What is a white roof?

A white roof is painted with solar reflective white paint and reflects up to 90% of sunlight (as opposed to traditional black roofs which reflect only 20%).

A white roof has a special thermal mass so it doesn't trap heat like a traditional roof.

Why do we need white roofs?

The world is hot!

On a clear night, the temperature in a city with 1 million people or more can be up to 22°F hotter than nearby suburbs.

These cities are full of heat trapping black surfaces, like black pavement and tar roofs, so it's called an Urban Heat Island.

Black surfaces in the sun can become up to 70°F hotter than the most reflective white surfaces – EPA.

The effects of the Urban Heat Island are more energy use, stress on the power grid and increased pollution.

White roofs can make it less hot and reduce energy use!

5–10% of summer electricity is used to compensate for the heat island effect.

White roofs can reduce summer energy use by 10–30%, saving money and preventing pollution.

White roofs can reduce the Urban Heat Island effect by 1° to 2° F – enough to lower peak energy demand, reducing the risk of brownouts and blackouts.

What will get us more white roofs?

We need the help of the community to identify buildings that might be eligible for white roof coating. Your help can make a big difference in the number of square feet that we are able to paint.

What about white roofs in the winter?

In the northern part of the United States, one might think that a black roof would provide a winter heating benefit to building owners. However, there are several factors that make any potential heat gain relatively immaterial:

The laws of physics dictate that hot air will always rise. Thus, any heat that is transferred to the interior of a building structure from the outside will remain at the top of the structure, providing minimal heat savings.

In all parts of North America, there are fewer hours of sunlight to affect energy costs. In fact, in some areas, there is a greater than a six-hour difference between peak-summer and peak-winter sunlight, meaning there is less sunlight available to contribute to a building's potential warming. Plus, the angle of the sun is less direct, which also helps to minimize warming potential.