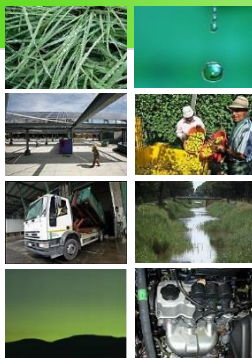


Invest in GREEN ECONOMY in Emilia-Romagna

Published in December 2012

The green economy in Emilia-Romagna is a cross-sector that is proving to be more and more of a resource to our region and an opportunity for new investments.

The green economy comprises both «what is produced» and «how it is produced». Those who invest in the region will discover a whole world of companies ranging from manufacturing to services and which are turning the theme of environmental sustainability into an instrument that combines ethics with competitiveness on international markets.



Green economy sectors

The companies belonging to the green economy sector in Emilia-Romagna represent a diverse range of productive sectors crossing into the main productive clusters of the region. Some examples are the processors of organic food products and the technology used in various ways in the **agro-food** cluster, companies that work in the bio-building in the **construction** cluster, transports with a low environmental impact in the **automotive mechanics** field. In addition, there are **more general sectors** such as the research of new materials and the supply of machinery as well as newly **emerging sectors** such as renewable energy and energy efficiency. On the other hand, **traditionally «green» sectors** are represented by waste management and water treatment. Regarding **services**, those incorporating environmental certification also play an important role.

Green economy and technological innovation

Research and Innovation are among the factors largely leading the green economy in Emilia-Romagna. A substantial number of **laboratories from the regional High Technology Network** work in the research fields which are more or less directly connected to the green economy. These structures are also part of the **various thematic Technological Platforms: Energy and Environment; Agro-food; Mechanics and Materials; Construction; Life Sciences, ICT and Design**. The laboratories of the network collaborate with regional companies and help to support «green» innovation in production. **Universities** and the **higher education system** provide qualified human resources to regional companies.

A green region

Emilia-Romagna is a green region also in its industrial areas and in the corresponding infrastructural facilities available to investors. A good example is given by the **Ecologically Equipped Productive Areas, shown in a detailed online Atlas** (<http://atlante.ervet.it/apa>). Even the supply of renewable energy in the region meets the growing demand of the production system.

LEADING FACTORS

- Almost 2,200 companies within the regional green economy
- 23 laboratories in the High Technology Network work directly on green issues
- 9 international trade fairs on green themes
- The companies in the region (with a sales turnover > 1 million Euros) in the green economy sectors show revenue growth figures in the 2005-2009 period
- Agro-food, Waste recycling and Building are the sectors in the region with the highest number of green companies

