

AFTER LIFE PLAN

Life CLINOMICS



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PROJECT DATA

LIFE CLINOMICS DATA

Project location: Catalonia (Montseny Biosphere Reserve, Terres de l'Ebre Biosphere Reserve, Alt Penedès county)

Project start date: 16/06/2016 **Project end date:** 31/12/2020

Total project duration (in months): 54.5

Total cost: 1,392,349 € € **EC contribution:** 825,278 €

Project website <http://lifeclinomics.eu/> **Twitter:** @ClinomicsLife

COORDINATOR

Diputació de Barcelona (DIBA)– Barcelona Provincial Council
Climate change area (Environmental Management Service)

Contact person: Núria Parpal **Email:** life.clinomics@diba.cat

BENEFICIARIES

- County Council of Alt Penedès (CCAP): www.cambrabcn.org
- Barcelona Official Chamber of Commerce, Industry, Services and Navigation (CCB): <https://www.cambrabcn.org/inici>
- Trade Union Confederation of the National Labour Commission of Catalonia (CONC): <https://www.ccoo.cat/>
- Environmental Policies Consortium of Terres de l'Ebre (COPATE)
- Catalan Office for Climate Change (OCCC):
<https://canviclimatic.gencat.cat/>
- General Workers' Union of Catalonia (UGTCAT):
<http://www.ugt.cat/>
- Unió de Pagesos de Catalunya - Farmers' Union of Catalonia) (UPCAT):
<https://uniopagesos.cat/>

PROJECT DEVELOPMENT

The main goal of LIFE CLINOMICS was to increase the resilience in front of climate change of three territories (Monsteny Biosphere Reserve (R.B.), Terres de l'Ebre R.B. and Alt Penedès county) and three economic sectors (agriculture, forestry, fishery and tourism).

CONSORTIUM

The CLINOMICS project has a rich and diverse partnership that integrates experience on climate change adaptation (DIBA, OCCO), territorial action (COPATE, CCAP, DIBA) and links with the socioeconomic stakeholders (UPCAT, UGTCAT, CONC, CCB). These are key ingredients to successfully implement the project actions.

PROJECT ACTIONS

The project started with the analysis of the climate change vulnerability of these territories and sectors and the implementation of a local governance approach. A territorial platform for adaptation to CC (the MeTACC), including local and economic stakeholders, was set up in each of the three territories as the driving force to move forward on adaptation. Each MeTACC has helped to define and prioritize specific actions from the "Plans for adaptation to climate change" developed.

During the last phase of the project two selected pilot actions have been implemented in each territory. Moreover the project has worked to create a common framework for adaptation to climate change with the elaboration of a Strategy for the three territories and a Pact to promote similar actions among the Mediterranean territories and organizations.

Implementation process of Life CLINOMICS



KEY RESULTS

Overall, the project has raised awareness on climate change impacts and the need to adapt to reduce the vulnerability of the territories and the economic activities. At the same time it has been possible to test specific adaptation actions to increase the resilience and the economic viability of the agriculture, forestry, aquaculture and tourism sectors.

Main project results



One of the main outcomes of the project are the pilot actions developed in the three territories of the project that offer best practices on adaptation and opportunities to continue what has been started. The following table summarizes the pilot actions implemented.

DROUGHT OBSERVATORY

Territory	<ul style="list-style-type: none"> • Terres de l'Ebre Biosphere Reserve (implemented in Terra Alta county) • Alt Penedès county
Main objectives	To reduce the impacts of droughts in vineyards.
Results	<ul style="list-style-type: none"> • Different soil moisture sensors were installed in the soil to monitor the hydric stress of vineyards. • The Observatory publishes a weekly newsletter with information on rainfall and soil moisture on rainfed crops and it gives irrigation recommendations for irrigated farmland. • Farmers get valuable information to improve their management in order to better cope with dry periods.
Budget	24,700€ in Terres de l'Ebre 23,000€ in Alt Penedès

