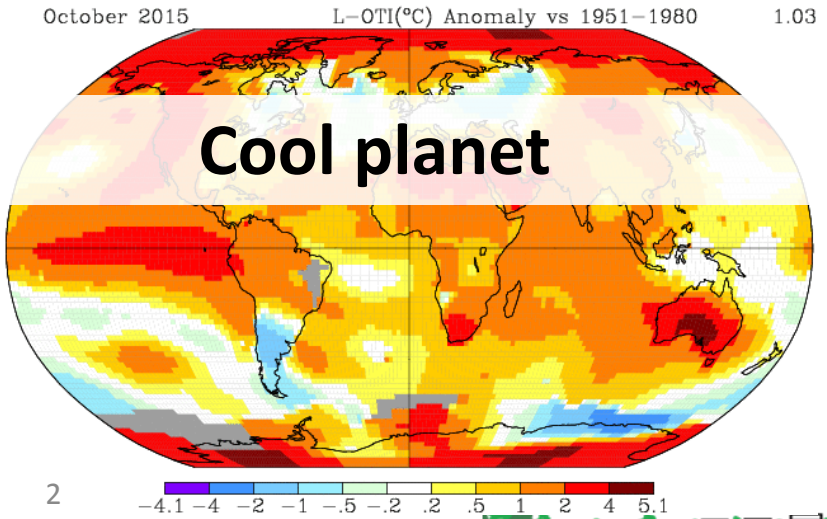
LBNL Heat Island Group

Solar-Reflective "Cool" Walls: Benefits, Technologies, and Implementation

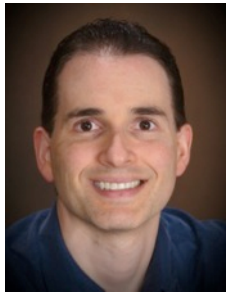
EPIC Innovation Symposium
3 December 2015

Lawrence Berkeley National Laboratory (LBNL)
University of Southern California (USC)
University of California, San Diego (UCSD)

Solar-reflective 'cool' walls can benefit our buildings, cities, and planet



The core research team includes LBNL, USC, and UCSD

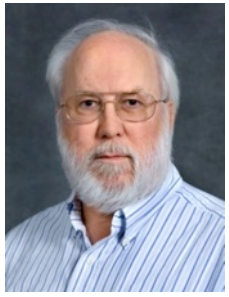


Ronnen Levinson

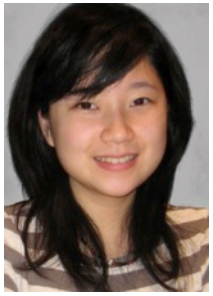
Hugo Destaillats

Haley Gilbert

Jan Kleissl



Paul Berdahl



Sharon Chen

Pablo Rosado

Charlie Curcija

George Ban-Weiss

We have ten industry partners

MITSUBISHI PLASTICS COMPOSITES AMERICA, INC.

valspar

SAINT-GOBAIN

3M

BEHR

MCA
METAL CONSTRUCTION ASSOCIATION

PPG

SHERWIN WILLIAMS
COVER THE EARTH

ALCOA

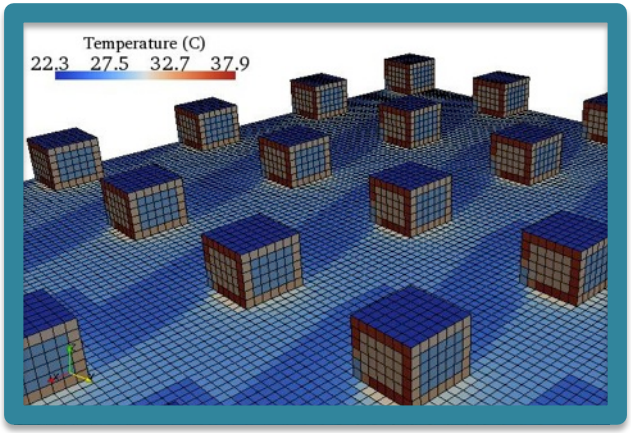
TEX·COTE
TEXTURED COATINGS OF AMERICA, INC.

