

Parks “Climate-friendly”



LIFE CITY ADAP3

Reggio Emilia
(Italy)

Around EUR 73,500

2021-2022

PRIVATE COMPANIES INVOLVED



Trasporti Integrati e Logistica S.r.l.
<https://www.til.it>



1

Contribute to **the adaptation of climate change in urban and peri-urban areas** in particular by acting on vulnerability to heat islands

4

Improve the usability of the services and equipment present in the areas by citizens (paths, children's games, etc)

MAIN OBJECTIVES

2

Mitigate the microclimate of the four green areas involved in the intervention

5

Improve the design and management of parks-green areas, in terms of sustainability, maintenance and adaptation to climate change

3

Experiment with “adaptive” criteria for public parks by introducing four different “environmental devices”

6

Define an “adaptive” park design model that can be replicated in other areas while respecting territorial and landscape diversity, and to be proposed at a European level

CLIMATE RISKS ADDRESSED

(according to the Reggio Emilia climate change adaptation strategy)

- **Heat waves in the urban area**
- **Summer drought and water scarcity**

To request the full technical paper on the design of this pilot action, please email lifecityadap3@fmrn.es

This document has been prepared with the financial support of the European Union under the LIFE programme. The contents are the sole responsibility of the LIFE CITY ADAP3 project and in no case can they be considered as a reflection of the position of CINEA, nor CINEA is responsible for any use that may be made of the information contained therein.



Parks “Climate friendly”



LIFECITYADAP3



DESCRIPTION OF THE ACTION

Implementation of **experimental urban forestry interventions** according to **adaptive criteria** in 4 public parks in different areas of the city with territorial and landscape diversity. On the basis of this design experience, a **model scheme** - adaptive park model will be defined. In this way, Reggio Emilia will counteract **heat islands** and improve the **usability-livability** of these areas by the citizens, extending the shaded areas and restoring a high degree of naturalness through the increase of biodiversity.

The concept is based on testing the effectiveness of four landscape-environmental "devices" to counteract the effects of climate change:

- **Micro forests:** based on the assumption of the so-called "Miyawaki method" divided into 3 types of forest, which differ in the combination of plant species that are alternatively planted: autochthonous micro-forest, adaptive micro-forest, edible micro-forest.
- **Rural hedges:** aim to recover and update the function of the rural hedgerow, one of the characteristic elements of the agricultural-rural landscape of the area.
- **Polyphyte lawn:** combination of several fodder crops grown on the area. Traditional and important element of the landscape and the economy of Emilian territory.
- **Rows of trees :** to shade the areas near pedestrian paths, children games etc.

Impacts (follow-up results)

You can consult in real time the data on temperature, rain and humidity in the physical monitoring station of Biagi Park at this link:

<http://cbec.ectoss.com:88/?display=Parco%20Biagi>

For more information about the parks “Climate-friendly”:
www.comune.re.it/cityadap3

Parks “Climate friendly”



LIFECITYADAP3

IMPACT OF THE ACTION

The **physical monitoring station positioned in Biagi Park** is collecting data on relative humidity, temperature, rainfall and precipitation since December 3, 2022, transmitted in real time from a publicly accessible web platform.

The **frequency and amount of rain recorded during the first months of monitoring (December 2022-April 2023) has been lower than usual**, especially between February and April. However, the sensors have allowed data to be collected in torrential events, such as the one that occurred on April 26, 2023, when 9.79 mm of rain was recorded and a maximum intensity of 169.45 mm/h was reached. **The adaptive parks supported the magnitude of the event** and exercised their function of ground retention and decrease of surface runoff. **Temperatures have also been warmer than usual** in the region.



The **fauna is colonising the actions** carried out.

In spring meadows, rows of trees and shrubs and microforests were covered with flowers and pollinators that saw their habitat increased.

The reforestation and adaptation of the 4 parks of Reggio Emilia is **generating local benefits for the environment and the population**. The thermoregulatory function of vegetation and wetland area (completed at the end of 2023 in Biagi Park) will increasingly contribute to improving the area's microclimate (while increasing biodiversity). This will mitigate the effects of heat waves in the surrounding areas and on the inhabitants, who will be able to enjoy and frequent these more natural, pleasant and usable green spaces.

However, the recorded values are still scarce to be used to demonstrate the impact that pilot action is having in terms of adaptation to climate change. The data collected by the monitoring station (and additional mobile sensors) will be progressively analysed and commented on in periodic reports. In addition, they will be compared with measured data in areas not subject to adaptive interventions (control posts).