

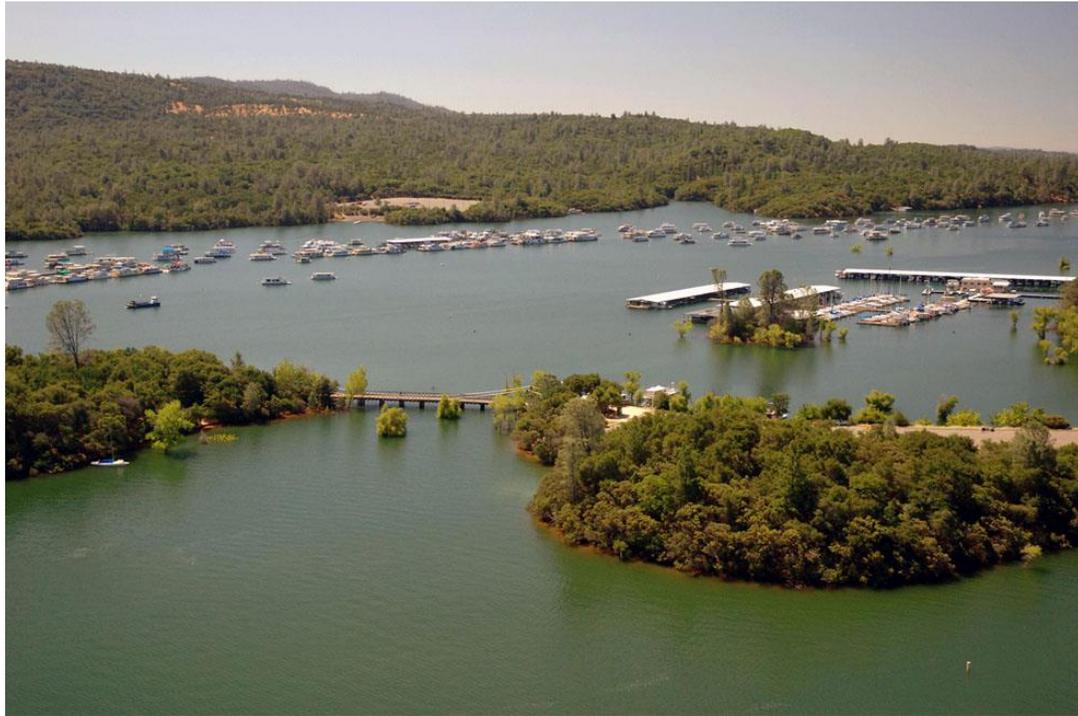
Sustainability at Ventura County CCD

Fall 2014



Lake Oroville, CA

July 20, 2011



August 19, 2014



Lake Oroville, CA

July 20, 2011



August 19, 2014



Lake Oroville, CA

July 20, 2011



August 19, 2014



Lake Shasta, CA

August 30, 2014



August 30, 2014



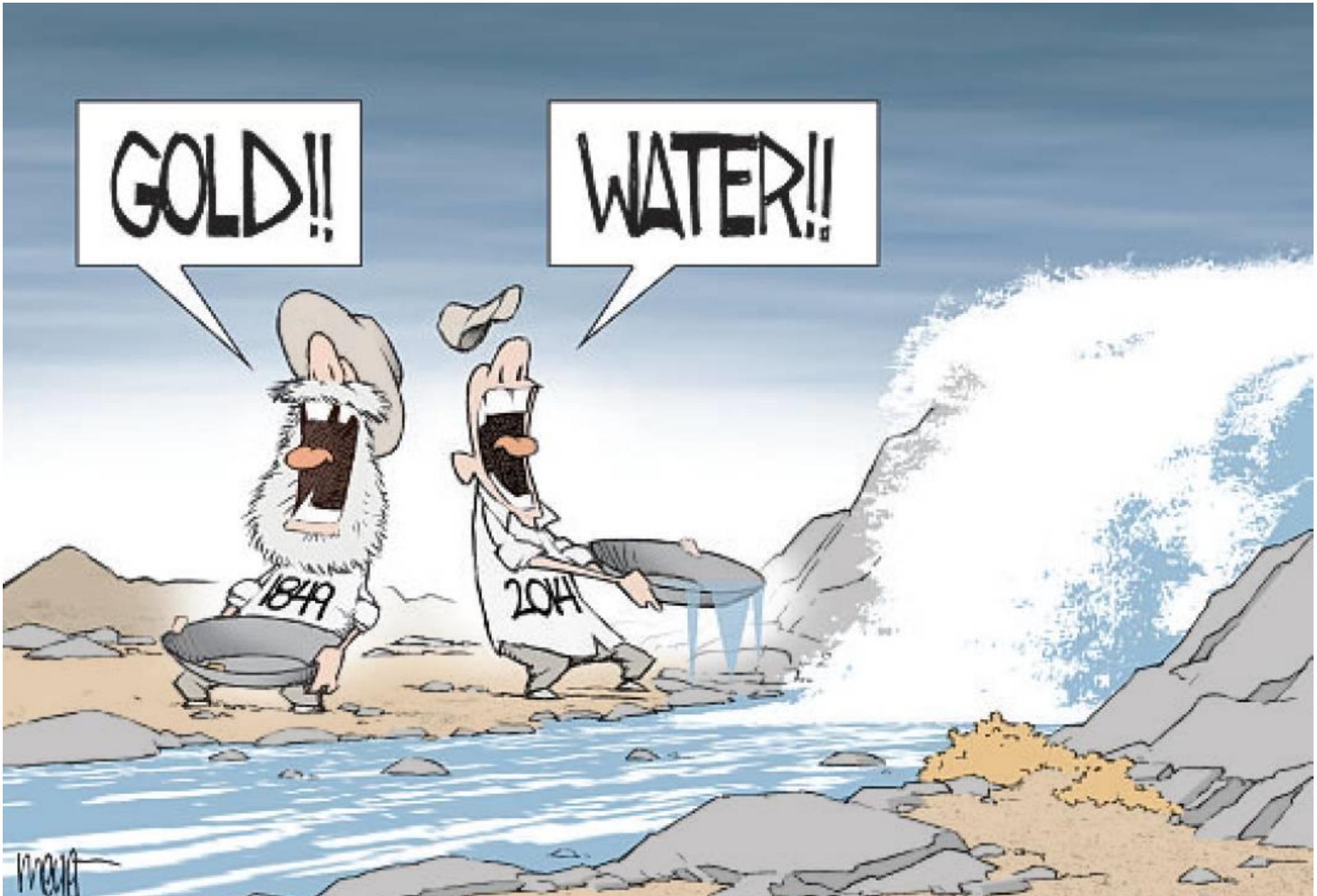
GOLD!!