SOME COMPANIES OF THE REGION

Agro-industry



Waste and reclamation



Building



Water cycle



Energy



Transport

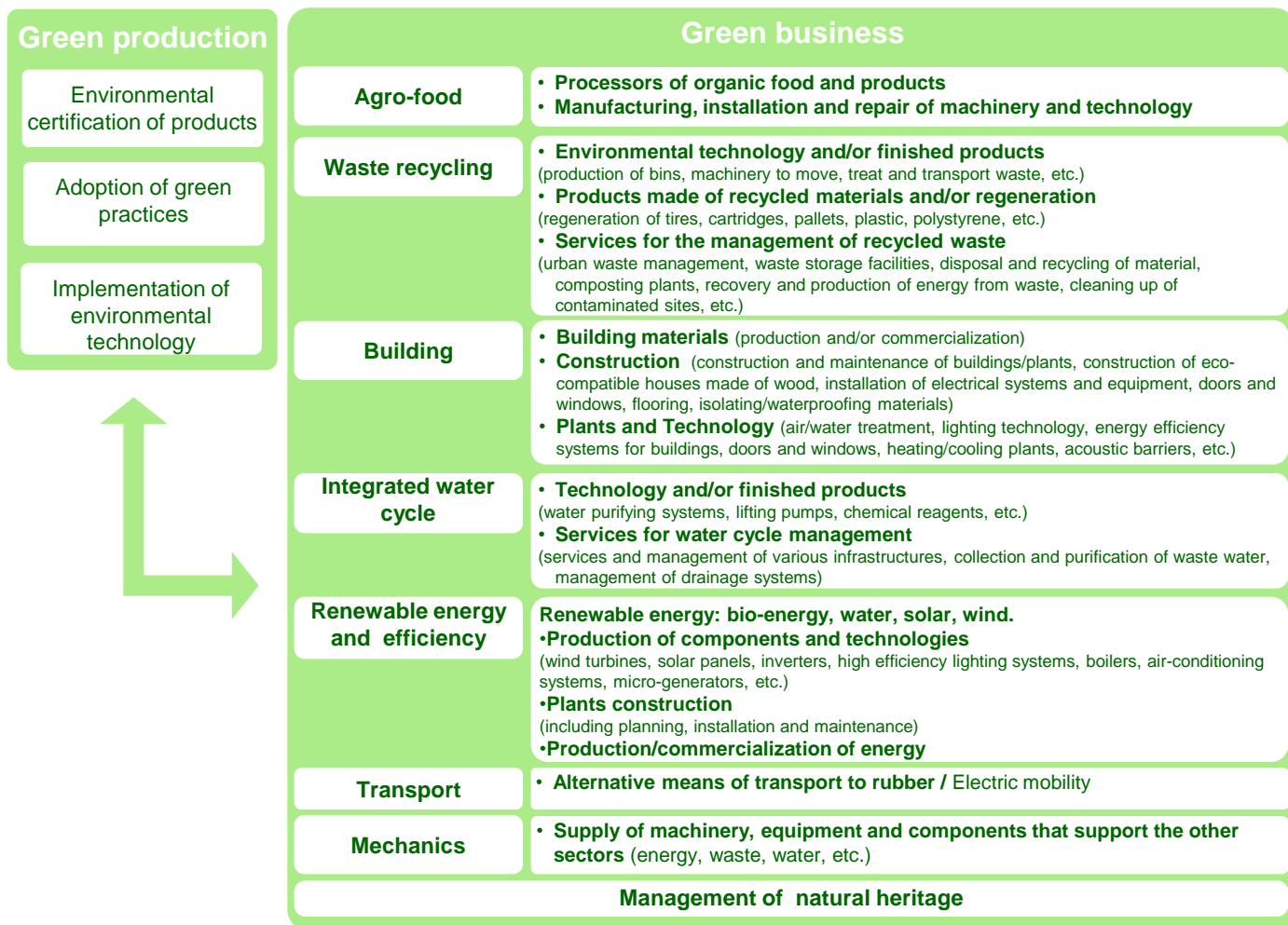




Green economy in the region: its structure and its sectors

Companies become part of the green economy universe both for “how they produce” (Green Production), as well as “what they produce” (Green Business).

Green Production is mainly recognized through the tool of environmental voluntary certification. With regard to the **Green Business**, we can distinguish between companies which **merely operate in environmental markets** (waste management, integrated water cycle, sustainable transport, management of natural heritage) **and those which are only partially oriented towards green markets** (bio-building, organic agro-food products, energy efficiency and renewable energy, environmental technology).

