

Ratepayers for Affordable Clean Energy

RACE Coalition

Amazon Watch

Border Power Plant Working Group

California Alternative Energies Corporation

Californians for Renewable Energy - CARE

Central Coast Alliance United for a Sustainable Economy

Center for Biological Diversity

Citizens Against LNG

Coalition for a Safe Environment

Energy Options

Environment California

Environmental Protection Information Center (EPIC)

Friends of Living Oregon Waters (FLOW)

Green Guerrillas Against Greenwash

Greenpeace

Local Power

Long Beach Citizens for Utility Reform

Marin Clean Alternative Energy Now

Northcoast Environmental Center

Pacific Environment

Public Citizen

Rivervision

Saviors Road Design Team

Vallejo Community Planned Renewal (VCPR)

Ventura LNG Task Force

Wildcoast

Women's Energy Matters

Presentation by Robert Freehling & Rory Cox

Ratepayers for Affordable Clean Energy, c/o Pacific Environment

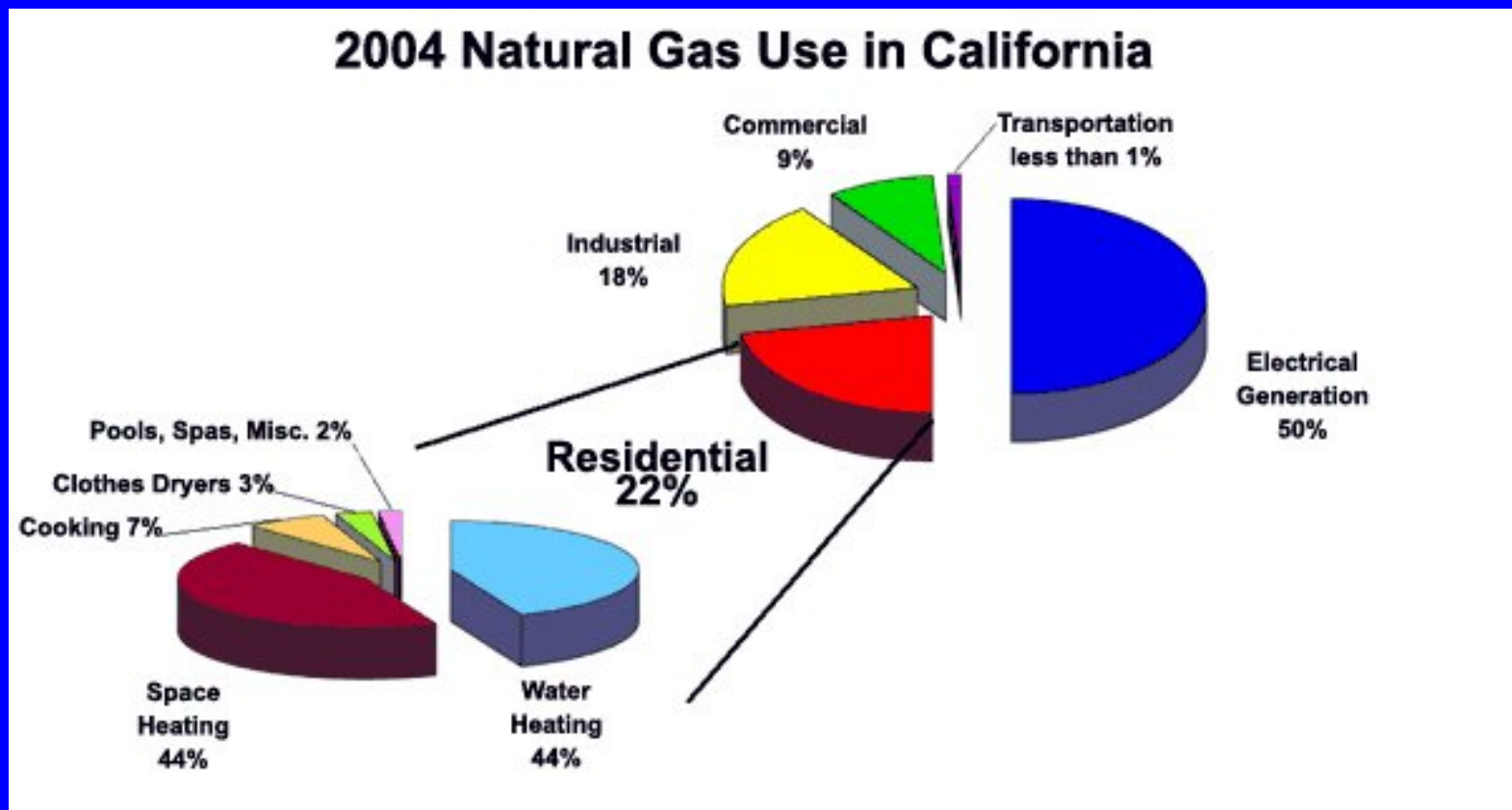
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RACE is recognized in the State of California as a 501-c-4 corporation.

