

Energy Efficiency: the First Fuel in the Race for Clean and Secure Energy

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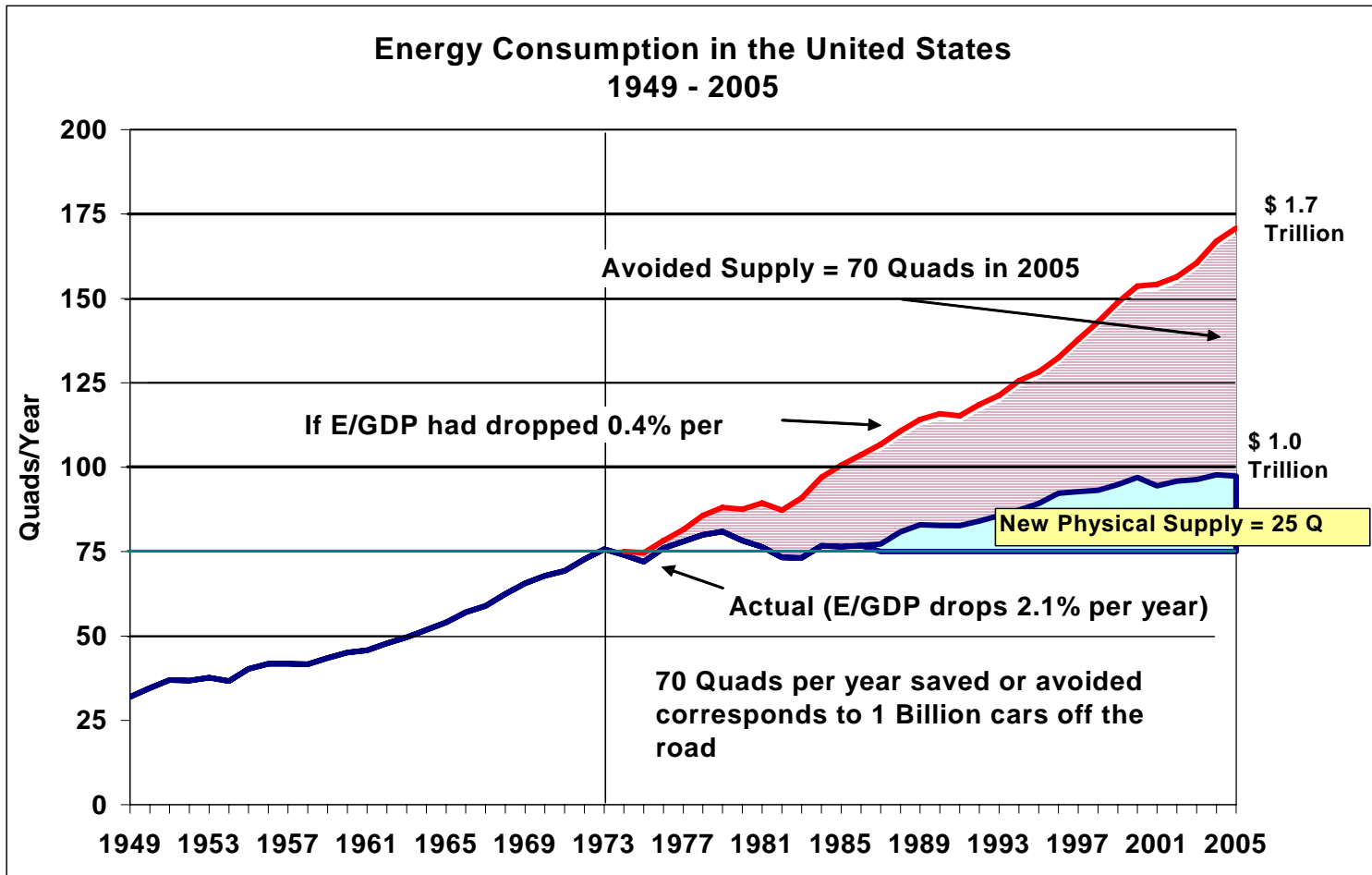


Overview

Why efficiency is the “First Fuel” for states:

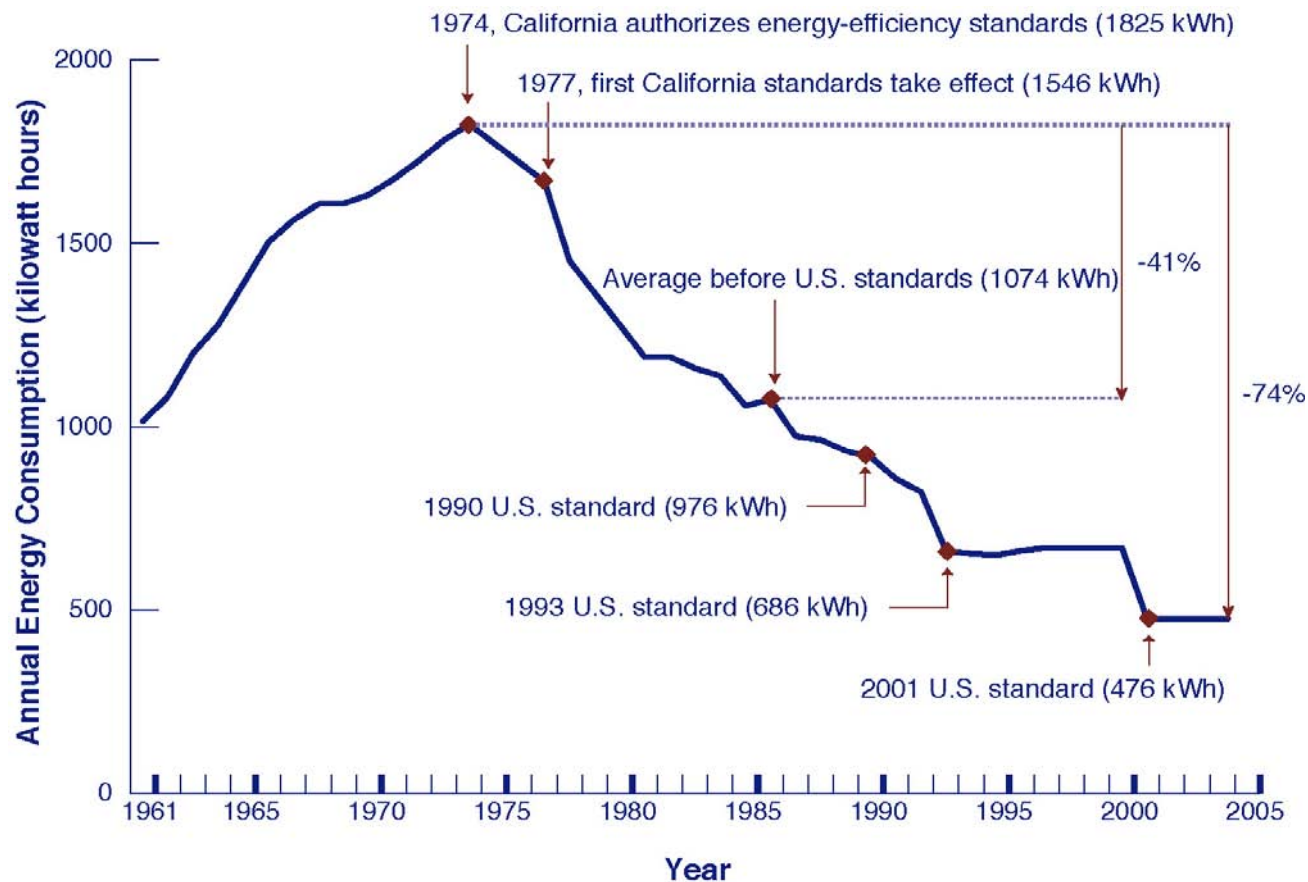
- Efficiency does more for the economy than any energy resource
- Efficiency is the first response to high energy prices, capacity shortages, and carbon emissions challenges
- Efficiency is a renewable resource, and always available
- Efficiency requires policy action
- States are the leaders on energy policy
- New trends could drive efficiency to an even larger role in state energy policy

