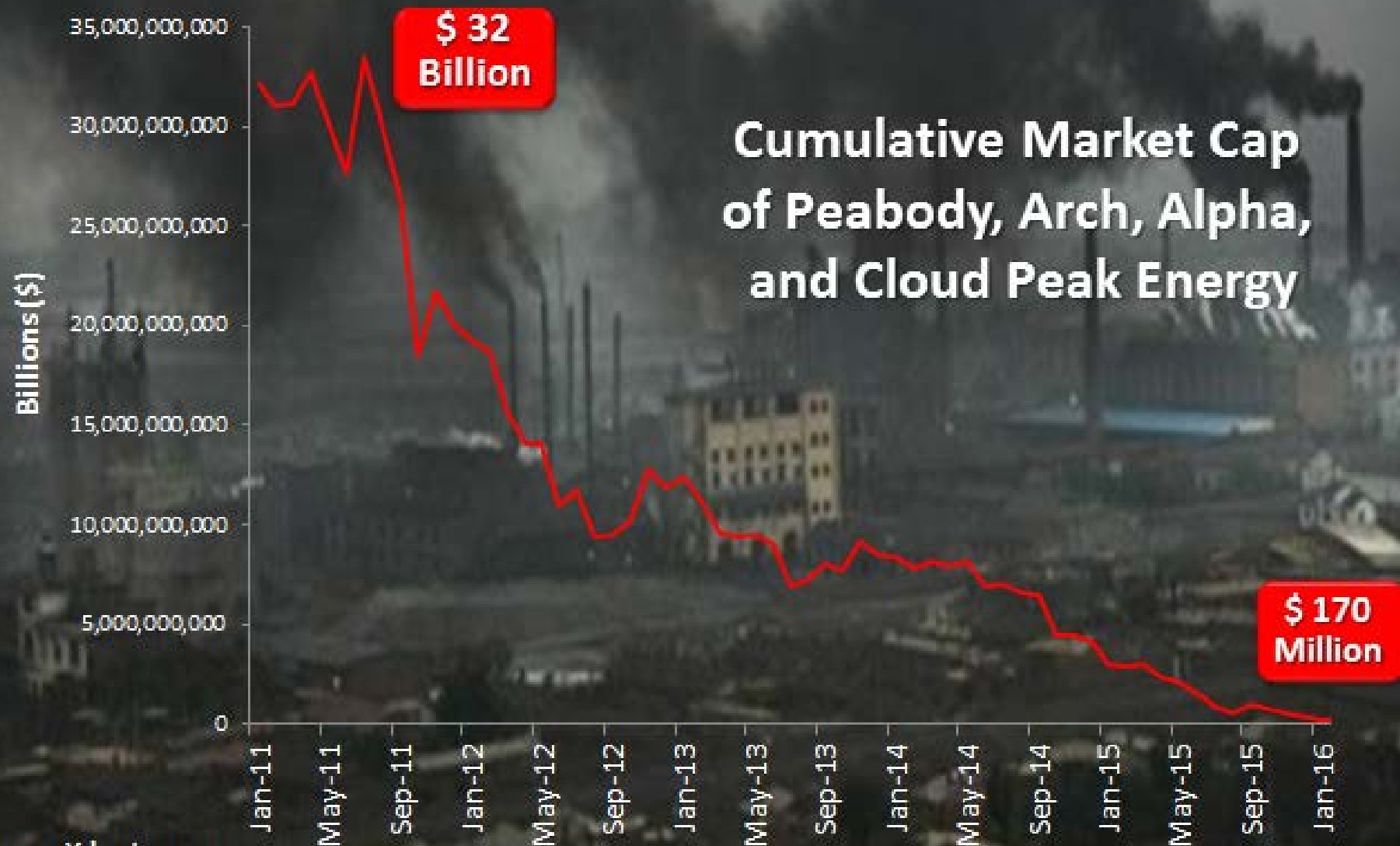


SUNRISE FROM THE WEST: THE DAWN OF THE CLEAN ENERGY ERA

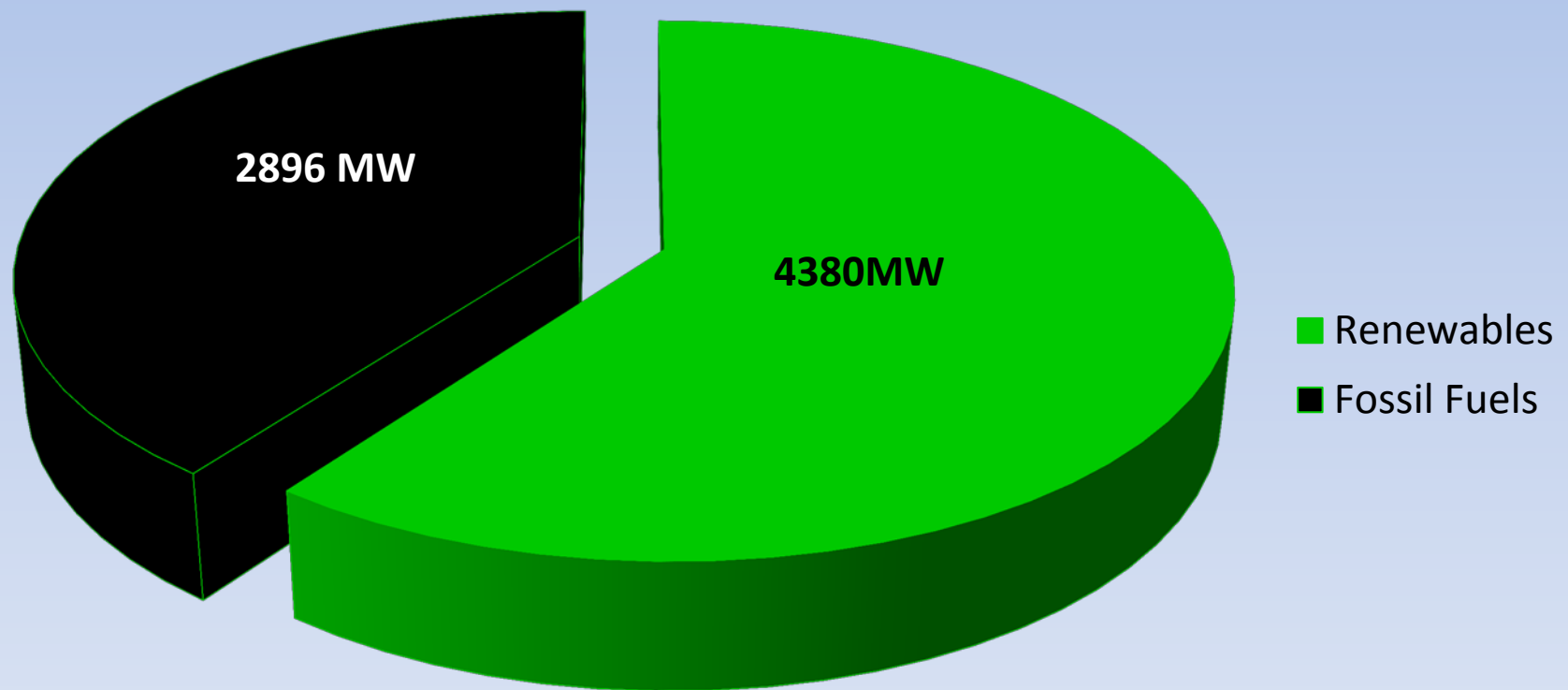


David Hochschild
Commissioner
California Energy Commission

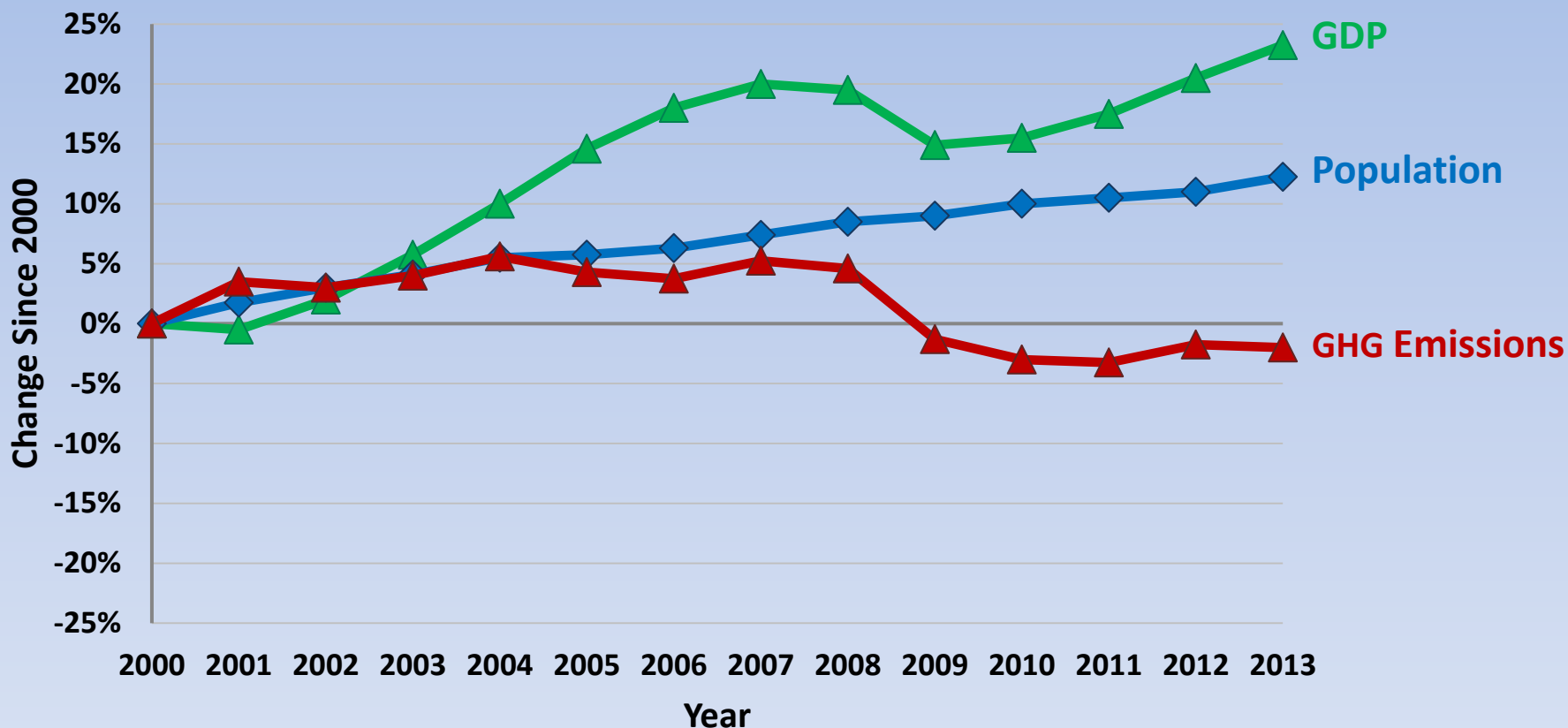