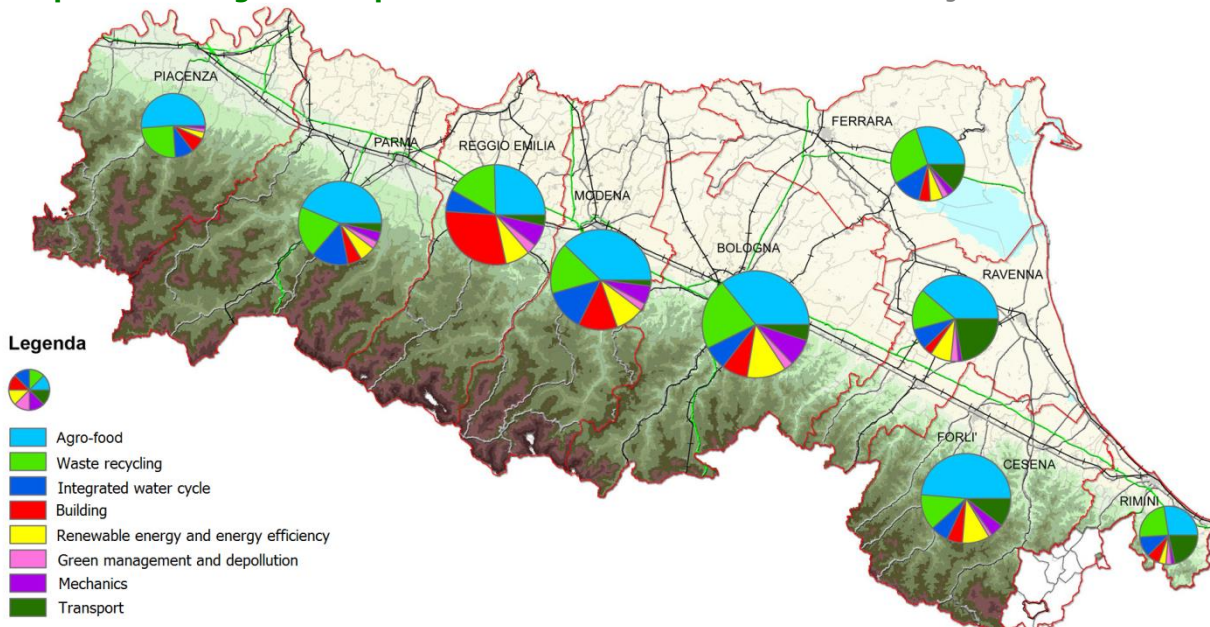


Companies - Source: Monitoring centre ERVET, 2012

Sector	Companies	% of total
Agro-food (including processors of organic products)	719	32,9
Waste recycling	356	16,3
Building	250	11,46
Integrated water cycle	196	8,9
Renewable energy and energy efficiency	212	9,7
Transport	157	7,2
Mechanics	107	4,9
Other (environmental certification, adoption of green practices, implementation of environmental technology)	71	3,25
Decontamination and reclamation of sites	64	2,9
Green management and depollution	50	2,3
Total regional Green Economy	2182	100%

The green economy in the region

Map: number of green companies divided into sectors - Source: Monitoring centre ERVET 2012



Areas with the highest concentration of Green companies

Source: Report ERVET Green Economy in Emilia-Romagna 2012

Agro-industry

The highest concentration of companies is in the area of the city of Bologna (118) followed by Forlì-Cesena and Modena (110). It is the leading green sector in all regional provinces except the province of Reggio Emilia.

Waste management and Reclamation of polluted sites

High concentration of companies in the province of Bologna (71 companies), followed by Modena (48), Reggio Emilia (47) and Ferrara (45).

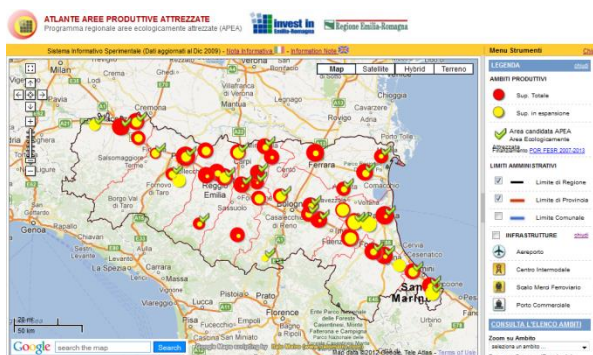
Building

High concentration of companies in Reggio Emilia (85 companies), followed by Modena (37 companies mainly from the ceramic industry) and Bologna (26 companies).

Ecologically Equipped Productive Areas (APEA)

The Emilia-Romagna Region together with the Provinces and Municipalities have located the industrial areas to be transformed into Ecologically Equipped Productive Areas (APEA).

The **characteristics of the APEA** mainly concern energy supply, the drainage system, the disposal and recycling of waste and the separate collection of rubbish, the infrastructural facilities available in terms of ICT network and access to the area, harmonization within the environmental context, the presence of green spaces and specific services for working people. Another characteristic element is the presence of a unique managing body for the area, which allows companies to obtain permissions and authorizations more quickly.



The Atlas of Ecologically Equipped Productive Areas

<http://atlante.ervet.it/apa>

The Atlas indicates productive zones in the Emilia-Romagna Region that meet the different location requirements of the investor in terms of position with respect to the infrastructures and regional production specializations. There is a detailed list available for each area containing information on the spaces available as well as the infrastructural facilities.

Research and Innovation

High Technology Network - Platforms and laboratories for the green economyASTER - www.aster.it

Important themes for technological development within the Green Economy as highlighted by Aster: White Biotechnology (bio-materials and bio-refineries), Renewable resources, Green building, Materials, Eco-sustainable products and systems, ICT for green/sustainable transport, Methods, techniques and technologies for environmental controls, Monitoring and assessment. Below is a selection of laboratories from the network involved in various research areas connected to the green economy.

Energy and Environment Platform**CIRI ENERGIA AMBIENTE** - www.energia-ambiente.unibo.it

Research areas: Bioenergy; Biomass; Industrial Eco-design ; Waste disposal and the life cycle of products; REACH (Registration Evaluation and Authorization of Chemicals).

