

Influence of urban trees on the climate change adaptation in Boadilla del Monte (Spain)

Original

Influence of urban trees on the climate change adaptation in Boadilla del Monte (Spain) / Busca, Francesco; Gómez-Villarino, Teresa; Revelli, Roberto. - ELETTRONICO. - (2023). (Intervento presentato al convegno EGU General Assembly 2023 tenutosi a Vienna nel April 23-28, 2023) [10.5194/egusphere-egu23-14239].

Availability:

This version is available at: 11583/2976851 since: 2023-03-13T11:50:59Z

Publisher:

Copernicus GmbH

Published

DOI:10.5194/egusphere-egu23-14239

Terms of use:

openAccess

This article is made available under terms and conditions as specified in the corresponding bibliographic description in the repository

Publisher copyright

(Article begins on next page)

EGU23-14239, updated on 24 May 2023
<https://doi.org/10.5194/egusphere-egu23-14239>
EGU General Assembly 2023
© Author(s) 2023. This work is distributed under
the Creative Commons Attribution 4.0 License.



Influence of urban trees on the climate change adaptation in Boadilla del Monte (Spain)

Francesco Busca¹, María Teresa Gómez-Villarino², and Roberto Revelli¹

¹Department of Environment, Land and Infrastructure Engineering, Politecnico di Torino, Turin, Italy
(francesco.busca@polito.it)

²School of Agricultural, Food and Biosystems Engineering, Universidad Politécnica de Madrid, Madrid, Spain

Urban green infrastructures are considered useful tools to mitigate air pollution, increase the resistance of cities to climate change, optimize energy consumption expenses and promote the integral management of economic, social and cultural development, according to a "sustainable cooperation". However, there are few studies that quantitatively support this contribution and there is also a lack of knowledge about which species are the most suitable for an urban area in order to improve air quality.

Therefore, the research project proposes to analyze the improvement of air quality and the contribution to reducing the effects of climate change by trees of an entire urban area. *i-Tree Eco* software and the inventory of the urban trees of the Madrid Municipality of Boadilla del Monte, with which the project has been developed, have been used. Results about air pollutants reduction have been compared with the Municipality's emissions in order to see how urban greenery helps to the improvement of air quality. Finally, an annual monetary estimation of the Ecosystem Services (ES) offered by the urban trees of the city has been made through the software, then compared with the annual costs (planting, maintenance, removal) agreed with the Municipality of Boadilla, reaching a Cost-Benefit Analysis representative of the contribution given by urban green areas to the surroundings.