

### A global and local challenge: adapting to climate change

The effects of climate change are already evident, both globally and locally. Furthermore, scientific forecasts indicate that these effects will intensify in the coming years, affecting all territories and economic activities related to the primary sector and tourism, principally.

This poses a **significant collective challenge: to take action to adapt to the new climate scenario** and anticipate some of the expected impacts. This is the purpose of Life\_eCOadapt50, a project that aligns with international agreements and strategies, and it proposes actions at all levels of government.

With an eight-year outlook (2023-2030), it analyses the adaptation potential of a wide variety of territories in Catalonia and four of the main economic sectors, with the aim of promoting actions aimed at reducing their vulnerability and enhancing their resilience capacity.

The project responds locally to the **agreements and policies of Europe, the Spanish state, and Catalonia**. It takes on the challenges presented and strives to find solutions. It proposes the implementation of the **Local Climate Change Adaptation Strategy (ELACC)**, driven by Life Clinomics, which takes the adaptation actions of various levels of government as a reference.

The risk and vulnerability analysis has been carried out based on the three geographical zones defined by the Meteorological Service of Catalonia, in accordance with the structure of the **Catalan Climate Change Adaptation Strategy (ESCACC30)** within the strategy for the 2030 horizon envisaged in the Climate Change Law (Law 16/2017).

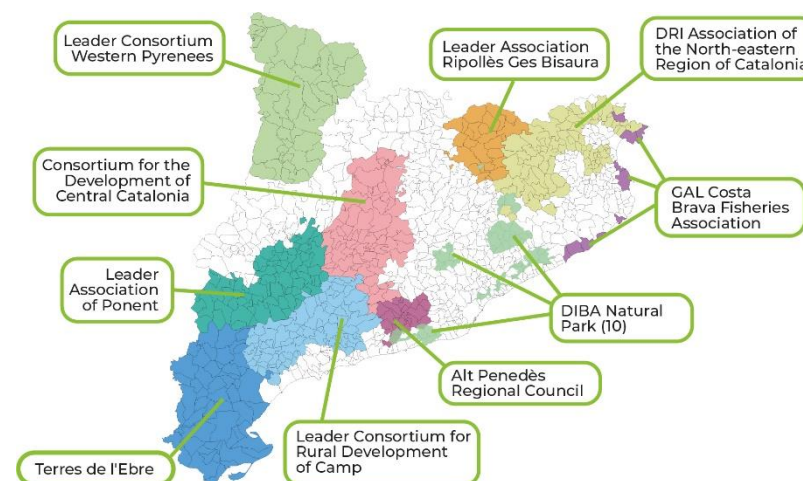
## MAIN LAWS AND REFERENCE DOCUMENTS

- Law 16/2017, of 1 August, on Climate Change and the Strategy for Climate Change Adaptation 2021-2030 ([ESCACC30](#)).
- Law 7/2021, of 20 May, on Climate Change and Energy Transition, and the National Climate Change Adaptation Plan.
- European Climate Law (Regulation EU 2021/1119 of the European Parliament and of the Council, of 30 June 2021), and the European Strategy for Climate Change Adaptation.
- European Green Deal.
- European Strategy 2050.
- European Climate Pact.