Three-year project (2015 – 2018) funded by California has five tasks

Task 2

Evaluate savings

Task 3

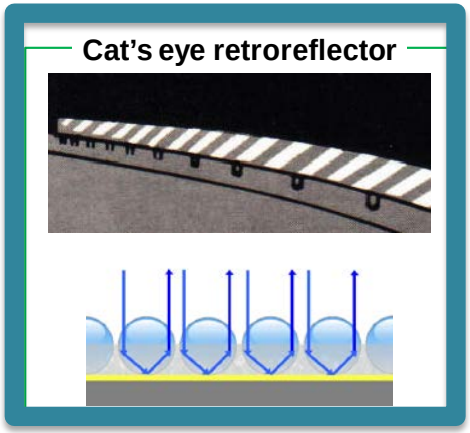


Evaluate co-benefits

Task 4

Assess technology

Task 5

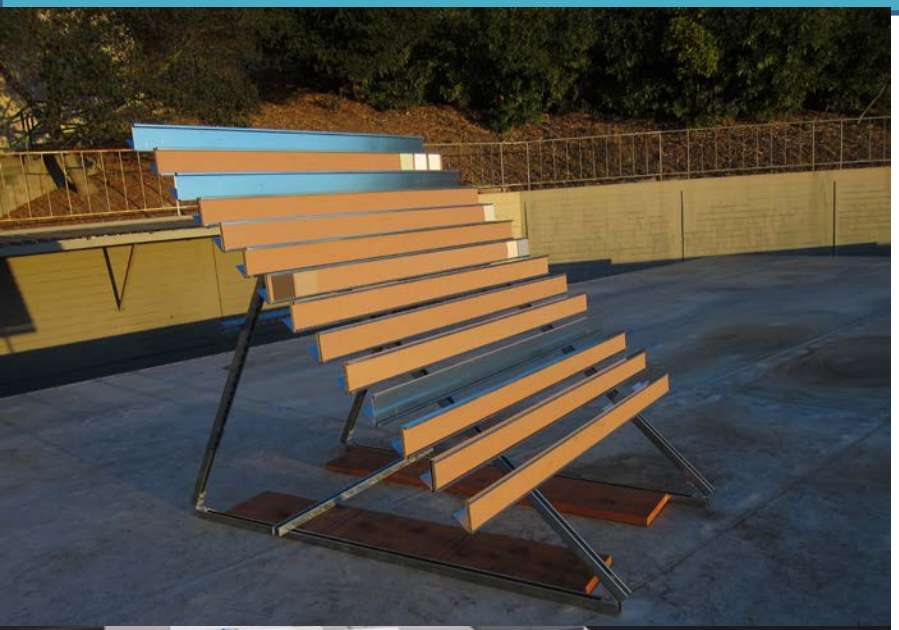


Develop technology

Task 6

Develop infrastructure

Example: We have selected 69 products to naturally expose in California for 2+ years



Analysis will guide the climate- and building-appropriate adoption of cool walls in CA

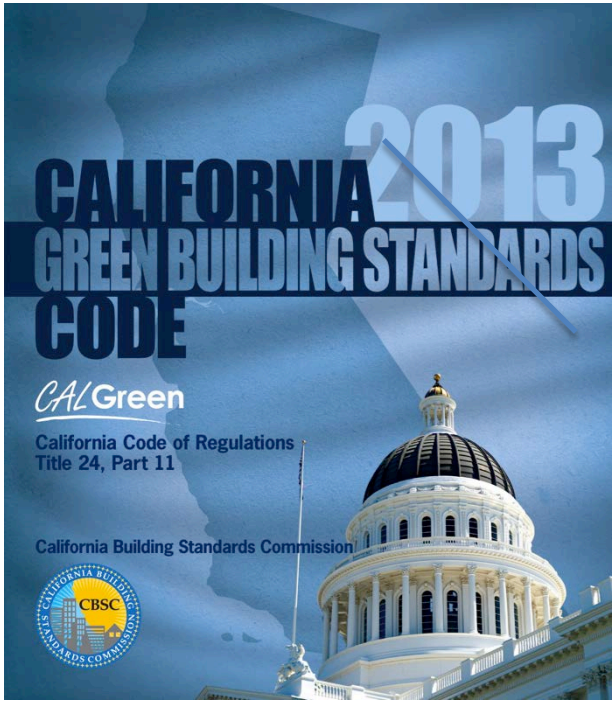
CA| Energy Efficiency Strategic Plan

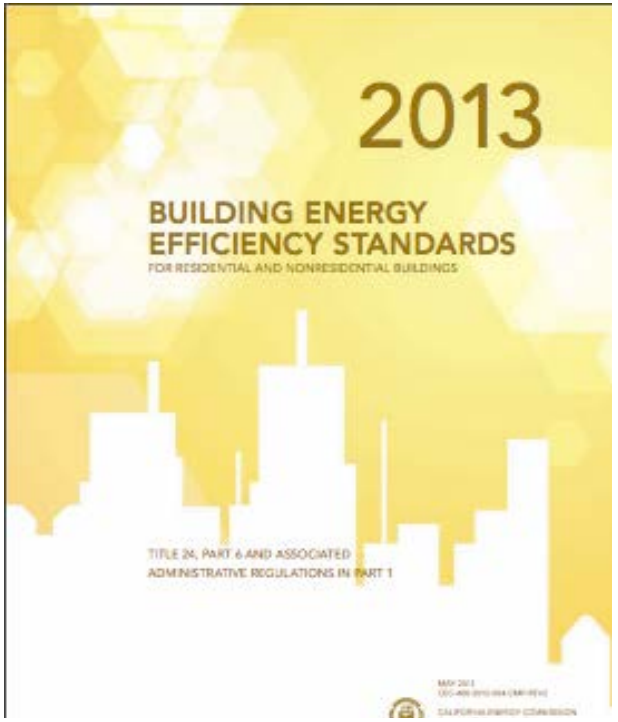
New Residential Zero Net Energy Action Plan 2014-2020

June 2015

California Energy Commission

California Public Utilities Commission





SB 350: Golden State Standards

Spur innovation and investment in a sustainable California by setting the following goals for 2030:

50% utility power coming from renewable energy;

50% increase in energy efficiency in existing buildings.

Follow-up steps could include Title 24 CASE studies, building demonstration projects

CODES AND STANDARDS ENHANCEMENT INITIATIVE (CASE)

Nonresidential Cool ~~Roofs~~ Walls

2013 California Building Energy Efficiency Standards

California Utilities Statewide Codes and Standards Team October 2011

Image source: TexCote®

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