Efficiency's \$700 Billion Gift



How Efficiency Meets New Service Demand

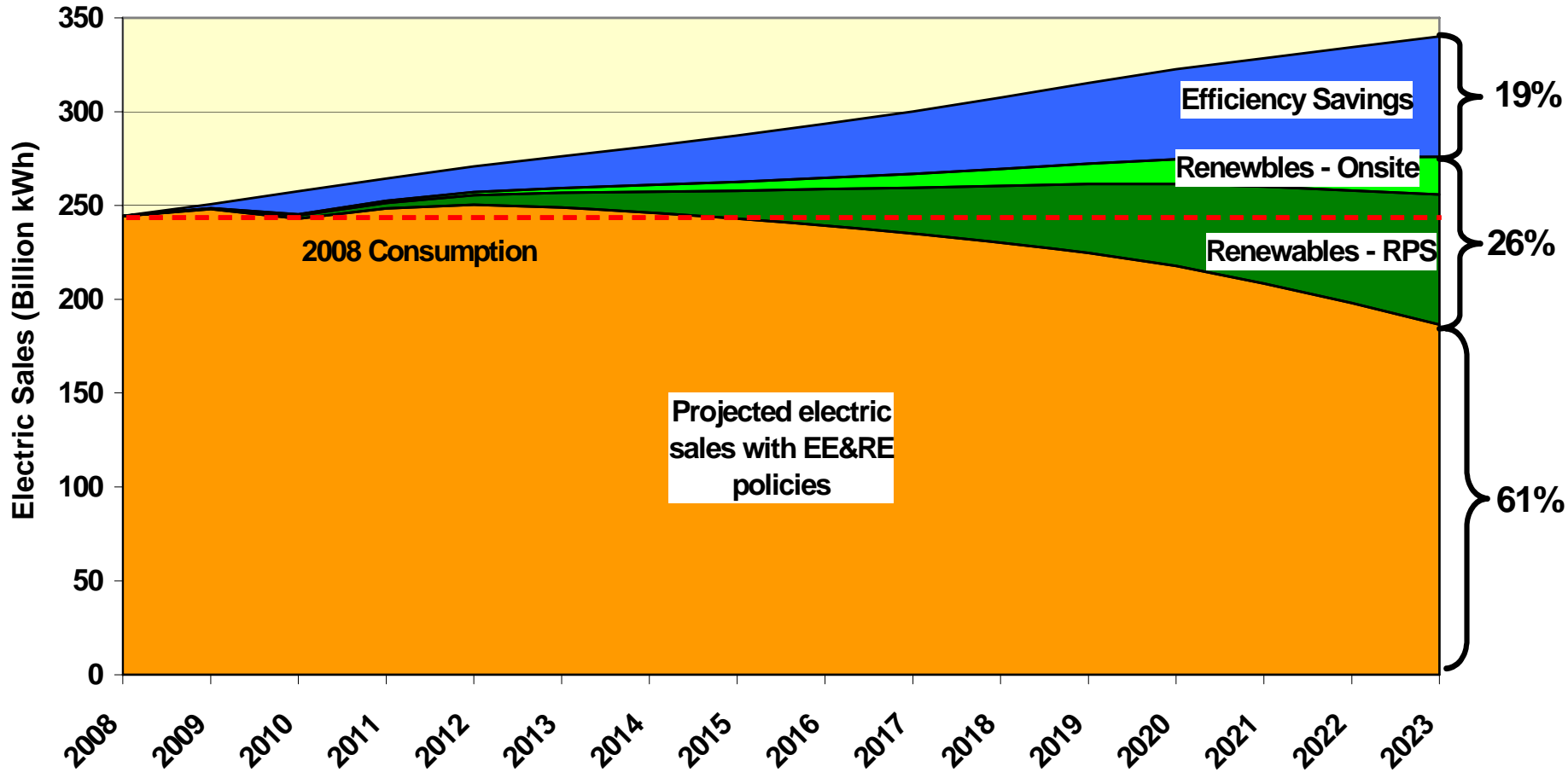
The humble refrigerator...