## Diversity of biogeographical areas and economic sectors.

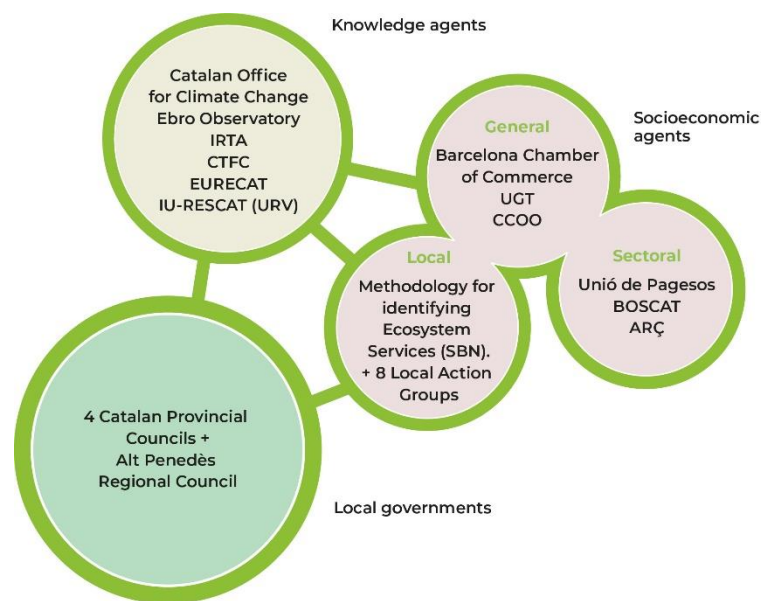
Geographically, Life\_eCOadapt50 encompasses **19 territorial areas** that represent a wide range of landscapes, biogeographical environments, climates and economic activities. These include mountainous regions, inland areas, coastal locations, as well as urban and rural zones.

Although only **12% of the population of Catalonia** (approximately 900,000 people) resides in these areas, **they account for 60% of the total land area** (around 19,400 km<sup>2</sup>). In this regard, the project contributes to ensuring that economic activities in rural areas remain viable and profitable.



*The 19 territorial areas of Life\_eCOadapt50.*

Under the leadership of the Climate Action and Energy Transition Department of the Barcelona Provincial Council, Life\_eCOadapt50 brings together **25 public and private partners**: local and supramunicipal administrations, socioeconomic agents from general, local and sectoral levels, local action groups and knowledge centres. Since its inception, the project has also identified over 350 *stakeholders* or territorial agents and involves around 100 entities.



<https://ecoadapt50.eu/en/qui-som>

## PROJECT OBJECTIVES

- Identify the **impacts, vulnerabilities and adaptive capacity** of the territories.
- Provide **knowledge, tools and data** to propose sectoral actions.
- Involve **economic and local actors** in defining the actions.
- Create stable local and networked **governance structures**.
- Promote and implement **climate change adaptation actions**.
- Mobilise **sources and economic resources** to finance the actions.
- Monitor **the project and collect data** to evaluate progress.



### The project: a process of adaptation and continuous improvement

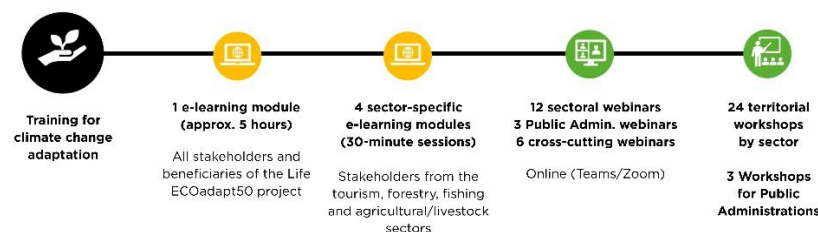
Once these territorial agents and institutions have been identified and spaces for dialogue have been created to share the sensitivities and needs of each participant, the degree of vulnerability of each geographical area and sector is assessed.

This involves an **assessment to determine the starting scenarios and the factors that influence the potential for adaptation**. This information is crucial for subsequently defining an action plan with measures aimed at progressing towards more resilient scenarios and ensuring sustainable economic activity in the new bioclimatic context.

The **identification of the main risks affecting each sector** is carried out by collecting technical information and engaging with stakeholders from the relevant geographical area. A set of indicators is also proposed for those risks that have a more significant relationship with each sector and territory, which should serve to track the milestones achieved. This also means determining the positive impacts and transforming them into opportunities.

The project also includes **a plan to raise awareness** about the impacts of climate change and the need to promote adaptation actions across all sectors and territories.

