

# **California Procurement: Lessons Learned; Where Are We Going?**

***IEP's 2011 Annual Meeting***

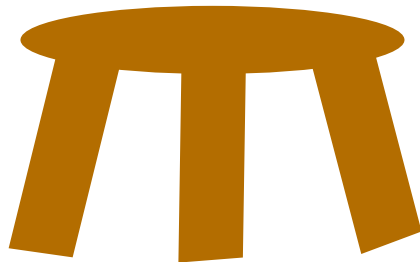
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Southern California Edison Company

# California Procurement...

## Lessons Learned...

### Where Are We Going?

- Some clear trends and lessons learned
- What we wished we already knew, but don't yet
- How do we balance the three-legged stool?

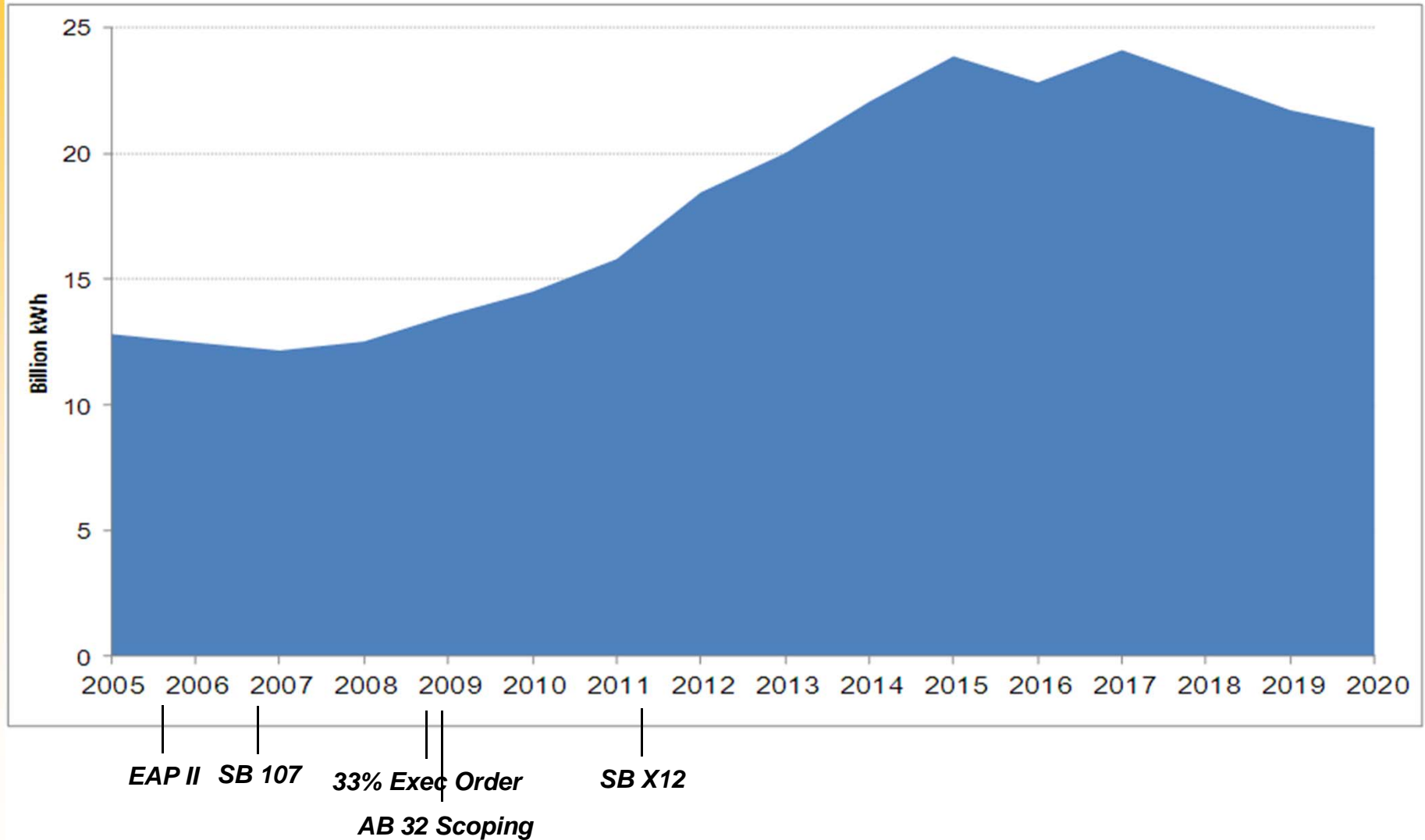


Environmental Policy Goals    Affordable Rates    Reliability

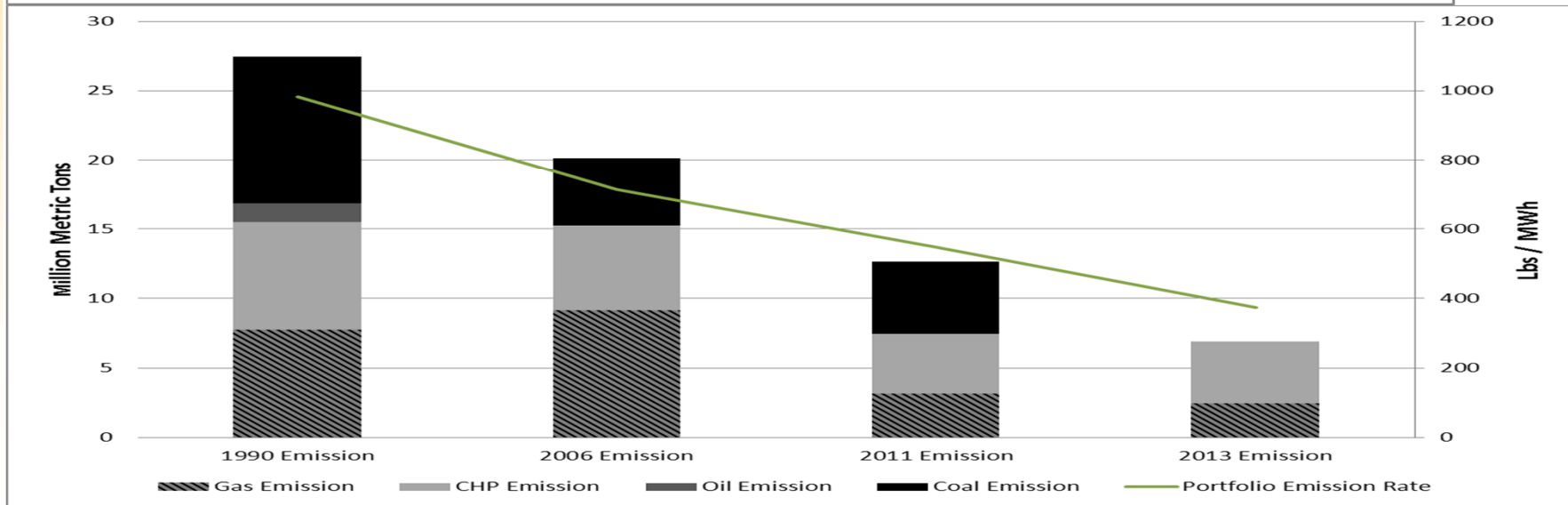
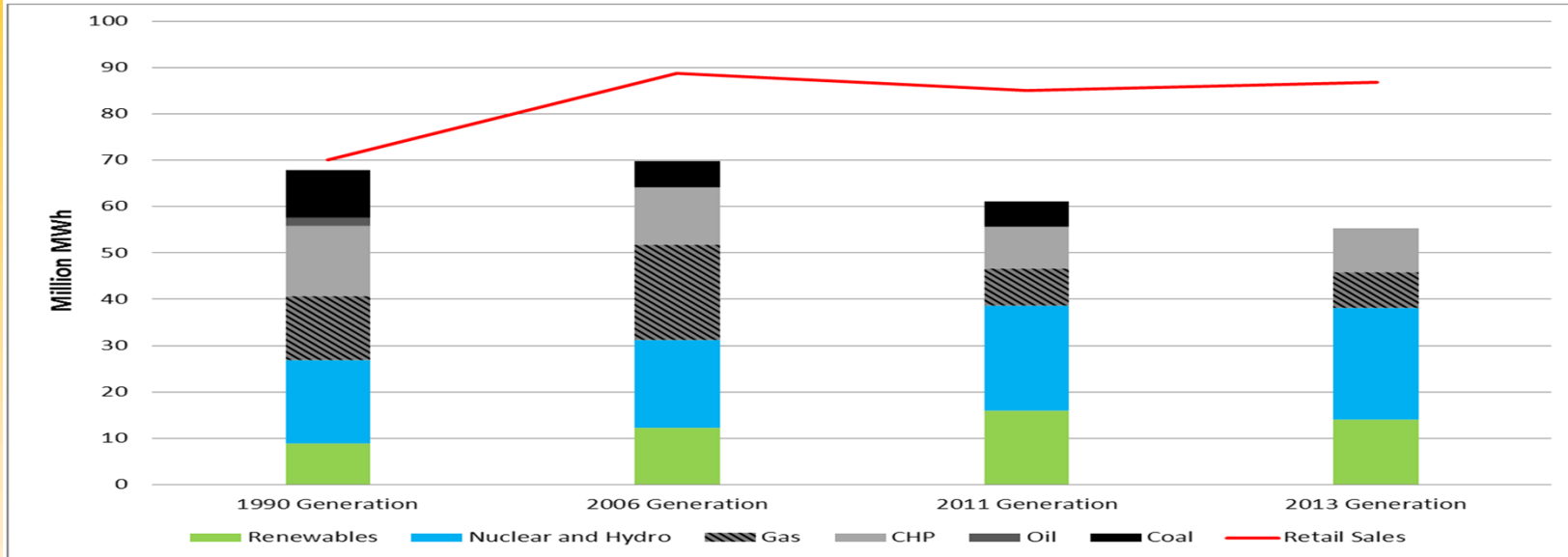
“Our overarching goal is for California’s energy to be **adequate, affordable, technologically advanced, and environmentally sound.** Energy must be **reliable...**”