SILVOPASTURE FOR WILDFIRES PREVENTION

Territory	Alt Penedès county (in the Foix Natural Park)
Main objectives	To prevent wildfires in a Mediterranean forests inside the Foix Natural Park.
Results	<ul style="list-style-type: none"> • A study to identify the best area for grazing was carried out, as well as specific forest management (using a new remote control brushcutter) to facilitate the entrance of the herd into the forest. • Recovery of crop fields to complement the food for the herd and to act as a firebreak. • A contract has been established with a local shepherd with whom he agrees to graze in the defined area to prevent forest fires and in return receives financial compensation.
Budget	23,000€

REDUCING THE VULNERABILITY OF FORESTS

Territory	Montseny Biosphere Reserve
Main objectives	To reduce the vulnerability of forests in front of climate change impacts in Montseny B.R.
Results	<ul style="list-style-type: none"> • With the technical assistance of forest research centers a research was conducted to identify, with GIS databases and participatory cartography, the forest areas and species most vulnerable to climate change and to define specific adaptation forest management practices to reduce this vulnerability. • The results have been implemented in some forest pilot areas to test it in the field.
Budget	24,799.30€

ADAPTING AGRICULTURE AND TOURISM BUSINESSES TO CLIMATE CHANGE

Territory	Montseny Biosphere Reserve
Main objectives	To increase the resilience of agriculture and tourism businesses in Montseny R.B.
Results	<ul style="list-style-type: none">• Tool that supports the agriculture and tourism businesses to adapt to climate change with specific actions.• Communication materials for local businesses to raise awareness on adaptation to CC among workers and clients and to disseminate the actions on adaptation undertaken by each business.• Specific adaptation assessments of 10 companies with detailed execution projects to increase their resilience in front of climate change.
Budget	22,917.40€

OYSTER HATCHERY

Territory	Terres de l'Ebre Biosphere Reserve (Delta de l'Ebre area)
Main objectives	To improve the viability of the aquaculture sector that is directly affected by the increase of water temperature. The diploid oyster is a good alternative to marine crops in the current climate scenario, given its greater resistance to water temperature.
Results	<ul style="list-style-type: none">• The project execution demonstrated the technical and economic feasibility of obtaining local oyster seed, as well as its contribution to improving the value chain of the aquaculture sector of the Ebre Delta and to create new jobs.
Budget	24,900€

RELEVANCE TO THE EUROPEAN CLIMATE ACTION

Life CLINOMICS has increased knowledge and action on climate change adaptation among public and private stakeholders, thus contributing to the goal set by the European Green Deal of supporting stakeholders “to access data and to develop instruments to integrate climate change into their risk management practices”. CLINOMICS has mainly focused on economic actors from the primary and tourism sectors, but other actors, such as local governments and experts, have also played an important role in the MeTACCs and in the actions developed. The EU Green Deal and the EU Strategy on Adaptation to Climate Change mention also the importance to engage insurers and investors on adaptation. CLINOMICS has made efforts on this sense trying to engage these actors in the MeTACCs.

CLINOMICS results have showed the negative impacts of climate change in the territories of the project but at the same time, the opportunities that can be achieved if adaptation action is taken. Therefore, the project has integrated the vision of the EU strategy on adaptation considering that adaptation can generate economic benefits, as business can reduce the risk in front of climate change impacts and even create new opportunities, and that not acting on adaptation can have a huge cost.

In the line of EU climate action, CLINOMICS has contributed to mainstream adaptation in the different organisations of its partnership, as well as on the three territories of the project and beyond (with the Pact on adaptation). At EU scale, the results achieved, especially the governance approach of the MeTACCs and the actions from the Action plans on adaptation produced are being integrated in the work developed by the Barcelona provincial council on the Covenant of Mayors. The partnership have also disseminated the project results among European and Mediterranean networks (e.g. Climate Alliance, Union for the Mediterranean, Arco Latino, WestMed initiative, ASCAME, etc.).