CRPA LAB - <http://crpalab.crpa.it>

Research areas: Agro-food; Energy and Environment. In particular; innovation in the food production processes of traditional products; quality control; organization of the production supply chain; sensory analysis to enhance typical food products; biomass; valorization of organic waste into materials and energy through anaerobic digestion.

LAERTE - www.laerte.enea.it

Research areas: energy efficiency in buildings; safety and sustainability of infrastructures, plants and buildings; the uses of heat and the conversion of heating (and cooling) systems .

LEAP - www.leap.polimi.it/

Research areas: thermal energy gauges; biomass boilers; biomass plants and bioenergy zones to generate electricity and/or heat ; CO2 based gas blends for separation processes; software for power plant assessments.

LECOP - www.lecop.enea.it

Research areas: LCA and Eco-design for eco-innovation; integrated technology for the management of water resources; models and the characterization of air pollutants.

PROAMBIENTE - www.consorzioambiente.it

Research areas: Environmental Controls (environmental monitoring and modeling, instruments and certifications); Environmental Remediation (compensation and mitigation of environmental externalities: depuration, purification and decontamination).

TerraeAcquaTech - www.unife.it/tecnopolo/tat/home-1

Research areas: water quality; hydrogeology; metallurgy, corrosion of polymeric materials; electrochemical methods and environmental sensors; management of water networks and sanitary and environmental engineering; biogeochemical cycles, water bioprocesses and bio-indicators; reclamation and optimization of agro-environmental resources.

Agro-food Platform**CIRI AGROALIMENTARE**- www.agroalimentare.unibo.it

Green research areas: studies into shelf-life and packaging, functional foods, recovery and use of bioactive constituents from agro-food industry byproducts and waste, etc.

BIOGEST-SITEIA - www.biogest-siteia.unimore.it

Green research areas: packaging of active ingredients and microbial techniques to improve food conservation.

CIPACK - www.cipack.it

Green research areas: analysis of the impact of packaging on the environment (sustainable packaging); materials and treatment techniques for packaging; bio and eco-designed films.

CIM - www.cim.unipr.it

Green research areas: Quality and safety in food transformation. (Life Sciences Platform).

Construction industry Platform**CENTRO CERAMICO** (Ceramic center) - www.cencerbo.it

Green research areas: chemical and physical characterisation of raw materials, semi-finished and finished products; energy and environmental diagnosis of processes.

CIRI Edilizia e costruzioni - www.edilizia-costruzioni.unibo.it/

Green research areas: production and management of building heritage: sustainability, safety and energy efficiency; fluid dynamics for energy and environmental applications.

EN&TECH - www.enetech.unimore.it

Green research areas: improvements of energy efficiency in buildings. Eco-design and LCA (Life Cycle Assessment)

LARCO ICOS - www.larcoicos.it/

Green research areas: materials and components for high performance, low energy consumption and low environmental impact buildings; sustainable construction.

TEKNEHUB - www.teknehub.it

Green research areas: recovery of degraded areas in terms of indigenous biodiversity and creation of nature trails.

CIRI ICT - www.ciri-ict.unibo.it

Green research areas: ICT Technologies and services for sustainable development (e.g.: Controls for processes and logistics, monitoring of industrial environments, business intelligence, automated software and systems for pattern recognition).

Mechanics and Materials Platform**CIRI AERONAUTICA** - www.aeronautica.unibo.it

Green research areas: Mechanics and technology applicable to transport.

CIRI MECCANICA AVANZATA e MATERIALI (Advanced mechanics and Materials) - www.mam.unibo.it

Green research areas : Development of: low environmental impact vehicle propulsion; accumulation, conservation and integration of energy; low power wind generators; photovoltaic systems; systems for the generation of variable speed hydroelectric energy; energy saving; energy-efficient systems for electric and hybrid propulsion.

MIST E-R - www.laboratoriomister.it

Green research areas: high performance, efficient and eco-sustainable lighting; innovative systems for the production of energy from renewable resources and energy saving; development of functional biomimetic materials.

MECH-LAV - www.unife.it/tecnopolo/mechlav

Green research areas: services to the building and construction sectors; vibration-acoustic certification and product development.

T3 LAB - <http://www.t3lab.it>

Green research areas: energy models, telemetric energy monitors; energy efficiency in buildings; innovative solutions for transport.