EAP II September 2005

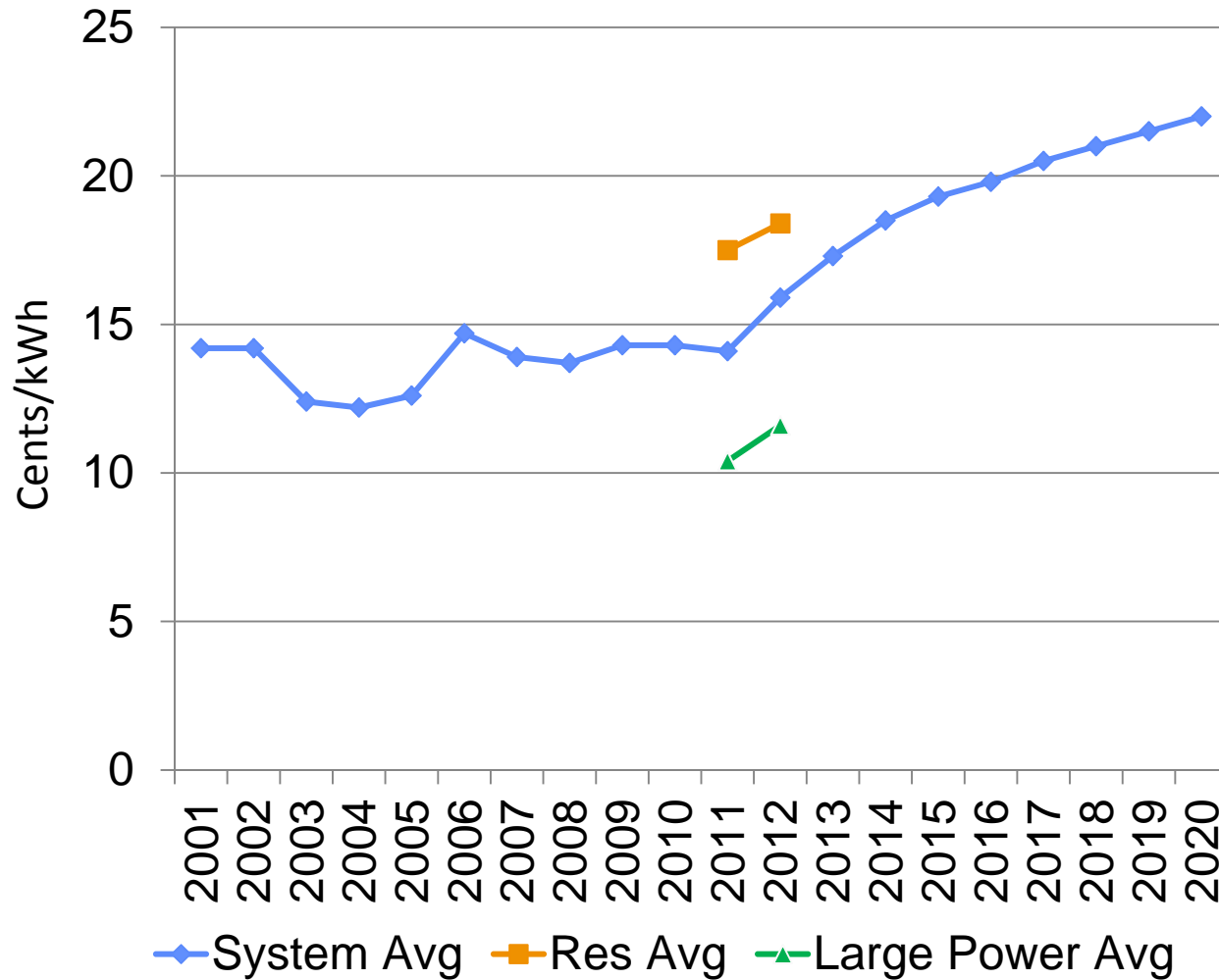
# SCE's Generation From Renewables Is Increasing