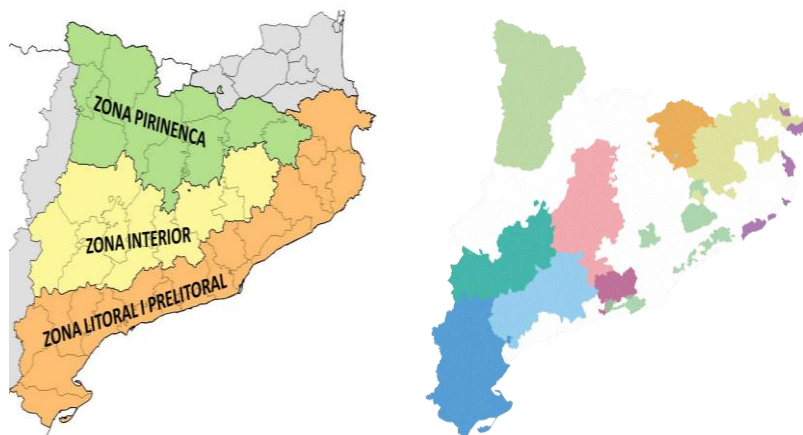
The target audience includes all individuals involved in the project, through the various institutions, organisations, and participating agents, as well as *stakeholders* from the four economic sectors, both public and private, identified as particularly vulnerable. It also encompasses the wider public, as adapting to climate change is a global and collective challenge.



*The training actions of the Life\_eCOadapt50 training plan.*

## The risks and vulnerabilities of each territory

The **vulnerability assessments and the determination of risk levels** have been developed considering three major territorial areas, which encompass the 19 project sites: the Pyrenean region, the inland area, and the coastal and pre-coastal zone.



The aim has been to establish an updatable methodology accompanied by a **set of indicators** to be determined, based on the level of development of policies and actions in each territory, the increase in adaptive capacity, and the reduction of exposure.

## HOW IS THE LEVEL OF RISK AND VULNERABILITY DETERMINED?

According to the criteria of the Intergovernmental Panel on Climate Change (IPCC), **the level of risk and vulnerability is determined by three factors:**

- **Hazard:** potential occurrence of a phenomenon that can cause other impacts on health, and damage and loss of property, infrastructure, natural resources...
- **Exposure:** presence of people, livelihoods, ecosystems, economic, social or cultural assets..., in places that may be negatively affected.
- **Vulnerability:** predisposition to be negatively affected by a specific hazard; it is determined by **adaptive capacity** and susceptibility or **sensitivity to damage**.

## The main **vulnerabilities of the Pyrenean regions:**

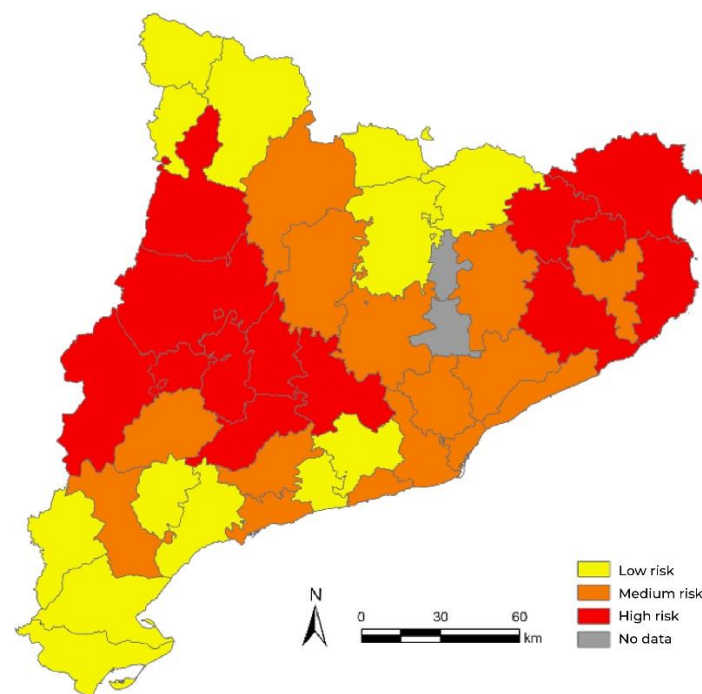
- Temperatures are rising more than in the rest of Catalonia.
- Accelerated disappearance of sensitive ecosystems and iconic landscape elements; disruption of the life cycle of various plant and animal species; impacts on tourism-related activities; changes in the hydrological cycle...
- Other problems such as depopulation, land-use changes, and lack of generational renewal in the primary sector are exacerbated.
- Forecasts related to the evolution of precipitations do not indicate a clear trend. Simulations suggest an increase in the frequency of heavy rainfall events during winter or autumn throughout Catalonia.