The partnership of CLINOMICS contributed to the public consultation on the new EU strategy on adaptation to climate change and has integrated the views of the strategy boosting adaptive capacity, strengthening resilience and reducing vulnerability to climate change as stated in the EU strategy.

ASSESSMENT OF LIFE CLINOMICS

Overall LIFE CLINOMICS has achieved the main objectives and activities planned. At the end of the project it is interesting to make a review of the successes of the project, the problems encountered, as well as to look to the future analysing opportunities and threads. The following table offers the results of the LIFE CLINOMICS diagnosis at the end of the action, which is very useful to realize the potentialities and obstacles for adaptation to climate change at local scale.

SWOT analysis of LIFE CLINOMICS project

Strengths	Weaknesses
<ul style="list-style-type: none"> • Rich partnership that facilitates addressing different aspects of climate change adaptation • Territories and economic sectors already aware and active on environmental issues, although not much on adaptation. • The governance approach implemented by CLINOMICS (MeTACCs) has increased the awareness on adaptation and has motivated for action. • CLINOMICS has created a set of specific actions for local climate change adaptation that is the baseline to increase the resilience of the territories and sectors included in the project. • The pilot actions have demonstrated the viability and benefits of acting on adaptation. 	<ul style="list-style-type: none"> • Local stakeholders are not aware enough of the need to increase resilience in front of climate change. • Difficulty to engage local stakeholders as they are usually busy and not much interested on climate change adaptation. • Lack of funds for adaptation to climate change. • Uncertainty about the magnitude, duration, and frequency of an episode related to climate change.

- The diverse training courses offered have increased knowledge on adaptation, a necessary step to promote action.
- The external expert assessment has brought experience to improve the project actions and results.

Opportunities	Threads
<ul style="list-style-type: none"> • The territories and sectors included in CLINOMICS have now a better knowledge on climate change impacts and specific actions on how to tackle them. The actions planned offer an opportunity to increase the territorial and sectoral resilience. • The Action plans for adaptation to climate change include more than 100 actions that the territories and sectors can implement to increase their resilience. • CLINOMICS has started to work with the insurance sector to reinforce how insurances can support local business to better deal with climate change impacts. • The pact for adaptation to climate change signed by more than 50 entities is an opportunity to replicate the project actions in other territories. • Governance structures have already been created and therefore stakeholders are organized to take action on adaptation in the territories. 	<ul style="list-style-type: none"> • The territories require formal structures to work on adaptation to climate change. CLINOMICS has started this with the training of managers/disseminators of adaptation and with the MeTACCs. • Even if CLINOMICS has worked to increase the link between funding and local adaptation to climate change, the difficulty to access funding for adaptation is still a problem.

From the diagnosis developed there are different lessons learned that can support further action on CLINOMICS and with other similar projects.

Lessons learned from the LIFE CLINOMICS project



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ACTIONS AFTER LIFE CLINOMICS

LIFE CLINOMICS project has laid the foundations for adapting territories and primary and tourism sectors to climate change. Now, after the end of the project on December 2020, it is necessary to continue with the action in order to reinforce what has been started in the CLINOMICS territories as well as to replicate it in other areas. The partners of the project plan to continue with the activities during at least 5 years after the project as follows:

- **To keep the MeTACCs alive:** The territorial partners of the project plan to continue with the MeTACC set up by CLINOMICS embedding them in existing participatory structure, as well as turning them into observatories for climate change adaptation.
- **To continue and replicate the pilot actions:** each CLINOMICS territory will carry on with the pilot actions started. The drought observatories will continue working in Terra Alta and in Alt Penedès with other funding sources and their replication is expected in other counties in Terres de l'Ebre. Montseny R.B. will disseminate among the Montseny businesses the results of the tool and assessments on adaptation to climate change for the agriculture and tourism sectors. Montseny R.B. will also implement the adaptation management practices identified with the pilot action in the Montseny forests. Alt Penedès plans to continue supporting and extending the silvopasture action.
- **To further execute the Action plans for adaptation to climate change:** the territorial partners of the project will seek support (technical and financial) to implement more actions included in the Action plans for adaptation to climate change (APACC). The Technical Office of Climate Change and Sustainability from Barcelona Provincial Council has integrated some actions derived from the APACC of CLINOMICS in the technical and financial support offered to the municipalities of Barcelona province.