# SCE's Carbon Footprint Is Low & Getting Lower



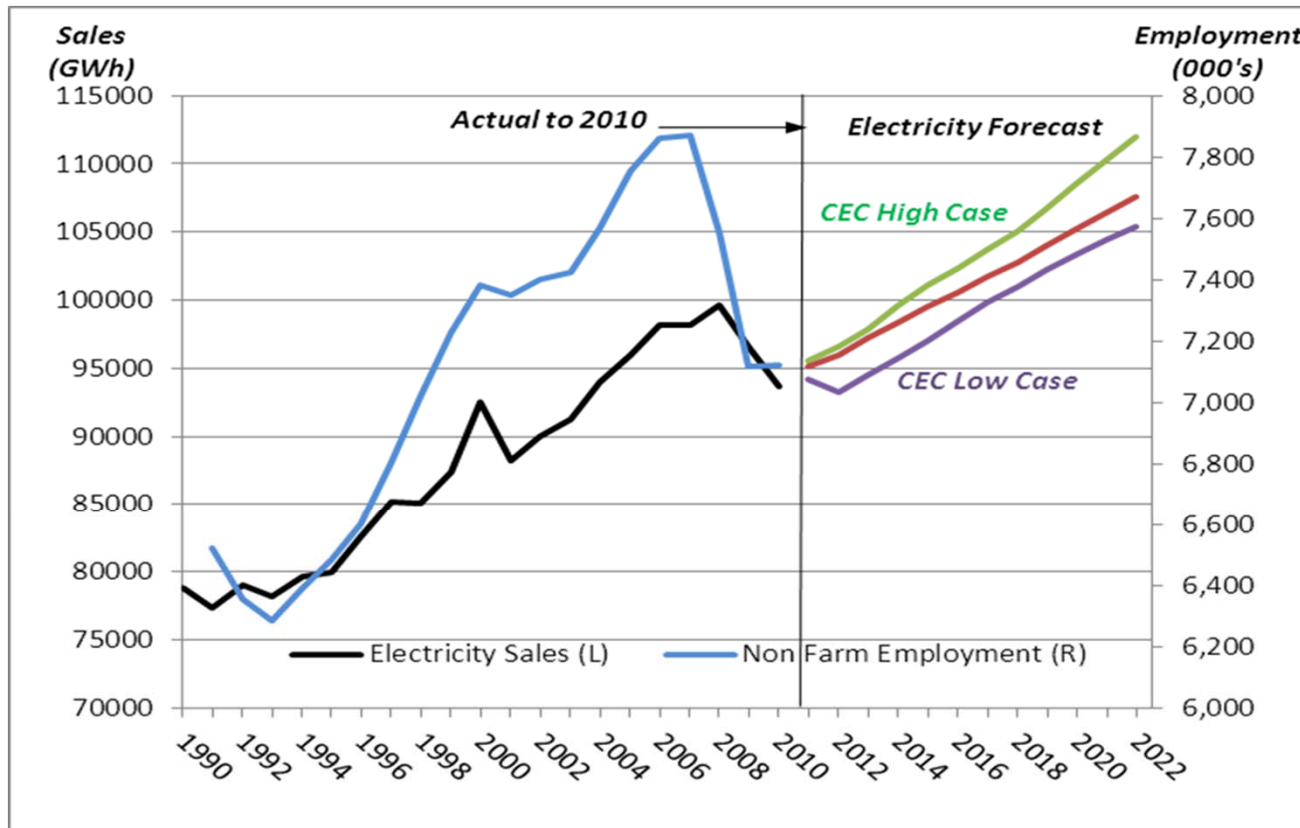
# SCE Rates Are Increasing



- SCE rate levels reasonably stable throughout the 2000s
- Forecast ~5%/year rate increases through 2020
- Continuing low load growth would exacerbate rate problem
- Tier V res. rate forecast to be 36 cents/kWh next year