TRACCIABILITÀ (Traceability) - www.tracciabilita.enea.it





Green research areas: energy production in general; treatment and disposal of waste.

International Trade Fairs

ENVIRONMENT

 <p>ECOMONDO www.ecomondo.com</p>	<p>International Trade Fair of Material and Energy Recovery and Sustainable Development held at the Rimini Trade Fair site. Commodity sectors: Waste Treatment; Recycling and Services; Collection and Transport; Treatment, recovery and demolition of inert waste; Decontamination; Air and Water. The show received 75,980 visitors and hosted 1,200 companies at the 2011 edition. The figures include those of the KEY ENERGY and COOPERAMBIENTE fairs (Cooperate for the environment - www.cooperambiente.it) that take place at the same time as ECOMONDO.</p>
 <p>KEY ENERGY www.keyenergy.it</p>	<p>International expo for Sustainable Energy and Mobility. Commodity sectors: production of energy from the following renewable sources: Biofuels, Biogas, Biomass, Photovoltaic & Solar heat, Mini – Wind power. From alternative sources: Use of waste as an energy source. Energy saving and efficiency including Cogeneration; Sustainable Mobility .</p>
 <p>H2O – ACCADUEO www.accadueo.com</p>	<p>International exhibition of technologies for the treatment and distribution of drinking water and wastewater treatment held in Ferrara. The 2012 edition received 6,711 visitors and hosted 270 exhibitors.</p>
 <p>REMTECH www.remtechexpo.com</p>	<p>Remediation Technologies. Exhibition on the remediation of contaminated sites and the requalification of territory.</p>


BUILDING

 <p>CERSAIE www.cersaie.it</p>	<p>International exhibition of ceramics for architecture and bathroom sanitaryware, held at the Bologna Trade Fair site. 176,000 m² of exhibition space with 972 exhibitors and 80,849 visitors 31% of which were foreign (Data 2011).</p>
 <p>SAIE www.saie.bolognafiere.it</p>	<p>International building exhibition, held at the Bologna Trade Fair site. In 2011 it hosted 1,044 exhibitors and received 85,000 visitors (almost 5,000 of which were from abroad).</p>
 <p>SAIENERGIA www.saienergia.bolognafiere.it</p>	<p>Exhibition on renewable energy and low energy consumption technology for sustainable construction. The data on visitors is included in the SAIE figures.</p>
 <p>ECO CASA & IMPRESA www.ecocasa.re.it</p>	<p>Exhibition & Conference on saving energy, sustainable architecture, economy and environment. With over 100 exhibiting companies and 25,000 visitors (data 2011).</p>

AGRO-FOOD

 <p>CIBUS www.cibus.it</p>	<p>Cibus – International Food Fair held at the Parma Trade Fair site. The fair also includes Dolce Italia, the exhibition for the confectionery industry. The 2012 edition hosted 2,300 exhibiting companies, 63,000 visitors, 12,000 buyers and foreign operators from the sector. The fair gives good exposure to organic products.</p>
 <p>SANA www.sana.it</p>	<p>SANA – International exhibition of organic and natural products: food, health, environment, held at the Bologna Trade Fair site. The 2011 edition received 25,000 visitors working in the sector (900 from abroad) and hosted 532 exhibitors. The event, in addition to giving exposure to organic production, includes the «Bravo Bio» award for places that use entirely or almost entirely products that have been certified organic and biodynamic.</p>

RESEARCH & DEVELOPMENT

 <p>RESEARCH TO BUSINESSES www.rdueb.it</p>	<p>International Exhibition on Industrial Research held at the Bologna Trade Fair site – A meeting point between Research and Business including several links with green economy sectors. The 2012 edition hosted 250 exhibitors and received 4,800 visitors.</p>
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Foreign investors

Some important foreign investors in the Green Economy in Emilia-Romagna - Source: Aida - Bureau Van Dijk, 2009

