

2.7. VLC/CAMPUS PROPOSAL FOR SUSTAINABILITY (PARTICIPATION IN AN ECONOMICALLY SUSTAINABLE MODEL)

The pollution of seas and rivers, carbon emissions, climate change, depletion of non-renewable energies, food crises, an aging population, and social exclusion are some of the dangers facing our planet unless we make a firm commitment to sustainable development. We are aware that universities have a special responsibility to generate and disseminate this knowledge – as well as finding scientific solutions to the problems that arise.

The members of the VLC/CAMPUS partnership have proposed pooling their best resources to contribute to **Spanish and European sustainable development strategies (SDS)**. This section presents a set of initiatives and activities from the **VLC/CAMPUS proposal for sustainability**.

The **strategy of the European Union in favour of sustainable development**¹³ was launched in 2001 and has since been expanded several times¹⁴. The strategy does not present a single vision of sustainability, but calls for its inclusion in all European policies. This approach has been reinforced by the current economic crisis. **Spanish strategy for economic sustainability** is reflected in a draft bill for economic sustainability that emphasises three fields for implementation: environment, economic, and social. The bill also specifies a **national strategy for innovation** that emphasises the importance of research and knowledge transfer. Research is crucial for the mobilisation of initiatives and resources in aspects such as:

- Renewable energies
- Biotechnology
- Aerospace industries
- Food industry development
- Environmental protection: natural heritage and bio-diversity
- Integrated water management
- Stable and qualified employment
- Public health
- Social inclusion
- Self-sufficiency and dependence

¹³ <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:52009DC0400:ES:NOT>

¹⁴ See: Guide to a European Strategy for Sustainable Development (Guía para la Estrategia Europea de Desarrollo Sostenible) (2007)