Source: SCE internal forecast; value of allocated GHG allowances excluded

# Load Growth & The Economy



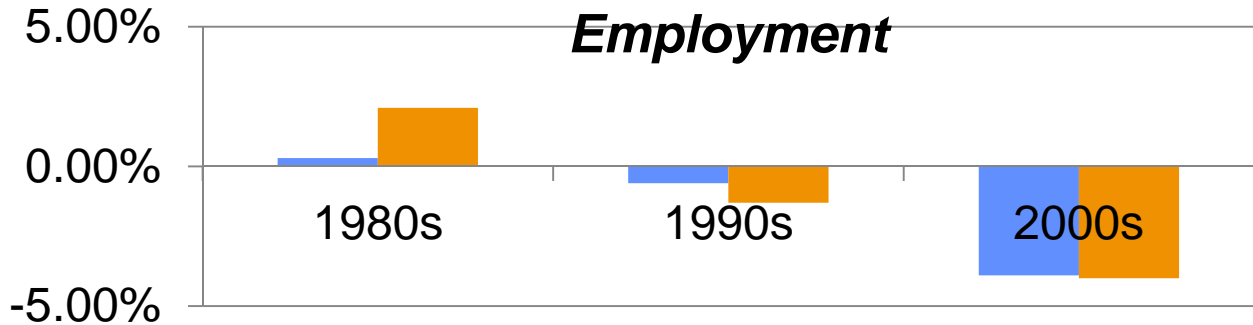
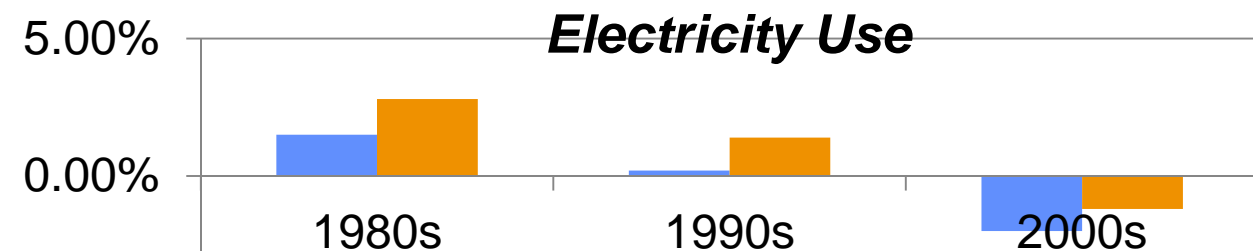
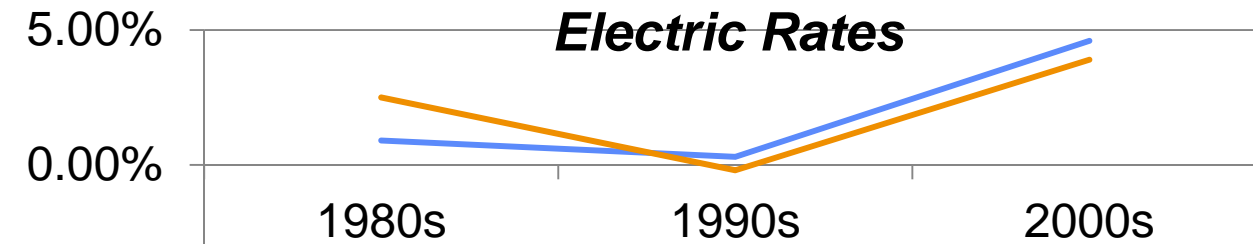
SCE's electricity sales still haven't rebounded from the recession

Electricity sales are weather-normalized electricity consumption in SCE Planning Area. Non-farm employment is employment in counties served by SCE.

Sources: California Energy Commission, Preliminary Forecast Scenarios, August 2011; IHS Global Insight

