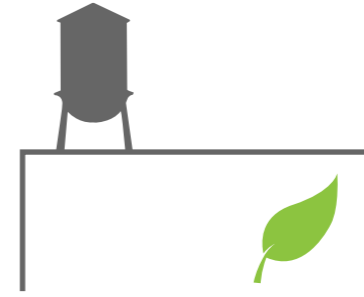


# White Roof Project



## URBAN HEAT ISLANDS: CONSUMER, KILLER.

ENERGY COSTS ARE THROUGH THE ROOF.  
HOW PAINTING THEM WHITE CAN CURB CLIMATE CHANGE.



# THE EARTH TODAY

IS FULL OF DENSE CITIES WITH ROOFS AND ROADS  
HEAT GETS TRAPPED IN THESE DARK SURFACES

THE WORLD  
ABSORBS  
**71%**  
SUNLIGHT

REFLECTS  
**29%**  
SUNLIGHT

ON A HOT SUMMER DAY

A CITY VERSUS A SUBURB

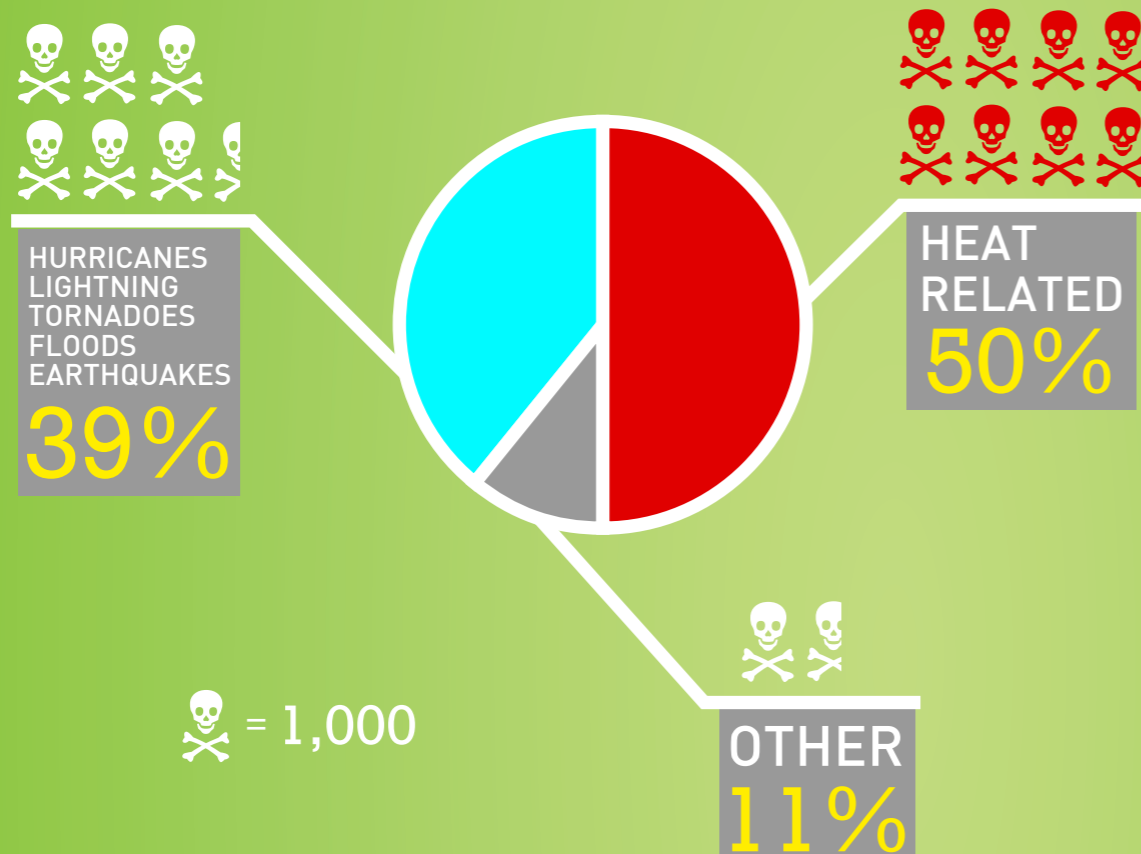


# KILLER: HEAT

IN THE SUMMER IT'S NOT ONLY A SILENT KILLER.  
IT'S OUR MOST DANGEROUS NATURAL DISASTER.

