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# BioEngineering Group practices cool roof design

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Bioengineering Group's award winning project, Samuel Hadley Public Works Facility features light reflective white roofing combined with vegetated rooftop system.

Since the early 1990s, Bioengineering Group has promoted and designed cool and green roof systems including some of the first green roof projects in the United States. As the sustainability consultant for the Samuel Hadley facility, Bioengineering Group designed a cool roof based on reflective white coating and a green roof which absorbs and purifies rainfall. Both systems reduce the amount of energy required to heat and cool the building and increase the life of the roof by protecting the waterproof membrane. Subsequently, the heat island effect, which is often seen in cities as traditional roofing materials radiate large amounts of heat, is also improved. The white reflective roof coating paired with green roof vegetation provides the ultimate "cool roof."

From private residences, to municipal public safety buildings, to Department of Defense facilities, Bioengineering Group has educated clients and regulators on the merits of high performance roofing systems that address environmental problems.

Bioengineering Group's previous green roof designs include the South Central Connecticut Regional Water Purification Facility and Park in New Haven, recipient of the 2007 Top Ten Green Award by the American Institute of Architects; and Bioengineering Group's own corporate headquarters. Their Salem, Mass. office was recently renovated to include cool roof and green roof treatments that work toward achieving goals of ultra-low energy use and a net zero building.

U.S. Department of Energy Secretary Steven Chu said a series of initiatives underway 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. Under President Obama's Executive Order on Sustainability, the federal government has committed to reducing its greenhouse gas emissions 28 percent by 2020.