

Celebrate Positive Environmental News with Us!

Green Roofs Take Root Around the World

Source: nationalgeographic.com

Published: October 27, 2016

By Jackie Snow

This week, San Francisco became the first U.S. city to require that certain new buildings be built with a [green roof](#)—an eco-friendly design technique that sows plants above a roofline. This latest action builds on a growing trend that has taken root around the world, and which boosters say offers significant benefits for the planet.

The new law, going into effect in January, will require between 15 to 30 percent of roof space on most new construction projects to incorporate solar, green roofs, or a blend of both.

The ordinance builds on an earlier bill passed by the city's Board of Supervisors in April that requires new residential and commercial buildings 10 stories or shorter to install solar panels or a solar heating system that covers 15 percent of the roof.

"I think a lot of people have always wondered why we haven't better used our roofs," said San Francisco Supervisor Scott Weiner, who introduced both bills.

Some of the city's developers have supported the new green roof law, saying they are glad it offers an additional alternative to meet eco-friendly requirements. Green roofs are cheaper to install than solar panels.

The EPA estimates green roofs [start at about \\$10 per square foot for simple projects](#), or up to \$25 per square foot for more ambitious designs (although they can also save building occupants money down the line).

Green roof legislation is being passed around the world. Cordoba became the first city in Argentina to require green roofs in July. France's new legislation mandates at least partial coverage of green roof or solar technology on all new construction and goes into effect next March. In 2009, Toronto mandated green roofs on industrial and residential buildings. Germany's green roof industry has been legislated and supported by the government in various ways since the 1970s.

Celebrate Positive Environmental News with Us!

The Benefits of Green Roofs

Green roofs reduce [stormwater runoff](#), improve air quality, and help mitigate the [urban heat island effect](#). For building tenants and owners, green roofs reduce the need for heating and cooling. They also can provide food and a recreational area for residents.

Combining solar panels and green roofs can actually make each component work better. Solar panels can provide shade for plants and grasses, reducing the need for watering, while the panels work best when they are cool (green roofs can help lower temperatures compared to conventional ones).

“There is a win-win between solar and green roofs,” said Steven Peck, the founder and president of Green Roofs for Healthy Cities.

San Francisco’s legislation came out of work started in 2013 by the San Francisco Bay Area Planning and Urban Research Association’s Green Roof Task Force. Jeff Joslin, a director at San Francisco’s Planning Department, said that the group created a map of green roofs in the city, developed a roadmap for policy, produced a cost-benefit analysis and an implementation manual for how to install and maintain green roofs in the region’s climate. Joslin said that despite being a city known for innovation, there was a lot of work to do.

“We were lagging far behind other major cities,” Joslin said.

Peck said there are about 25 North American cities that support green roofs to some extent, from bigger cities to medium and smaller communities like Syracuse and Port Coquitlam in British Columbia. Washington D.C. has a de facto requirement for large buildings through its stormwater regulations. New York City has tax abatements.

Valuable green building certifications, such as LEED, also award points for green roofs, so they are popping up across the country even without legislation.

Humble Beginnings

The United States has come far from when Peck started working in green roofs 20 years ago. There was a single research facility in Quebec. Most of what he could find on the technique was in German.

Now, there are over 75 institutions from NASA to Penn State doing research on green roofs. Still, the United States has catching up to do. According to Peck, this year Germany installed an estimated 10 million square meters.

“[The United States] did about seven to eight million square meters and we are four times bigger than they are,” Peck said.

Celebrate Positive Environmental News with Us!

More than ever, Peck said, green roofs and green infrastructure is becoming an imperative. As climate change makes regions hotter and urban areas grow, cities with green roofs will get an array of benefits that will improve quality of life for their citizens.

“The cities that invest in green infrastructure will be cities that thrive next century,” Peck said.