## U.S. NATURAL DISASTERS 1970 - 2004

15,958 people died



97°F

1934

ANNUAL PEAK TEMPERATURE LOS ANGELES

105°F

1990

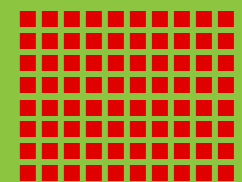
14



1997

DAYS ABOVE 90°F IN LOS ANGELES

80



2080

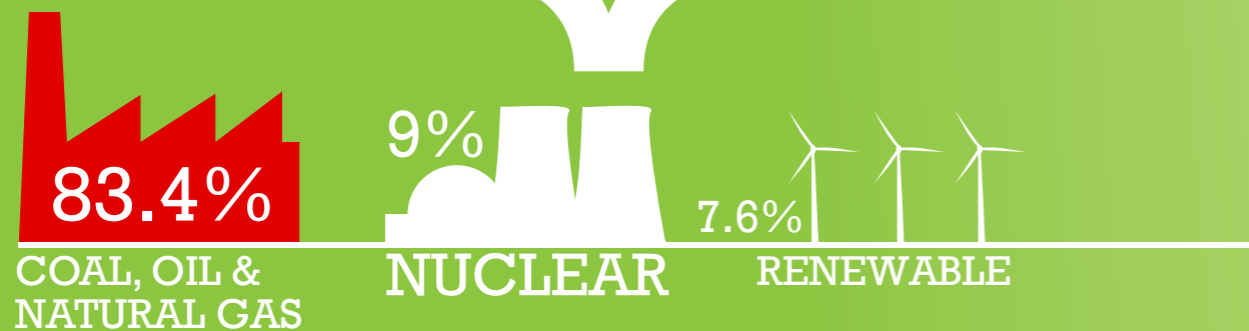
## SAVE GRANDMA

ELDERLY FOLKS AND RESIDENTS  
IN LOW INCOME AREAS ARE AT THE  
HIGHEST RISK FOR HEAT RELATED  
DEATH IN CITIES.

# CONSUMER: ENERGY

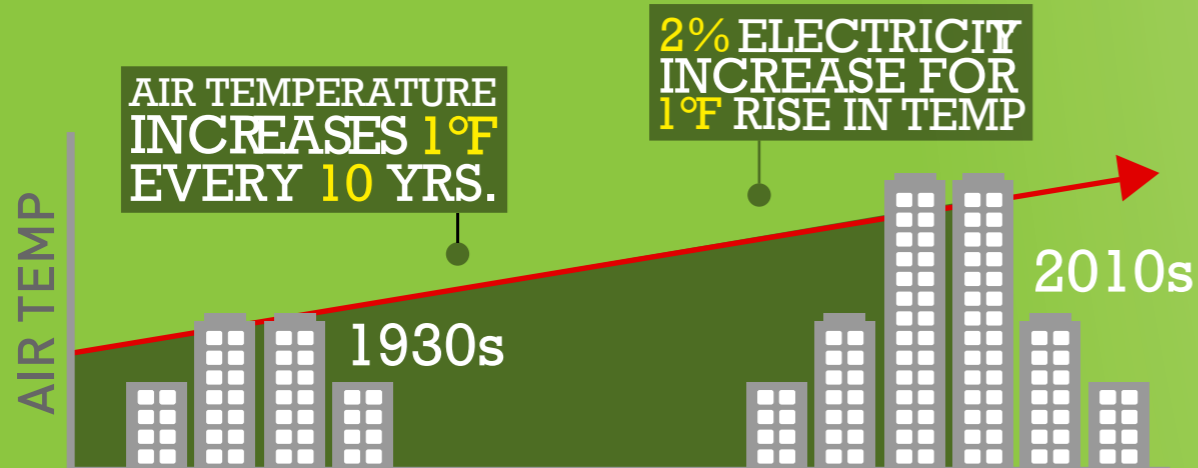
OUR DEPENDENCY ON COAL FOR ENERGY IS SOMETHING WE CANNOT AFFORD TO IGNORE.

