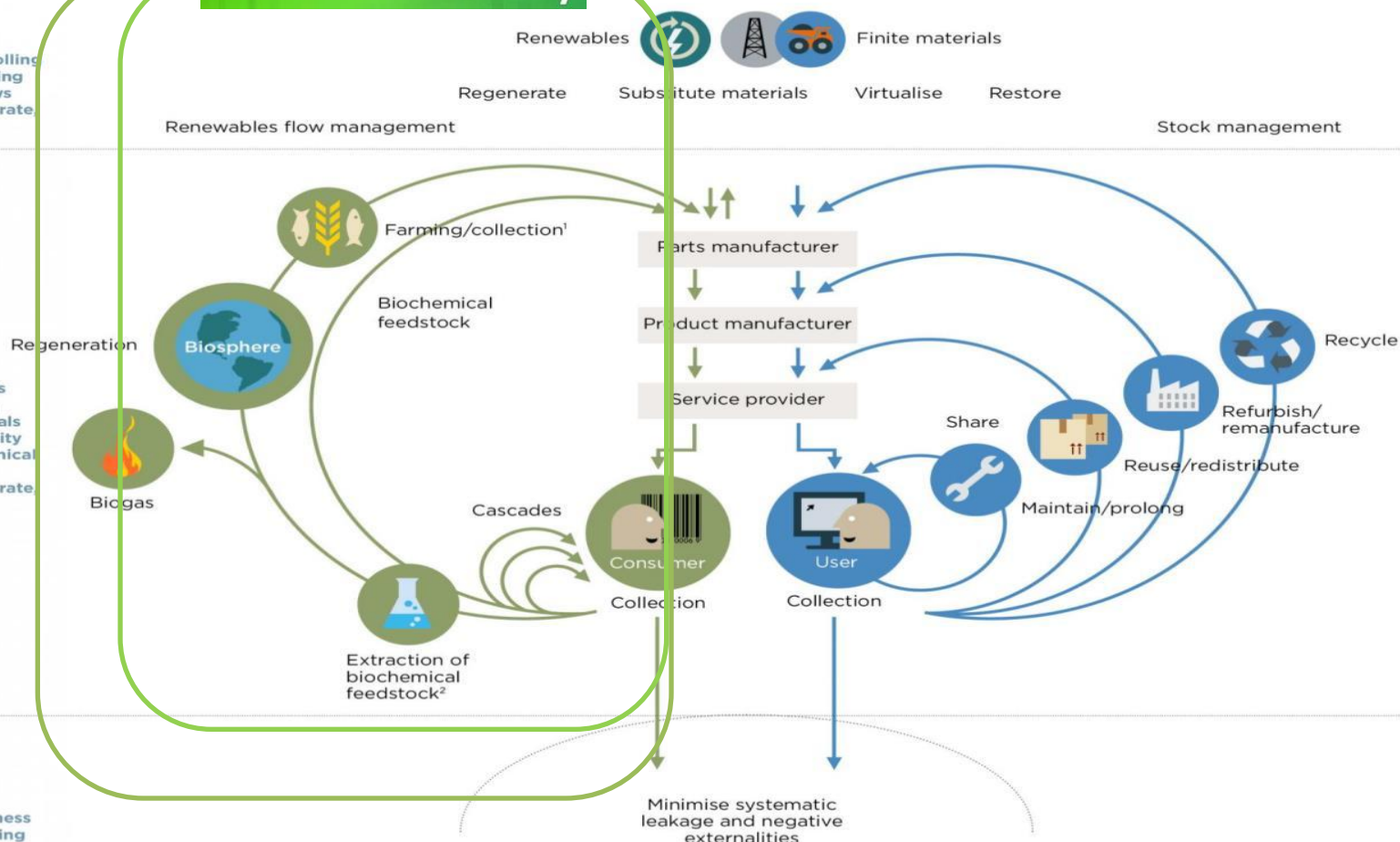
Optimise resource yields by circulating products, components and materials in use at the highest utility at all times in both technical and biological cycles
ReSOLVE levers: regenerate, share, optimise, loop

PRINCIPLE

3

Foster system effectiveness by revealing and designing out negative externalities
All ReSOLVE levers

Bioeconomy



1. Hunting and fishing

2. Can take both post-harvest and post-consumer waste as an input

Source: Ellen MacArthur Foundation, SUN, and McKinsey Center for Business and Environment; Drawing from Braungart & McDonough, Cradle to Cradle (C2C).