Value of Top 4 US Coal Companies Has Declined 99% Since 2011



Renewable Energy Represented 60% of New Electric Generation Capacity Additions in the US in 2015



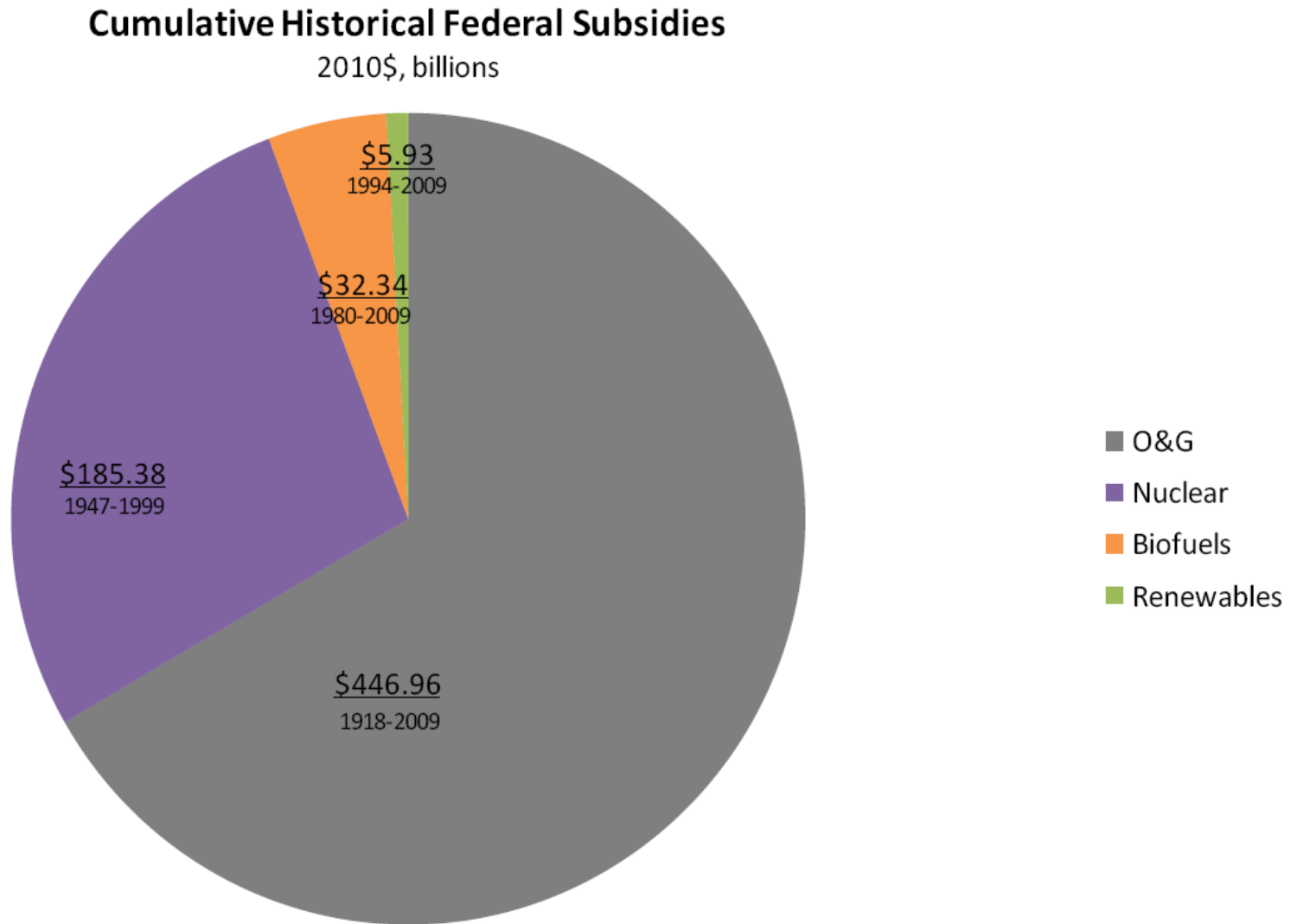
Change in California GDP, Population and GHG Emissions since 2000



