What are the benefits of Green Roofs?
By Tyler Wilson

Example of a Green Roof

Green Roofs help save money:
• Homeowners use less of their heating and cooling system because of the natural thermal insulation
• They can last longer than cheap roof shingles
• Not a lot of maintenance is required

Who is using Green Roofs in America?
• Chicago is one of the largest cities to use green roofs
• They use them on several buildings included the City Hall which is pictured below
• They also have a university using them and plan on designing more

Who is using Green Roofs in Europe?
• Germany has many structures with green roofs
• The apartment green roofs supports full grown trees
• Picture below is an image of Hundertwasser’s apartments called Waldspirale

Overview:
Green roofs are a form of green architecture used to provide a natural insulation for a residential or commercial building. The green roof replaces the traditional roofing shingles. The roof is composed of soil and vegetation. It can support grasses, bushes, and trees. They have been popular in Europe for centuries and have made their way to the United States.

Urban Heat Island Effect:
• What is Urban Heat Effect?
• The temperature difference in a city versus the temperature in a rural area
• Depending on the size of city the temperature difference can range from 5.4 degrees to 22 degrees Fahrenheit
• It can cause other problems to happen:
  * Air pollution: gases, dust, and fumes
  * Greenhouse gas emissions
  * Over heating

Which is better?
Green Roofs:
• Provides a natural insulation
• Decreases rainwater runoff
• Looks aesthetically pleasing
• Decreases urban heat island effect
• Eliminates greenhouse gases

Roof shingles:
• Provides minimum insulation
• Increases rainwater runoff
• Doesn’t look aesthetically pleasing
• Increases urban heat island effect
• Absorbs UV rays and heat

Do Green Roofs require maintenance?
• Yes, but mostly during the first year of installation
• First year requires weeding and watering every few months
• The second year requires only 3 to 4 months of maintenance
• Must be fertilized once a year

Types of vegetation:
• Most popular is succulents, pictured left
• Grasses, wildflowers, and herbs are widely used
• Bushes may be grown on top
• On some buildings there are full grown trees

Green roofs have been known to last twice as long as regular shingles. The green roof also reduces heat by 75% when compared to shingles. Asphalt shingles are made from tar material and also coated in a petroleum-based coating. These harmful chemicals can runoff the roof and pollute the nearby soil and environment. Green roofs have no harmful chemicals and they also help keep water runoff from happening.
References