## ENERGY CONSUMPTION IN THE U.S.



## CITY DEMANDS ARE GROWING

10% OF URBAN ELECTRICITY DEMAND COMPENSATES FOR THE HEAT ISLAND EFFECT



## CITIES IN PERIL

TOKYO, WASHINGTON, PHOENIX, SHANGHAI, TUCSON, BALTIMORE, AND HUNDREDS MORE.

## ELECTRIC DEMAND IN LOS ANGELES



## EVERY DECADE

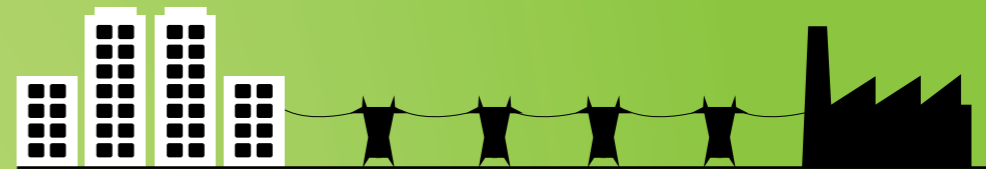
DEMAND INCREASES BY  
**1** POWER PLANT

White Roof Project

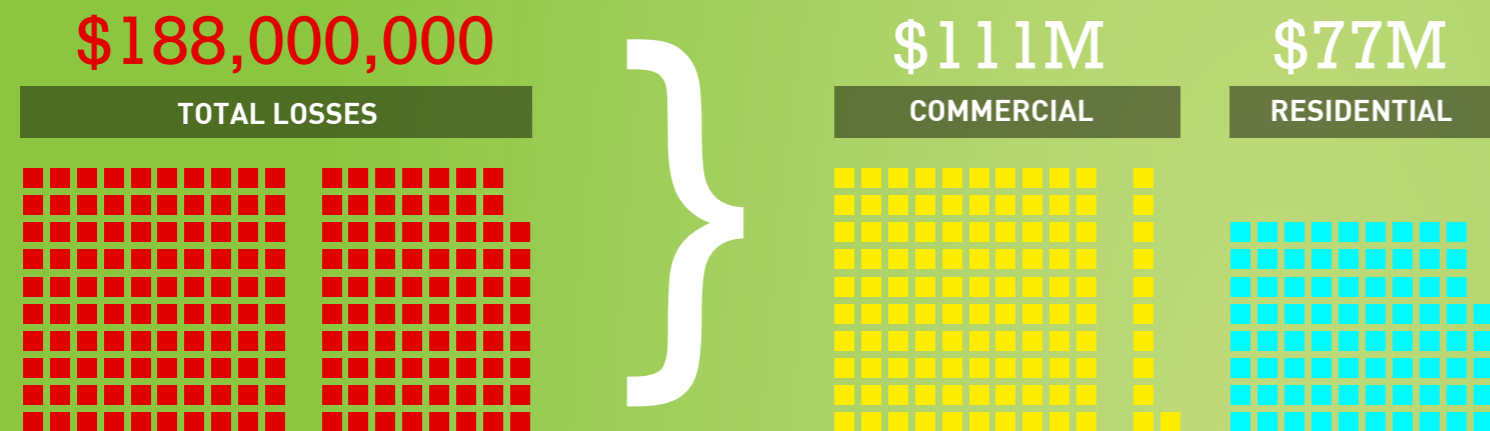
# POWER OUTAGES

CITIES ARE MEETING THEIR PEAK LOADS.  
THAT MEANS A GREATER CHANCE OF BLACKOUTS.

