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# LOCAL POLICIES, CLIMATE CHANGE AND FOREST MANAGEMENT IN PERI-URBAN FORESTS: A NECESSARY INTEGRATION

*Executive summary  
for policy makers*

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# The project LIFE MixForChange



The LIFE MixForChange project (2016-2022) is coordinated by CTFC and has as other beneficiaries the Catalan Forest Ownership Center (CPF), the Forest Owners Association (FOA) Montnegre - Corredor and FOA Bellmunt - Collsacabra. The Barcelona Provincial Council is also a collaborating entity. The main objective of this project is to contribute to the adaptation and resilience to climate change of sub-humid Mediterranean mixed forests, favouring their conservation and maintaining their productive, environmental and social functions.

The project includes the development, implementation and monitoring of forest management for adapting to climate change in 164 forest hectares of Montnegre-Corredor, Montseny, Bellmunt-Collsacabra and the south of Ripollès, in the provinces of Barcelona and Girona.

A series of communication, dissemination and transfer actions have also been carried out, including the "Guide to local policies, climate change and forest management in peri-urban forests: a necessary integration", summarized in this document.

*The objective of this guide is to explain to the public the characteristics, interests and threats of peri-urban forests in the context of climate change as well as the importance of sustainable forest management and adaptation criteria necessary to face these threats.*

## We have increasingly more forest that is more dense

The wooded forest area in Catalonia in 2015 occupied 49% of the total area (1.6 million hectares). From 1970 until now, the forest area has grown by 36%. Furthermore, due to the low utilization rate (28% of the annual volume increase in Catalonia and 17% in Spain as a whole if Galicia is not included), the amount of wood accumulated in Catalan forests has doubled between 1990 (80 Mm<sup>3</sup>) and 2015 (151 Mm<sup>3</sup>). We can conclude that we have more forest than ever and at the same time it is more abandoned than ever. Insufficient application of sustainable forest management leads to increased vulnerability to the impacts of climate change, especially fires, drought, pests and diseases.

The forest area is mostly privately owned in the EU (61%), Spain (73%) and Catalonia (73%), often in small properties.

## What are peri-urban forests?

Peri-urban forests are forests located in the immediate surroundings of a city or town, they are considered forest land and share space or limits with facilities, industrial zones, urbanizations and residual agriculture zones.

They are forests where forest and urban characteristics are mixed, and are of great importance at the social, recreational and ecological levels. The particularities of these forests make it necessary to consider criteria and management objectives that are different from those of forests in rural conditions.

Service type	Basis	Examples
Support	Basic processes for the rest of the services	Biodiversity, soil formation, photosynthesis, water and nutrient cycles, ecological connectivity
Provision	Renewable, biological, raw materials or goods	Wood for furniture, construction and energy; mushrooms, game meat, medicinal plants, cork, pine nuts, fresh water, among others.
Regulation	To help reduce impacts	Climate regulation, soil protection (avoid erosion and landslides), filter of pollutants and noise, protection against floods, carbon fixation
Socio-cultural	Aesthetics, leisure and culture	Landscape, leisure activities, sport, tourism, environmental education

## Peri-urban forests improve quality of life and promote the bioeconomy

**Peri-urban forests improve the environment and quality of life of the surrounding cities and towns** by providing ecosystem services, that is, improvements that society receives due to the functioning of ecosystems. All forests provide ecosystem services. The particularity of peri-urban forests is their proximity to the population, which increases the demand for these services.

Municipalities must promote healthy and balanced peri-urban forests to guarantee their citizens quality ecosystem services.

**Forests play a key role in the development of the bioeconomy** because they generate a large variety of renewable biological resources (wood, cork, wood chips, pine nuts, game and livestock meat...) generate jobs and host leisure and educational activities.

## Climate change and forest management

Today's forests are the result of millennia of interaction with societies that have used them with multiple, sometimes simultaneous, demands. In peri-urban areas the interaction is especially intense because the forest is very accessible to the local population.

**Sustainable and multifunctional forest management** emphasizes the need to consider the maximum number of ecosystem services that a forest generates. Forest management can achieve multifunctionality by prioritizing the provision of some ecosystem services over others in each area of the forest, seeking to generate all of them on the surface as a whole. This forest management is developed through the Forest **Management Instruments (FMI)**, in which silviculture is planned, that is, the type and intensity of suitable interventions to avoid situations of excessive density and its associated problems of mortality and fire risk.