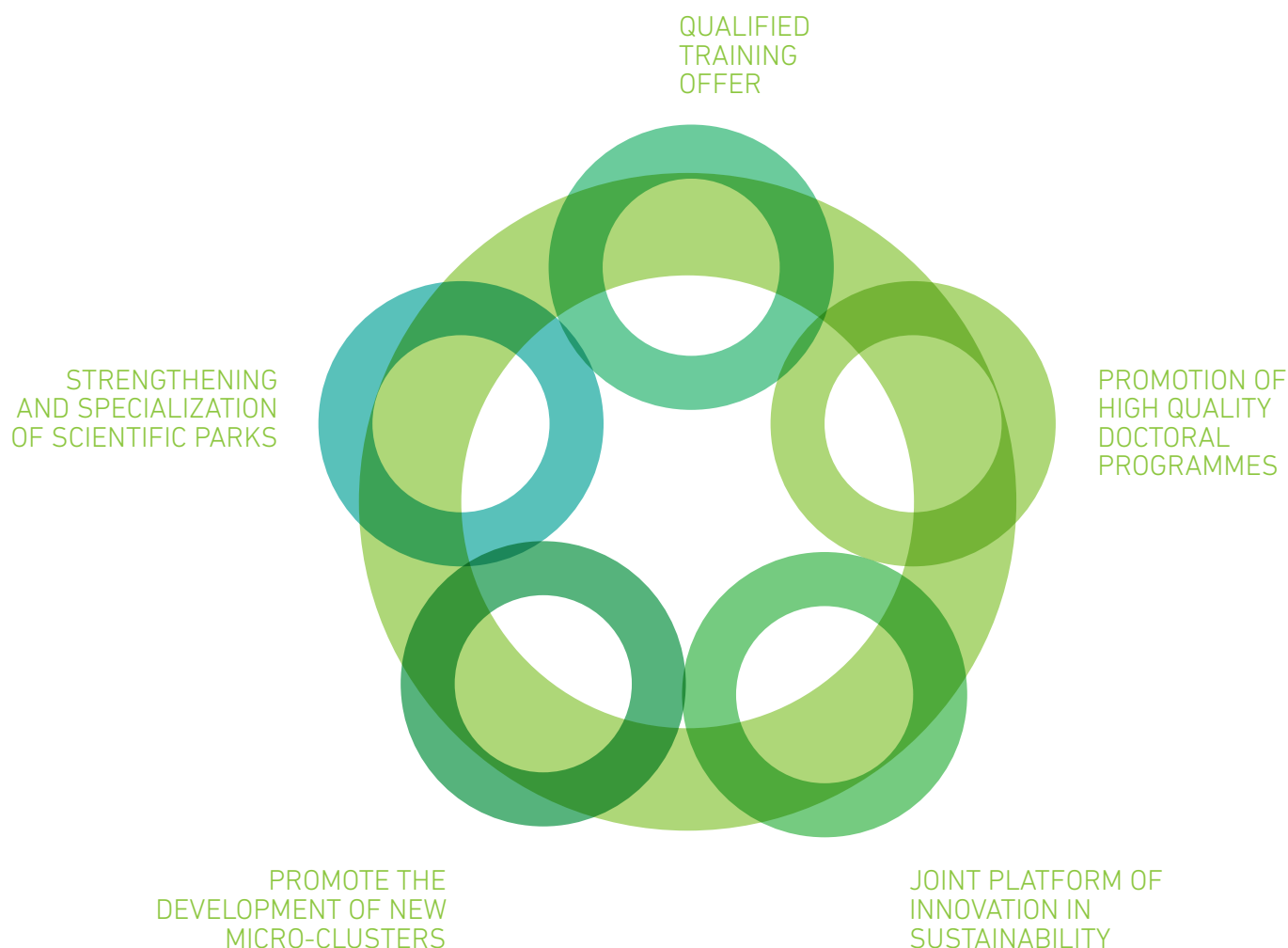
This broad view of sustainability and the diversity of issues involved requires an inter-disciplinary and inter-institutional approach to encourage open innovation and create bridges between academic institutions, government departments, and socially representative groups. The **VLC/CAMPUS proposal for sustainability** meets these objectives and those of the Spanish and European strategies for sustainability. Our proposal includes initiatives and actions relating to education and training, research and knowledge transfer, as well as social innovation and scientific communication. The nature of the **VLC/CAMPUS** partnership facilitates cooperation between diverse knowledge areas such as economics and law, architecture and health sciences, engineering, biology and earth sciences, as well as social sciences, education, and the humanities.

VLC/CAMPUS proposes to:

- Encourage excellent and innovative research into sustainability and find solutions to environmental problems.
- Raise awareness and encourage training in sustainability among students and researchers – as well as social, political, and economic leaders.
- Mobilise resources and ideas, facilitate access to research findings, and encourage initiatives that help society find solutions to environmental problems from a rational and scientific perspective.

Numerous reports on the regional economy in recent years have stressed the need to change the productive model and move towards sustainability. **VLC/CAMPUS** aims to align itself with all public and private organisations that are working for **sustainable development in Valencia**.

VLC/CAMPUS has a multi-dimensional and integrated sustainable development strategy for **three areas of specialisation**, as well as a **cross-disciplinary** dimension. The objective of the strategy is closely associated with the **sustainable campus** model.



2.7.1. SUSTAINABILITY AS A VLC/CAMPUS SPECIALISATION

Sustainability is one of the areas of specialisation and one of the conceptual pillars of VLC/CAMPUS. The aim is to offer excellence in sustainability and propose far-reaching initiatives:

- **Qualified training** in sustainability with international and accredited doctorate programs. These include: Master's programs in materials and sensor systems for environmental technologies and psychology at work, organisational and human resources (Erasmus Mundus courses); and PhD programs in human rights, peace and sustainable development, biodiversity and science, technology and food safety. This specialist offer has a marked interdisciplinary nature and is based on the many degree courses offered by VLC/Campus partners and experienced teaching staff.