WATER!!

1849

2011

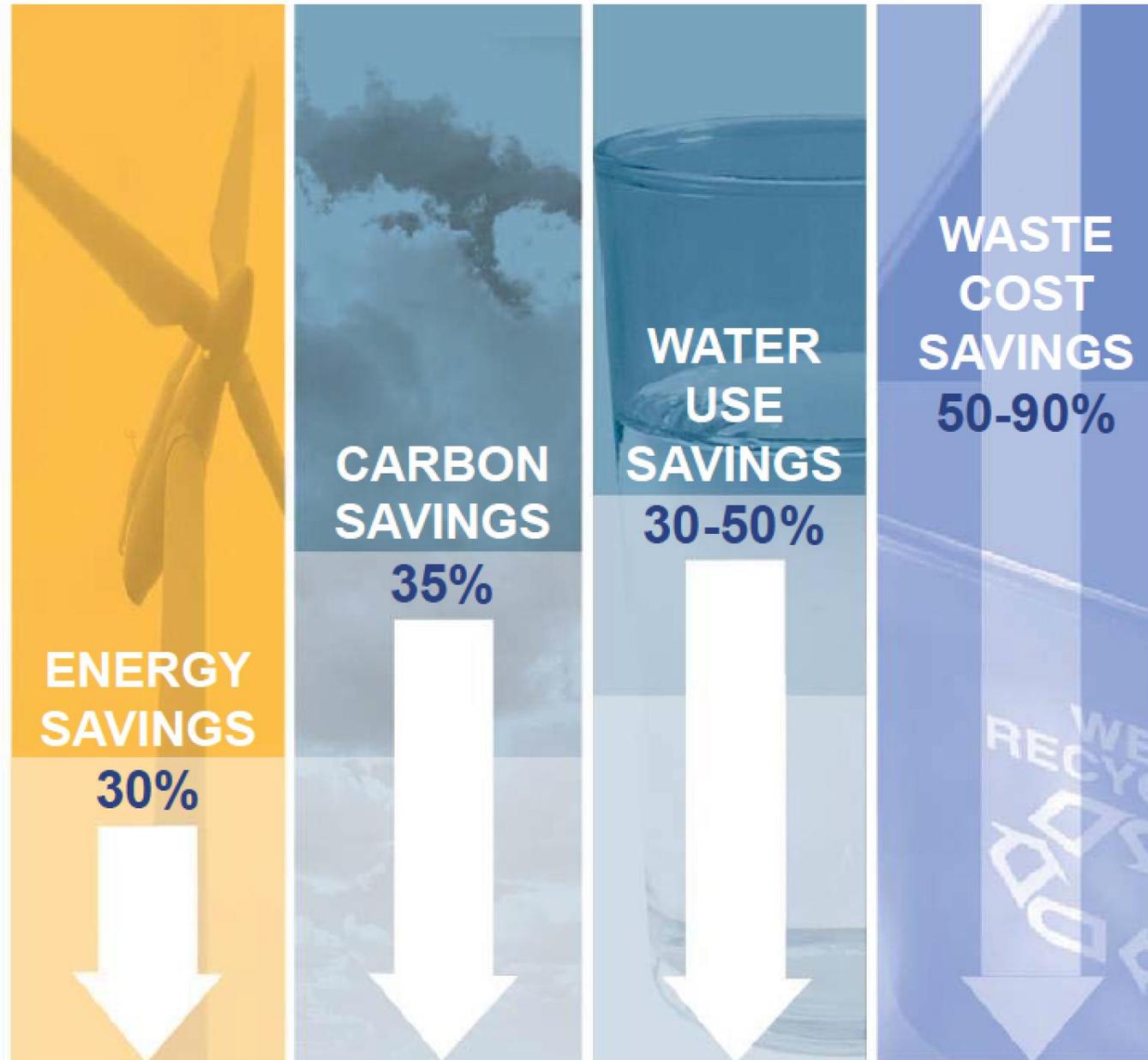
media



U.S. Building Impacts:



**Average
Savings of
Green
Buildings**



Source:
Capital E

**Results of the
California
Study:
Average
Bottom Line
Savings**

**GREEN IMPROVEMENTS PAY FOR
THEMSELVES IN **3** YEARS**

(ANNUAL RETURN ON INVESTMENT IS 25-40%)



The William and
Flora Hewlett
Foundation