Company	Investor	Country of Origin	Type of business (Ateco 2007)	Why they are considered GREEN
TETRA PAK ITALIANA	TETRA LAVAL HOLDINGS B.V.	Holland	Repairing and maintenance of machines for dosage, packaging and packing	They are very conscious of environmental sustainability, they have adopted green practices in the production process : they use FSC certified paper in the manufacture of their containers and packaging
NORD MOTORIDUTTORI	GTNI GETRIEBE-TECHNIK -NORD INTERNATIONAL	Germany	Wholesale trade of machinery and equipment	They produce technology that involves green markets and practices (e.g. energy efficiency, renewable sources)
AL PONTE PROSCIUTTI	CFG FRANCE HOLDING CAMPOFRIO FOOD	France	Wholesale trade of meat and meat based products	They are part of the category of transformers/preparers of products from organic agriculture
MANITOU COSTRUZIONI INDUSTRIALI	MANITOU BF SA	France	Production of equipment and machines for building, lifting and digging	They produce technology that involves green markets and practices (e.g. refuse, building)
ITALPIZZA	BAKKAVOR ACQUISITIONS LIMITED	United Kingdom	Production of pre-packed pizza	They are part of the category of transformers/preparers of products from organic agriculture

Services available to the green economy

Agencies and Associations

ERVET – Sustainable Development Unit

ERVET is the agency that handles development in the Emilia-Romagna Region. Among its various services, it manages the following websites:

- **Tecnologie Pulite** <http://www.tecnologiepulite.it/>

An "organized container" with open access to everything concerning the topic of the best practices available that allow to reduce the environmental impact.

The site also includes a «**showcase window**» for **suppliers of environmental technology** where it is possible for them to promote their company and products and/or look for useful partnerships for new investments.

- **Cartesio Network** www.retecartesio.it

The network operating on an inter-regional level and aiming at researching and coming up with collective solutions on topics that interest and involve both private and public organizations.

CISE (Centre for Innovation and Economic Development) Forlì-Cesena - www.ciseonweb.it/ambiente/

CISE is a Special Agency of the Chamber of Commerce in Forlì-Cesena. The Environmental Area deals with dissemination of knowledge and social responsibility and the implementation of environmental management systems.

Environmental Certification

A list of the major certification bodies that operate in the region:

- Bureau Veritas Italia (www.bureauveritas.it)
- Cermet – www.cermet.it
- Certquality – www.certquality.it
- Csqa - www.csqa.it
- Dnv – www.dnv.it
- Imq – www.imq.it
- Rina – www.rina.org
- Tuv Italia – www.tuv.it

Professional training courses

Training institutions offering courses connected with the green economy:

- Ce.svi.p. www.cesvip.it
- CentroServiziP.M.I www.cspmi.it
- Cerform www.cerform.it
- Cfp Cesta www.cfpcesta.com
- CSE Parma www.parmaedile.it
- CPF Ferrara www.cpf.fe.it
- Dinamica www.csa.it
- Ecipar www.ecipar.it
- E.f.p.e. www.efpe.it
- FORM.ART www.formart.it
- IAL Emilia-Romagna www.ialemiliaromagna.it
- I.i.p.l.e www.edili.com
- I.f.o.a. www.ifo.it
- Infomedia www.infomediaformazione.it
- Irecoop www.irecoop.it
- ModenaFormazione www.modenaformazione.it
- Techne www.techne.org

Higher Education

Degree courses

University of Bologna - www.unibo.it

Faculty of Agriculture

- Territorial and agro-forestry environmental science
- Planning and management of agro-land, forestry and landscape ecosystems
- Ornamental plants and landscape protection (Imola)
- Marketing and Economics of the agro-industrial system (Approach oriented towards the sustainability of production and the enhancement of quality)

Faculty of Engineering

- Land and Environmental Engineering
- Energy Engineering
- Engineering for urban and building systems (Ravenna)

Faculty of Industrial Chemistry

- Chemistry and technology related to the environment and materials (Rimini and Ravenna campuses)

Faculty of Mathematical, Physical and Natural Sciences

- Environmental Assessment and Management [two year Masters] (Ravenna)

Faculty of Political Science

- Employment, market, environment, social policies and social work

University of Modena and Reggio Emilia - www.unimore.it

Faculty of Mathematical, Physical and Natural Sciences

- Environmental and Territorial Science (Modena)

University of Ferrara - www.unife.it

Faculty of Engineering

- Civil and Environmental Engineering

University of Parma – www.unipr.it

- Natural and environmental science/ Science and technology for environment and resources
- Ecology and nature conservation

Masters

University of Bologna - www.unibo.it

- Sustainable development and management of environmental systems
- Social policies and the sustainable development of land
- Land and water conservation
- Biostatistics – (Faculty of Statistical Sciences)

University of Modena and Reggio Emilia - www.unimore.it

- Assessment of chemical substances – REACH and CLP
- Faculty of Mathematical, Physical and Natural Sciences

University of Parma

- Master in Packaging - <http://masterpackaging.unipr.it>

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