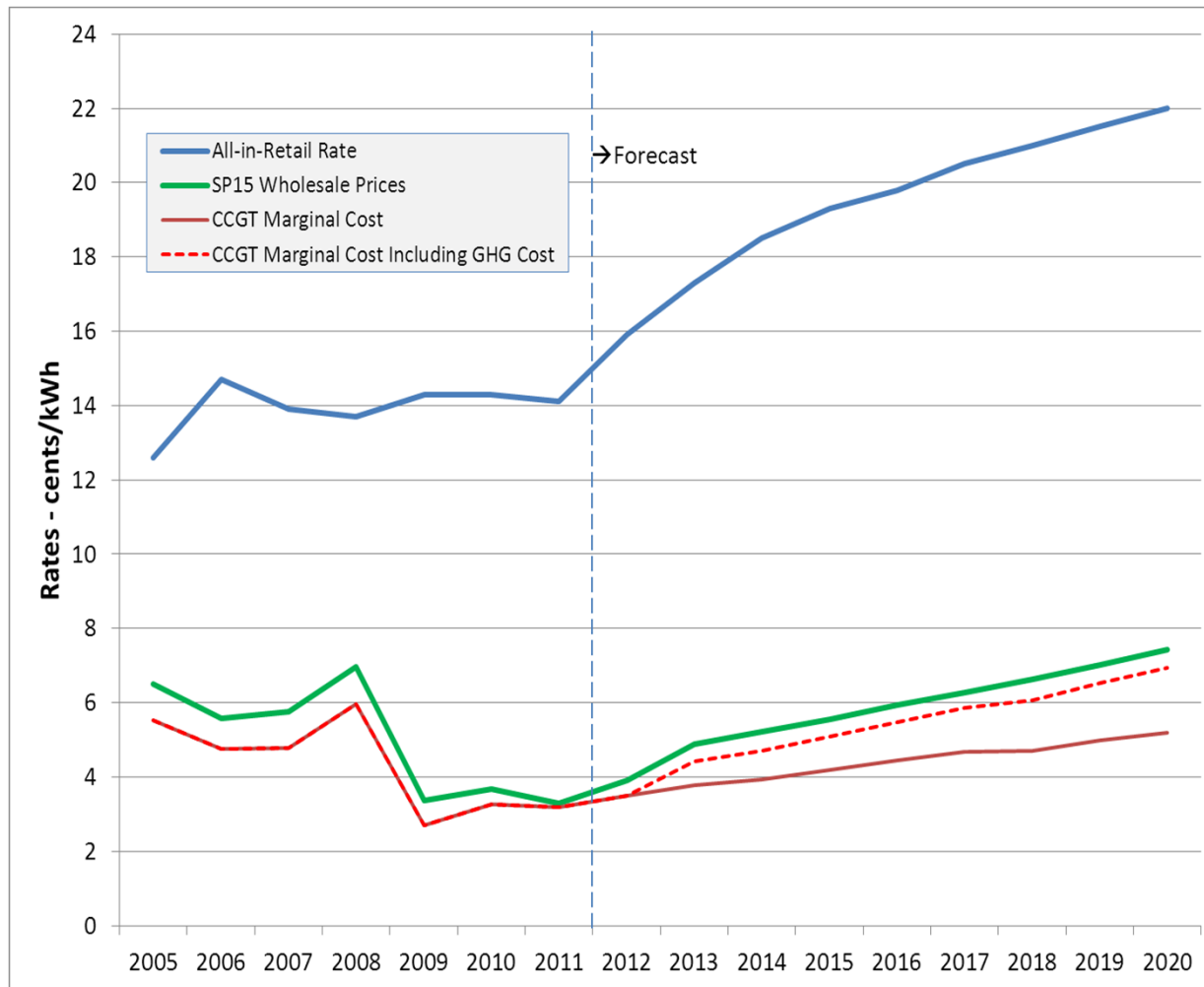
# Deep Dive On The Industrial Sector

**California** Annual % Change  
**USA** By Decade



- Rates ↑ ⇒ Sales ↓ ⇒ Employment ↓
- SCE's industrial rates 49% higher than national average
- Since 1980, industrial's share of SCE's load has decreased from 32% to 14% (USA: 39% to 28%)

