



Why to Consider Installing a Green Roof



Greensulate is transforming barren spaces with thriving ecosystems up on the roof.

By Russ Klettke

Urban environments have their challenges—energy consumption and air pollution among them—but things are looking up. Rooftop vegetation addresses these problems and then some.

All green roofs provide energy-saving insulation, ambient air purification, heat-island mitigation, and stormwater capture benefits that result from having growing media and plants on top of a building's roof membrane. In the case of urban farms, they can also add new streams of revenue and community engagement opportunities.

Important to building owners and occupants alike, green roofs provide relaxation and recreational space. When a garden is merely a stair climb or elevator ride away, it's more likely that workers or residents will take in a dose of nature during the course of a busy day.

Innovations from product manufacturers and designers continue to raise the bar, with improved membranes and the right cultivars. New York City-based **Greensulate's** expert team of green roof professionals are doing just that as they advise, design, install, and maintain beautiful projects all over the U.S.

Adrian Wilton, CEO of Greensulate, has been in the industry for more than a decade. In 2011 Wilton founded **Living Restoration**, a Brooklyn-based urban agriculture company that aims to utilize urban space efficiently for food production. In 2016 Living Restoration began collaborating with Greensulate, taking their expertise to the next level. "Our team is forecasting green roof design that takes into consideration advancing technologies and innovative roof

development, from how to receive drone deliveries to scalable food production, which we anticipate will greatly affect how we interact with a population with our rooftops,” Wilton says.

The Greensulate team knows clients want beautiful spaces, replacing what was once home to a building’s HVAC chillers and barren stretches of tar and gravel with inspiring gardens, hardscape amenities, and even sometimes implementing solar panels to reduce energy costs and increase efficiency. Several U.S. cities now incentivize green roofs with tax credits or abatements, grant programs, low-interest loans, and fee reductions, though each municipality varies. For example, Denver’s Green Roof Initiative, which passed with 54% approval in 2018, requires green roofs or cool roofs for most new buildings that are 25,000 square feet or larger. In general, building rental and resale values increase if they have a green roof. Building owners who get the most benefit from green roofs are long-term owners—residential owners, hospitals, municipalities, and educational institutions—due to the cost benefits that accrue over time.

Since Greensulate’s fruition in 2007, they’ve engaged with local municipalities that have rolled out initiatives to meet their highest priority sustainability goals. “This often greenlit the installation of green roofs because of their traditional benefits, like improving wellness, ROI through reducing energy costs, and increasing property value,” Wilton says. “The possibilities go far beyond that, though, when you integrate creative programming with your green roof design. We help our clients explore potential new revenue streams, business models, and engagement opportunities up on the roof.”

These are just some of the additional reasons to consider green roofing. →

Stormwater capture

◆ Whether the roof is extensive—covering a broad area with mats of sedum that require only about three inches of growth medium—or intensive (deeper soil, bigger plants), a green roof captures 70 to 90% of precipitation. This benefits urban environments where stormwater causes flooding and, where there are combined wastewater-stormwater sewage systems, bacterial outflows to rivers, lakes, and sometimes into houses in low-lying areas. Consider: Money back. Check to see if your city is like Washington, D.C., where the RiverSmart Rewards program allows up to a 55% reduction in water utility stormwater fees.

The experts at Greensulate help transform urban environments with rooftop gardens and more.





ABOVE: St. Hilda's House Convent includes two green roofs.

LEFT: High-rise buildings like this one in East Village are increasingly implementing green roofs for tenants.

Amenities for larger buildings

◆ A generation ago, employers and condo associations learned building occupants wanted gyms and convenience stores on premises. Today, adding outdoor spaces in urban environments—with gardens, seating areas, and even room for games and movie projectors—can just as easily be added to roofs. Consider: What are occupant interests? A bocce court? Meditative spaces? Assembly areas? What about access points, views, and plant privacy screens?

Commercial farming

◆ In climates ranging from the boroughs of New York to the rooftops of urban California and Boston, photosynthesis can occur from natural light as well as programmed, energy-efficient lighting. A bonus of customized LED lighting systems is that plants can grow up to 2.5 times faster with 99% less water usage in outdoor fields. Consider: Valuable crops, including legal marijuana, are far less vulnerable to theft on roofs than in fields.

Healthier patients

◆ Hospital systems with multi-million-dollar capital budgets are looking at neighboring and parking garage roofs, seen from patient rooms, as a way to reduce hospital stays and employee turnover. Consider: Hospital patients who look at gardens and plants experience more favorable clinical outcomes.

Increase value of single-family homes

◆ Greensulate has projects all over the U.S. and is currently exploring the Denver market, where voters overwhelmingly supported the recent Green Roof Initiative. Consider: Add to property value, providing amenities not found elsewhere on the market.

Insulation

◆ One of the biggest returns on investment comes from increasing the R-value of insulation. But the same green roof will reduce thermal heat capture outside (via daily dew and evapotranspiration) and reduce indoor noise from nearby airports, too. **gb&d**