

# Cool Communities Project

Lawrence Berkeley National Laboratory [Heat Island Group](#)

Sponsors: [California Energy Commission & California Air Resources Board](#)

In 2006, California introduced the Global Warming Solutions Act (Assembly Bill 32) which requires California to reduce greenhouse gas emissions to 1990 levels by 2020. Several “cool community” strategies including cool roofs, cool pavements, cool walls and urban vegetation have been identified as effective voluntary measures with statewide potential emission reductions of 4 million metric tons of carbon dioxide equivalent per year. The Heat Island Group’s Cool Communities project seeks to [provide technical assistance to California communities for development of programs that save energy, reduce emission of greenhouse gases, and improve the urban environment](#). This includes scientific research as well as educational and outreach efforts.

## Project Tasks:

[Cool Roof Retrofit Database](#) Create a database of commercial and residential cool roof retrofit projects in California to examine energy savings and to develop case studies.

[Cool Roof Study](#) Monitor and analyze cool roof energy savings of a home.

[Cool Pavement Study](#) Monitor and analyze the thermal performance of several cool pavement technologies.

[Cool Roof Website](#) Create a website for individuals and local government that provides a one-stop source of information and tools about cool roofs.

[Cool Roof & Cool Pavement Instructional Materials](#) Create courses and instructional materials on cool roofs and cool pavements for building professionals and public works officials.

[Cool Roof Survey Instrument](#) Design a survey instrument for building professionals and homeowners to understand why they do or do not choose cool roofing materials.

[Effect of Vegetation on Community Albedo](#) Examine the effects of vegetation on the effective albedo (solar reflectance) of a community.

[Effect of Surface Roughness on Community Albedo](#) Examine the effects of building shape and neighborhood layout on the effective albedo (solar reflectance) of a community.

[Technology Transfer](#) Share the knowledge gained and lessons learned in this project with key decision-makers and the public.

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