



Hot City, Cool Surfaces

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Climate Resolve

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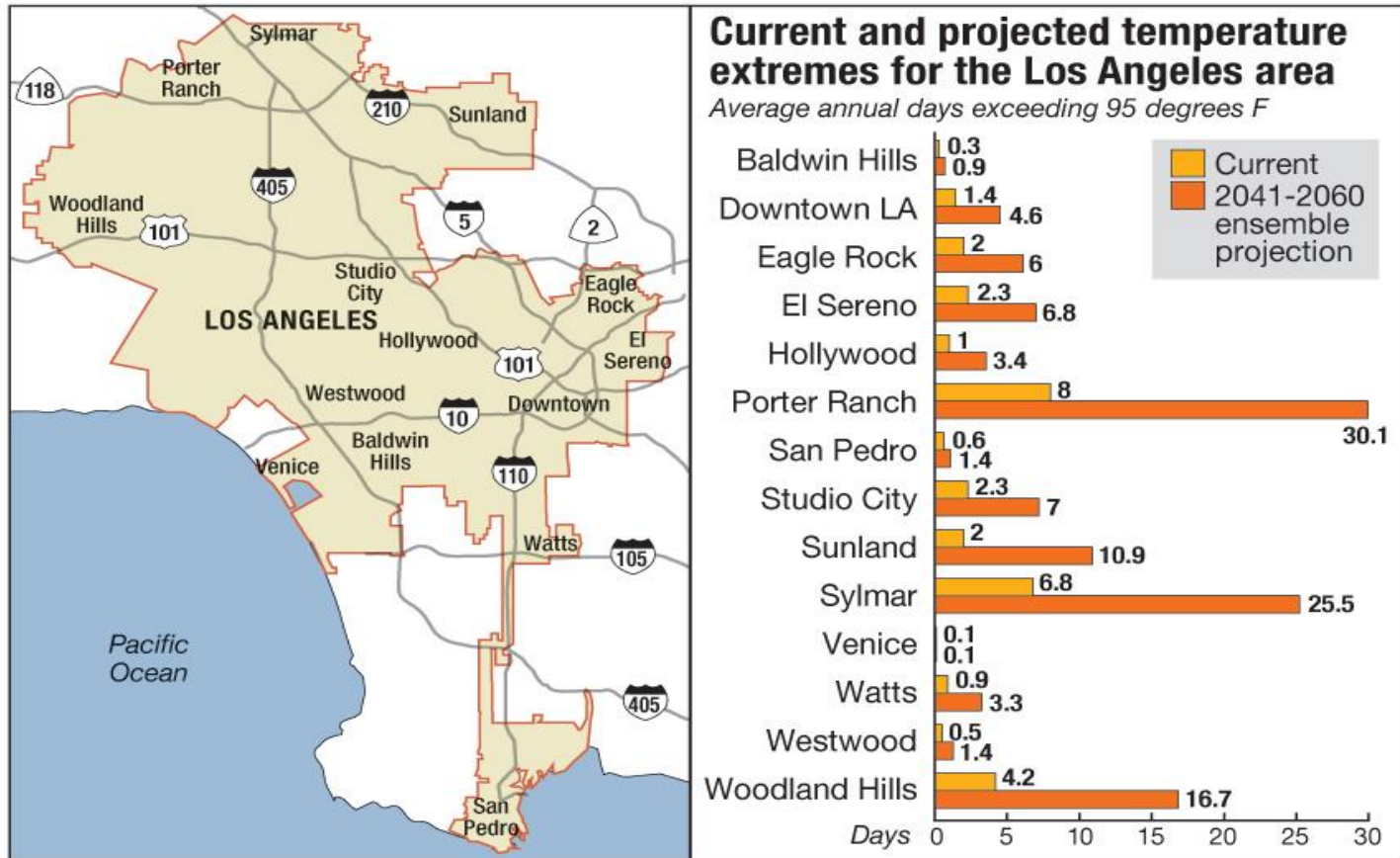
CLIMATE RESOLVE



OUR MISSION:

Climate Resolve's mission is to make Southern California more livable and prosperous today and for generations to come by inspiring people at home, at work and in government to reduce greenhouse gas pollution and prepare for climate impacts.

Regional Heat Impacts



Source: UCLA LARC study, 2012; chart based on the mean/average projected by the 19 climate models