Menlo Park CA
LEED Gold

**Increased
Productivity.**

SCHOOLS

**IMPROVED TEST
PERFORMANCE**

HOSPITALS

**EARLIER
DISCHARGE**

RETAIL

**INCREASE
IN SALES PER
SQUARE FOOT**

FACTORIES

**INCREASED
PRODUCTION**

OFFICES

**2-16%
PRODUCTIVITY
INCREASE**

**The Triple
Bottom
Line.**

**Reduced
Environmental
Impact.**

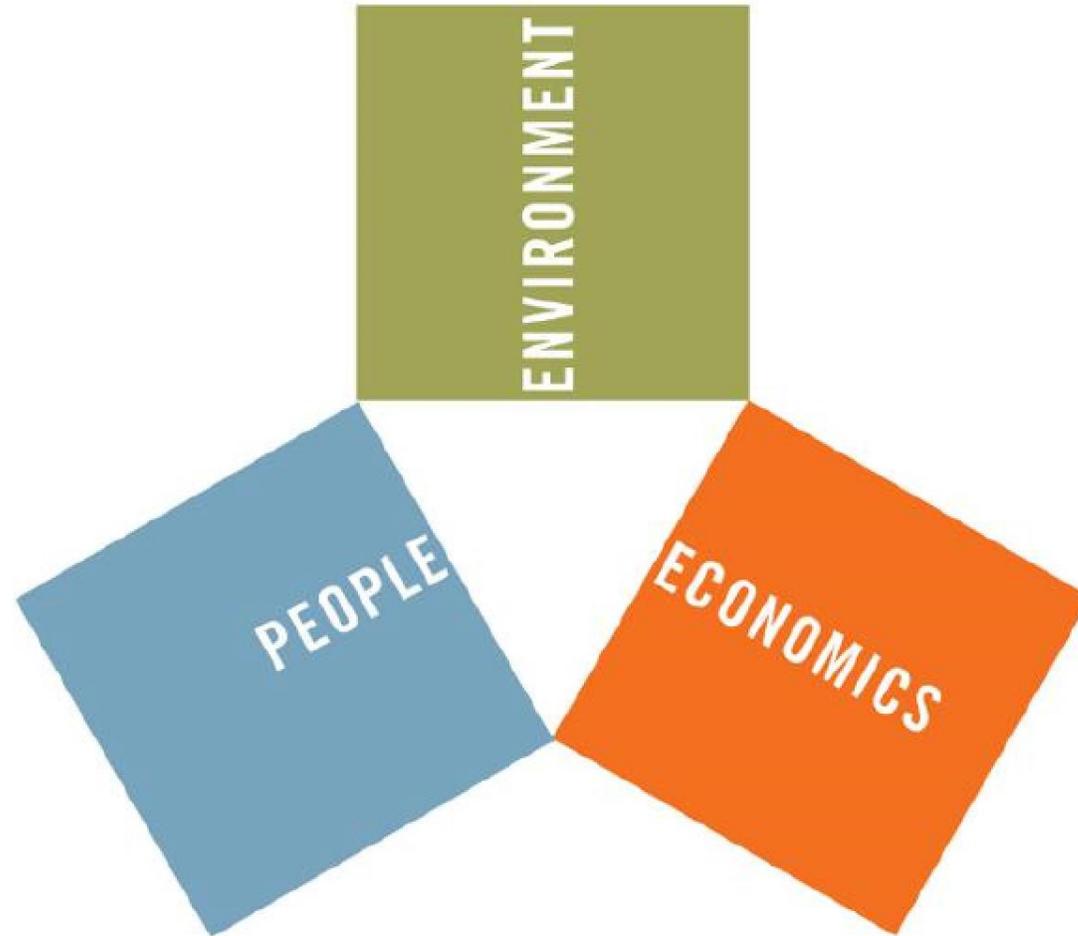
Peak Efficiency.