Source: Ellen Mac Arthur Foundation

Circular economy and bioeconomy: EU strategies and opportunities

February 2012, REVIEW in 2017



- ↑ A global market of around € 2,000 billions by 2020
- ↑ 1 million jobs between 2010 and 2030 (most of which in rural areas)
- ↓ Potential average reduction of greenhouse gas emissions up to 50% for bio-based productions vs their fossil alternatives
- ↓ Less imports, more products from local raw materials and developed locally

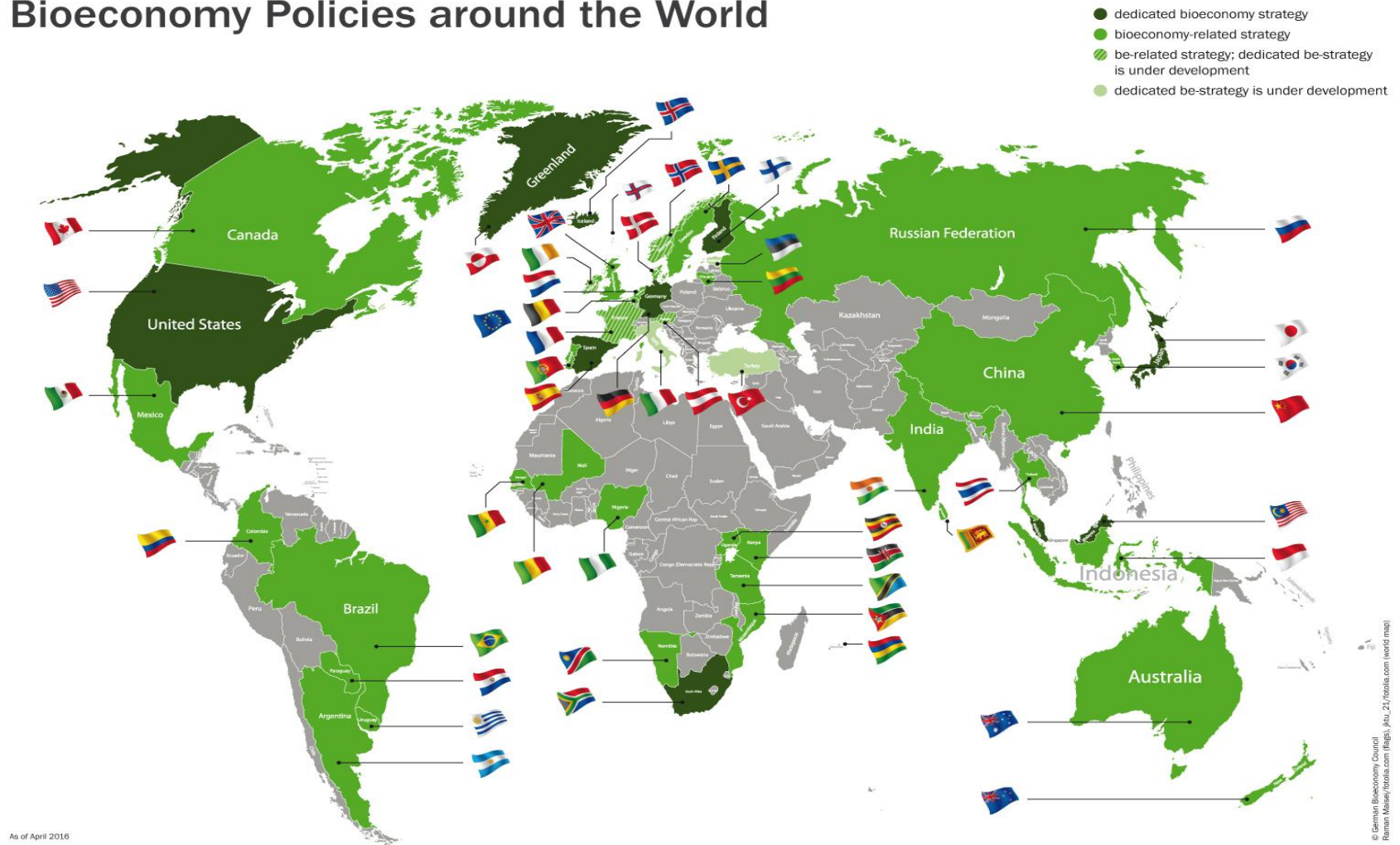
December 2015



- ↑ A net benefit for Europe of € 1.8 trillions by 2030