45% to 50% of the state's Natural Gas is used to generate electricity.



Natural gas is a major emitter of greenhouse gases:

CO₂

Methane

**N
O
x**

CO₂

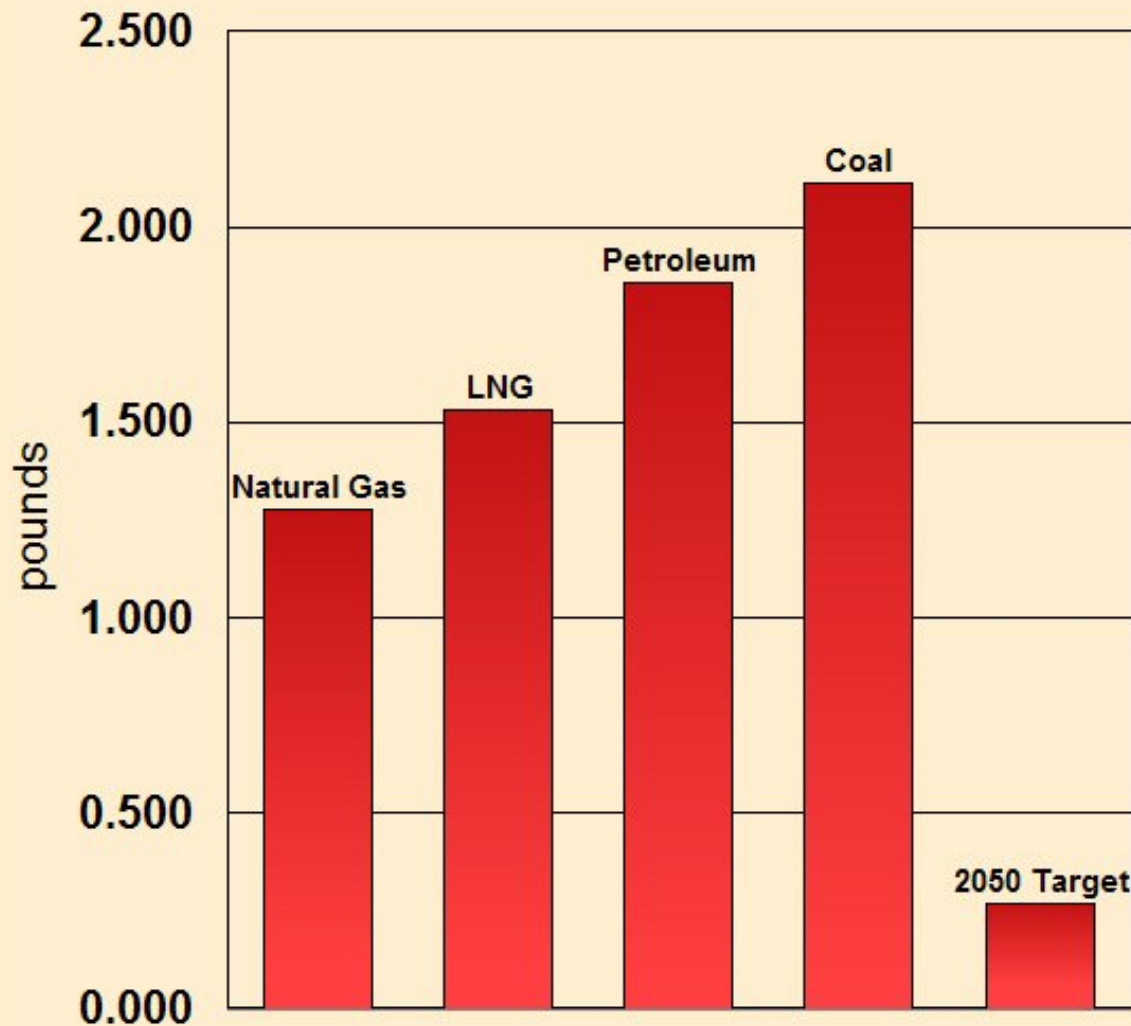
CO₂



CO₂

Fossil fuel = Greenhouse Gas Problem