The main **vulnerabilities of the inland regions:**

- Temperature increase, especially in summer, with a negative impact on crops.
- Reduction of agricultural and livestock areas due to abandonment; progressive conversion into scrubland and forests, loss of open spaces (agro-forest mosaic), and impacts on biodiversity and landscape.
- Increase in semi-arid areas, especially in the northeastern counties.
- Forecasts related to the evolution of precipitations do not indicate a clear trend. Simulations indicate an increase in the frequency of heavy rainfall events during winter or autumn throughout Catalonia.

And the main **vulnerabilities of the coastal and pre-coastal regions:**

- Sea-level rise and changes in wave behaviour, which can affect beach erosion and the stability of promenades and other infrastructure along the coastline, more exposed to maritime storms and at risk of flooding.
- Increased intensity and duration of heatwaves, and decreased episodes of cold weather.
- Increased frequency of heavy rainfall events during winter or autumn.



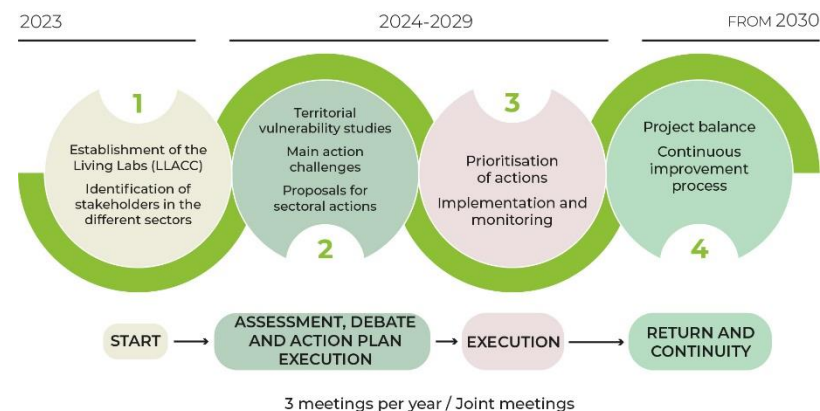
*Example of a territorial risk map (changes in the distribution of agricultural species and disruption of crop cycles).*

### Co-creation of solutions in new governance spaces

Collective determination is a key factor in Life\_eCOadapt50. The active participation of **institutions, organizations, and social and economic agents in each territorial area** enables the promotion of the most appropriate adaptation strategies and actions, also putting this knowledge at the service of other territories and sectors that wish to replicate it in the future.

In this way, each territory fosters conducive environments for debate, reflection, and participation of institutions and social and economic agents. These are the so-called **Living Labs (Living Lab for Climate Change-LL4CC)**, living laboratories, governance spaces to identify challenges and co-create the most suitable solutions in each geographical area and sector.

At an inter-territorial scale, **the LL4CC network should facilitate the creation of synergies, the sharing of knowledge and experiences**, and the optimization of resources for the implementation of adaptation actions. To learn from one another.