**Improved
Capitalization
Rates.**

**Increased
Marketability.
Higher Lease
Rates.**

**Improved
Productivity.
Reduced
Absenteeism.**

**Build Green.
Everyone
Profits.**



Primary Goals



Reduce contribution to **global climate change**



Enhance individual **human health**



Protect and restore **water resources**



Protect and enhance **biodiversity and ecosystem services**



Promote **sustainable and regenerative** material cycles



Build a **green economy**

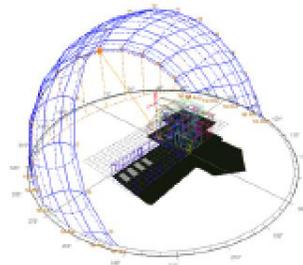
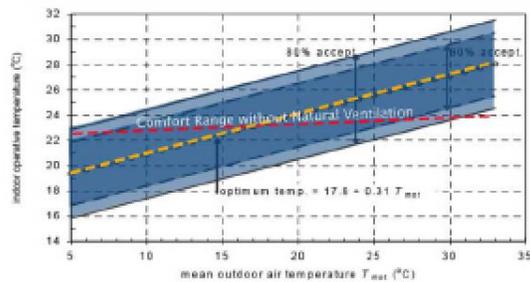
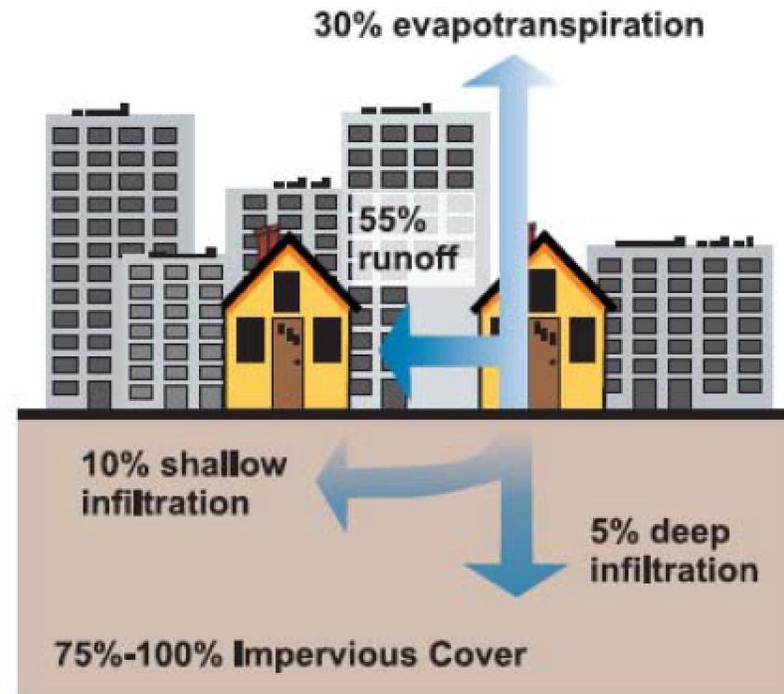
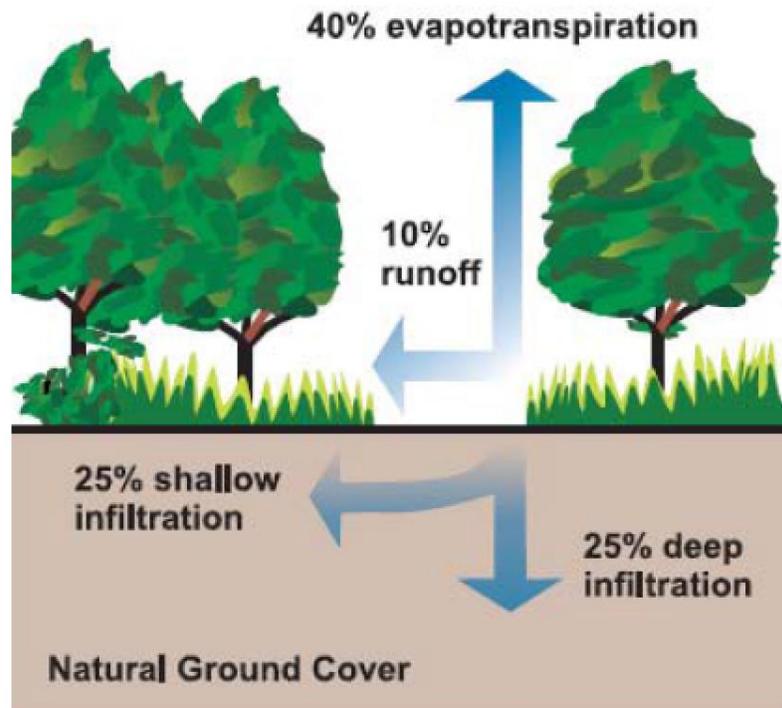