## NYC'S 2003 BLACKOUT



## QUEENS, NEW YORK 2006: 9 DAY OUTAGE

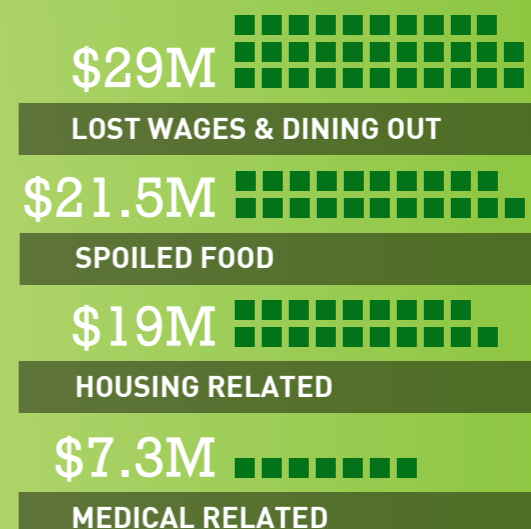


174,000 PEOPLE AFFECTED

\$17.5 MILLION REIMBURSED

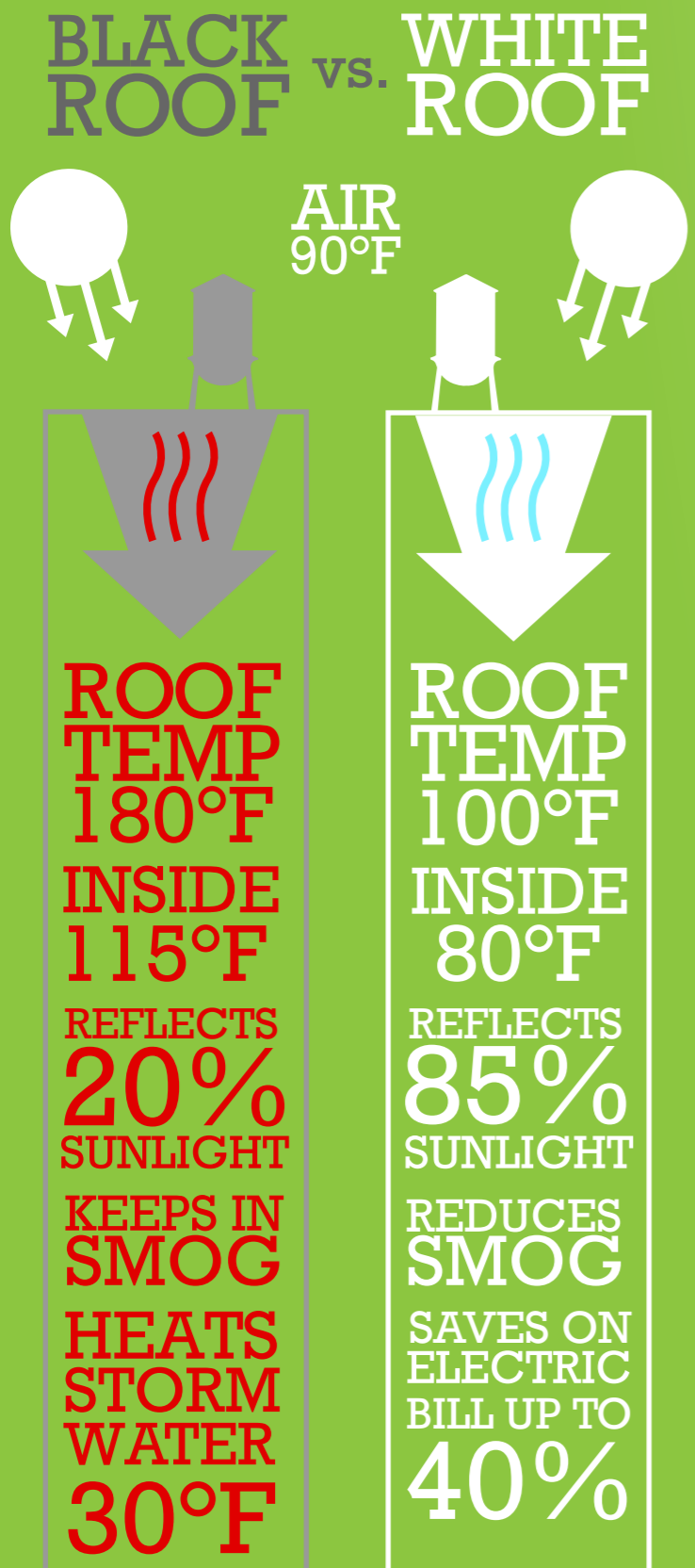
■ = \$1,000,000

## MAJOR LOSS CATEGORIES



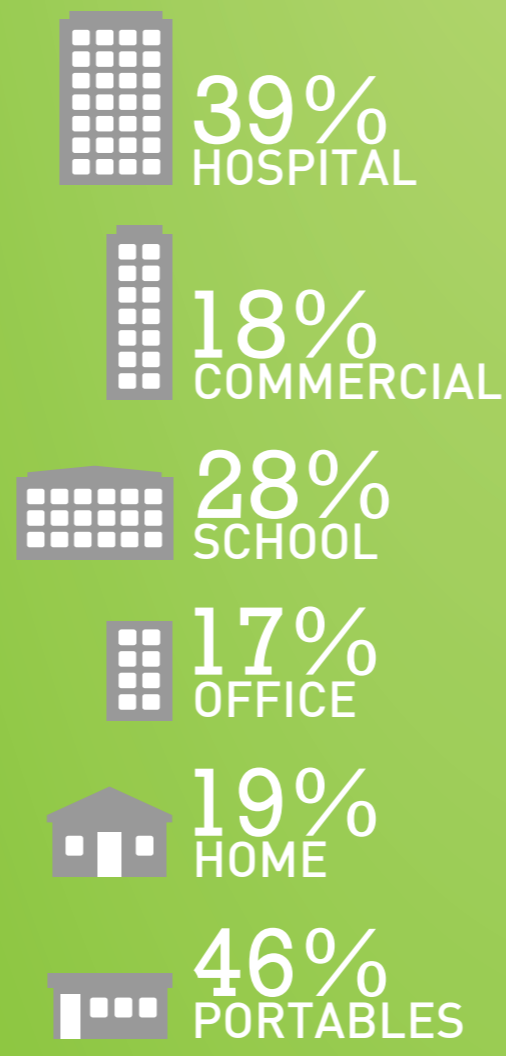
# WHAT CAN WE DO?