## Up to a thousand actions in the coming years

A minimum of **76 sector-specific adaptation actions are planned**, which will be defined as the project progresses. Initially, some **indicative lines of action are proposed**, and each territory adapts them to its characteristics and needs, as well as to the identified vulnerabilities and climate risks.

Some of the actions are a result of the previous Life Clinomics project, such as the Drought Observatory as a water management tool in agriculture, the analysis of forest vulnerability, or the proposal to use livestock in forest management.

To implement this action plan, a budget of **€18.6 million has been allocated**, co-financed, 60% by the Life programme of the European Commission and 40% by the public and private partners of the project. Given that the project has a duration of eight years, this timeframe allows for the search for new financial resources to expand the range of actions to be carried out across all territories and sectors.

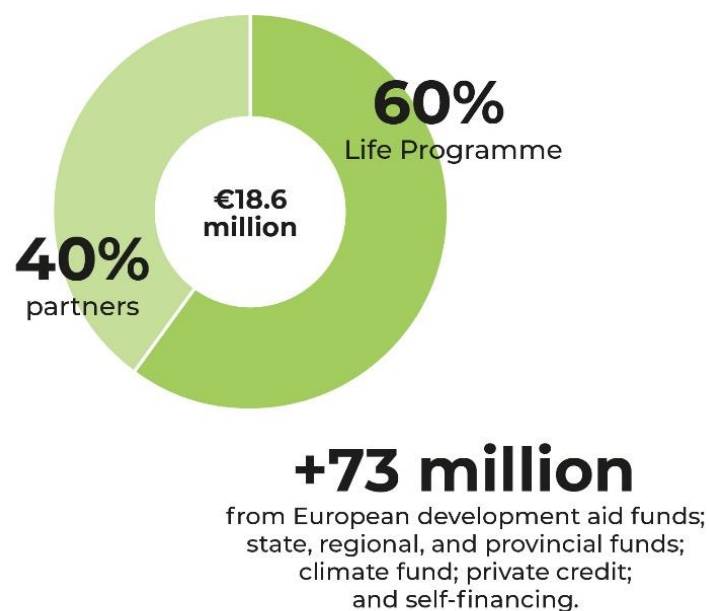
In this regard, **it is expected to mobilize over €73 million in complementary funds**, such as European development aid, state, regional, and provincial funds, the climate fund, private credit, and self-financing.

With this additional investment, **the territorial scope can be expanded to 75% of Catalonia**, replicating actions already implemented in the initial geographical areas and promoting new ones in coastal spaces, high mountain forests, and agricultural plains.



*Guiding lines of action for the sectors participating in the project*





*Source of the project's financial resources.*

#### THE SUPPORT OF THE EXPERT COMMITTEES

The **Technical Advisory Committee** (TAB) will ensure the proper alignment of actions with the project's objectives, providing support to define actions and assess their feasibility, cross-cutting nature, and replicability. It is composed of a permanent commission, with members directly involved in the project, and a dynamic list of external collaborations.

To promote complementary funding (over €73 million), a **Financial Advisory Committee** (FAB) is expected to be created, which will bring together actors from the financial sector, insurance companies, and public managers of major funding sources, tasked with guiding and advising on the various investment opportunities.



**2023-2030**



**19 TERRITORIES**  
(60% OF THE AREA OF CATALONIA)



**> 906.000 INHABITANTS** (12% OF THE POPULATION)



**€18,6M BUDGET**  
(COMMITMENT TO MOBILISE OVER €73M)



**<76 ADAPTATION ACTIONS**

Life\_eCOadapt50 is a transformative project with a commitment to establish itself in the territory, expand, and become replicable.

It is driven by governance and oriented towards action, aiming to generate participatory dynamics and solutions for climate change adaptation; even beyond the timeframe and space defined by the project.

**Co-create | Co-operate | Co-adapt**



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## Coordinating partner



## Beneficiary partners

