



LIFE-Montado-adapt - MONTADO & CLIMATE; A NEED TO ADAPT  
LIFE15 CCA/PT/000043



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#### Project description:

##### Background

Mediterranean ecosystems have been identified as being among the most likely to be impacted by climate change. A further clear trend towards drier and hotter conditions is predicted in the Mediterranean area. Here, substantial warming (about 1.5°C in winter and almost 2°C in summer) and a significant decrease in precipitation (5-10%) is likely to occur in the period 2021–2050, compared to the reference period of 1961–1990, although at local level changes might be even more dramatic.

The predicted climatic trends in the Mediterranean region are expected to enhance the risk of erosion and may increase desertification, which involves interacting changes in vegetation, soils, water availability and local climate. One Mediterranean ecosystem, known as Montado in Portugal and Dehesa in Spain, that is noted for its traditional agroforestry management practices, is becoming increasingly uneconomical. Income per hectare is insufficient to live on, causing rural depopulation.

##### Objectives

LIFE-MONTADO-ADAPT has two objectives:

- Introducing innovative adaptation technologies in Portuguese and Spanish Montado and Dehesa (M/D) landscapes and communities, through demonstration of sustainable and profitable Integrated Land Use (ILU) systems, which help restore the landscape's multi-functional character and its contributions to socioeconomic development, environmental services, biodiversity conservation and carbon sequestration; and
- Maximising the transformational impact of these adaptation technologies and ecosystem services, and securing their replication and upscaling, through a farmer-to-farmer ILU adoption plan, developed commercialisation channels, sustainability and carbon certification, and a marketing plan for regional produce.

The project is aligned with the EU Adaptation Strategy objective of improving the knowledge base for better informed decision-making on adaptation, by ensuring that the lessons learned – the methods and tools developed - from the project's land-use demonstrations become available for replication purposes. The project will contribute to climate change mitigation, through recovery of land areas which are under threat of desertification and forest fires – thus preventing soil loss and related additional greenhouse gas emissions – and through overall biomass increase for improved carbon sequestration.

Expected results: The project is expected to achieve the following results:

- Establish an Integrated Land Use system on 1 250 hectares of M/D land with combined methods e.g. inter-planting, diseased tree removal, reforestation, forage crop establishment and livestock fencing;
- Safeguard and improve biodiversity functions, including a 10% improved presence of indicator species for birds and butterflies and a restored plant diversity and structural complexity matching habitat requirements for the Iberian lynx (*Lynx pardinus*);
- Improved socioeconomic benefits of M/D land, including at least eight viable income sources for domestic and international markets, a €150 per hectare (or 300%) increase in farmers' incomes, an increase in employment of 1 full-time equivalent per 10 hectares, and an overall increase in internal rate of return to at least 6%;
- A carbon sequestration increase of 1 tonne CO<sub>2</sub> equivalent per hectare subject to carbon-saving activities;
- To ensure widespread adoption and replication of the adaptation technologies, the project will establish a self-supporting commercial enterprise responsible for collective purchases, sales, marketing and farmer-to-farmer promotion;
- This company will sign at least 10 cooperation agreements with commercial partners for products and eco-services, and promote their products at two trade fairs;
- Eleven project partners will be trained as promoters, each successfully transferring their knowledge to 11 other farmers (110 farmers and an estimated 10 000 hectares in total) resulting in certified ILU designs for their land; and
- Creation of synergies with national governments, forest authorities, agricultural and environmental authorities, the WWF, and other public and private entities in order to achieve policies and legislation beneficial to M/D development.

##### Results

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Environmental issues addressed:

Natura 2000 sites

Not applicable

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Beneficiaries:

Coordinator	Associação de Defesa do Património de Mértola
Type of organisation	NGO-Foundation
Description	Associação de Defesa do Património de Mértola (ADPM) was established in December 1980 to protect the heritage of the municipality of Mértola in Alentejo region, south-east Portugal. ADPM focuses primarily on sustainable local development. The association cooperates with several national and international networks and platforms, particularly in the areas of nature conservation and biodiversity, sustainable development, cooperation and development education and support to Third Countries. It is a member of the Portuguese Coordinating Committee to Combat Desertification.
Partners	CONSEJERIA DE MEDIO AMBIENTE Y ORDENACION DEL TERRITORIO, Spain Grupo Casablanca-Cáparra SL, Spain DEHESA DEL GUIJO S.A., Spain UNIVERSIDAD DE EXTREMADURA, Spain Empresa de Desenvolvimento e Infraestruturas do Alqueva, Portugal AYUNTAMIENTO DE VILLASBUENAS DE GATA, Spain UNAC - União da Floresta Mediterrânica, Portugal Universidade de Évora, Portugal Sociedade Agricola do Freixo do Meio, Lda, Portugal FACULDADE DE CIENCIAS DA UNIVERSIDADE DE LISBOA, Portugal Instituto Nacional de Investigação Agrária e Veterinária, Portugal TerraSIG Lda., Portugal ANSUB – Associação dos Produtores Florestais do Vale do Sado, Portugal Forestry Service Group, The Netherlands EXPLOTACIONES AGROPECUARIAS LA RINCONADA SL, Spain ICNF - Instituto da Conservação da Natureza e das Florestas, Portugal