- ↑ A European GDP increase of 11% by 2030 (vs the current 4% increase)
- ↓ CO2 emissions' reduction of 48% on the current emissions' level by 2030 (83% by 2050)
- ↓ Reduction of primary raw materials of 32% by 2030 and of 53% by 2050

Source: Bio-based Industries Consortium, Ellen Mac Arthur Foundation

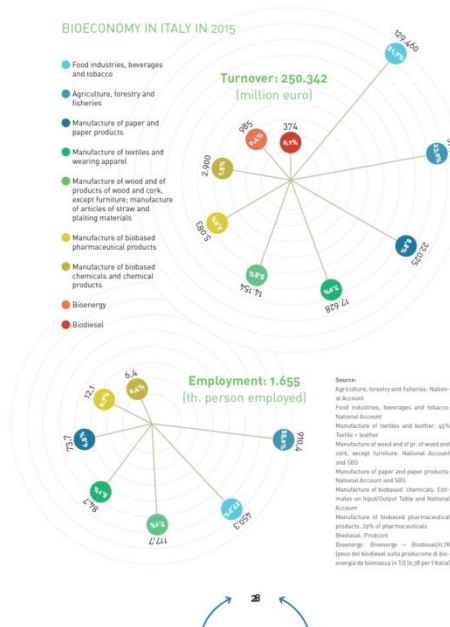
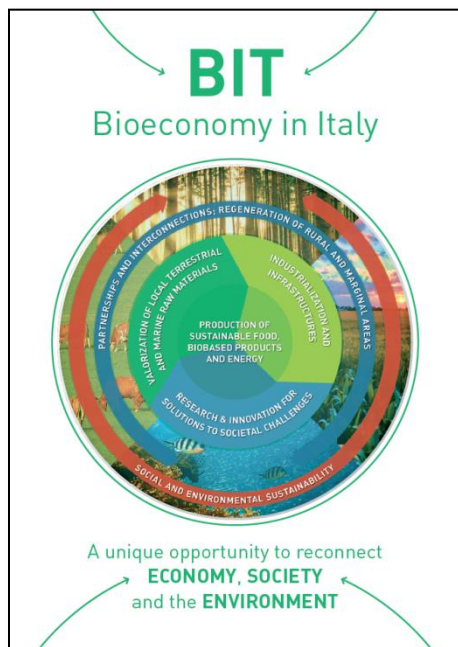
Bioeconomy Policies around the World



As of April 2016

© German Bioeconomy Council
Raman Maisei/fotolia.com (flags), jktu_21/fotolia.com (world map)

Source: German Bioeconomy Council



STAKEHOLDERS INVOLVED:

- Ministry for Economic Development
- Agriculture Ministry
- Ministry for Education, University and Research
- Environment Ministry
- Agency for Territorial Cohesion
- Regional Governments' Conference
- Green Chemistry National Technological Cluster
- Agrifood National Technological Cluster

9 NOVEMBER 2016:

Presentation of the Strategy at the conference "Horizon 2020 and the bio-based industries joint undertaking (BBI JU): opportunities for jobs and growth in the Mediterranean region" (Ecomondo, Rimini)

22 NOVEMBER - 23 DECEMBER 2016:

Public consultation (on the website of the Agency for Territorial Cohesion)

FROM 23 DECEMBER 2016 ONWARDS:

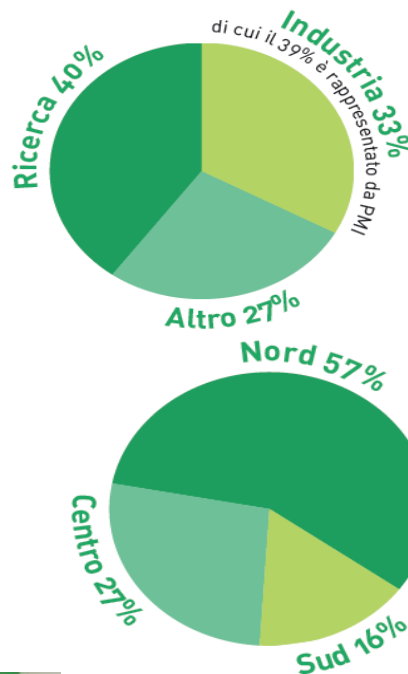
Inclusion of the feedback received through the public consultation and preparation of the final Strategy

The Green Chemistry National Technological Cluster SPRING

FOUNDING MEMBERS



OVER 100 MEMBERS



REGIONAL DISTRIBUTION

Regioni sostenitrici del Cluster
(Basilicata, Emilia Romagna, Lombardia, Piemonte, Puglia, Sardegna, Umbria, Veneto)