- **Replicating the project actions and its scope with a LIFE integrated project:** A proposal has been developed to continue, improve and extend LIFE CLINOMICS project with a LIFE integrated project called CLITEA. This new project includes 26 partners from Catalonia. LIFE-IP CLITEA implements a roadmap for adaptation to climate change in 13,338 Km², 42% of the territory of Catalonia, and affects 2,237,453 inhabitants, 30% of the total population.
- **Integrating LIFE CLINOMICS actions in the SECAPs:** DIBA will integrate the actions included in the CLINOMICS action plans (APACC) in the Energy and climate action plans (SECAPs) that is promoting in the province of Barcelona. Through the Covenant of Mayors network it will also promote that other territories include similar actions in their SECAPs.
- **Creating a training toolbox on adaptation to climate change for the economic sectors targeted in CLINOMICS:** all the materials developed during the training activities of CLINOMICS will be included in a specific training section of the webpage in order to act as a toolbox of resources for adaptation to climate change. It will include videos, factsheets, presentations, training programmes, links, etc.
- **Promoting the Local strategy for adaptation to climate change (LSACC):** the four provincial councils of Catalonia (Girona, Barcelona, Lleida and Tarragona) have adhered to the LSACC, so they will take it into account in their policies and actions.
- **Extending the Pact for adaptation to climate change:** the partners of CLINOMICS and specially DIBA will continue to promote that other entities from the Mediterranean sign the Pact. They will also network with the signatories to follow their activities and exchange experiences.
- **Further integrating climate change adaptation in the structures of the partner organisations:** CLINOMICS has raised awareness on adaptation in the partners' organisations. This will go on after the project better integrating adaptation in the organisations of the partners with a cross-cutting approach.

COMMUNICATION AND DISSEMINATION STRATEGY

PROJECT ACHIEVEMENTS

LIFE CLINOMICS project has deployed a communication strategy at three territorial scales: local, national and European. Different communication and dissemination materials and events have been developed to raise awareness on climate change impacts and the need for adaptation, as well as to disseminate the results of the project.

The main actors targeted by the project are:

- Local and regional authorities
- Economic stakeholders from agriculture, forestry, fishery and tourism sectors.
- Local communities from the three territory of Life CLINOMICS

Communication materials:

- Development and design of the project logo and communication plan.
- Designing, publishing and managing Life CLINOMICS website in three languages: Catalan, Spanish and English.
- Designing and editing the project's graphic material: flyer, roll-up and leaflet.
- Developing merchandising material used on training and dissemination activities: folders, pens, pencils with seeds.
- Creating 3 project newsletters with the project results.
- Designing 6 comics strip showing impacts of climate change for the economic sectors targeted in the project.
- Editing and publishing 1 infographic on the impacts of climate change.

- Editing and publishing 4 leaflets on Climate Vulnerability (one for each sector: agriculture, forestry, fishery and tourism) and 3 territorial leaflets (one for each territory involved in CLINOMICS).
- Designing and printing the CLINOMICS exhibition showing the impacts of climate change and the project actions. It has been exhibited in many of the dissemination events of the project.
- Developing a specific guidebook for workers "The labour sector in front of climate change challenge. How should businesses and workers adapt to the new climate scenario?"
- Disseminating different training factsheets and videos on climate change adaptation for the economic sectors targeted.
- Broadcasting a radio message about the project in the three local radios.
- Publication of a children's story: "We are a Biosphere Reserve!" to disseminate climate change among children.
- Publishing the Guide for Resilience to Climate Change
- Developing the Layman report.

