



**FEDERCHIMICA
ASSOBIOTEC**

Associazione nazionale per lo sviluppo
delle biotecnologie

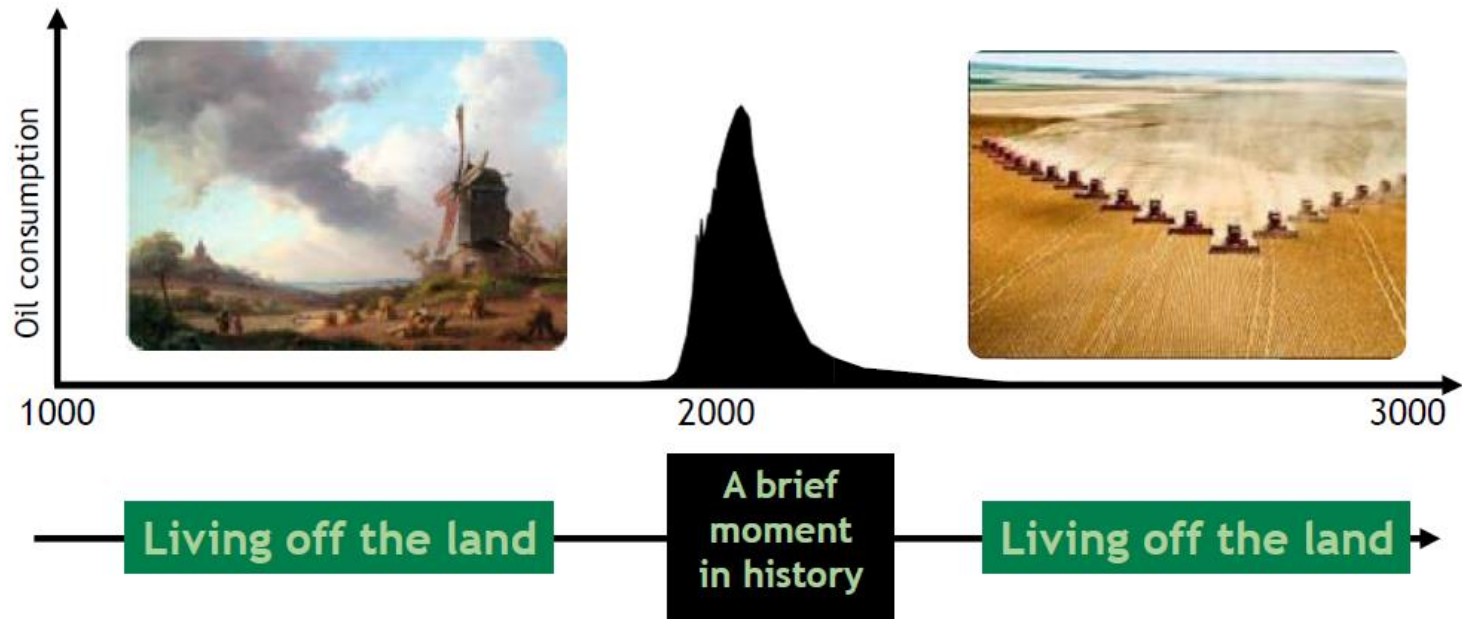
Bioeconomy in Italy: innovating for a sustainable growth

Mario Bonaccorso
Head of Bioeconomy

SmartPilots
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The BioRevolution



The Oil age will end long before we run out of oil
And while running out, it will become much more expensive

“The Stone Age didn't end because we ran out of stones”, Yamani, 1973



Italy is leading the way

- ❖ Big players at global level: Novamont, Versalis (ENI Group), Beta Renewables (Mossi Ghisolfi Group), GFBiochemicals, Bio-on
- ❖ Excellent research and innovative and dynamic start-ups (MOGU, Galatea Biotech, Biopox, EggPlant)
- ❖ In Italy there are the first bio-refineries in the world for the production of bio-based chemicals, which have seen the industrial conversion of dismissed sites and the creation of new jobs.
- ❖ There is a system of clusters supporting the bioeconomy (Green Chemistry SPRING, Agro-food CL.AN., Blue Growth BIG)
- ❖ The Italian model of bioeconomy is based on local areas, in a context of territorial regeneration



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Plants and research centers





The Italian Strategy

- ❖ Italy has its own National Bioeconomy Strategy (presented on April 20, 2017) and aims for a leading role in the Euro-Mediterranean scenario
- ❖ Bioeconomy in Italy is worth 251 billion euros and employs approximately 1,7 million people (source: Intesa Sanpaolo-Assobiotech)
- ❖ Target by 2030: 20% increase (€300 billion and over 2 million employees)
- ❖ 3 main pillars:
 - ❖ the first is **research and innovation** to increase productivity but also the quality of products and sustainability of every sector making up the bioeconomy.
 - ❖ the second is the **interconnection of sectors**, in particular amongst those of the agro-food industry and those of chemical and energy valorisation of residual and lignocellulosic biomasses. In Italy there are well over 3 million hectares of land that are no longer farmed, vast agricultural areas that today can be regenerated to produce local biomass and/or industrial one to feed our biorefineries; every year, in Italy 15 million tonnes of by-products and waste from the food industry are generated: a huge problem for the industry producing it, a very interesting feedstock for our biorefineries. Other relevant opportunities can derive from more substantial integration between biorefineries and thus the production of biobased chemicals, biomaterials and bioenergy and the forestry sector which today boasts a wealth of wood biomass guaranteed by over 13 million hectares of woodland, on average not very much used. But also from chemical and energy valorisation of non-food biomasses (algae, posidonia but also microorganism) generated by our seas. The bioeconomy offers us an unmissable opportunity to make the most of the biodiversity at our disposal, biomass in all its forms, as well as of the residues and organic waste.
 - ❖ **Education and communication**, there is a need for communication professionals able to use a shared language, starting from schools, letting everybody know that we are not talking about a niche. But it is also important that the industrial and scientific worlds be involved, working in fairs, initiatives open to the public where things can be explained.