Bad to Worse: US Electric Sector pounds CO2/kwh generated



Primary Data: Department of Energy and Environmental Protection Agency

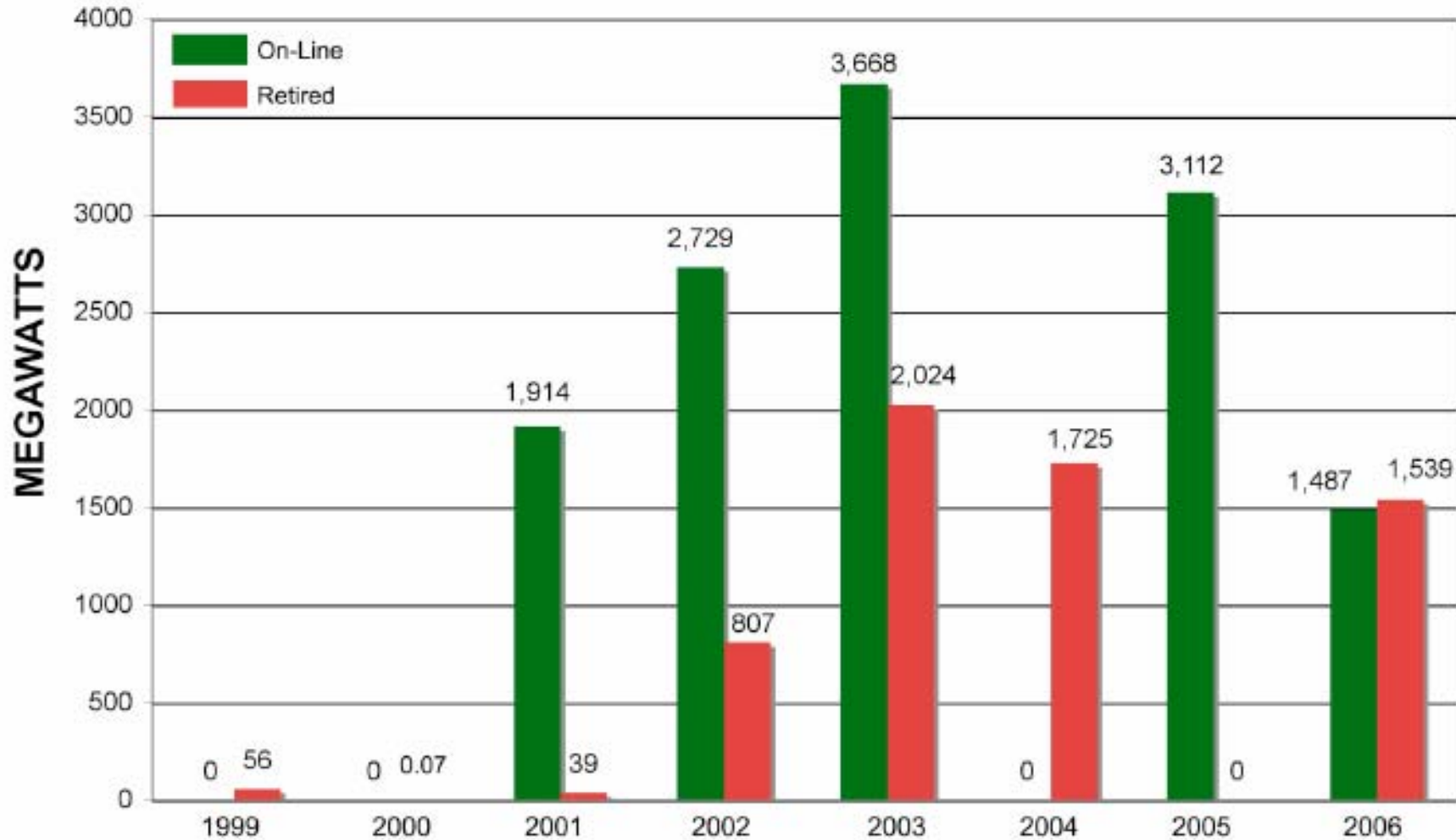
Even Natural Gas emits
5 times more CO2 than
80% reduction target