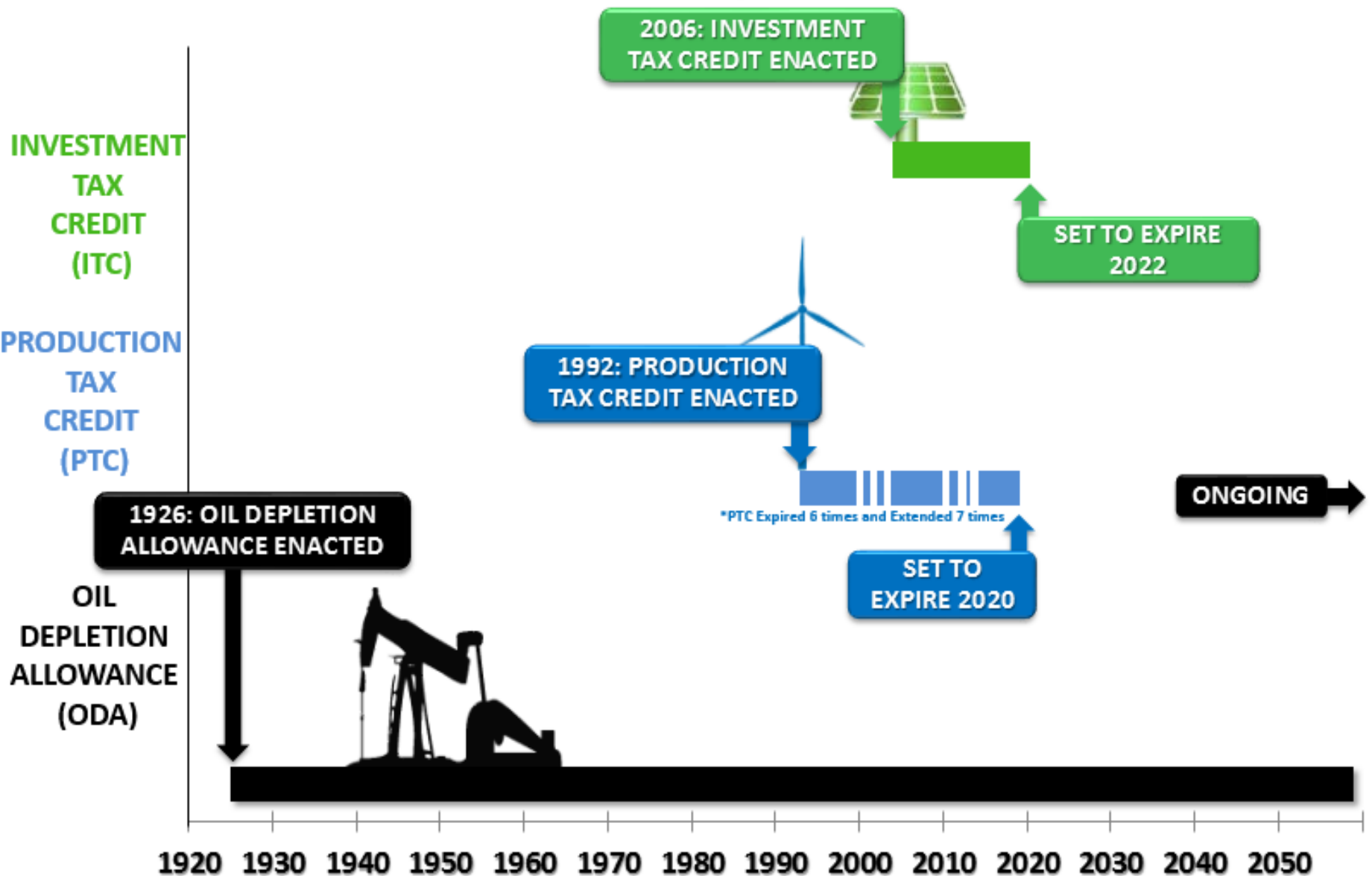
<u>Metric</u>	<u>Associated 2013 Value</u>
GDP	2.05 trillion (2009 \$)
Population	38.2 million
GHG Emissions	459.3 MMTCO ₂ e

**Source: CA Air Resources Board*

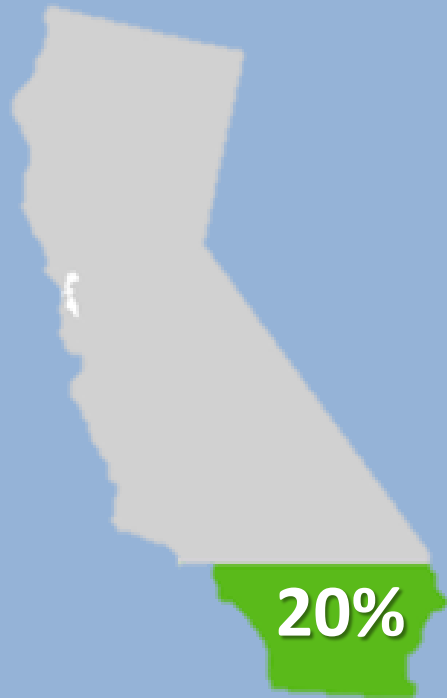
Federal Subsidies Have Favored Fossil Fuels