Master BioCirce

- ❖ This Master's is the first in Europe devoted to an in-depth analysis of the bioeconomy and the circular economy, but also because, for the first time, four major Italian universities have joined forces: University of Turin, University of Milano Bicocca, University of Bologna and University of Naples Federico II. The industrial support was offered by three important players in this sector – Novamont, GFBiochemicals and Lodi's Scientific Park – together with Intesa Sanpaolo bank group, sole global financial partner of the Ellen McArthur Foundation. www.masterbiocirce.com



Italy, the cradle of the bioeconomy

- ❖ The strategy came only in late 2016, but the Italian bioeconomy has a much longer history. It dates back to 1989 when within the Montedison School of Materials Science – Italy's main chemical company – Fertec was created, a centre for strategic research whose aim was to integrate chemistry and agriculture. The intuition to integrate chemistry and agriculture – forming the first unit of Italian green chemistry is ascribable to Raul Gardini, who at the time was Chief Executive of the Ferruzzi Group which since 1987 had become the majority shareholder of Montedison and whose main activity – up until then – had been in the agribusiness, in particular in the agricultural raw material market.
- ❖ if nowadays Italy can boast a leading role in the field of the European bioeconomy it is all down to the first steps taken by the green chemistry within the Mondedison Group, where Catia Bastioli, Novamont's CEO, was also emerging. From Fertec research centre she built what has become the world's leading company in the development and production of bioplastics and biochemicals, through the integration of chemistry, the environment and agriculture.



Bioeconomy: global challenges, local solutions

- ❖ A joint effort between the Commission, the Member States and the regions should be further enhanced to stimulate Bioeconomy deployment at regional level, on land, inland and marine waters.
- ❖ Proper societal engagement, awareness, education and training schemes should be developed, since **there is no sustainable bioeconomy without the direct involvement of civil society in a co-construction mode**, with societal appraisal of bioeconomy.
- ❖ Bioeconomy should be based on the development of sustainable and circular Bioeconomy at regional and local level (**Bio-regions and Bio-communities**) that use their local biological resources to create new value chains, local green energy, considering various elements, ranging from ecology with resilience and biodiversity, water management to cultural heritage.
- ❖ The EU policies relevant to Bioeconomy (including Cohesion policy and Common Agriculture Policy) should also be coherent and consider the development of regional and local "Bioeconomies" as a key element for achieving the UN Sustainable Development Goals and Climate Action (COP 21).
- ❖ **EU Member States and regions are encouraged to develop their national/regional Bioeconomy strategies, in synergy with their smart specialisation strategies.** "The role of regions in EU bioeconomy", Bratislava Conference, 2016

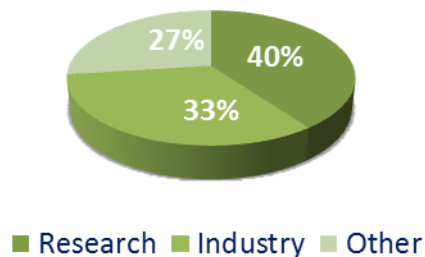
CLUSTER SPRING WHO WE ARE



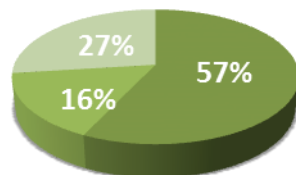
FOUNDERS



110 MEMBERS



■ Research ■ Industry ■ Other

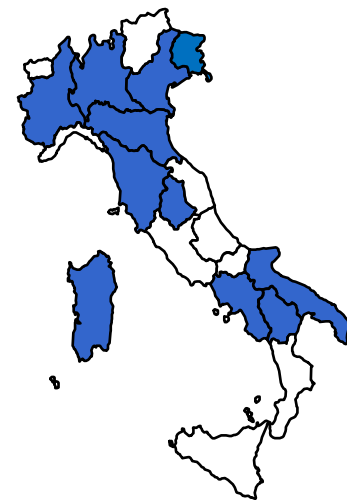


■ Northern IT ■ Southern IT ■ Central IT

REGIONAL PRESENCE

Permanent Working Group:

Reg. Basilicata
Reg. Campania
Reg. Emilia Romagna
Reg. Friuli VG
Reg. Lombardia
Reg. Piemonte
Reg. Puglia
Reg. Sardegna
Reg. Umbria
Reg. Toscana
Reg. Veneto





- 1 To **bring together** innovative realities active in the development of the green chemistry sector in order to reach a new economy (bioeconomy)
- 2 To contribute to the creation of the **systemic conditions** for the development of attractive, dynamic, innovative and competitive contexts
- 3 To **encourage the creation** of a strong, representative and cohesive community; to represent its interests towards regional, national European and international institutions; to spread its visibility and knowledge among specialist and general public
- 4 To **identify and exploit the existing and potential synergies** with all the actors at a regional, national, European and global level



FEDERCHIMICA

ASSOBIOTEC

Italian Association for the Development of Biotechnology

Assobiotec: who we are



Created in 1986 within Federchimica, Assobiotec is the Italian Association for the development of Biotechnology and represents today:

More than 130 Associates

Our Associates are companies and science parks involved in research, development, testing, manufacturing and commercialization of biotechnology applications



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www.assobiotec.it



International Forum on
Industrial Biotechnology
and Bioeconomy

Turin, 27-28 September
Cavallerizza Reale
Via Verdi, 9

<https://ifib2018.b2match.io>



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THANKS

Per informazioni:

www.assobiotec.it

E-mail: m.bonaccorso@federchimica.it