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Administrative data:

Project reference	LIFE15 CCA/PT/000043
Duration	01-SEP-2016 to 01-SEP -2021
Total budget	3,439,746.00 €
EU contribution	2,051,538.00 €
Project location	Galicia(España), Asturias(España), Cantabria(España), País Vasco(España), Navarra(España), Rioja(España), Aragón(España), Madrid(España), Castilla-León(España), Castilla-La Mancha(España), Extremadura(España), Cataluña(España), Comunidad Valenciana(España), Baleares(España), Andalucía(España), Murcia(España), Ceuta y Melilla(España), Canarias(España), Norte(Portugal), Centro(Portugal), Lisboa e vale do Tejo(Portugal), Alentejo(Portugal), Algarve(Portugal), Açores(Portugal), Madeira(Portugal)

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LIFE PAYT - PAYT - Tool to Reduce Waste in South Europe  
LIFE15 ENV/PT/000609



[Project description](#) [Environmental issues](#) [Beneficiaries](#) [Administrative data](#)

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#### Project description:

##### Background

Municipal waste management practices are failing to achieve high recycling rates in several southern European countries, making it difficult to achieve EU targets. The Waste Framework Directive requires Member States to increase the re-use and recycling of waste materials, such as paper, metal, plastic and glass from households, to a minimum of 50% overall by weight by 2020. Recycling rates of these waste streams in Greece, Cyprus and Portugal are currently around 20%, well below the target and the current European average (35%). One cause of this is inefficiency in the selective collection of materials: less than 15% of all lightweight packaging is presently recovered and valorised, while the remainder is sent unsorted to Mechanical and Biological Treatment (MBT) and to landfill. The overall low rates of segregation at source and recycling mean higher treatment costs at MBT facilities and an inefficient use of resources. Since citizens and commerce actively engaged in source-segregation and recycling pay the same fee as those who do not sort or recycle, they do not feel rewarded and this can weaken their commitment.

##### Objectives

The LIFE PAYT project will implement an integrated, cost-efficient and highly replicable PAYT (pay-as-you-throw) system in five southern EU municipalities: Lisbon, Condeixa and Aveiro (Portugal), Vrillissia (Greece) and Larnaka (Cyprus). LIFE PAYT has four main objectives: reduce residual waste from household and commerce; increase recycling rates for packaging materials; demonstrate changes in local decision-making that contribute to the implementation of EU environmental strategies and targets; and promote the replication of the concept in other southern European municipalities. To achieve these aims, the project will use strategies to link waste producers with the amount of waste they discard. For instance, the project will modernise and optimise residual waste collection by introducing software and hardware tools (RFID, ID cards, monitoring collection), and design fair and equitable waste tariffs. LIFE PAYT will use a participatory approach to maximise municipal stakeholders' involvement and raise awareness – e.g. by creating specific training courses for decision makers. The project's development support tools will boost transferability, with the involvement of stakeholders from Bulgaria, Croatia, Malta, Romania and Spain. The project will contribute to achieving the household waste management objectives of the Waste Framework Directive and the reduction of biodegradable waste going to landfills (with subsequent greenhouse gas emission reductions), as outlined by the Landfill of Waste Directive.

##### Expected results:

- Establishment of a PAYT system that works as a cost-effective model (under €50 per tonne for residual waste collection) to ensure economic and environmental sustainability of municipalities in Greece, Portugal and Cyprus;

- Reduction of household's residual waste in at least 30% and up to 40% at the target sites;
- Increased recycling rates for packaging waste (glass, paper, plastic and metal) to 15-30% at the demonstration sites (currently 6.3-21%);
- Increased home composting: 10% of all detached houses take up home composting, with 200 kg per year of household bio-waste diverted from landfill;
- Modernised and optimised residual waste collection with an expected reduction in CO2-eq emissions through direct reduction in fossil fuel consumption (10-15% of present carbon footprint in target municipalities);
- Increased awareness through a citizens' portal, providing economic and environmental information to both decision-makers and the general public;
- Increased commitment of the research and technical communities: a web portal will provide scientists and municipalities with insights about current status at the demonstration sites, and tools will be freely available (as open source software) to be used by other municipalities;
- Evaluation of the project's environmental, social and economic impact over its lifetime: around 13 500 tonnes of waste reduction at the demonstration sites when project ends and over 360 000 tonnes/year at the replicability sites five years after; and
- Development of a framework of guidelines and specifications for PAYT implementation targeting local authorities, and the establishment of a dedicated PAYT network.

