

## Source control solution of rainwater in urban areas using green roofs as a measure of adaptation to climate change

### Summary

The main objective of the proposed work is to investigate the hydraulic and environmental efficiency of green roofs and its contribution to reduce peak flood flow in urban areas. For this, experimental campaigns with rainfall simulation will be carried out to analyze hydrological parameters on small-scale green roofs built at Instituto Superior Técnico, in Lisbon, Portugal.

The work intends to answer, namely, the following questions: what are the relevant parameters for the hydraulic performance of a green roof? What are the main effects in terms of effluent quality? What impact do green roofs have, in terms of quantity and quality, in terms of adaptation to climate change, namely heavy rainfall?

### Keywords

Green roofs, runoff retention, Mediterranean climate, hydrological performance, rainwater management, climate change.



Experimental trials on small-scale green roofs. Runoff measurement (a), substrate moisture measurement (b), artificial precipitation simulation (c), roof runoff collection (d).



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