Dissemination activities:

- CLINOMICS twitter account to raise awareness on climate change adaptation and to disseminate the project results.
- Project results disseminated through the partners websites, twitter accounts and newsletters.
- Disseminating the project in local media through different newspapers.
- Developing 33 project videos to disseminate project actions and training, available on the Life Clinomics website. 18 videos are available on the Youtube Channel of the project.
- 3 sectoral conferences to disseminate the project among trade unions, agriculture trade unions and chambers of commerce mainly from the Mediterranean. In total 174 people took part in these different conferences.
- Organizing the LIFE Platform Meeting on Climate Action in Urban Areas in Barcelona (June 2017).
- Presentation and dissemination of the project activities and results in more than 50 conferences or meetings in Catalonia, Spain and at European level.

- Disseminating the project internally in each partner's organization to raise awareness and promote action on adaptation to climate change.
- The territorial platforms for adaptation to climate change (MeTACC) have been also a place for disseminating the project activities and results.
- Fostering the creation of manager/disseminator of adaptation to climate change with specific training on this field.
- Dissemination and networking with different European projects and networks.



Main impacts of communication and dissemination activities:

- Life CLINOMICS webpage: 6.444 users and 26.944 visits on the web pages.
- Life CLINOMICS twitter: 813 followers and more than 5,600 tweets published.
- Life CLINOMICS has reached more than 108,000 people through the social media.
- Dissemination of the project in at least 56 different local media with 83 quotes.
- Networking with more than 10 European projects.
- More than 3,700 persons have attended the different events where the project has been presented.
- Around 200 people have participated in the three MeTACC.

FUTURE RESULTS

The partners of LIFE CLINOMICS project will continue to raise awareness on adaptation to climate change and disseminate the actions and results of the project. The different channels included in the following table will be used to communicate future results.

DISSEMINATION ACTIVITIES

RESOURCES

Project website

The project will continue to be operative at least during the following five years to display the actions, documents, results, news, etc. It will be updated with the continuation of the actions and with new ones.

Partners involved: DIBA, UGT and all (feeding it with continuity actions)
Funds: own resources

Twitter account

This account has proved to be a very useful tool to increase awareness on adaptation and to spread the project ideas and results. Partners will continue to feed it with news from the project or from similar initiatives.

Partners involved: all
Funds: own resources (links with other similar project carried out by partners)

Partners' communication channels

Partners will continue to disseminate the project results and the actions that they develop to continue with CLINOMICS through their communication channels: website, twitter, newsletters and different meetings and events.

Partners involved: all
Funds: own resources (this communication channels are already embedded in the partners' organizations so it will be easy to use them to further communicate CLINOMICS)

Existing network links

The partners have permanent links with different networks (trade unions, chambers of commerce, local authorities, etc.) that will continue to be important sources to disseminate

Partners involved: all but mainly DIBA as coordinator.
Funds: own resources (partners already have

DISSEMINATION ACTIVITIES

the continuity of CLINOMICS (e.g. the Network of cities and towns towards Sustainability from Catalonia (XCPS), the National Congress on Environment from Spain (CONAMA) or the Covenant of Mayors).

RESOURCES

periodically participations with different networks, so it is included in the budget planning of the organisations)

MeTACC

CLINOMICS plans to continue with MeTACCs in the three territories of the project. These are perfect platforms to increase dissemination and action on adaptation to climate change.

Partners involved: territorial partners (DIBA, COPATE, CCAP)
Funds: own resources (whenever possible the MeTACC will be linked to existing participative bodies, so that it will be easier to allocate resources to its continuity)

External events and links with other European projects

Presentations at different external events (conferences, seminars, meetings, etc.) related with climate change and/or with the economic sectors of the project.
Links with other similar European projects will be continued and extended (e.g. participating in the training on adaptation to climate change at local level organized by LIFE SHARA project on May 2021).