LNG makes it
worse

California's Natural Gas Power Plants

- **34,000 Megawatts of Natural Gas Generation, far more than any other type**
 - **16,000 Megawatts NEW Natural Gas power plants built in the state since 1999**
- = HALF of NG Generation is New.**

New California Power Plants On-Line and Old Plants Retired (1999 to 2006 by Year)

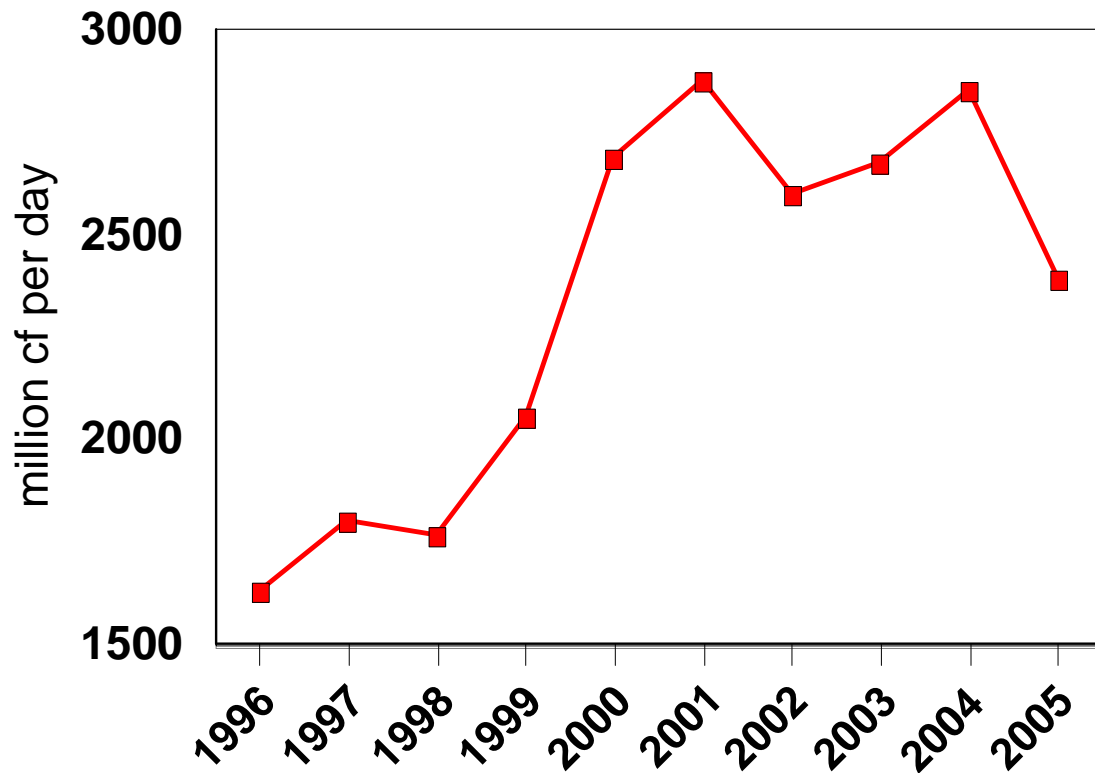


First Round of New Plants

- **Were mostly 24/7 “Baseload” Combined Cycle Plants**
- **Typical Efficiency improvements are large for this type of plant--Old Plant 33% vs. 50% to 60% for a new one**
- **8000 Net New Megawatts of Natural Gas Power Plants built between 2001 and 2005 result in...**

Reversing the Growth Trend in Fuel Use!!!