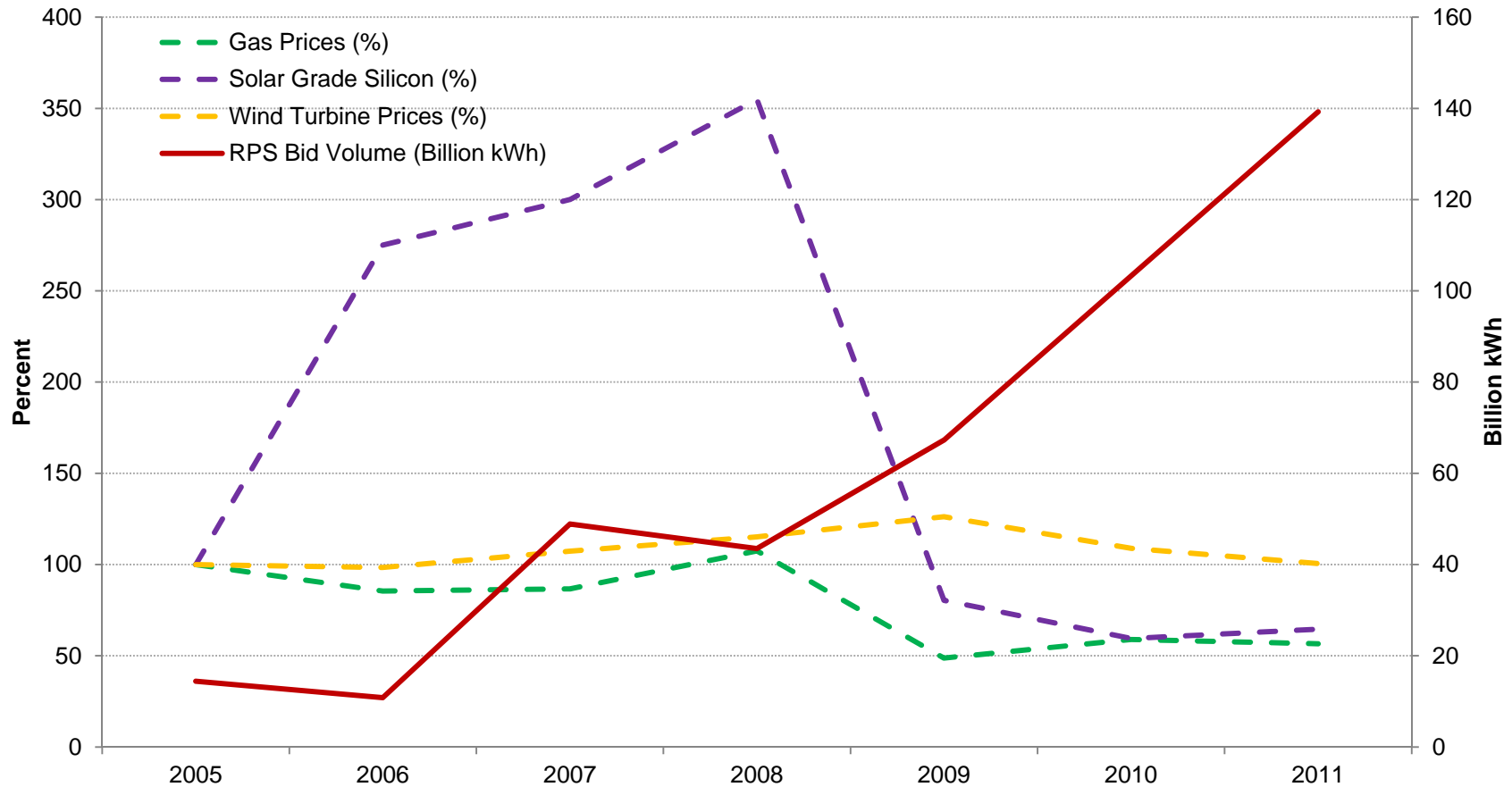
# The Retail-Wholesale Spread Is Widening



- Increasing supply of preferred resources increases reserve margins; puts upward pressure on retail prices and downward pressure on wholesale prices
- Threat of uneconomic bypass increases
- Cost-effectiveness bar rises for new programs
- Gas-fired gen needed to integrate renewables squeezed by lower prices and GHG costs

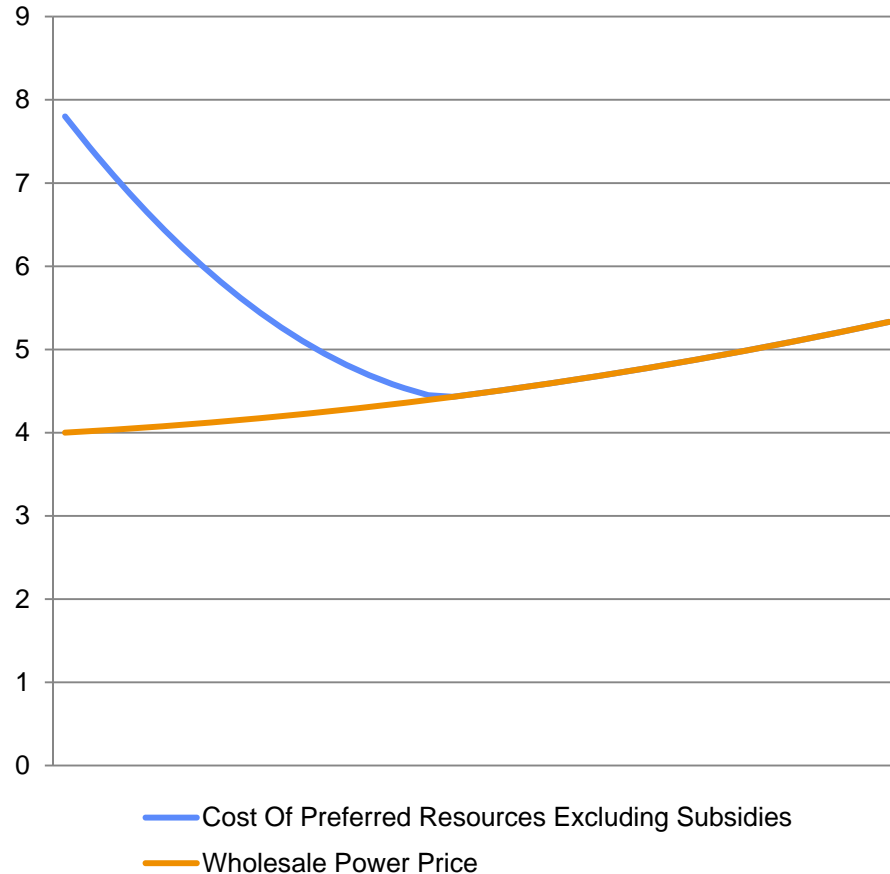
SP15 Wholesale Prices from forward market quotes; CCGT costs assume 7.5 MMBtu/kWh heat rate