Partners involved: all
Funds: own resources (all partners are very active and take part in many different events, this will facilitate the presentation of CLINOMICS results after the end of the project)

Networking with the signatories of the Pact

Networking with the different organizations (more than 50) from Catalonia, Spain and the Mediterranean that have signed the Pact for

Partners involved: all, mainly DIBA as coordinator and those partners that have direct links with the

DISSEMINATION ACTIVITIES

RESOURCES

adaptation to climate change promoted by CLINOMICS with the aim to replicate CLINOMICS activities and to foster action on adaptation to climate change.

organizations signatories of the Pact.
Funds: own resources (some partners already have going on relationships with the signatory entities, so it will be easier to follow-up and motivate their involvement on adaptation.

Extending and displaying CLINOMICS exhibition

A new roll-up with the results of the project will be produced to be included in the CLINOMICS exhibition. This exhibition will be displayed in different events of the partners during the following year after CLINOMICS closure. If it's not possible to celebrate face to face events, the displaying of the exhibition will be done online or will be postponed.

Partners involved: DIBA, CCOO
Funds: own resources

Project dissemination materials

The main materials showing the results of the project will continue to be displayed on the webpage and will be disseminated through the different dissemination activities already mentioned in this table. Updated or new materials can be developed if necessary. The partners' websites will also include a link to the CLINOMICS webpage and main dissemination materials (e.g. Guide to local resilience, Layman report, After Life plan, CLINOMICS diagnosis and plans from each territory involved).

Partners involved: all
Funds: owns sources (it will be linked with the resources already allocated by partners to the maintenance and updating of their websites)

MAIN ACTORS TARGETED BY THE AFTER LIFE COMMUNICATION PLAN

The same actors targeted during LIFE CLINOMICS project will be reached after the project, although special focus will be placed to those actors that can continue and/or replicate the project. The following table summarises the actors targeted per activity.

	Local authorities	Supralocal governments	Private sector*	Universities/ research	Environmental sector /NGOs	Citizens
Website	●	●	●	●	●	●
Twitter	●	●	●	●	●	●
Partners' communication channels	●	●	●	●	●	
Networks	●	●	●			
MeTACC	●		●	●	●	
External events	●	●	●	●	●	
Networking signatories	●	●	●			
Pact						
Project exhibition	●	●	●	●	●	●
Dissemination material	●	●	●	●	●	●

**Mainly the sectors targeted by CLINOMICS: agriculture, forestry, fishery and tourism. Includes organisations, businesses and workers.*

PLANNING OF FUTURE COMMUNICATION ACTIVITIES

The activities planned in the communication plan of the CLINOMICS After LIFE require technical and financial resources to be implemented. The following table shows the allocation of resources to implement the communication activities planned.

Activity	When	Where	Type of resources*	Cost estimated	Priority
Website	2021-2025	Worldwide	Own staff	€€€	***
Twitter	2021-2022	Worldwide	Own staff	€€	***
Partners' communication channels	2021-2022	Mainly Catalonia but also Spain and Europe	Own staff	€€	***
Networks	2021-2022	Catalonia, Spain, Europe	Own staff Travel costs	€	**
MeTACC	2021-2023	CLINOMICS territories	Own staff Travel costs	€€	***
External events	2021-2022	Catalonia, Spain, Europe	Own staff Travel costs	€€	**
Networking signatories Pact	2021-2023	Mediterranean	Own staff	€€	***
Project exhibition	2021-2022	Catalonia, Spain	Own staff External assistance	€	**
Dissemination material	2021-2023	Catalonia, Spain, Europe (worldwide through the social networks)	Own staff External assistance (editing new materials, printing)	€	***



LIFE CLINOMICS



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