Natural Gas Consumption for Electric Generation in California



data: California Energy Commission

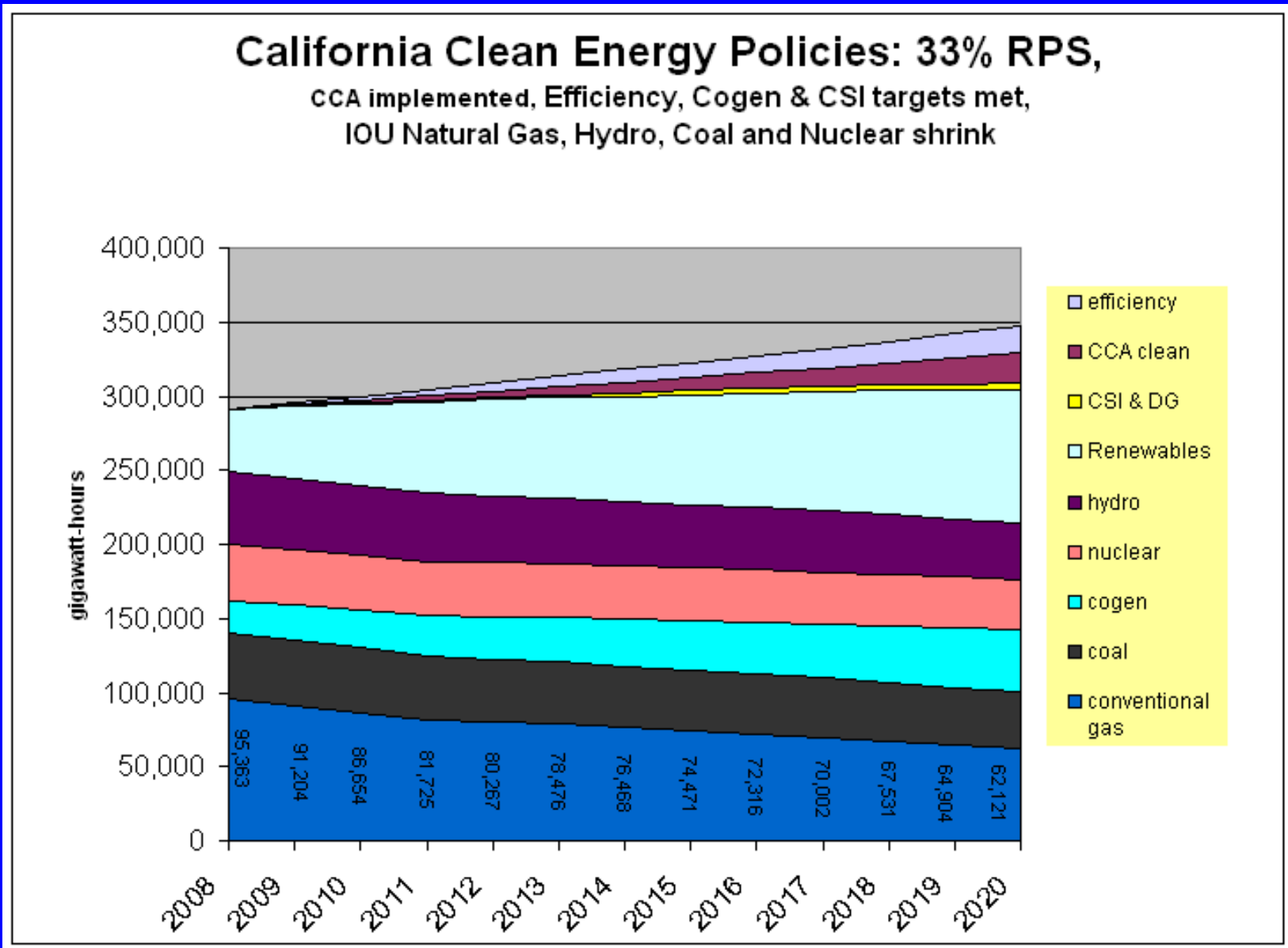
California Utilities want 5600 Mw of New Natural Gas Power Plants by 2012

- PG&E's 2006 Long Term Procurement Plan calls for 2300 Mw of new "operationally flexible" natural gas plants.
- LA Region, AQMD just approved up to 2700 Mw of new natural gas plants, with option for more if asked.
- SDG&E is asking for ~600 Mw of new natural gas plants.

