



# TREES: GUARDIANS OF LVIV'S CLIMATE ADAPTATION

– *Lviv, Ukraine*

## IN A NUTSHELL

In response to the challenges posed by climate change, Lviv community has devised and is actively implementing a comprehensive plan to enhance and expand green infrastructure.

## Background

Over the past few decades, Lviv has become increasingly vulnerable to the adverse effects of climate change. Average temperatures have risen in all seasons, the number of hot days exceeding 30°C has increased, and the frequency of heatwaves has grown fivefold. The negative impact of heat on the community is exacerbated by the “urban heat island” effect, driven by dense urban development, extensive artificial surfaces, the central area’s basin-like topography, insufficient blue-green infrastructure, and significant air pollution. Most residents of Lviv declare that extreme heat adversely affects their health and well-being. Specifically, 76,1% of surveyed individuals state they feel uncomfortable in the city during heatwaves, while 69,2% note a lack of green spaces and public areas in the community. Alongside record-high temperatures, instances of extreme weather events, such as storms with wind speeds exceeding 15-30 m/s and heavy rainfall, are becoming more frequent.

In June 2021, the community was hit by two severe storms, which uprooted over 1,200 trees, damaged numerous private and municipal infrastructure facilities, and caused over 23 million UAH in damages.

Tragically, that summer, two people lost their lives in a park due to a falling tree. The following winter, over 740 trees sustained significant damage during an ice storm. In response to these challenges, Lviv established the

Department of Ecology and Natural Resources within the city council in 2019. This initiative has allowed the city to develop a new approach for planning and managing urban greenery.

Considering the wide range of ecosystem services they provide, trees have been identified as one of the most accessible tools for adapting to climate change and improving the quality of urban spaces.



## Description of the action

The regulatory and legal framework for managing green spaces in Ukrainian communities is underdeveloped and often relies on outdated approaches that fail to address modern challenges, particularly in the context of climate change. However, Lviv has been proactive in seeking effective solutions to bridge these gaps.

Currently, the city's greening policy is an integral part of its sustainable development strategy and is guided by a set of interconnected documents, including the Sustainable Energy and Climate Action, the Green City Action Plan, the Integrated Development Concept, the Comprehensive Environmental Programme, and the Comprehensive Greening Strategy. These documents form the foundation for developing Lviv's green infrastructure, improving the urban environment, and enhancing residents' quality of life.

After years of testing various operational models, Lviv adopted the Procedure for the Maintenance of Greening Facilities in the Territory of the Lviv Urban Territorial Community in April 2024. This policy, aligned with European standards, has set a precedent for other communities in Ukraine.

It regulates processes such as planting new trees and various maintenance practices to ensure green spaces fully deliver ecosystem services.

To document and monitor green spaces, Lviv developed the Inspectree system, a platform that records detailed characteristics of trees (e.g., genus, species, age, girth, height, and condition). Authorized personnel use the system to update and adjust data, while it remains accessible for public review.

To protect green spaces of special ecological, aesthetic, and educational value, Lviv has established the list of valuable and long-lived trees which includes 221 items. Regular assessments of urban greenery are conducted by district administrations, LKP "Green Lviv" and its subsidiaries, and local gardeners.

These inspections often utilize advanced tools like the impulse tomograph "Arbotom", which analyzes tree trunk structure for cavities, lesions, and strength loss.

Data on trees scheduled for removal are transparently published on the Lviv Open Data Portal, detailing the tree's location, species, removal authorization number, and date of approval. On average, Lviv loses about 1,600 trees annually due to aging and poor condition. Many trees in the city were planted in the early 20th century, contributing to an "aging green fund" phenomenon.

Between 2019 and 2024, over 11,000 trees were planted to replace aging greenery. This effort focuses on planting mature, climate-resilient species that immediately provide shade, improve the microclimate, and enhance the city's aesthetic.

In 2021, Lviv launched the "Give the City a Tree" campaign, enabling citizens, enterprises, and organizations to financially support tree planting initiatives. By 2023, the campaign had funded the planting of 369 trees at a cost of 1,3 million UAH.

Additionally, 54 new tree pits were created between 2023 and 2024, featuring "climate trees" in areas previously dominated by paved surfaces. This initiative addresses urban heat island effects while promoting climate adaptation.

In the Zalizna Voda Park, former floral public spaces have been transformed into "Rozsadnyk", an eco-education and nature therapy hub developed by 2 NGO ("Plato" and "Ecoterra") with city council support. This space hosts regular events to raise public awareness about climate adaptation, nature-based solutions, and sustainable resource use.

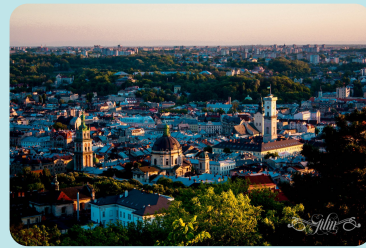
Since its launch in 2021, Rozsadnyk has held over 250 events, engaging more than 4.000 participants.

## Focus on

Amid the full-scale Russian invasion, the city council was compelled to cut funding for green space procurement by more than half, prompting the development of alternative approaches to maintain this policy. Through the "Give the City a Tree" campaign, residents are not only able to contribute financially but also actively participate in tree planting. This fosters a stronger emotional connection to green spaces and promotes a greater sense of responsibility for their preservation.

The campaign also raises public awareness about the critical role of green spaces in combating climate change and enhancing urban resilience. By distributing funding for landscaping, the initiative ensures a more equitable sharing of responsibility for maintaining the city's landscape.

## Lviv



**Population:**  
**783 065**

**Area:**  
**311,4 km2**

**Signatory to the  
Covenant of  
Mayors since:**

**12/01/2009**

**CO<sub>2</sub> emission  
reduction  
target:**

**35%**

## Photo



Meeting of residents with deputies of the Ecology Commission on green issues on the community agenda, August 2023

## Achievement and advice for replication

Focus on quality, not quantity; development of the participatory component, raising awareness.

### TARGETED SECTOR, CLIMATE HAZARD(S) AND VULNERABLE POPULATION GROUP ADDRESSED

01

**Target sectors covered:**  
green spaces, urban planning,  
healthcare, education,  
public participation.

02

**Climate hazards that activities are aimed at countering:**  
extreme heat,  
flooding,  
biodiversity loss.

03

**Vulnerable population groups targeted by the activity:**  
people with chronic diseases,  
people with disabilities, the elderly,  
children and youth,  
people working outdoors.

€

### Financing the project

#### Financing source(s):

City budget funds  
Citizen contributions  
Grant funds

#### Total amount:

n/a



### USEFUL LINKS

[HTTPS://PLATO.LVIV.UA/WP-CONTENT/UPLOADS/2023/09/PLATO-SADIVNYKY-LVOVA-DRUK.PDF](https://plato.lviv.ua/wp-content/uploads/2023/09/PLATO-SADIVNYKY-LVOVA-DRUK.PDF)

[HTTPS://INSPECTREE.NET/](https://inspectree.net/)

### CONTACT

For more information on the project, please contact

*Department of Ecology and Natural Resources*

+38 (032) 297-59-82,  
eko.lviv@ukr.net

*Space of eco-education and nature therapy "Rosadnyk"*

+380 50 276 23 88,  
info@plato.lviv.ua

## Key figures



A total of **1,100** trees were planted, with financial contributions from residents.



The Procedure for Maintaining Landscaping Facilities in the Territory of the Lviv Urban Territorial Community was developed, introducing the role of "**City Gardener**" to oversee urban greenery.



Additionally, the **Rosadnyk** space, dedicated to eco-education and nature therapy, is actively being developed.