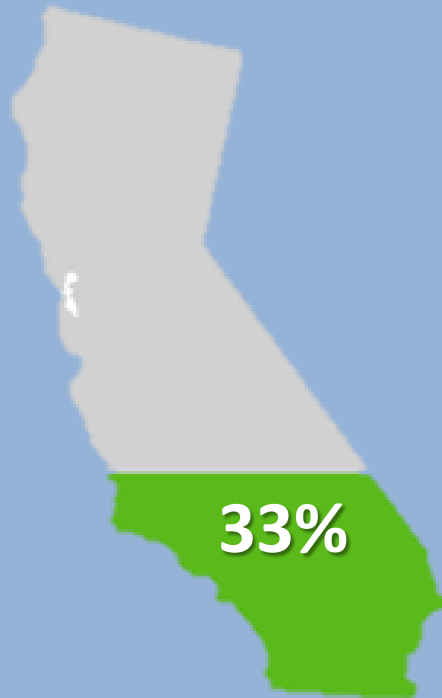
Federal Energy Subsidies



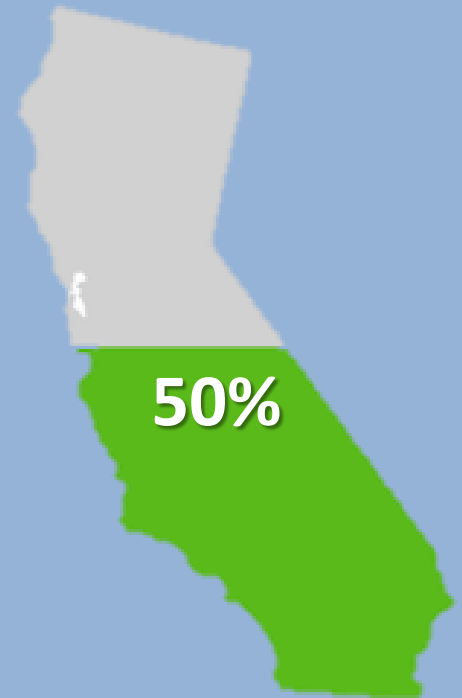
California Moves to 50% Renewables



2013



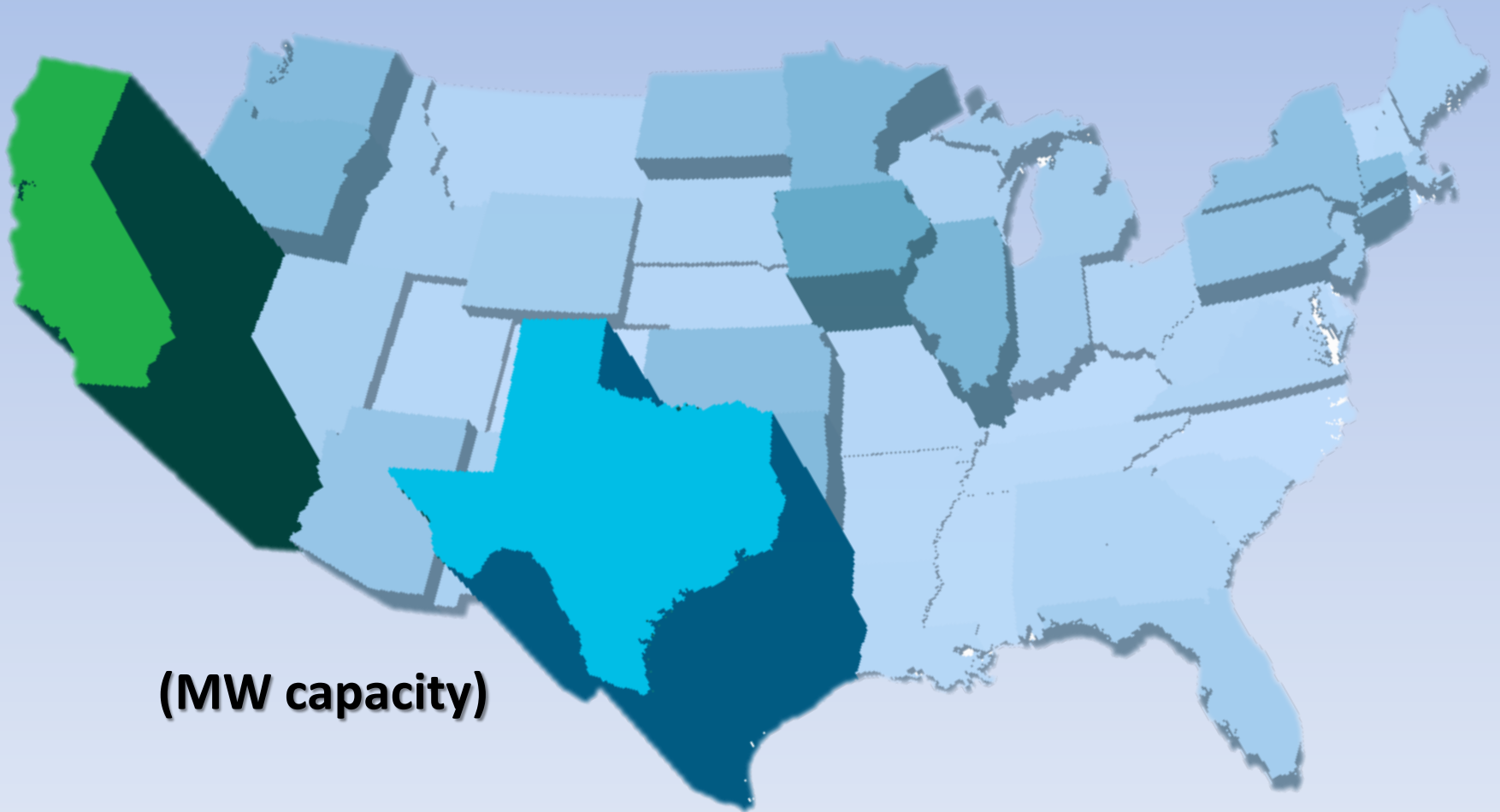
2020



2030

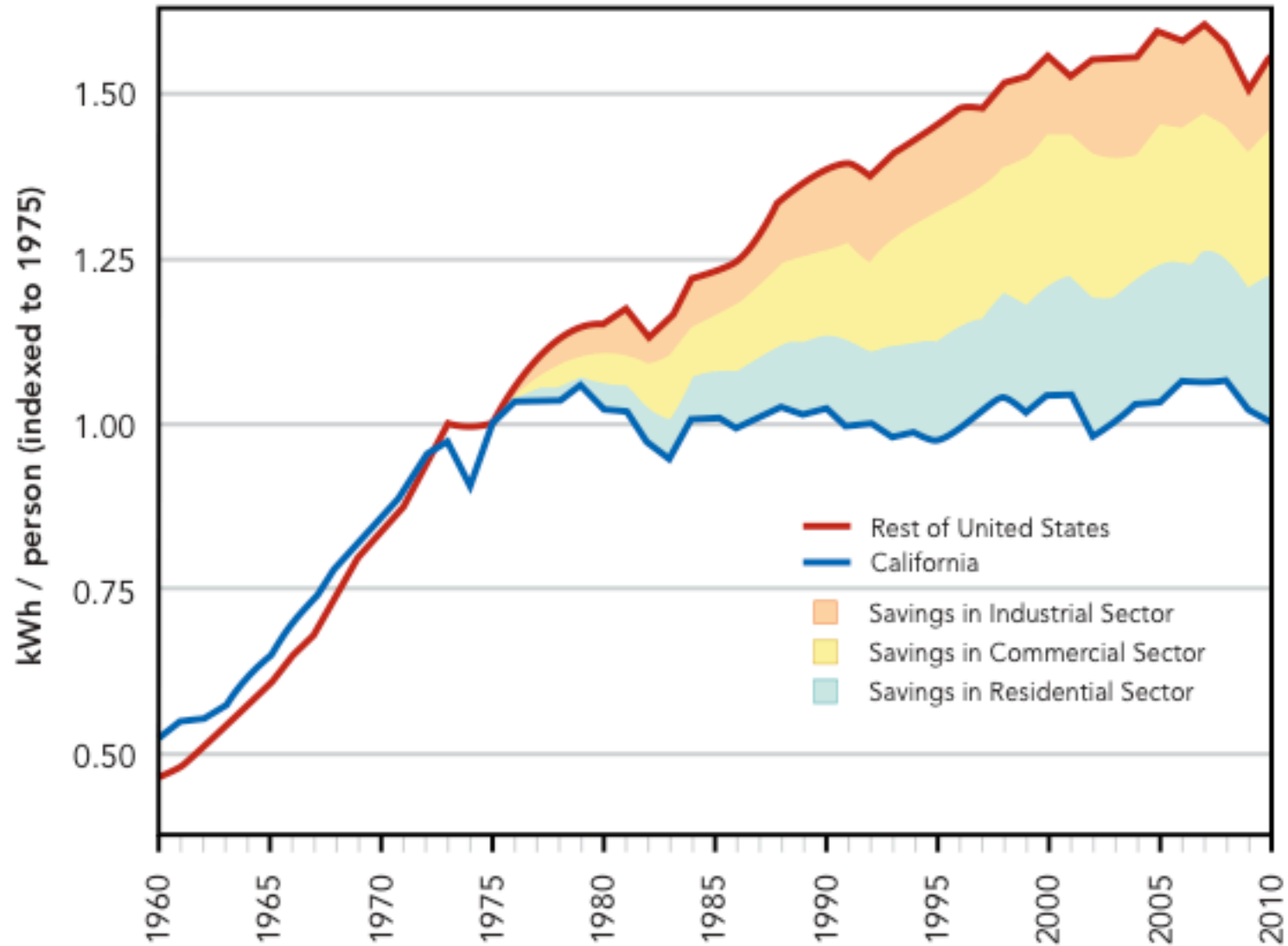
California Leads the US in Renewables Installed.