National Climate Assessment



<http://nca2014.globalchange.gov/report>

Effects of Rising Temps



✧ ***Greater peak electricity demand***

- Unstable grid, power outages
- Greater costs

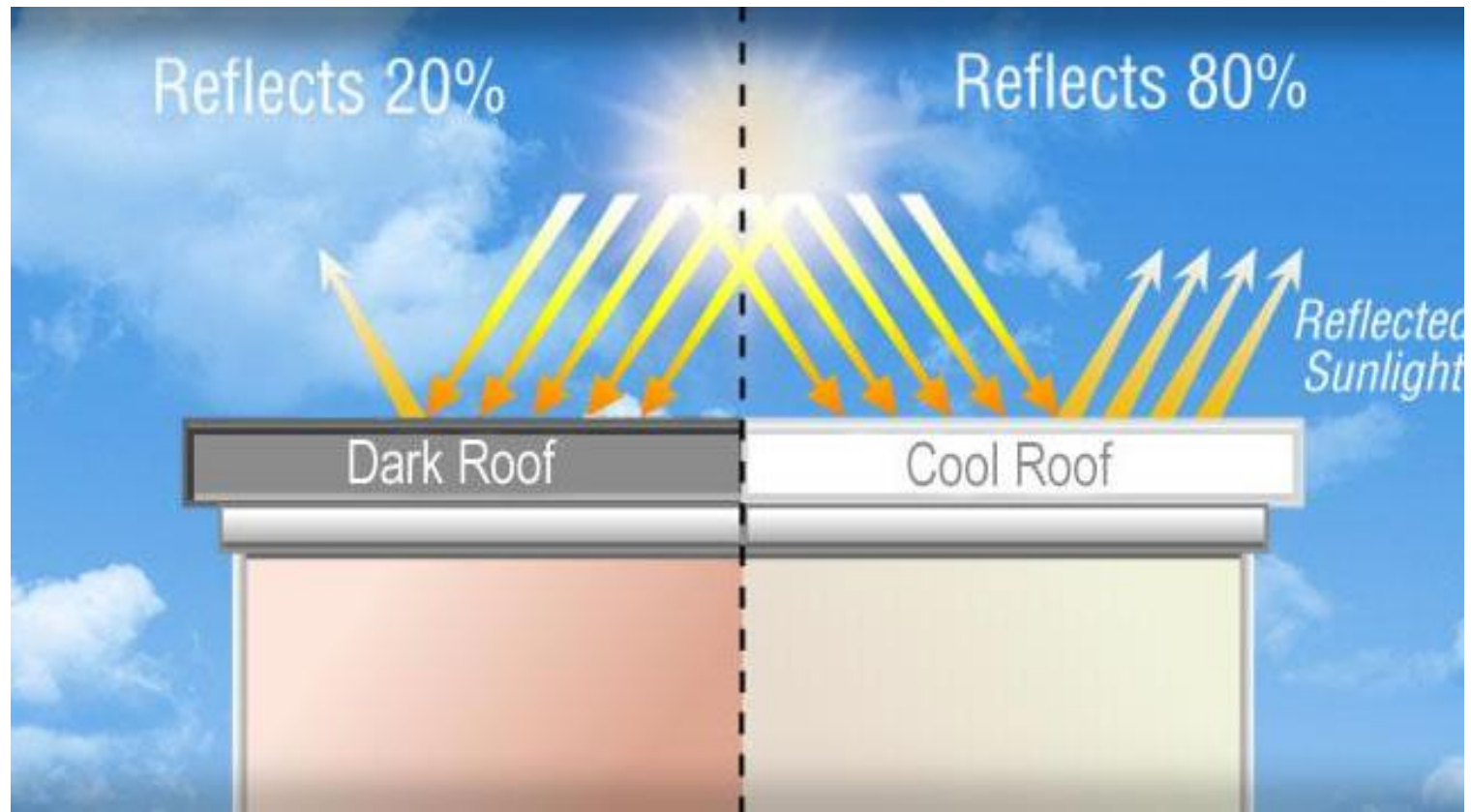
✧ ***More pollution***

- GHG and other pollution from greater electricity production
- Direct temp effects on smog

✧ ***Public health threats***

- Heat deaths and injuries
- Asthma rates and attacks

Cool Roofs



Benefits of a Cool Roof

- ✦ ***Residents will save money on their utility bills***
 - Cumulatively up to \$30 million per year
- ✦ ***Decrease greenhouse gas emissions***
 - In Los Angeles, equivalent to 40 metric tons of CO₂
- ✦ ***Provide a healthier environment – cooling of 3-12 degrees indoors***
 - Helps public health
- ✦ ***Reduces likelihood of outages, aiding resilience***
- ✦ ***Helps residents survive heat waves***

2013 LA Ordinance

- ✦ March 13, 2013 Mayor Antonio Villaraigosa directs the Los Angeles Department of Building and Safety to write new building code regulations requiring residential cool roofs.
- ✦ April, 2013 the Los Angeles Department of Water and Power expands existing cool roof rebate.
- ✦ December 17, 2013 Los Angeles City Council unanimously approves residential cool roof ordinance.



LA's Cool Roof Ordinance



99.01.101.3. Scope. The provisions of this code shall apply to the construction, of every new building, every building alteration with a building permit valuation of \$200,000 or more and every building addition, unless otherwise indicated in this code, through-out the City of Los Angeles.

EXCEPTIONS:

1. Roof repair; or
2. Roof replacement when the roof area being replaced is equal to or less than 50% of the total roof area; or
3. Building-Integrated Photovoltaics (BIPV)

TABLE 4.106.5

ROOF SLOPE	MINIMUM 3-YEAR AGED SOLAR REFLECTANCE	THERMAL EMITTANCE	SOLAR REFLECTANCE INDEX SRI
< 2:12	0.63	0.75	75
≥ 2:12	0.20	0.75	16

Cool Roof Rating Council

- ❖ **Asphalt-shingle:** 61 approved products
- ❖ **Bitumen sheet roofing:** 123 approved products
- ❖ **Concrete/clay tiles or slate:** 455 approved products
- ❖ **Coatings:** 579 approved products
- ❖ **Metal products:** 1019 approved products
- ❖ **Wood shake/stone aggregate/pavers:** dozens of approved products
- ❖ **Thermostatic plastic:** 113 approved products



www.CoolRoofs.org

Cool Pavements



Cities of Tomorrow





Thank You!

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