## Results

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Environmental issues addressed:

Natura 2000 sites

Not applicable

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Beneficiaries:

Coordinator	Instituto Politecnico de Coimbra
Type of organisation	Research institution
Description	IPC is a polytechnic institute located in the Centro region of Portugal. It brings together six schools and institutes related to specific areas of education and research: agriculture, engineering, health, business, education, applied social science and fine arts, and management and technology.
Partners	Universidade de Aveiro, Portugal Larnaka Municipality, Cyprus Câmara Municipal de Aveiro, Portugal Câmara Municipal de Lisboa, Portugal Câmara Municipal de Condeixa-a-Nova, Portugal Municipality of Vrilissia, Greece National Technical University of Athens, Greece

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Administrative data:

Project reference	LIFE15 ENV/PT/000609
Duration	01-SEP-2016 to 31-DEC -2019
Total budget	2,517,571.00 €
EU contribution	1,351,945.00 €

Project location Norte(Portugal),Centro(Portugal),Lisboa e vale do  
Tejo(Portugal),Alentejo(Portugal),Algarve(Portugal),Açores(Portugal),Madeira(Portugal)

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## LIFE Index-Air - Development of an Integrated Exposure – Dose Management Tool for Reduction of Particulate Matter in Air

LIFE15 ENV/PT/000674



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### Project description:

#### Background

The health effects of air pollution have been subject of intense study in recent years. Exposure to pollutants such as airborne particulate matter (PM) has been associated with increases in mortality and hospital admissions due to respiratory and cardiovascular disease. PM is a complex mixture of microscopic particles derived from anthropogenic and natural sources. It is still a major environmental problem in several EU countries. While strategies for controlling anthropogenic emissions in European urban areas have greatly improved, the quantitative result of changes in human exposure to specific toxic particle compounds is largely unknown with respect to each of the emission sources.

#### Objectives

The main objective of LIFE Index-Air – by incorporating a database of outdoor and indoor air quality and a package of models – is to develop an innovative and versatile policy tool that will establish a relation between population exposure to mixtures of PM compounds and emission sources.

Specific objectives are to:

- Develop and implement a method for producing a versatile and long-term, decision-making tool for public authorities;
- Create a database on chemical constituents of PM<sub>2.5</sub> and PM<sub>10</sub> sampled indoors and outdoors of EU cities;
- Develop an exposure assessment system and an operational platform for

- PM dose calculation to be incorporated into the tool;
- Identify the health end-points associated with the exposure to PM;
  - Determine the contribution of emission sources to human exposure to PM and evaluate control strategies capable of underpinning the sustainable development of expected changes anticipating climate change and long-term changes in the atmosphere; and
  - Consolidate the knowledge base to help authorities to implement the Thematic Strategy on Air Pollution and to formulate air quality action plans.

Expected results:

- A management tool to identify efficient emission control strategies;
- A database on chemical constituents of PM from indoors and outdoors of European cities;
- An exposure assessment system;
- A platform for particle dose calculation;
- A platform for health impact assessment;
- A geographic information system (GIS) database covering population data, land use, micro-environments' distribution for five European cities;
- Mapping of human exposure for five European urban areas at high spatial and temporal resolution, covering PM10, PM2.5 and elements regulated by EU legislation;
- Detailed dose calculations for individual human subjects;
- Meta-analysis of selected health end-points associated with the selected chemical and PM exposures;
- Identification of the impact of the current emission sources to human exposure levels;
- Identification of efficient abatement strategies to decrease human exposure to PM chemicals;
- Publication of 14 technical reports, covering time activity patterns, PM chemical characterisation in different micro-environments and sources' identification, setup of the air quality modelling system, setup of the exposure model, model evaluation exercise, air quality and exposure modelling results, dose calculations for children, burden of disease associated with the target chemicals, five independent reports with guidelines for action plans (for Lisbon, Oporto, Kuopio, Athens and Venice), affecting an estimated 290 000 children (5-9 yrs), socio-economic impacts of the project; and
- Training materials produced and several courses/seminars organised.

Results

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Environmental issues addressed:

Natura 2000 sites

Not applicable

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Beneficiaries:

Coordinator	INSTITUTO SUPERIOR TÉCNICO
Type of organisation	Research institution
Description	Founded in 1911, the Instituto Superior Técnico (IST) is the country's largest public engineering institute. Its mission is to offer a higher education of outstanding quality in the fields of engineering, science and technology, as well as to carry out research and development activities. The IST Atmospheric Quality team, coordinator of this project, is recognised as a centre of excellence in atmospheric research. Over the last two decades, the team has developed aerosol sampling and analysis instrumentation, which nowadays are applied successfully for measurements of various physical and chemical aerosol parameters. IST research infrastructure includes a Nuclear Research Reactor and Accelerators that allow the use of nuclear analytical techniques for the element characterisation of aerosols.
Partners	THL(National Institute for Health and Welfare), Finland TU-Crete(Technical University of Crete), Greece NCSR-D(National Centre for Scientific Research "Demokritos"), Greece UAVR(Universidade de Aveiro), Portugal

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Administrative data:

Project reference	LIFE15 ENV/PT/000674
Duration	01-OCT-2016 to 31-MAR -2020
Total budget	1,369,071.00 €
EU contribution	792,401.00 €
Project location	Norte(Portugal)

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