## A TALE OF TWO ROOFTOPS



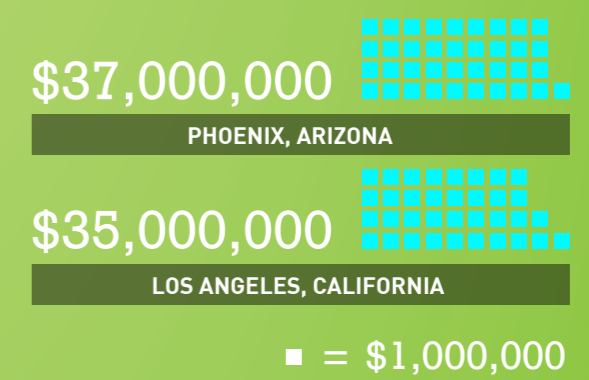
### ENERGY SAVINGS

#### BY BUILDING TYPE



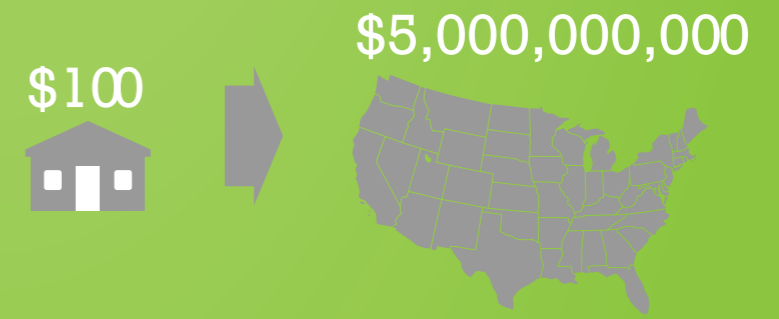
### A/C SAVINGS BY STATE

% OF BUILDINGS WITH A/C + AGGREGATE ROOF AREA - WHITE ROOF EFFECT



### UNITED STATES SAVINGS

#### WHITE ROOF EFFECT



### ROOF WATER RUNOFF

DRAINS INTO RIVERS, LAKES, AND OCEANS CAUSING SURFACE WATER TEMPERATURES TO RISE 8°F

# CITYWIDE EFFECTS

## LOS ANGELES PROGRAM

White Roof Project 

10M 

TREES PLANTED

5M  + 1/4

ROOFTOPS + ROADS PAINTED

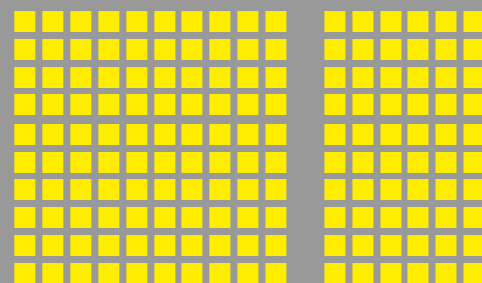
\$1,000,000,000

COST = \$1 BILLION



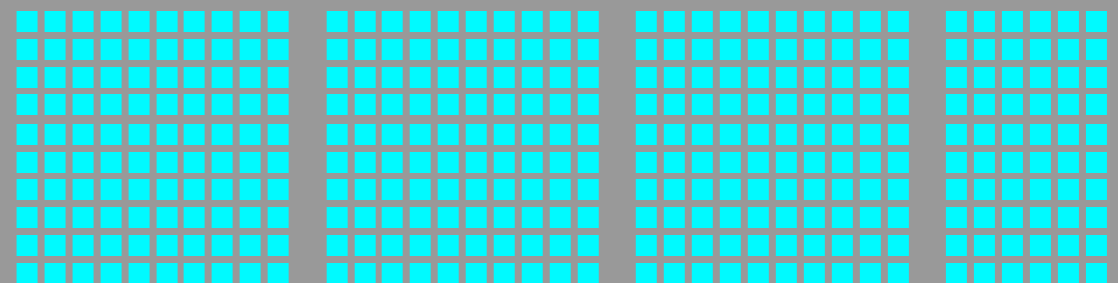
\$170,000,000

ANNUAL SAVINGS ELECTRICITY



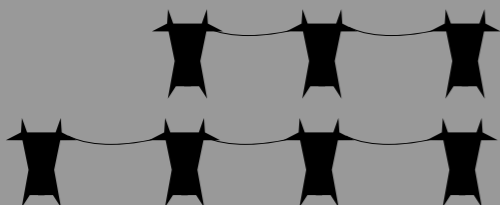
\$360,000,000

ANNUAL SAVINGS IN SMOG & HEALTH



## 11 METROPOLITAN CITIES FORECAST TOTAL ENERGY SAVINGS

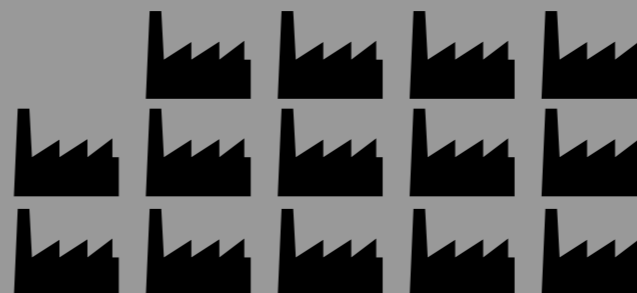
7



GIGAWATTS



14



POWER PLANTS



\$750

MILLION SAVED

# THE EARTH IN 2030

2/3 OF THE ENTIRE POPULATION WILL LIVE IN URBAN SETTINGS.

WILL ABSORB **70%** SUNLIGHT

REFLECT **30%** SUNLIGHT

IF WE PAINT **5%** EVERY YEAR FOR 20 YEARS IN 2030 WE'LL BE DONE.

TOTAL SAVINGS IN CO<sup>2</sup> = CO<sup>2</sup> EMITTED IN 2010  
**24 BILLION** METRIC TONS = **24 BILLION** METRIC TONS



IT'S LIKE TURNING OFF THE WORLD FOR 1 YEAR.

