

Promoting nature-based solutions in urban regeneration projects through climate-proofing of infrastructure

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Abstract The implementation of EU sustainability guidelines, such as the Do No Significant Harm (DNSH) principle and the climate proofing of infrastructure, has become central to the governance of climate adaptation strategies under the European Green Deal and EU funding instruments.

This contribution critically examines the operationalization of climate proofing of infrastructure within EU funding instruments, highlighting its relevance and potential friction points in the support to the implementation of nature-based solutions (NbS).

NbS are increasingly recognized as key strategies for addressing urban sustainability challenges. For their versatile and adaptive character, they are particularly well-suited to tackle challenges arising in ever-changing environmental and socio-political conditions. Moreover, NbS can provide a wide range of ecosystem services - from urban heat island reduction to rainwater run-off regulation and carbon sequestration.

This contribution reflects on insights drawn from ongoing consultancy work with regional public administration, to critically examine how the climate proofing of infrastructure required in the European Regional Development Fund (ERDF) programmes shapes, enables, or constrains the use of NbS for climate adaptation.

This study examines around 50 urban regeneration projects in Lombardy that have received European Regional Development Fund (ERDF) funding and undergone climate-proofing. These projects included interventions on buildings and in green and other public spaces, incorporating some nature-based solutions (NbS) as adaptation measures (e.g. green roofs, planting, depaving and greening of surfaces).

The analysis reveals opportunities to promote the wider adoption of NbS as adaptive solutions through actions at various levels. We argue that realising the potential of NbS requires coherent guidance and coordination between planning and design, as well as ecologically grounded assessment frameworks, the dissemination of best practice, and the measurement of results. These measures would facilitate the full integration of NbS into EU climate governance.