

**VEG-GAP**, coordinated by ENEA, is a European project funded by the **LIFE** Program for the Environment and Climate Action, which aims to show how **urban green affects air quality directly**, through its gaseous emissions of volatile organic compounds and through its ability to filter the air, and indirectly, by changing the temperature of the air which, in turn, modifies the atmospheric processes responsible for the formation of secondary pollutants such as ozone (O<sub>3</sub>) and a part of the atmospheric particulate matter (PM).

**VEG-GAP** arises from the awareness that the use of a natural resource, as urban green, represents a great opportunity to improve the quality of life in the city in its multiple aspects such as social, economic and cultural, starting from **the improvement of air quality and of the thermal comfort**, basic elements of the citizens' health and well-being.

Today, over 70% of harmful emissions for the planet come from the cities and by 2050, over 6 billion people in the world will live in urban areas. In this scenario, the cities are called to play a fundamental role in solving the air pollution problem by changing their development policies with the utmost attention to citizens and nature.

In order to do this in the best way using vegetation, it is necessary to answer first some fundamental questions such as which plant species are more suitable to use and which should be avoided? How and where to distribute the vegetation within the city avoiding to increase air pollution and temperatures? This is the **VEG-GAP** mission.

More vegetation, more air,  
healthy citizens.



LIFE18 - PRE IT 003



Coordinator



UNIVERSIDAD  
POLITÉCNICA  
DE MADRID

[www.lifeveggap.eu](http://www.lifeveggap.eu)

[info@lifeveggap.eu](mailto:info@lifeveggap.eu)

VEG-GAP Project - LIFE18 PRE IT 003

Duration: December 2018 - December 2021

Total Budget: 1.666.667 euro

European Financial Contribution: 1.000.000 euro

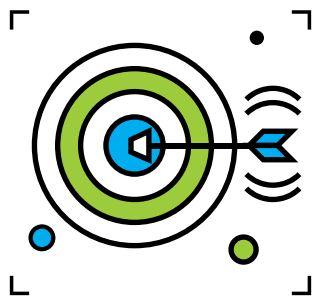
Coordinated by ENEA

# Veg Gap

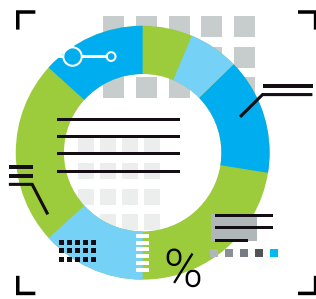
Vegetation for  
Urban Green Air  
Quality Plans



Vegetation for cleaner air  
and better climate:  
a holistic integration  
towards future cities.



**VEG-GAP's** main objective is to produce **new information for urban air quality plans**. By investigating the interactions between air pollution and the characteristics of vegetation, the project will be able to provide new tools that will allow to test the effects of nature-based solutions (woods, tree-lined rows, lawns, roofs and green surfaces of buildings...) in the real contexts of different cities. Besides, the project outcome would contribute also to other sectorial plans such as Urban Master Plan or Green Infrastructure and Biodiversity Plan.



**Bologna, Milan and Madrid** are the three cities participating in the project, on the front line in using urban green for adaptation to climate changes. VEG-GAP will start from an in-depth knowledge of the current state of urban green and air quality in the three cities, with an **integrated approach** that considers the transport and formation of pollutants in the atmosphere together with the presence of buildings and vegetation, in different meteorological conditions, from the continental scale to the urban scale. The impact of urban green scenarios on air pollution, in particular on the concentrations of atmospheric particulate matter (PM), ozone (O<sub>3</sub>) and nitrogen dioxide (NO<sub>2</sub>), and on air temperature will be further evaluated in terms of **risks and benefits for human health and for the vegetation itself**.



The results of the project will be made available through a collaborative **information platform** for the competent authorities as an additional support for planning the interventions on urban vegetation and for the dissemination of new knowledge to citizens. In addition, the project aims to provide recommendations for a review of air quality legislation at national and European level.