The main objective of **sustainable forest management adaptive to climate change** is to increase the resistance (ability to maintain its integrity - low vulnerability) and resilience (ability to recover spontaneously) of forests to the main disturbances: drought, fires, pests and diseases. The three **basic principles of Mediterranean adaptive silviculture** are:

- a) Regulate the density**, applying clearings to reduce the number of trees as they grow and compete with each other, favouring the most vital specimens and maintaining all species.
- b) Promote mixed forests with complex structures:** maintain trees and shrubs of all species present and with different sizes and ages.
- c) Break the continuity of the fuel** (vertical continuity between the understory and tree vegetation) so that the fire cannot pass from the scrub to the tree crowns.

## Forest governance: regulations and policies

The multifunctionality of forests means that they are subject to a complex legislative body, at the regional, state and European levels, which includes, among others and in the case of Catalonia, Spanish Law 43/2003 on Forests and its amendments; Catalan Law 6/1988 on Forests and Laws 12/1985, on natural areas; 5/2003 on measures for preventing forest fires; 42/2007, on Natural Heritage and Biodiversity; 21/2013 on Environmental Assessment; 16/2017, on Climate Change, and 3/2019 on agricultural areas.

At the European level, the main figures that affect forests are the 2013 European Forest Strategy, 2018 Bioeconomy Strategy, 2019 Green Deal, 2020 Biodiversity Strategy and 2021 Climate Change Adaptation Strategy. The **Global Covenant of Mayors for Climate & Energy** is an opportunity for local authorities to become involved in aspects related to climate change. This Covenant brings together thousands of local and regional authorities with the voluntary commitment to apply in their territories the EU climate and energy objectives for mitigating and adapting to climate change. This pact is articulated through the **Sustainable Energy and Climate Action Plans (SECAP)**.

There are many figures and regulations that affect forests and therefore it is essential to carry them out in an integrated way through local policies and territorial and urban planning. The municipal competence for urban planning is materialized through the **General Urban Management Plan (POUM)**, or the urban planning regulations. Local entities also have urban plans such as partial plans, special urban plans and urban improvement plans, among others.



*Changes in the peri-urban landscape. The area surrounding Gavà (Barcelona) in 1956 (above) and 2020 (below). A large part of the old farmland has become homes, industrial areas or forests. In 1956 the fields separated the forests from the houses, but now they are intimately mixed. Source: ICGC.*

## Proposals for integrating local policy and forest management adaptive to climate change

Apart from those that derive from their status as owners of forest lands, local administrations (municipal and supra-municipal) do not have direct competence in planning or implementing forest management, which are the responsibility of the forest administration. Even so, local entities have powers to promote the application of forest management that is adaptive to climate change as well as environmentally and economically sustainable, which guarantees the vitality of the forest and the generation of ecosystem services.

- **Municipal administrations** can promote a large number of actions that are compatible and synergistic with each other thanks to their knowledge of the territory and the actors present in it, among which the following stand out (these actions are detailed and expanded in the Guide):

### Actions for promoting forest sustainability

- Encourage the sustainable management of peri-urban environments: provide infrastructure, promote a mosaic of habitats, control misuse, regulate access.
- Encourage forest planning and management: promote the drafting of FMI in municipal forests and promote the drafting of joint or municipal FMIs and FMIs on private forests.
- Promote fire prevention: auxiliary maintenance of the basic network of forest roads; subsidiary execution of the opening and maintenance of protection strips for urbanizations.
- Encourage extensive livestock: facilitate logistics for herds to be established; agreements for grazing municipal

forests or fire prevention strips.

### Economic support actions

- Promote the consumption and commercialization of local forest products: supply municipal facilities, facilitate auxiliary infrastructures for forestry and livestock activities in urban planning and in the processing of licenses.
- Mobilize direct and indirect economic resources: involve companies in sponsoring forest improvement activities and environmental volunteering, allocate part of municipal taxes to improving peri-urban forest; look for sources of external funding.

### Training, dissemination, awareness and mediation actions:

- Promote the training of technical staff and political positions in the local administration.
- Disseminate the actions developed.
- Accompany environmental volunteer activities and citizen science and incorporate concepts on adaptive forest management in pedagogical programmes.
- Mediate between the different actors and users of the forest.

- **Supra-municipal administrations** (county councils, metropolitan areas, etc.) must support municipalities in improving the well-being of citizens, including being involved in solutions to the challenge of climate change. This support includes **technical** (for example, the **coordination** and **coherence** of the actions of various municipalities), **logistical** and **economic** aspects. Some key measures would be the creation of advisory spaces and training activities for municipal technical and political staff in this matter, repositories of document models to carry out the necessary procedures to do the different actions, publicity of the initiatives implemented by the municipalities or the creation of dissemination materials

The complete document can be consulted at: <http://www.mixforchange.eu/en/publications/>



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Generalitat de Catalunya  
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Centre de la Propietat  
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ASSOCIACIÓ DE PROPIETARIS FORESTALS  
DEL MONTNEGRE I EL CORREDOR

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