Enhance **community quality of life**

LEED – Leadership in Energy & Environmental Design

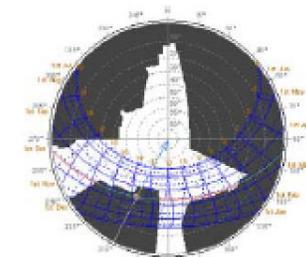


- Certification program that guides the design, construction, operations and maintenance.
- The most widely recognized green building program in the world
- 1.5 million sf/day certified in 135 countries
- >54,000 projects current LEED projects → 10.1 billion sf



Global Horizontal

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
2	0.90	0.80	0.70	0.60	0.50	0.40	0.30	0.20	0.10	0.00	0.00	0.00
3	0.80	0.70	0.60	0.50	0.40	0.30	0.20	0.10	0.00	0.00	0.00	0.00
4	0.70	0.60	0.50	0.40	0.30	0.20	0.10	0.00	0.00	0.00	0.00	0.00
5	0.60	0.50	0.40	0.30	0.20	0.10	0.00	0.00	0.00	0.00	0.00	0.00
6	0.50	0.40	0.30	0.20	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	0.40	0.30	0.20	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	0.30	0.20	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	0.20	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00



Emphasis on LOW IMPACT DEVELOPMENT

Additional Metering + Demand Response



SIDEBAR: 2013 California Energy Code
+/- 30% stricter than the current code
postponed to July 1, 2014

**HIGH
EFFICIENCY**

- HVAC
- Lighting
- Appliances
- Construction

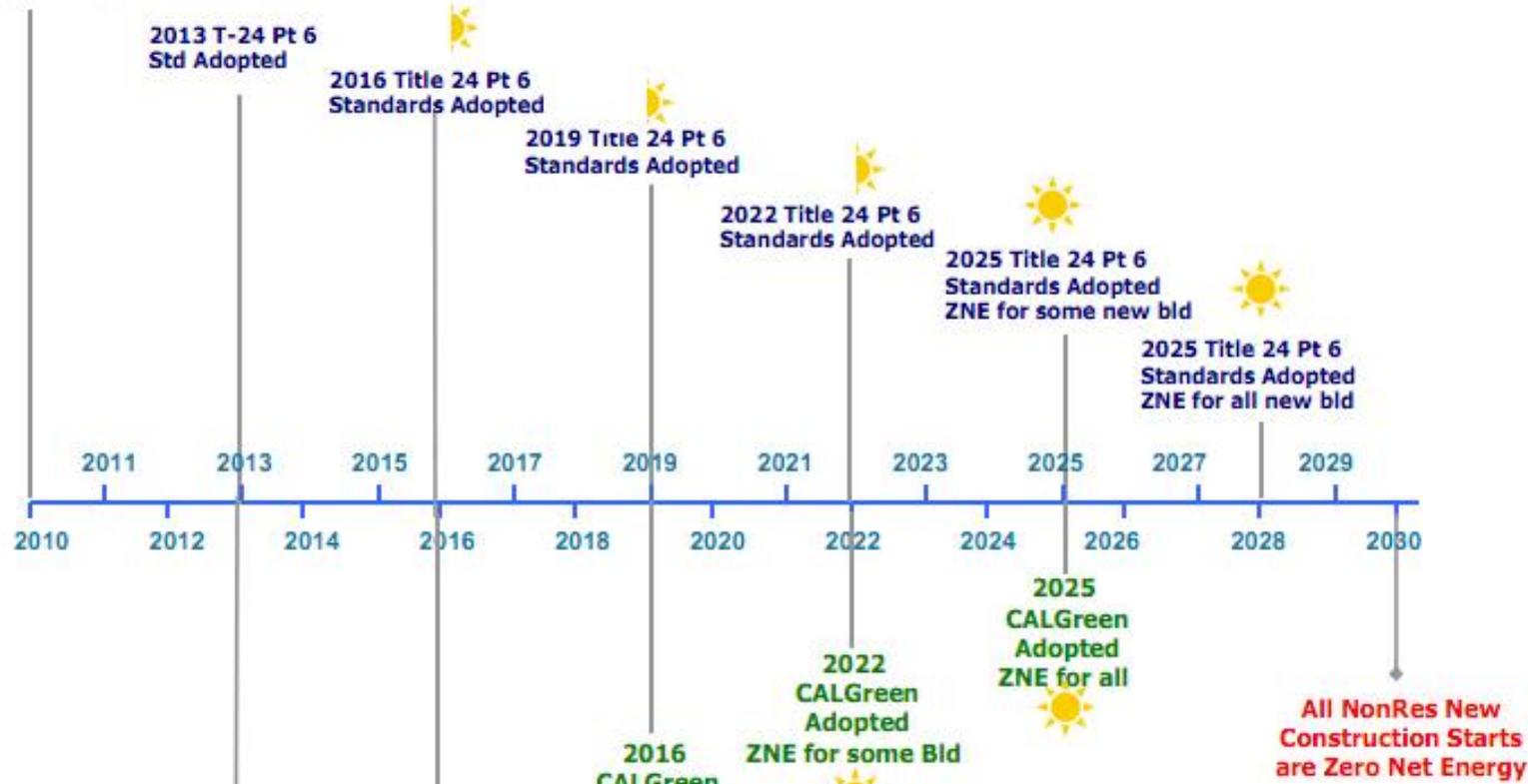
**Net Zero
Energy**

**SOLAR ELECTRIC
& SOLAR THERMAL**



Title 24 Path to Net Zero – Nonresidential Building Standards

2008 Title 24 part 6 Standards in Effect



Key:
T24 Part 6 – Energy Efficiency Standards
T24 Part 11 – Green Building Standards
CA Long-Term Strategic Plan Goals
☀ On-site renewables in base case