MASTER'S DEGREE COURSES IN:

[Aquaculture](#)

Learning throughout life: education, employment and transformation

[Socio-sanitary care](#)

Advances in research and treatment in psychopathology and health

[Social welfare: individual, family, and group intervention](#)

Biodiversity: conservation and evolution

[Molecular biology, cellular biology, and genetics](#)

Quality and food safety

[Pollution and environmental toxicology](#)

Development cooperation

[Human rights, peace, and sustainable development](#)

Social economics (co-operative and charitable organisations)

[Physiotherapy and aging: health strategies](#)

Sexual equality policies

[Management and promotion of local development](#)

Environmental engineering

[Biomedical engineering](#)

Psychological intervention in social areas

[Research and rational drug use](#)

Research, treatment, and associated pathologies in drug addiction

[Molecular nanoscience and nanotechnology](#)

Psycho-gerontology

[Psychology of work, organisations, and human resources \(Erasmus Mundus\)](#)

Sustainable chemistry

[Theoretical chemistry and computational modelling \(Erasmus Mundus\)](#)

Systems and services in the information society

[Experimental techniques in chemistry](#)

Management techniques for regional environments

[International Master's in migration](#)

Master's in Advanced Architecture, Landscape, Urbanism and Design

[Master's in Plant Molecular and Cellular Biotechnology](#)

Master's in Science and Food Engineering

[Master's in Agricultural and Food Economics and the Environment](#)

Master's in Building

[Master's in Cultural Management](#)

Master's in Business Administration, Supplies and Services

[Master's in Management and Food Safety](#)

Master's in Engineering Acoustics

[Master's in Hydraulic Engineering and Environment](#)

International Master's in Materials and Sensors Systems for Environmental Technologies (Erasmus Mundus)

[Master's in Animal Breeding and Biotechnology of Reproduction](#)

Master's in Plant Breeding. (Interuniversity: UPC, UPM, UC)

[Master's in Alternative Internal Combustion Engines](#)

Master's in Plant Production and Agro-Ecosystem

[Master's in Industrial Safety and Environment](#)

Master's in Energy Technology for Sustainable Development

[Master's in Transportation and Urban Land](#)

Master's in Viticulture, Enology and Wine Business Management

- In light of the new legal framework for PhDs, VLC/CAMPUS will encourage PhD programs centred on sustainability. These new programs will train researchers and lecturers in the application of sustainability.
- A joint platform for innovation in sustainability will strengthen research, knowledge transfer, and innovation. Various **research micro-clusters** are already included (see *Table 18*). The quality and excellence of these centres is recognised through participation in the Innocampus program.

Nº	MICRO-CLUSTER
1	Food safety and use
2	Adaptation of plants to environmentally stressed conditions
3	Sustainable energy
4	Technologies for sustainable water management
5	Intelligent, safe, and sustainable transport
6	Human capital, health and labour in a sustainable economy

Table 18. Research micro-clusters associated with sustainability

- Additionally, VLC/CAMPUS intends to foster new **micro-clusters**, including research institutes (such as the Institute for Local Development – or the University institute of Food Engineering for Development), research groups (such as Polibienestar, which researches sustainable social policies and technologies applied to sustainability) and **emerging groups**.
- VLC/CAMPUS aims strengthen the role of **science parks** as increasingly specialist tools that connect science, technology, and the business market in our areas of expertise: health, information/communication, and sustainability. In this way, VLC/CAMPUS will create Valencia's largest area of shared research between universities and business – and one of the largest in Spain.

2.7.2. VLC/CAMPUS AS A SUSTAINABLE CAMPUS

For VLC/CAMPUS, sustainability is a cross-disciplinary dimension that is implicit in every action and forms part of the social model of the campus. Sustainability is part of our corporate social responsibility and our commitment to regional development and the European social model.