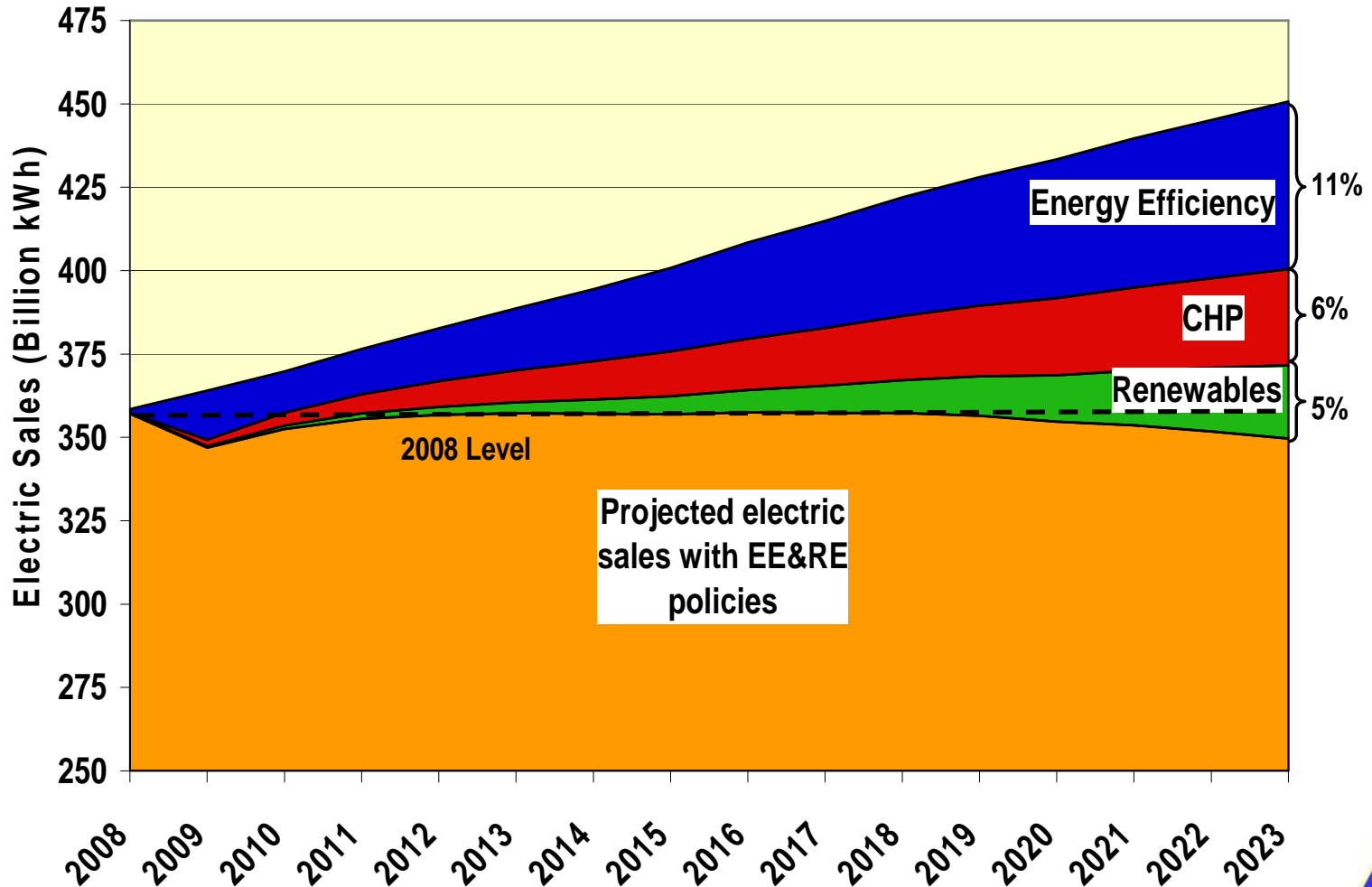
Efficiency and Future Energy Service Demands

- ACEEE efficiency potential studies show we can meet most energy service demand growth through efficiency
- Efficiency and renewables together can meet most future demand growth
- EE and RE provide price hedge and other value to resource portfolios