Commercial office

Leisure

Residential

Education

Distribution

Retail

Hotel

Industrial



EnvelopeFirst™
The first step to Net-Zero Energy Buildings. Insulation is the most improvement for the least cost.



Energy Efficiency Measures (EEMs)
Optimised building services and controls.



Insulate & Generate
EnvelopeFirst™ + EEMs + Integrated Renewable Technologies.



Net-Zero Energy Buildings
Highly energy efficient buildings that are energy neutral over the course of a year.





Solar PV Power Production Dashboards

SDCCD District Headquarters





SAN DIEGO COMMUNITY COLLEGE DISTRICT

CITY COLLEGE • MESA COLLEGE • MIRAMAR COLLEGE • CONTINUING EDUCATION



- District
- Trends
- Device Status
- City College
- Mesa College
- Miramar College

District Energy Performance



San Diego City College

	Today	Last 7 Day
ELECTRIC	3,368	43,017
GAS	2,860	28,092
SOLAR	1,160	12,640

SOLAR	-7
09	TONS OF CO2
02	CARS OFF THE ROAD
229	TREES NOT NEEDED

GAS & ELECTRIC	-7
? kW-hr/ft ² kW-hr	
Avg EUI: 1.56 kW-hr/ft ²	
30	TONS OF CO2
06	CARS ON THE ROAD
778	TREES NEEDED



San Diego Mesa College

	Today	Last 7 Day
ELECTRIC	4,527	65,667
GAS	420	3,620
SOLAR	2,397	16,701

SOLAR	-7
12	TONS OF CO2
02	CARS OFF THE ROAD
302	TREES NOT NEEDED

GAS & ELECTRIC	-7
? kW-hr/ft ² kW-hr	
Avg EUI: 2.61 kW-hr/ft ²	
46	TONS OF CO2
10	CARS ON THE ROAD
1,188	TREES NEEDED



San Diego Miramar College

	Today	Last 7 Day
ELECTRIC	4,674	62,403
GAS	00	00
SOLAR	3,039	21,868

SOLAR	-7
15	TONS OF CO2
03	CARS OFF THE ROAD
396	TREES NOT NEEDED

GAS & ELECTRIC	-7
? kW-hr/ft ² kW-hr	
Avg EUI: 2.61 kW-hr/ft ²	
44	TONS OF CO2
09	CARS ON THE ROAD
1,129	TREES NEEDED

