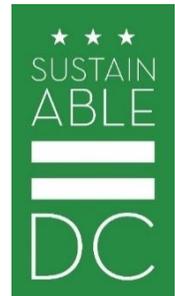


Achieving Urban Resilience: Washington DC

Actively managing sun and rain to improve District health and livability and slow global warming while saving billions of dollars

FUNDERS:



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Report Summary

How cities manage the sunlight and rain that falls on them has a huge impact on inhabitants' health and quality of life. But city leaders and planners generally do not manage or even think about their city's rain and sun in a systematic way and, as a result, mismanage or undermanage these two great natural gifts. This mismanagement costs cities billions of dollars in unnecessary health, energy-, and stormwater-related costs, degrades city comfort, livability and resilience, and contributes to climate change. These costs take the heaviest toll in low income areas, which are characterized by less greenery and greater unwanted summer absorption of sunlight, resulting in increased temperatures, worsened air pollution, and increased health costs.

This report provides an in-depth analysis of the costs and benefits of cool and green roofs, solar PV, cool and porous pavements, bioretention and expanded tree cover and combinations of these solutions at scale across Washington, DC. The city could reap net benefits of at least 5 billion dollars over 40 years by widely adopting cool roofs, green roofs, solar PV, bioretention, rainwater harvesting, reflective pavements, permeable pavements, and urban trees. Benefits valued include energy cost savings, improved air quality and public health, reduced stormwater runoff, climate change mitigation, and increased resilience and employment.

Washington DC is already a national and international leader in sustainability. City-wide, integrated adoption of the technologies detailed in this report would greatly strengthen DC's sustainability leadership and would provide strong protection against continued climate change. The data on cost effectiveness of these strategies is now compelling. Delays in city-wide adoption would impose real costs. According to former Washington DC City Administrator and former Administrator of the General Services Administration Dan Tangherlini:

"Achieving Urban Resilience is a critical, even transformative new analysis that provides a compelling case that DC should accelerate its greening by adopting the city wide technology and design practices documented here... Delaying this transition would impose large financial and social costs particularly on places of lower economic opportunity, the elderly and children. We have the roadmap – now we must follow it."