What Happens in a State With High Penetration of Renewables & Efficiency?



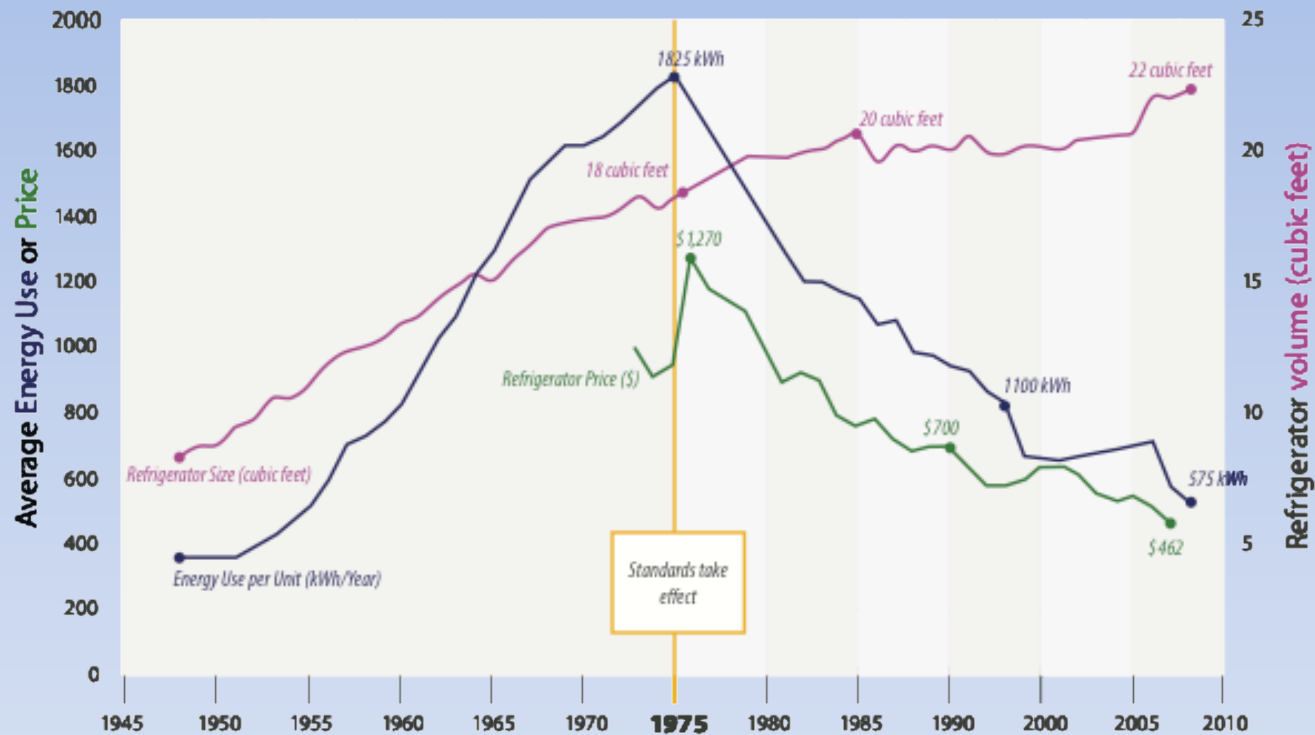
(MW capacity)

California Advancing Energy Efficiency



California Advancing Energy Efficiency

New Refrigerator Use v. Time and Retail Prices





2009: The Energy Commission's
TV efficiency standards
take effect, saving Californians
\$1 billion / year