SDCCD
Current 30 Day

City Mesa Miramar

Electric Energy
790,989.3 kWh

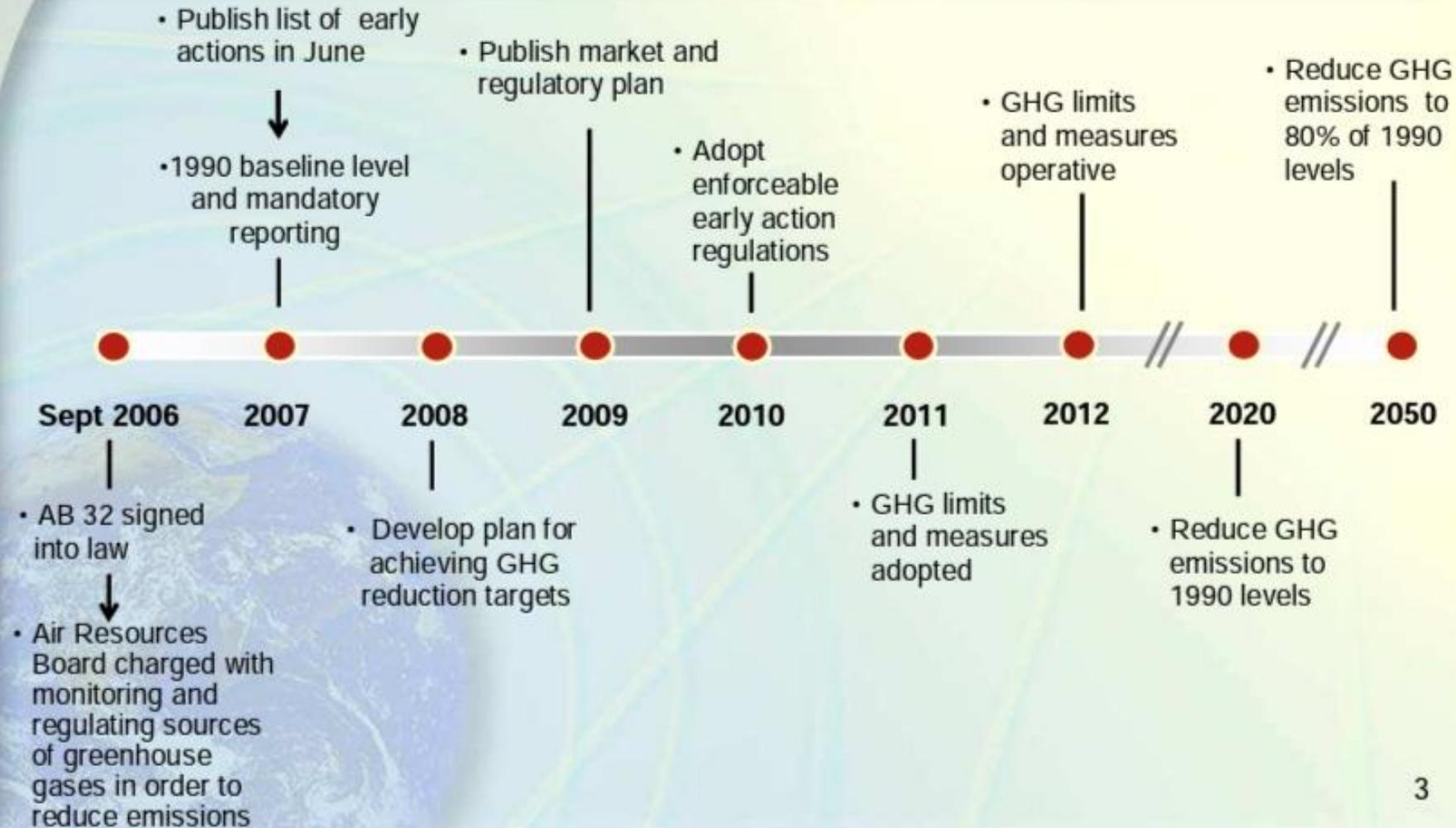
Demand
1,993.2 kW

Gas Energy
152,310.0 mmbtu

Solar Production
256,662.6 kWh

Overview of AB 32

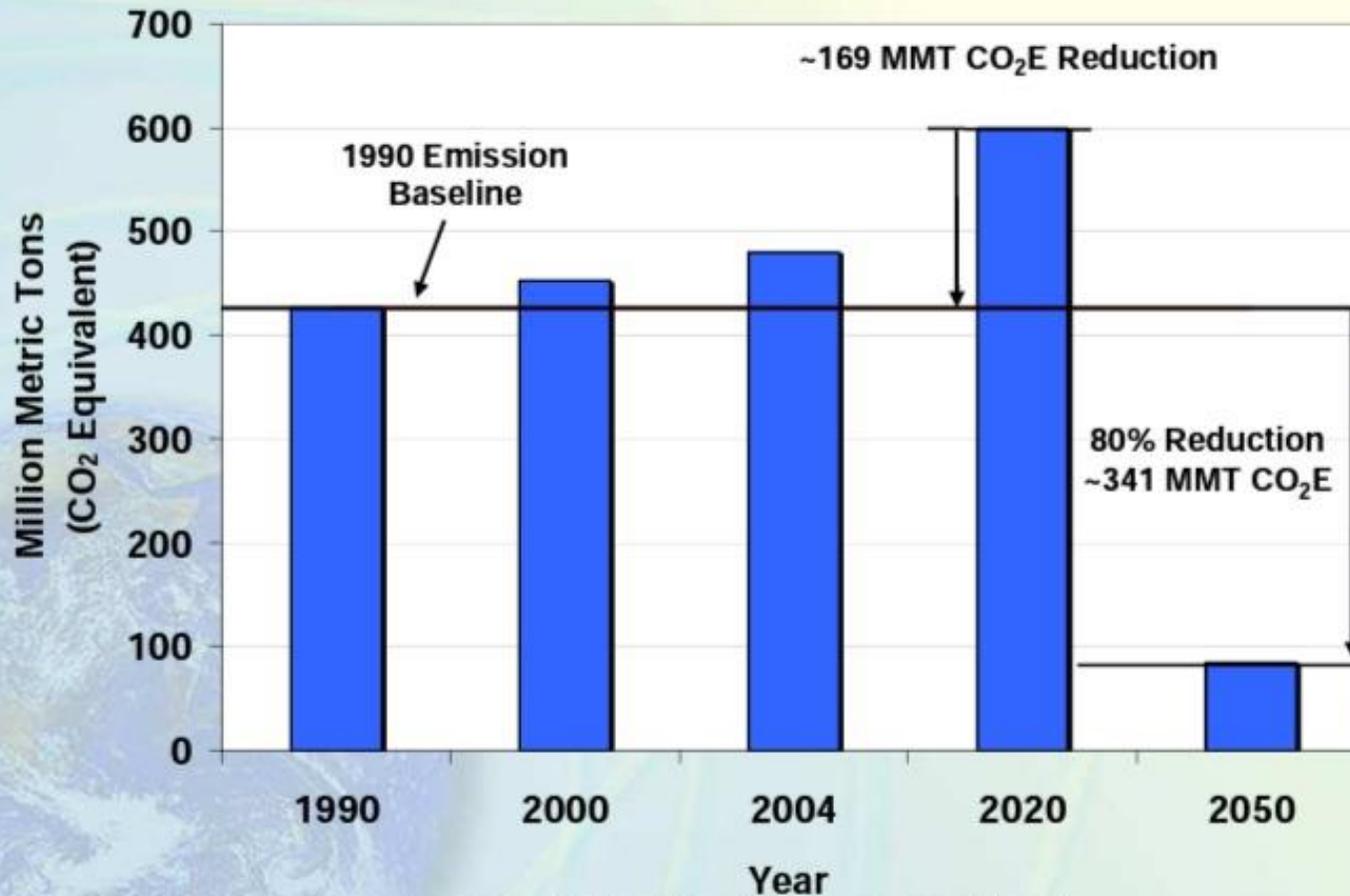
California Global Warming Solutions Act



Magnitude of the Challenge

California's GHG Reduction Targets

ARB Emissions Inventory



Source: California Air Resources Board

Green Building Strategy

Solution for Cross-Sector GHG Reductions

- Green Building Achieves GHG Emission Reductions from Multiple Sectors
 - Transportation, Energy, Waste, and Water Sectors
- Offers Increased Public Health Benefits