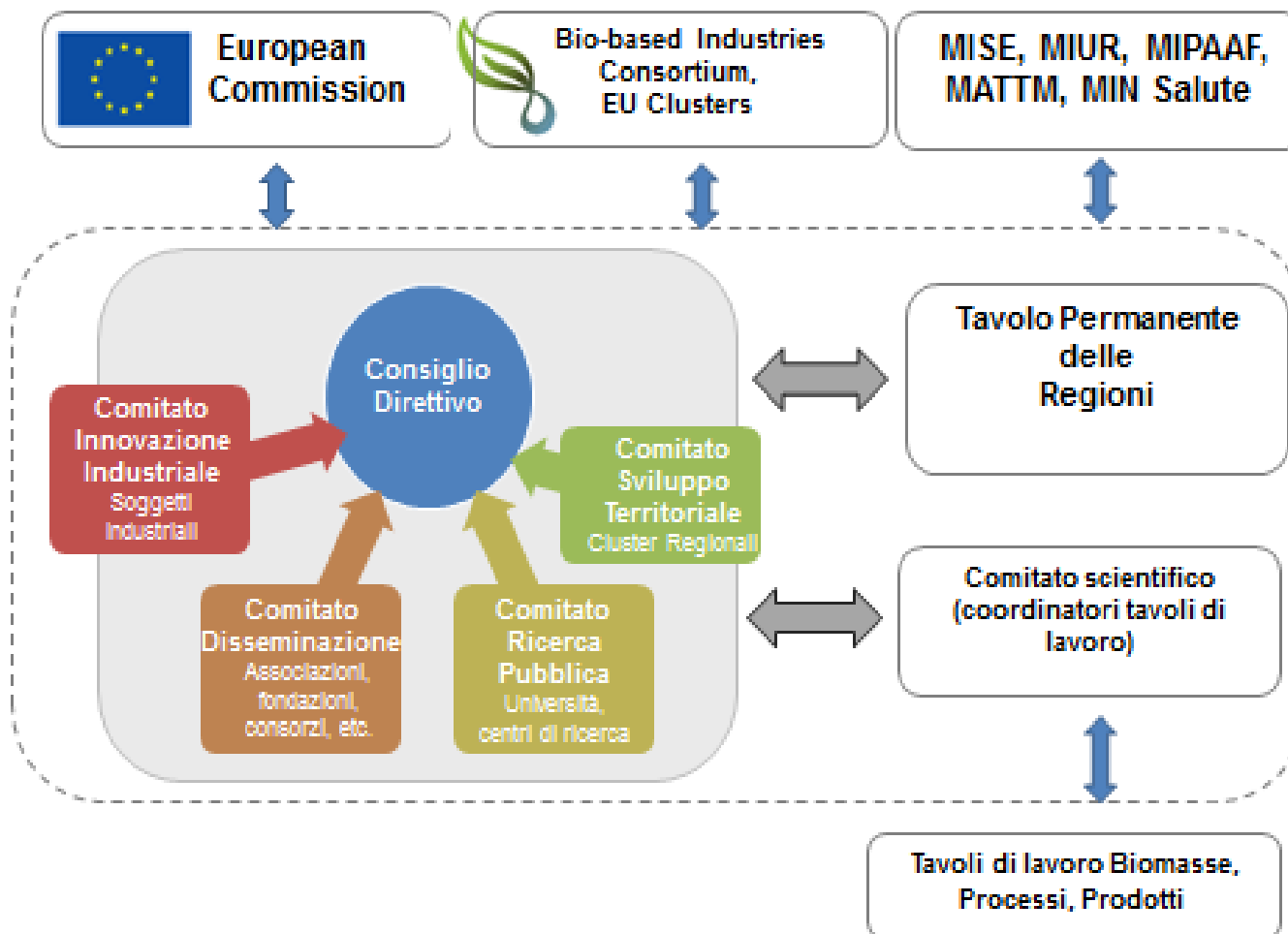


SPRING



The Green Chemistry National Technological Cluster SPRING

<http://www.clusterspring.it/home-en/>



A model for Italy : Bioeconomy for local re-generation



Reconversion of industrial sites that are decommissioned or are no longer competitive to create innovative biorefineries integrated in the local areas, transforming local problems into development opportunities.



Promotion of a circular economy rethinking the traditional model of production-consumption-disposal of products with a system-based approach, that is, starting with renewable raw materials to produce manufactured goods which at the end of their lives will be converted into a new resource.



Creation of bridges and interconnections between sectors, to incentivize cooperation and synergies between various stakeholders towards common objectives, starting with the profitable utilization of the specific nature of the local areas.

- 1) The quick approval of the **Italian Bioeconomy Strategy**, defining the ways in which it will have to be implemented, the financial tools to support the bioeconomy infrastructures and their innovation needs.
- 2) Launch a **Zero biowaste in landfills** initiative, in Italy and in the EU, as already indicated by the European Commission - <http://ec.europa.eu/environment/waste/> (Italy alone would need 50 additional sites where to properly treat biowaste).
- 3) Recognize **existing innovative production chains**: they are an extraordinary accelerator to catalyze sustainable opportunities in different sectors - agriculture in the first place with a specific role to be played by organic farming, create alliances and take advantage of the Government's **Industria 4.0** plan for the coming years – http://www.sviluppoeconomico.gov.it/images/stories/documenti/2017_01_16-Industria_40_English.pdf
- 4) A great engagement by the Italian Government in Brussels on the **new EU waste framework directive**: it is potentially of great importance for Italy and the for the whole EU for waste to be finally a resource, with agricultural and biowaste fueling bio and circular economic patterns of growth.
- 5) We all must consider in our decision-making the **costs implied in not-doing**: economic and social, those connected in the areas concerned with the lacking rule of law and those connected to externalities.

Thank you for your attention !