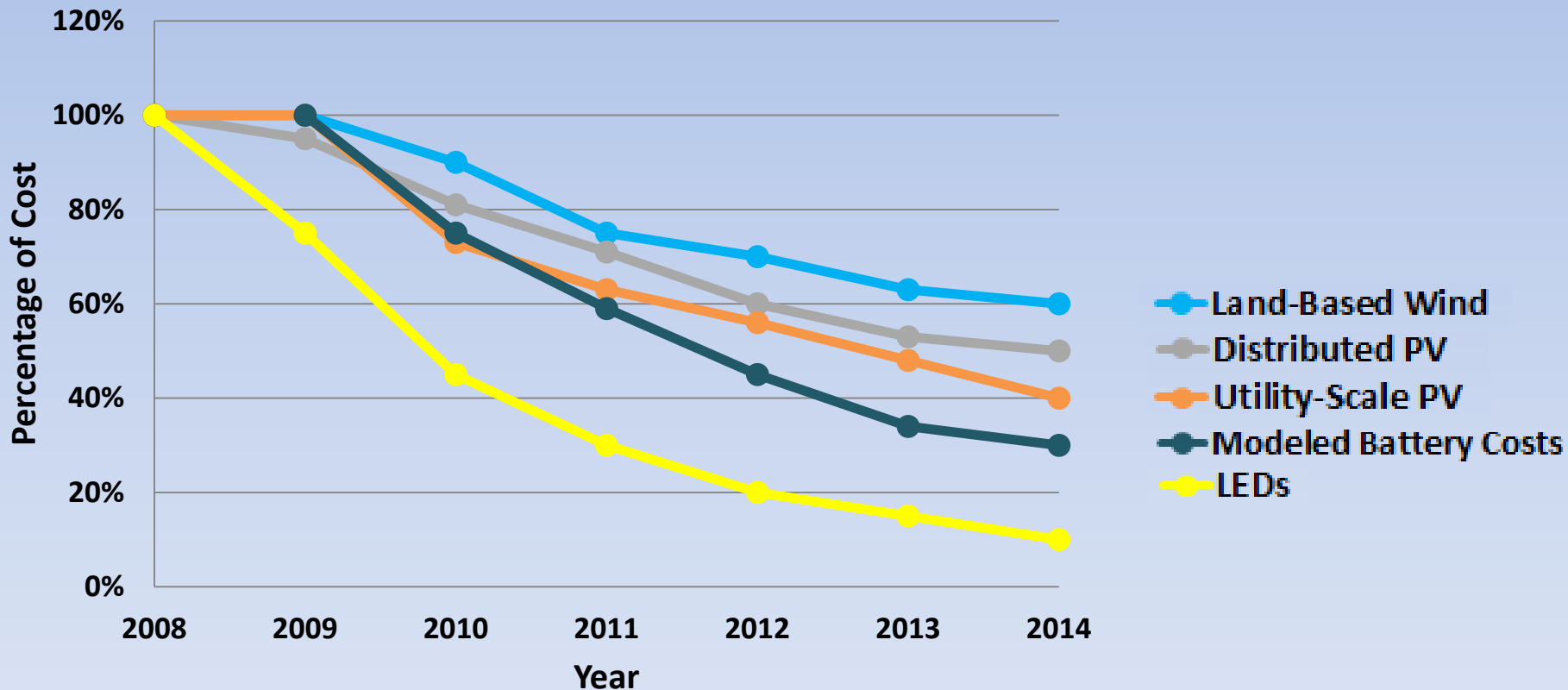


2012: The Commission's
plug-in charger
efficiency standards begin
saving Californians **\$300M / year**



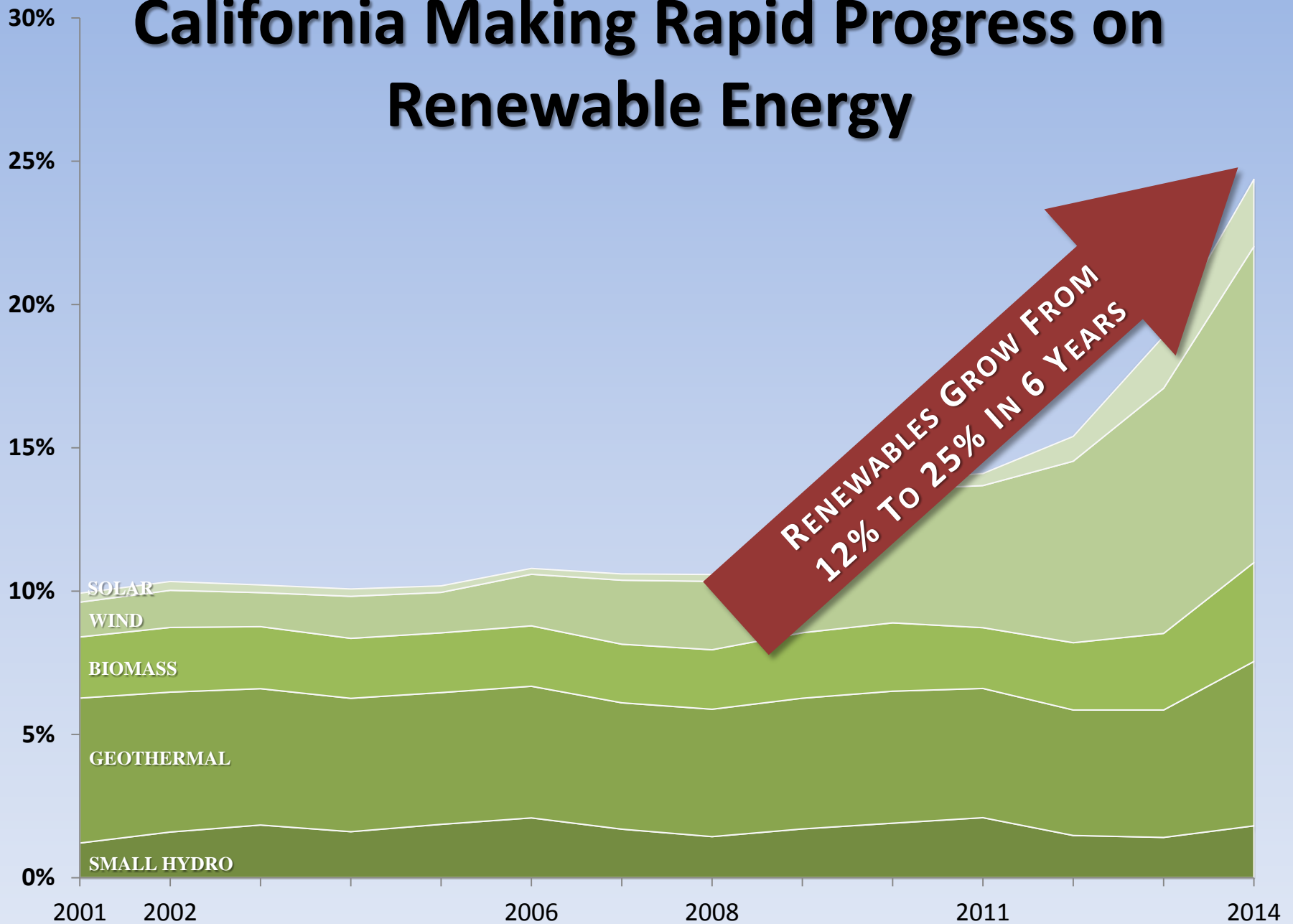
The Falling Cost of Clean Energy Technologies

Indexed Cost Reductions Since 2008



Source: DOE Report, Revolution Now,
The Future Arrives for Five Clean
Energy Technologies, 2015

California Making Rapid Progress on Renewable Energy



The World's Largest Thin Film Solar PV Project

An aerial photograph of the Desert Sunlight Solar Project in Riverside County, California. The image shows a massive, rectangular array of blue thin-film solar panels laid out in a grid pattern across a flat, arid desert landscape. The panels are separated by thin white lines, and the entire array is surrounded by dry, sandy terrain with some sparse vegetation and distant hills.

**Desert Sunlight Solar
Project
550 MW
Riverside County, CA**

The World's 3rd Largest Silicon PV Project

An aerial photograph of the Solar Star Project in Kern County, California. The image shows several large, rectangular solar panel arrays arranged in a grid pattern across a vast, arid desert landscape. The panels are dark blue or black, contrasting with the light brown, sandy ground. In the background, there are some smaller structures and more solar panels, along with a few wind turbines visible on the horizon. The overall scene is a vast, open desert with some sparse vegetation and a few small buildings or structures scattered throughout.