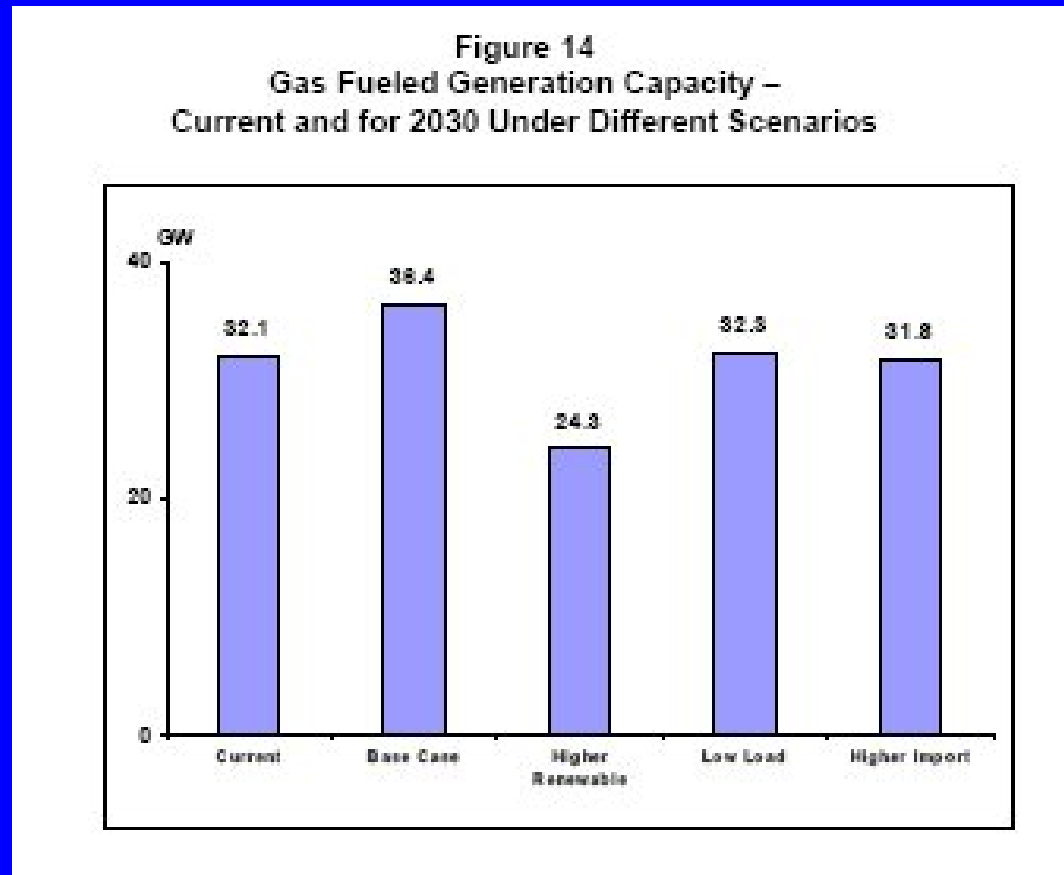
However...

- **These are to supply relatively short term peaking power, not baseload.**
- **Efficiency and pollution benefits are questionable in many cases.**
- **Far cleaner alternatives exist to meet peak load: air conditioner efficiency and cycling, solar thermal generation.**

California's Clean Energy Policies = Less fossil fuels = Less greenhouse gases



33% RPS “Higher Renewables” Scenario Reduces Need for Natural Gas Generation by 9000 Megawatts!



**LBNL 2003 Study: Decrease NG Gen from 32.1 to 24.3 GW
(AND: a net of 1.5 GW NG Gen. has been added since 2003)**

Several policies have been adopted since the LBNL 2003 Report, adding 4500+ mw of new & proposed CLEAN resources

- 1% to 2% of peak power from new California Solar Initiative (up to 3000 Mw, but utilities only value at 400 to 1200 Mw)**
- Energy Efficiency targets have increased (adds at least 1500 Mw to previous baseline savings)**
- Peak Demand programs are supposed to be ramped up to 5% of utility needs (adds ~ 1500 Mw)**
- AND another 960 Mw of natural gas power plants are approved and already under construction**

Putting the pieces together...

- **34,000 Mw total NG power plants**
- **33% RPS reduced NG power plant need to 24,300 Mw (and LBNL gives us to 2030 to accomplish this– an extra decade.)**
- **New programs add 4500+ Mw Clean Energy Resources not in 33% RPS; reducing need for future NG power plants to ~ 20,000 Mw**
- **Means that we will need to shut down up to 14,000 Mw of Natural Gas power plants!**

Cogeneration / Combined Heat & Power (CHP)

- **Recycles waste heat from electric generation for commercial or industrial heating supply**
- **Average efficiency 78%, but can go to over 90%**
- **CA has 8000 Mw of NG Cogeneration, but thousands of Mws are at risk of being lost due to utility resistance**
- **Blakeslee 2007 bill tried to adopt CEC goal of 5000 Mw of NEW CHP**

Biggest Needs.

Procurement must line up with State's Energy Policy--

Adopt 33% RPS, with improved rules (e.g., feed-in tariff, less red tape, drop SEPs, etc.)

