

THE DEPARTMENT OF ENERGY

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Secretary Chu Announces Steps to Implement Cool Roofs at DOE and Across the Federal Government

Cool roofs will reduce energy use, limit carbon pollution and save taxpayer money

Washington - U.S. Department of Energy Secretary Steven Chu today announced a series of initiatives underway at the Department of Energy to more broadly implement cool roof technologies on DOE facilities and buildings across the federal government. Cool roofs use lighter-colored roofing surfaces or special coatings to reflect more of the sun's heat, helping improve building efficiency by reducing cooling costs and offsetting carbon emissions.

President Obama and Secretary Chu have made clear that the federal government should play a leading role in moving the nation toward a more sustainable future. Under President Obama's [Executive Order on Sustainability](#), the federal government has committed to reducing its greenhouse gas emissions 28 percent by 2020. As part of that effort, Secretary Chu has directed all DOE offices to install cool roofs, whenever cost effective over the lifetime of the roof, when constructing new roofs or replacing old ones at DOE facilities. With cool roofs, these federal buildings will consume less energy, offset additional carbon emissions, and save taxpayers money. The memorandum from Secretary Chu is available [HERE](#) - 395 Kb .

“Cool roofs are one of the quickest and lowest cost ways we can reduce our global carbon emissions and begin the hard work of slowing climate change,” said Secretary Chu. “By demonstrating the benefits of cool roofs on our facilities, the federal government can lead the nation toward more sustainable building practices, while reducing the federal carbon footprint and saving money for taxpayers.”

The Secretary today also issued a letter to the heads of other federal agencies, encouraging them to take similar steps at their facilities. To offer additional support for federal and commercial building operators that are looking to install cool roofs, DOE released its Guidelines for Selecting Cool Roofs, which provides technical assistance on types of roofing materials and how to select the roof that will work best on a specific facility. The complete Guidelines are available [HERE](#) - 909 Kb .

Roofs and road pavement cover 50 to 65 percent of urban areas. Because they absorb so much heat, dark-colored roofs and roadways create what is called the “urban heat island effect,” where a city is significantly warmer than its surrounding rural areas. Cool roofs significantly reduce the heat island effect and improve air quality by reducing emissions. A recent study by researchers at Lawrence Berkeley National Laboratory (LBNL) found that using cool roofs and cool pavements in cities around the world can help reduce the demand for air conditioning, cool entire cities, and potentially cancel the heating effect of up to two years of worldwide carbon dioxide emissions. More information on the LBNL study is available [HERE](#).

DOE is also expanding its research activity for cool roofs to enable technological innovation and guide policy implementation. The research effort includes developing advanced testing

protocols, conducting urban heat island analyses, and undertaking studies to further quantify the direct global cooling benefits associated with cool surfaces. The Department also anticipates awarding new projects to develop higher performing, new innovative roofing materials under the Department's Small Business Innovation Research grant program. See [HERE](#) for a YouTube video of Secretary Chu explaining the benefits of white or cool roofs.

The National Nuclear Security Administration (NNSA), a separately organized agency within the U.S. Department of Energy, has already installed more than two million square feet of cool and white roofs at NNSA sites across the country. Through the Roof Asset Management Program (RAMP), NNSA currently saves an average of \$500,000 a year in energy costs and expects to save more than \$10 million over the next 15 years. Overall, NNSA has reduced building heating and cooling costs by an average of 70 percent annually on reroofed areas by installing cool roofs and increasing insulation.

As part of the Department's ongoing efforts to implement cool roofs on its facilities, Secretary Chu also announced that design will begin this summer on cool roof replacements at DOE Headquarters in Washington, DC. Cool roof projects are also underway at Idaho National Laboratory in Idaho Falls and Brookhaven National Laboratory in Upton, New York. Collectively, these projects will cover over 350,000 square feet and save thousands of dollars for taxpayers annually.

While DOE is taking steps to more broadly implement cool roof technologies domestically, the Department has also begun exploring international opportunities to provide technical support to partnering nations. International activities include tracking the deployment of cool roofs on public and private sector buildings, sharing best practices, and developing tools to better measure and communicate the effectiveness of cool roofs.

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By Brad Bugger