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What are the costs of nature-based solutions?

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Despite the growing interest in nature-based solutions, the literature still lacks a comprehensive understanding of the costs of different types of nature-based solutions. Cost information is key to assessing the economic viability of nature-based solutions relative to other solutions.

In this paper, we provide an overview of the costs of NBS in urban settings. The cost measure is derived primarily from a snowball literature review of both grey and scientific literature. We present cost estimates for establishing green and blue spaces in urban and peri-urban areas. We also provide cost estimates for street trees, green roofs, and green walls. We find that the median net-present cost for green spaces is 55 €/m2, the median net-present cost for blue spaces is 70 €/m3, and the median net-present cost for green roofs is 207 €/m2.

We furthermore show how cost-effectiveness analysis using the calculated cost measures can be expanded to handle the multiple potential benefits of the nature-based solution. We argue that a stepwise cost-effectiveness analysis based on the ranking of local policy objectives is a feasible approach to informed choices on competing solutions relative to classical cost-benefit analysis.