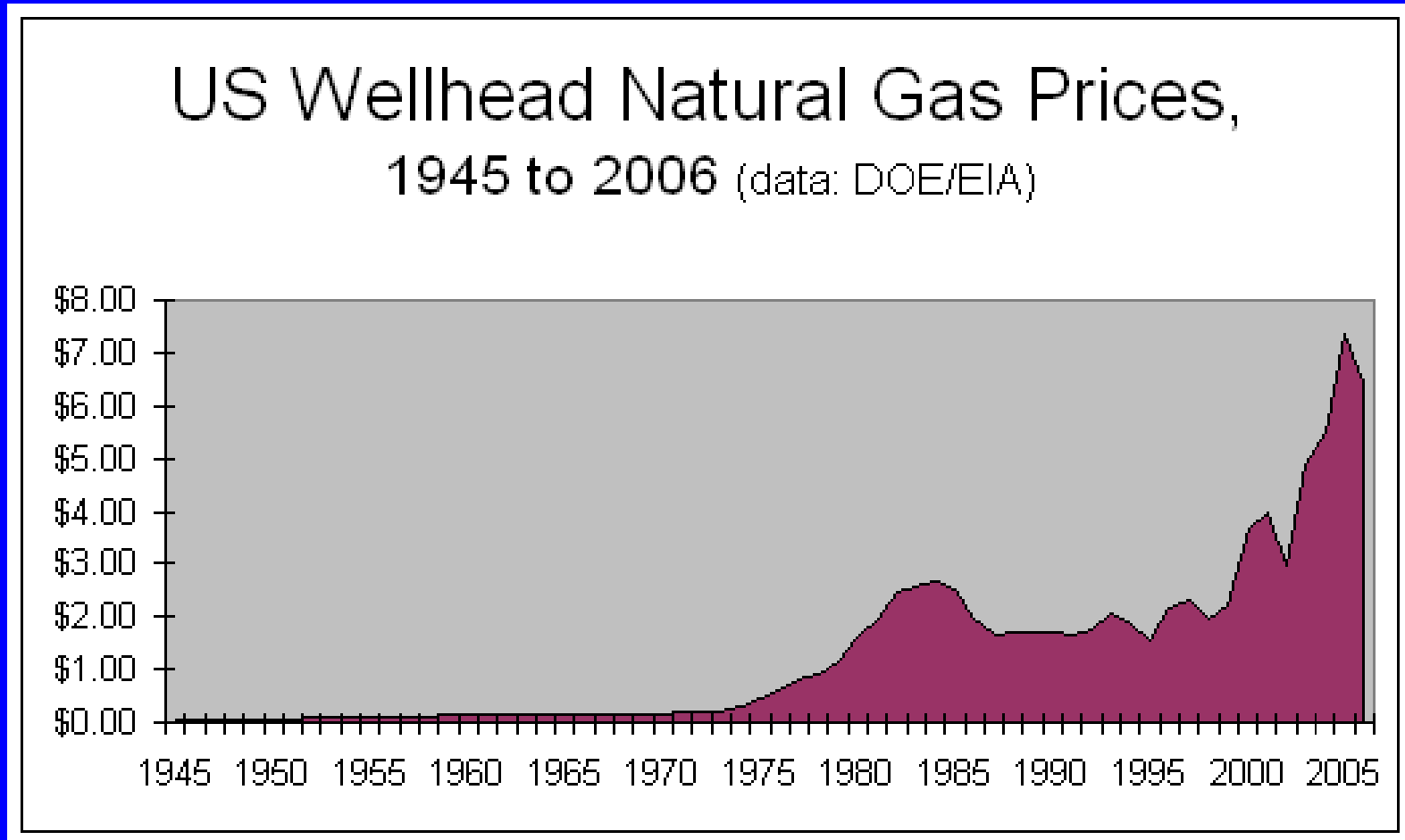
Proper system design to integrate renewables (e.g., with pumped storage, scheduling, fees, etc.)

CCA's need to move to advanced clean energy portfolios

Resource Plan for expanded cogeneration urgently needed to further reduce NG consumption (Blakeslee; 5000 mw target gutted by IOUs)

AB 32 rules need to be applied to electric procurement

In an average 10 year period, the price of natural gas goes up



198% for the last half century!

LNG is not the answer.

International Natural Gas Prices: US and Japan
for electric power plants