1. To ensure that VLC/CAMPUS develops as a sustainable campus, a **sustainability master plan** will be developed in a similar way to the International Sustainable Campus Network (ISCN)¹⁵. This master plan will include a program of actions – of which the following have already been implemented:
 - Encourage the use solar and alternative energies on campus. VLC/CAMPUS already operates the most powerful solar energy urban park in Spain. This installation prevents the annual emission of nearly 750 tons of CO₂. The expected output is nearly 1,500,000 kWh per year, which is equivalent to the annual consumption of more than 330 families.
 - Encourage sustainable transport with support for the use of bicycles in every part of the campus. This initiative includes the negotiation of new infrastructure (bike paths) and services with the appropriate government departments.
 - Implementation of energy efficiency programs throughout the campus.
2. In the field of training, this approach involves developing a **plan of awareness raising for the entire university community** – and the introduction of a **sustainability curriculum**. The aim is to ensure that all students who pass through the lecture halls of the VLC/CAMPUS acquire an understanding of environmental issues.
3. The following actions with local and regional communities are planned: :
 - The creation of a **Landscape Observatory** together with the regional government (Generalitat Valenciana). This inter-university project is the result of an agreement with the regional department of environment and will monitor Valencia's natural heritage in a similar way to other European observatories. The Inter-University Institute for Local Development (IIDL) is also participating.

¹⁵ <http://www.international-sustainable-campus-network.org/>; <http://www.sustainablecampus.org/universities.html>; <http://www.greencampus.harvard.edu/>; <http://environment.stanford.edu/cgi-bin/index.php>

- The following proposals aim to adapt the physical spaces of the VLC/CAMPUS:
 - a. The allocation of an annual budget for upgrading and improving urban integration to create a healthier, more sustainable, and friendlier campus (signage in English, universal accessibility, etc.).
 - b. A restructuring of the current UV Campus dels Tarongers by adding **new garden landscaping** on 15% of the space (53,000 m²), planting more trees, and incorporating the necessary protective mechanisms.
 - c. The construction of new infrastructure, such as the VLC/CAMPUS Portico, the Espai Innova with Gandia city council, and a centre for the Confucius Institute.
 - d. The restructuring and expansion of campus Vera as a urban border with a garden as an example of integration of open spaces and the relationship between urban space and the protected area of farmland.
 - The creation of a specialised **forum** for discussion at the Innovation and Strategy Centre (CIE) with the participation of social, political, and cultural representatives.
4. In the realm of natural heritage we propose:
- The construction of a natural science museum. This will be located next to the UV Botanical Garden and display the important collection assembled by the biologist P. Ignacio S.J. In addition, the old farmhouses on the Campus de Vera will be preserved to enhance the natural heritage.
 - New resources to encourage research and conservation work at the Botanical Garden of the University of Valencia (founded in 1567)¹⁶. The garden is a study and teaching area located near the centre of Valencia city and measures approximately 13 hectares. It has been used during the past 200 years for growing medicinal herbs and plants. The garden currently devotes its research efforts to exploring plant diversity; the protection of rare, endemic, or threatened species of Mediterranean flora; and the conservation of natural habitats..
5. In the field of scientific communications, the VLC/CAMPUS will encourage communication of activities in the campus areas of expertise. Special emphasis will be made on publishing results on sustainability by building on the measures included in the **General Plan for Science Communication** (see section 2.1.4) of the VLC/CAMPUS.
- VLC/CAMPUS will develop a **unit for inter-institutional scientific development** in order to manage the general plan for science communication and make the project objectives and results known. This will be achieved by maintaining a close relationship with the media, other campuses of excellence, and government departments, etc. VLC/CAMPUS will also support other actions and alliances beneficial to the scientific reputation of the VLC/CAMPUS brand.
 - Strengthen the activity of the Chair of Scientific Dissemination in the area of sustainability.
 - The annual publication of an issue (in three European languages) of the journal **METHOD**¹⁷ (a refereed journal published by the Vives University Network) dedicated to the dissemination of scientific results on sustainability.

¹⁶ <http://www.jardibotanic.org/>

¹⁷ <http://www.metode.cat/>