# Advancing Technology & Increasing Competition Have Driven Down RPS Costs



- Solar Grade Silicon prices based on data from Bloomberg New Energy Finance (September 20, 2011 - Solar Spot Index - September 2011). 2011 data shown is a partial year using spot prices for Jan – Sep
- Wind Turbine Prices based on data from Bloomberg New Energy Finance (July 27, 2011 - Wind Research Note)
- Gas prices based on CA border bidweek. Last three months of 2011 estimated based on NYMEX + SoCal basis on 8/29/11
- RPS Bid Volume based on data from RPS solicitations held in all years but 2010. SCE did not have an RPS Solicitation in 2010

# Should This Be The Goal?



## Tilting The Competition Toward Preferred Resources

### Subsidies

ITC, PTC, CSI, NEM, PGC, PIRP, ARRA

### Mandated Procurement/Offers

SB X12 (33% RPS), PURPA < 20 MW, CHP Settlement, AB 1613 (CHP FIT), CREST, SPVP

### Requirements & Restrictions

SB 1368 (no coal), OTC Policy, AQMD Offset Markets

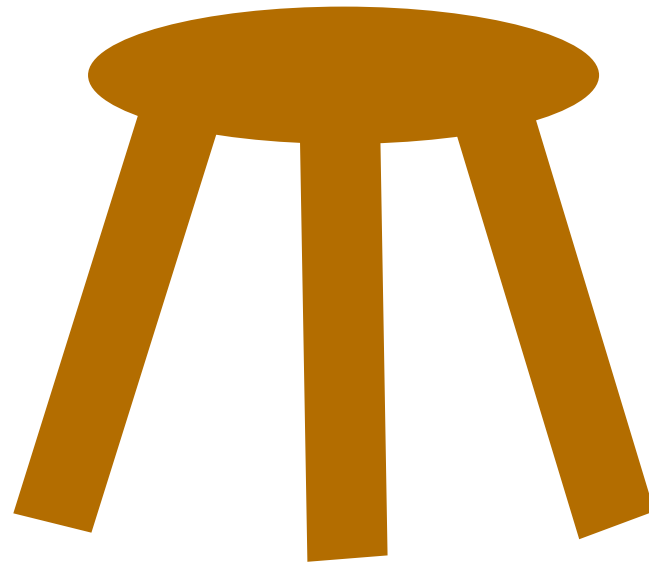
### Programs & Goals

AB 32, EE/DR Goals, Loading Order

# There Are Many Things We Still Don't Know

Unknowns	Rate Impact	Reliability Impact
GHG price; impact of cap & trade on power markets	X	
Treatment of revenue from IOU-allocated GHG allowances	X	
Uneconomic bypass threat	X	
Over-generation , negative prices, & curtailments	X	X
New gen needed to integrate 33% renewables & who will pay	X	X
OTC/aging generator retirements and need for replacement	X	X
Definition of 12,000 MW of Local Energy Resources	X	X
Source of emissions offsets for new gas-fired generation	X	X
Funding to replace aging distribution infrastructure	X	X

# How Will Policy-Makers Achieve Balance?



**Environmental  
Policy Goals**

**Affordable  
Rates**

**Reliability  
Needs**

- Adopt flexible policies/goals that can be adjusted as questions are answered or problems arise
- Recognize that both policy goals and reliability needs put long-term pressure on rates
- Consider combined impact of all policy goals & needs