 - Due to Improved Indoor Air Quality
- Scoping Plan Goals to Reduce GHG Emissions
 - New Construction
 - Green Building Standards Code
 - Beyond Code: Local Government Goals to Exceed Standards
 - Existing Building Retrofits
- Represents 15% of the AB 32 2020 Target

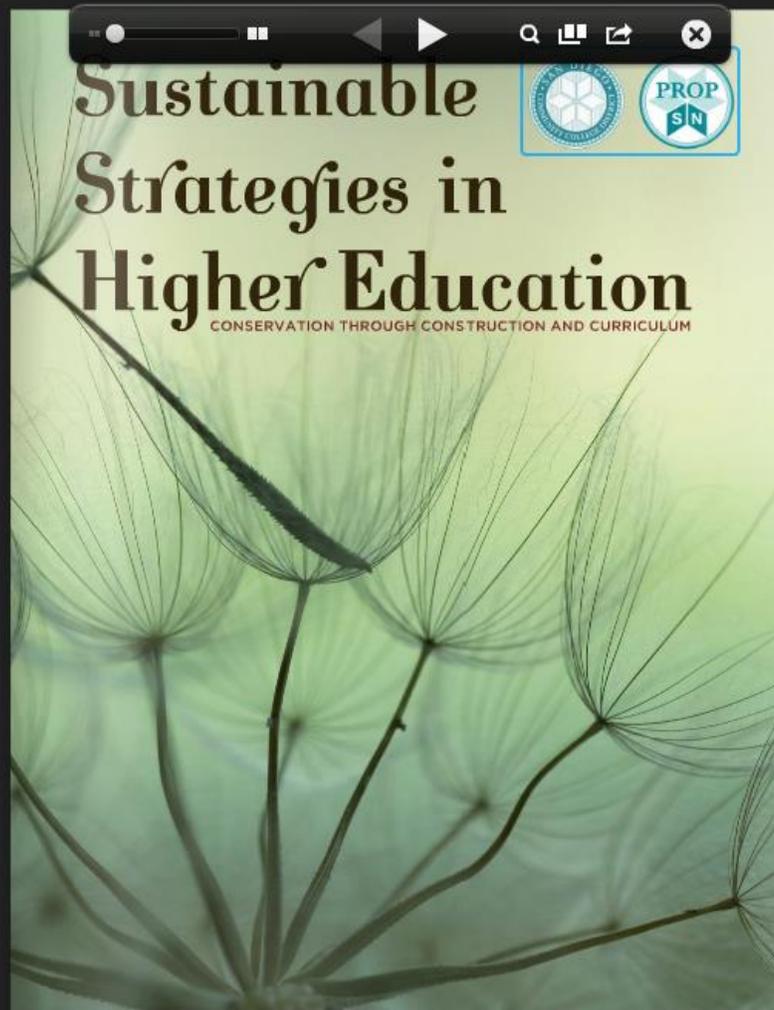
Sustainability Plan Outline

- Reduce, Reuse, Recycle
- Smart Metering
- Increased Energy Efficiency
- Reduced Water Usage
- Reduced Storm Water Impacts
- Production of Renewable Energy (Solar)
- Greenhouse Gas Reduction

Moorpark College

Your Opportunity for Input





issuu

<http://issuu.com/sdccd/docs/sustainabilityreport?e=6723145/3387280>