Solar Star Project
579 MW
Kern County, CA

The World's Largest Silicon PV Project: 1.2 GW

Qing Hai Province, Western China



The World's Largest Solar Thermal Power Plant (Tower)

Ivanpah Solar Thermal Project
393 MW
San Bernardino County, CA



The World's Largest Solar Thermal Power Plant (Trough)

Solar Energy Generating System (SEGS)

354 MW

San Bernardino County, CA



The World's Largest Geothermal Power Plant

Geysers Geothermal Power Plant
955 MW
Lake County, CA



The World's Largest Wind Project

Alta Wind Energy Center
1550 MW
Kern County, CA



California Leads the Nation in Biomass Energy Generation

An aerial photograph of the Honey Lake Biomass Plant. The facility is situated in a vast, arid, brown landscape. A long, white conveyor belt system, supported by metal scaffolding, extends from a large, angled hopper on the left towards a complex processing structure on the right. The hopper is tilted upwards. In the background, a range of dark, rugged mountains is visible under a clear blue sky. The ground around the plant is dry and dusty, with some small mounds of material. A large, light-colored cylindrical tank is visible in the lower-left corner.

Honey Lake Biomass Plant
Lassen County, CA

New Solar Home Construction Growing Rapidly

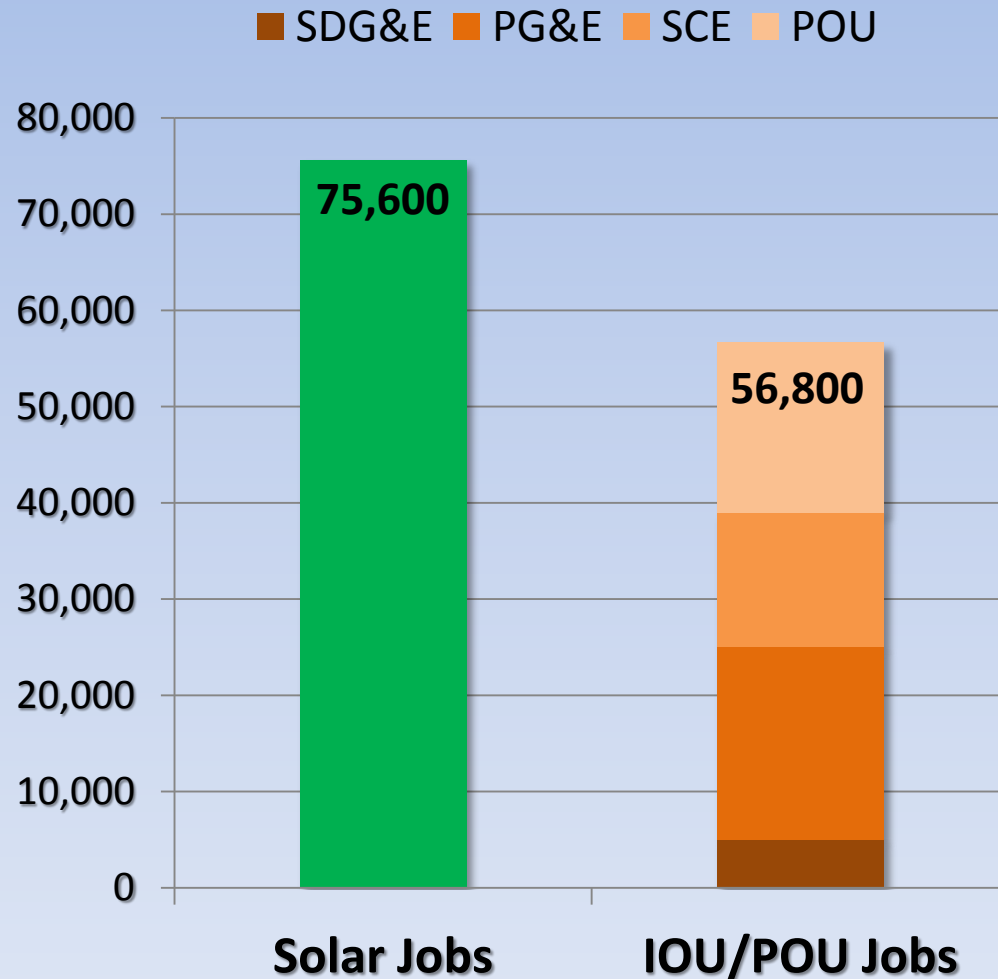


**Zero Energy Community
Rocklin, CA**

27% of new homes in
Southern CA
built with solar



More Californians Work in the Solar Industry Than for All Utilities Combined



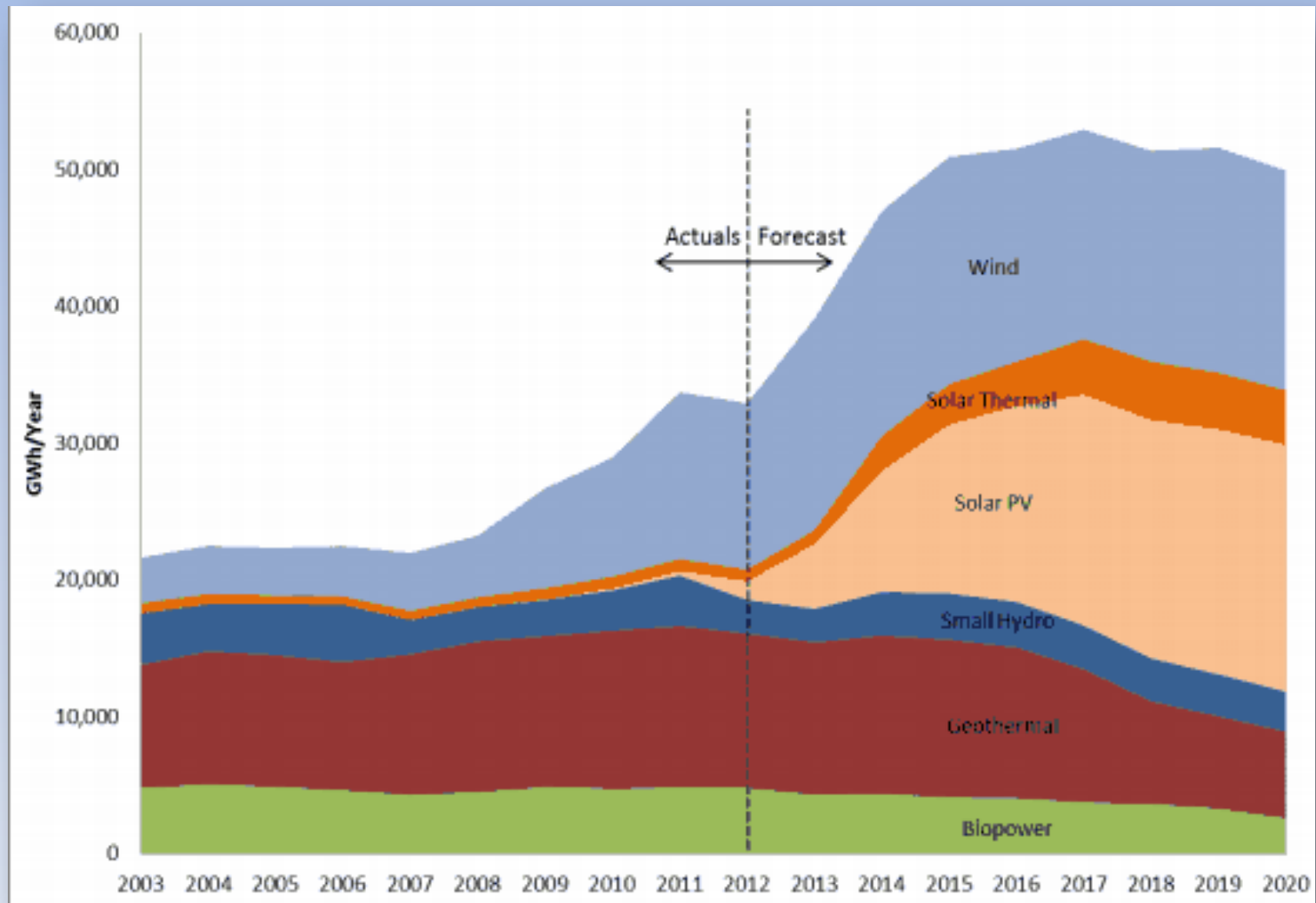
Sources:

Solar Foundation, 2015 Solar Jobs Census

U.S. Securities and Exchange Commission, Form 10-K, 2014

<http://www.sec.gov/edgar/searchedgar/companysearch.html>

Solar Expected to be half of all Renewable Energy in California by 2020



**Lancaster, CA: The first city in
the US to mandate solar
on new construction**



A photograph of a modern, two-story house with large windows and a tiled roof. In the foreground, a white signpost holds a large white sign with the word 'FORECLOSURE' in bold red letters. Below it, a red sign is partially visible. The scene is set outdoors with some greenery and a clear blue sky.

**“Default risks are 32% lower
in energy efficient homes”**

Source: *Home Energy Efficiency and Mortgage Risks Research Report*
Institute for Market Transformation, March 2013

Largest Manufacturing Plant in CA Produces Electric Vehicles

Tesla employs over
12,000 people



Tesla Factory
Fremont, CA



**150,000
ELECTRIC VEHICLES
IN CALIFORNIA
TODAY**

Innovation in Electric Vehicles: 100 mile range, recharges in 20 minutes



Proterra Battery Electric Bus

Chevy Bolt (EV) Due Oct 2016

Retail Price: \$30,000

Range: 200 miles





Electric bike



Electric motorcycle

Companies Committing to 100% Renewable Energy

Google



The Latest Solar Customer: Solar Panels on the White House Roof



Governor Brown installs solar on the Governor's Mansion....



High Speed Rail is Coming to California and it will be 100% Powered by Renewables...



Smoking in the US



According to repeated nationwide surveys,

More Doctors Smoke **CAMELS** than any other cigarette!

Doctors in every branch of medicine were asked, "What cigarette do you smoke?" The brand named most was Camel!

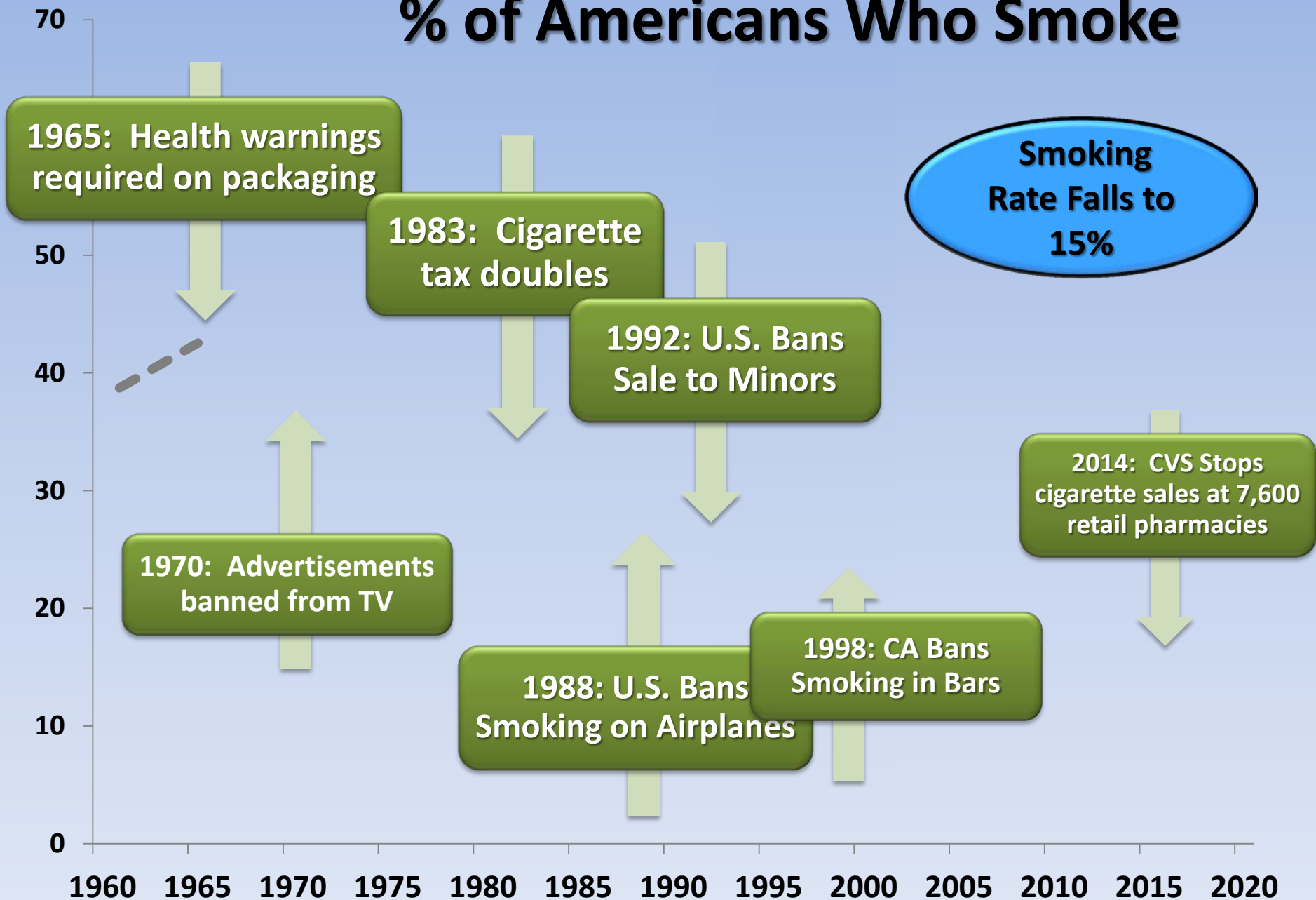
You'll enjoy Camels for the same reasons so many doctors enjoy them. Camels have cool, cool *mildness*, pack after pack, and a flavor unmatched by any other cigarette. Make this sensible test. Smoke only Camels for 30 days and see how well Camels please your taste, how well they suit your throat as your steady smoke. You'll see how enjoyable a cigarette can be!

THE DOCTORS' CHOICE IS AMERICA'S CHOICE!

For 30 days, test Camels in your "T-Zone" ("T" for Throat, "T" for Taste).



% of Americans Who Smoke



Source: Centers for Disease Control and Prevention (CDC), 2014

http://www.cdc.gov/tobacco/data_statistics/tables/trends/cig_smoking/index.htm