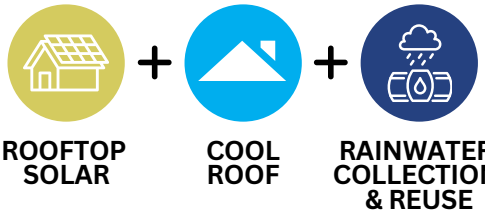
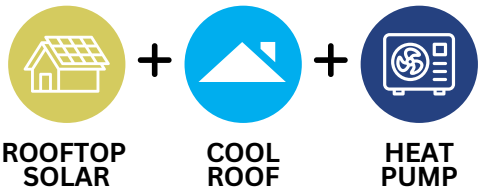
The Integrated Benefits of Smart Surfaces

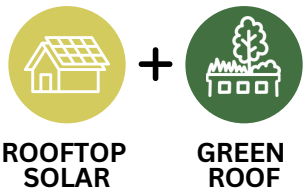
Smart Surfaces are most cost-effective when deployed in combination. In addition to implementing Smart Surfaces on individual projects, all of the solutions below should be deployed at the city scale to **cut peak summer temperatures by 5°F or more**, **improve air quality and public health**, and **provide up to $10 in benefits and cost savings for every $1 spent**.



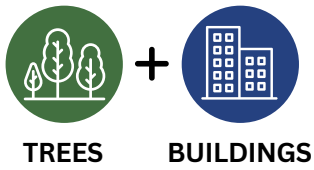
Cool roofs reduce surface temperatures, which can **boost solar panel efficiency by about 10%**. They also cool cities, decreasing the risk of heat-related illnesses and mortality. Solar power cuts energy bills and rainwater reuse reduces flooding and helps buildings meet stormwater regulations, while saving money on water bills.



Cool roofs keep rooftop-mounted heat pumps cooler and thus operating more efficiently. They also benefit health by lowering city temperatures. Solar panels save money on energy bills, and cool roofs cut costs by reducing cooling energy use.

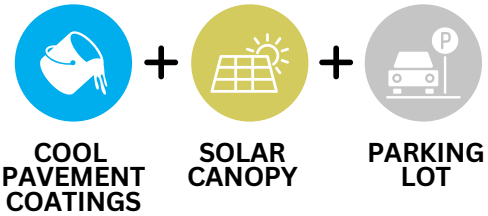


Green roofs cool cities, **boost solar panel efficiency by 3-4%**, reduce stormwater runoff, help buildings meet stormwater regulations, and provide habitats for plants and animals. Solar panels save money and create clean, renewable electricity.



Strategic tree planting near buildings provides shade, reduces stormwater runoff, improves air quality, and creates habitats for plants and animals. Trees can also cut energy costs by reducing the need for building cooling.

Painting roads with more reflective coatings can cool cities, extend pavement lifespan, and increase road safety by boosting visibility for drivers. Rain gardens also keep cities cool and help with traffic calming to create safer streets, in addition to collecting stormwater, reducing urban flood risks, filtering out stormwater pollutants, and increasing available habitat for plants and animals.



The shade and cooling provided by solar canopies save money by promoting the longevity of the parking surface, while also protecting public health. For the areas that are not shaded by solar canopies, cool pavement solutions are an effective option for reducing surface temperatures and urban heat islands.

SMART SURFACES COALITION