

# G7 Environment

Universities for Sustainable Development



**G7** 2017  
ITALIA



MINISTERO DELL'AMBIENTE  
E DELLA TUTELA DEL TERRITORIO E DEL MARE

# Session II: Universities implementing Sustainable Development and Sustainable Development Networks

Giovanni Sannia, University of Naples “Federico II”



MINISTERO DELL'AMBIENTE  
E DELLA TUTELA DEL TERRITORIO E DEL MARE

## In which domains of Sustainable Development, University research can contribute in advancing technology, innovation, regulations and market?

**Italian Universities contribute to all major domains of sustainable development by:**

- i) training the required scientists, engineers and professionals and creating the research-based knowledge required for the development/improvement of technologies, regulations and business models
- ii) promoting new and tailored start ups and spin offs in the domains and identifying new market potentials.

Courses of Italian Universities on environmental topics:

**63 PhD courses and 101 Master courses**

**Italian Universities are active supporters of national technology clusters promoting environmental sustainability and competitiveness in the major industrial sectors of the Country by creating:**

- i) a wider and more coherent political commitment, more investments in R&I, spin off/start up, education, training, communication,
- ii) a better coordination between regional, national and EU stakeholders, R&I funds and policies, and a better engagement of a public dialogue

Italian Universities launched, first in Europe, an **interdisciplinary public-private master on circular bioeconomy** (founded by **4 universities, 2 companies**, a **technological park** and a **bank** and supported by **regional and national technology clusters**).



# BIOCIRCE - Bioeconomy in the Circular Economy

[www.masterbiocirce.com](http://www.masterbiocirce.com)



## 4 Universities:



## 4 Companies:



*Continuous learning - Master II level ... on demand ...*

# How can University foster entrepreneurship in the Circular Economy (Resource Efficiency, 3Rs, Zero-Carbon Economy, Bio-Economy) domain?

## Italian Universities

### Promote:

- **entrepreneurial culture** specific to sustainability and circular economy within the entire academic community (administrative staff, faculty members and students);
- **programs or specific curricula on sustainability and circular economy;**

### Invest in:

- organization of events engaging students (undergraduates, graduates and PhD students) aiming at **identifying and scouting entrepreneurial ideas in the circular economy;**

### Develop:

- **joint programs with secondary schools** aimed at stimulating and spreading sustainable entrepreneurial culture;
- **relations with the ecosystem**, select actors keen on sustainability and create with them a hardcore of initiatives drawing attention on entrepreneurship and circular economy;
- **mechanisms to measure and control sustainability actions** (es. Social Return on Investment);
- awareness of the potential of sustainability and circular economy in active professionals and entrepreneurs via **lifelong learning programs;**

### Create:

- **relations with companies** that are well representing circular economy within their business models;



**Italian Ministry of Economic Development and Italian Ministry of Education, University and Research (MIUR)**, launched in late 2013 a pilot project for the creation of **Contamination Labs** in **four universities in Southern Italy** (Convergence Regions in EU Regional Policy) .

**Contamination Labs** are spaces that encourage students from different academic backgrounds to interact, while **promoting entrepreneurship, innovation, an interdisciplinary perspective and new models of Italy's Startup**

**Other 4 Italian universities set up new, self-financed Contamination Labs** (Cagliari, Marche Polytechnic, Milan Cattolica, and Trento).

On 2 December 2016 the Italian Ministry of Education, University and Research launched a **new Call for Contamination Labs**, allocating €5 million for the project.



## How can networking between research, education/training and business facilitate Circular Economy (Resource Efficiency, 3Rs, Zero-Carbon Economy, Bio-Economy) implementation?

**Circular economy implementation can be facilitated by locally routed public-private partnerships**, where Universities, providing research-based interdisciplinary knowledge, education and training, are closely cooperating with local industry, policy makers, authorities and the civil society.

### **Italian Universities can provide:**

- longer, more tailored and resilient value chains, capable of a more efficient **technology transfer and products commercialization**;
- development of more effective **R&I agendas and policies**;
- a more effective **promotion of priorities and needs** towards private and public, regional, national and EU funding institutions;
- an **integrated participation of public R&I institutions, industry and associations** in regional, national and EU funding programs reducing fragmentation and increasing impacts;
- the **alignment of R&I funds, policies and infrastructures** at regional, national and EU level, by avoiding duplication and maximizing the leverage effects.

Such national/regional partnerships have then to be interconnected with EU and international leading circular economy initiatives/networks to mobilize local trans-national synergies and complementarities, providing added value to regional, national and EU investments and efforts.



# How can networking between research, education/training and business facilitate Circular Economy (Resource Efficiency, 3Rs, Zero-Carbon Economy, Bio-Economy) implementation?

## Academia position towards circular economy:

Closing the technological gap by promoting networking between Academy and Industry (participating to **Technological Clusters**)

Support the birth of spin-off, start-up and Joint Lab

Creating specific skills (**continuous learning**)

Proposing Vision and supporting Mission

- **21 Italian Universities** are members of the **National Technology Agrifood Cluster CL.A.N.**, a multi-stakeholder network of the key national players of the entire agrifood chain - a partnership of companies, research centres and institutions set up to promote sustainable economic growth, based on research and innovation in the industry and acting as partner for Italian and European Institutions.



- **23 Italian Universities** are members of the **National Technology Cluster of “Green Chemistry” SPRING – Sustainable Processes and Resources for Innovation and National Growth**, which has the objective of triggering the development of biobased industries in Italy, through a holistic approach to innovation, aimed at revitalising Italian chemistry in the name of environmental, social and economic sustainability.





The two IT Technology clusters (**National Technology Agrifood Cluster CL.A.N** and **National Technology Cluster of “Green Chemistry” SPRING – Sustainable Processes and Resources for Innovation and National Growth**) contributed to the set up of the **IT Bioeconomy strategy**:

[www.agenziacoessione.gov.it/it/S3/Consultazioni\\_publiche/Bioeconomy.html](http://www.agenziacoessione.gov.it/it/S3/Consultazioni_publiche/Bioeconomy.html)

**This national strategy was recently approved by:**

- **5 Ministries** (Ministry Economical Development; Ministry Agriculture, Food, Forestry; Ministry Education, University, Research; Ministry Environment, Land, Sea; Ministry for territorial cohesion)
- **All IT Regions** (the Committee Productive Activities of Regions Conference);

**All these Institutions will be key actors in the strategy implementation in Italy.**

