



## **The benefits of installing a green roof**

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Green roofs have become a popular item within sustainable communities around the U.S. where new or retrofit construction begins in the design phase. N.Y.C. is the third largest user of green roofs among U.S. cities. Only Chicago and Washington, D.C. have more s/f of green roofs.

There are thousands of roof surfaces in N.Y.C. that would be ideal for green roofs while gaining the many benefits that green roofs provide.

Green roofs provide cleaner air, as the green roof plants will exchange carbon dioxide with oxygen. A brand new waterproof membrane's life expectancy could be extended 2-3 times longer with a green roof. The green roof protects the membrane from the solar radiation degradation and the freeze and thaw cycle that all roofs in the northeast endure. Green roofs allow the roof to have a more constant roof surface temperature.

Extensive green roofs can reduce total run-off by 60% and detain 85% of the first flush of a rainfall event for several hours before it is released into the sewage system (Moran 2004). Currently over 5 billion gallons of raw sewage enters the N.Y. harbor from combined sewer overflows annually from rainfall events.

The green roof acts as an insulator while not allowing solar radiation to penetrate the roof causing the temperature to rise in the building during the summer while increasing the demand for more cooling. In the colder months, it would retain the heat inside the building.

The vegetation on the roof absorbs the solar radiation preventing it from being reflected back up into the atmosphere contributing to the urban heat island effect. When the solar radiation is reflected back up into the atmosphere, it creates a "bubble" where warmer air hangs over the city, creating a rise in temperatures of 3-8 degrees Fahrenheit, causing the HVAC to work harder to keep up with the warmer temperatures, while using more energy.

These are some of the many benefits that green roofs offer.

N.Y.C. offers a one-time tax rebate incentive of up to \$100,000 or \$4.50 per s/f to help with the cost of green roofs. Go to [www.nyc.gov](http://www.nyc.gov), Department of Buildings section and click on green roofs for more information.

You can also email questions to me at [tom@parkerplants.com](mailto:tom@parkerplants.com) or visit [www.parkerurbangreenscapes.com](http://www.parkerurbangreenscapes.com).

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