The Florida Example

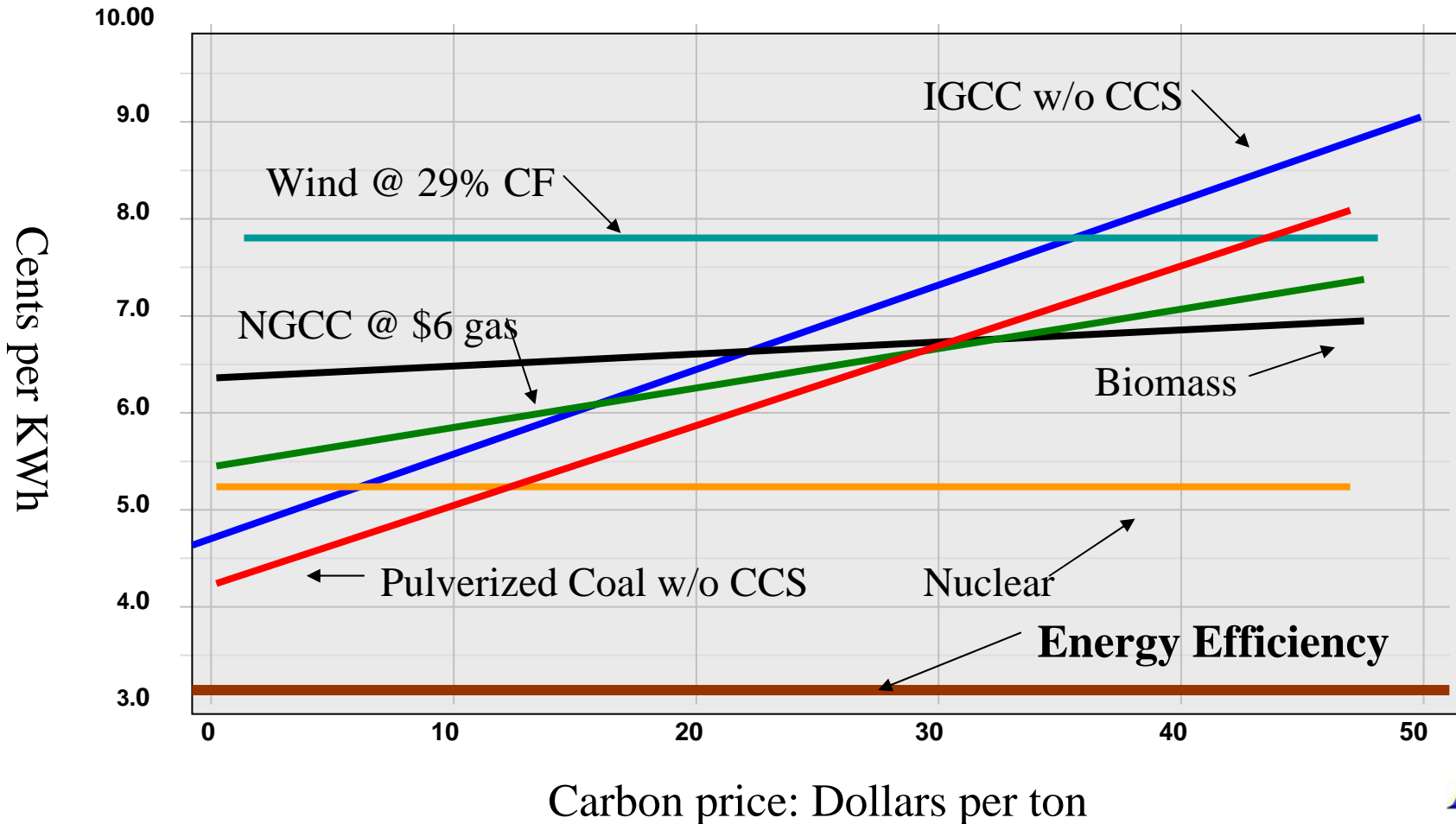


The Texas Example



The Cheapest kWh

Levelized Cost of Electricity by Source

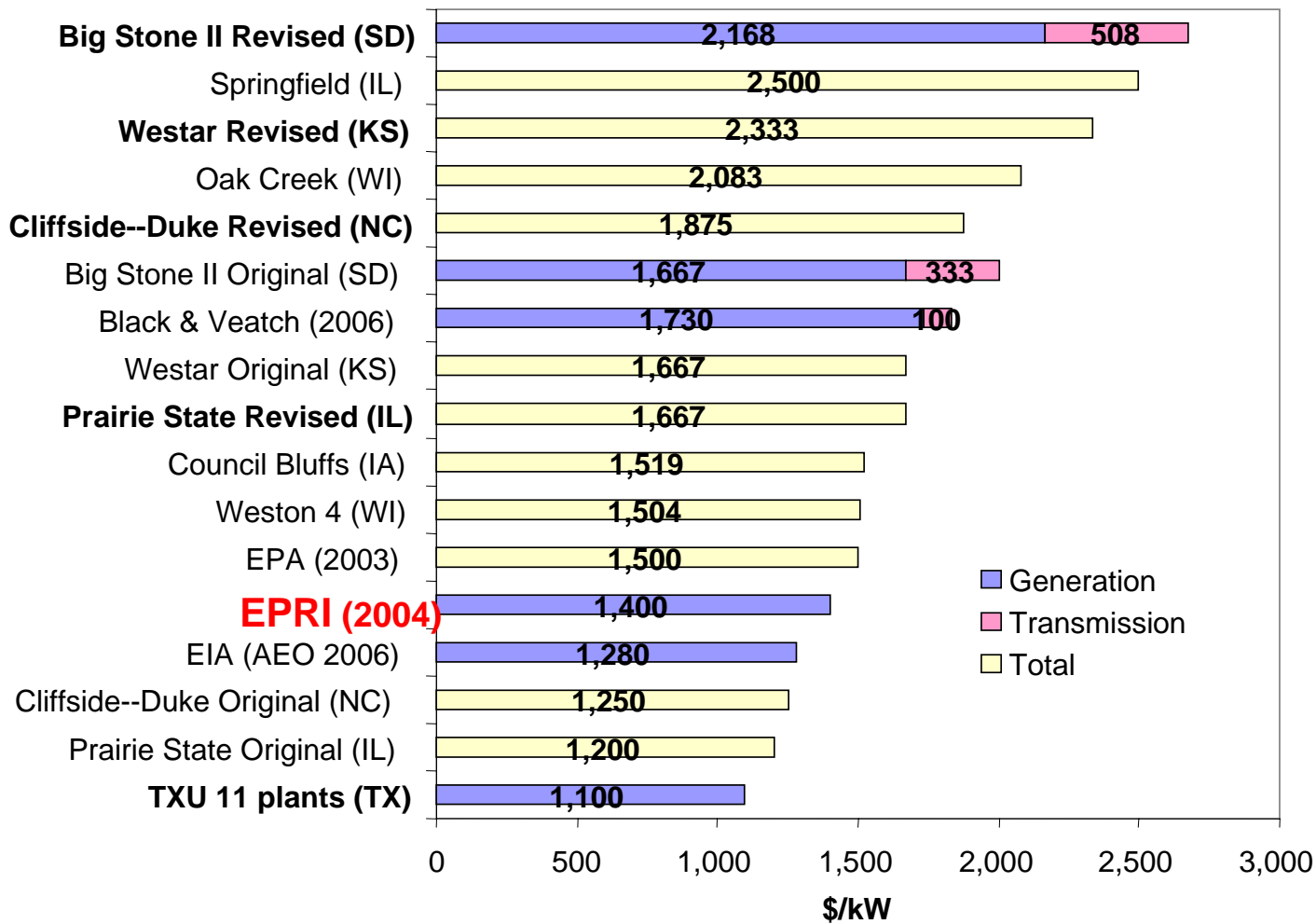


Leading State EE Economics

State	Benefit/Cost All programs	C/I programs B/C	Res. Programs B/C	Cost of saved kWh(\$)
California	2.0 – 2.4			0.03
Connecticut	NA	2.4 to 2.6	1.5 to 1.7	0.023
Maine	1.3 – 7.0			
Mass.	2.1	2.4 to 2.7	1.3 to 2.1	0.04
New Jersey				0.03
New York				0.044
Rhode Island	2.5	3.3	1.5	
Vermont	2.5	2.9	1.8	0.03
Wisconsin	3.0	2.0	4.3	
Median	2.1 to 2.5	2.5 to 2.6	1.6 to 1.7	0.03

Rising Powerplant Costs

New pulverized coal capital costs



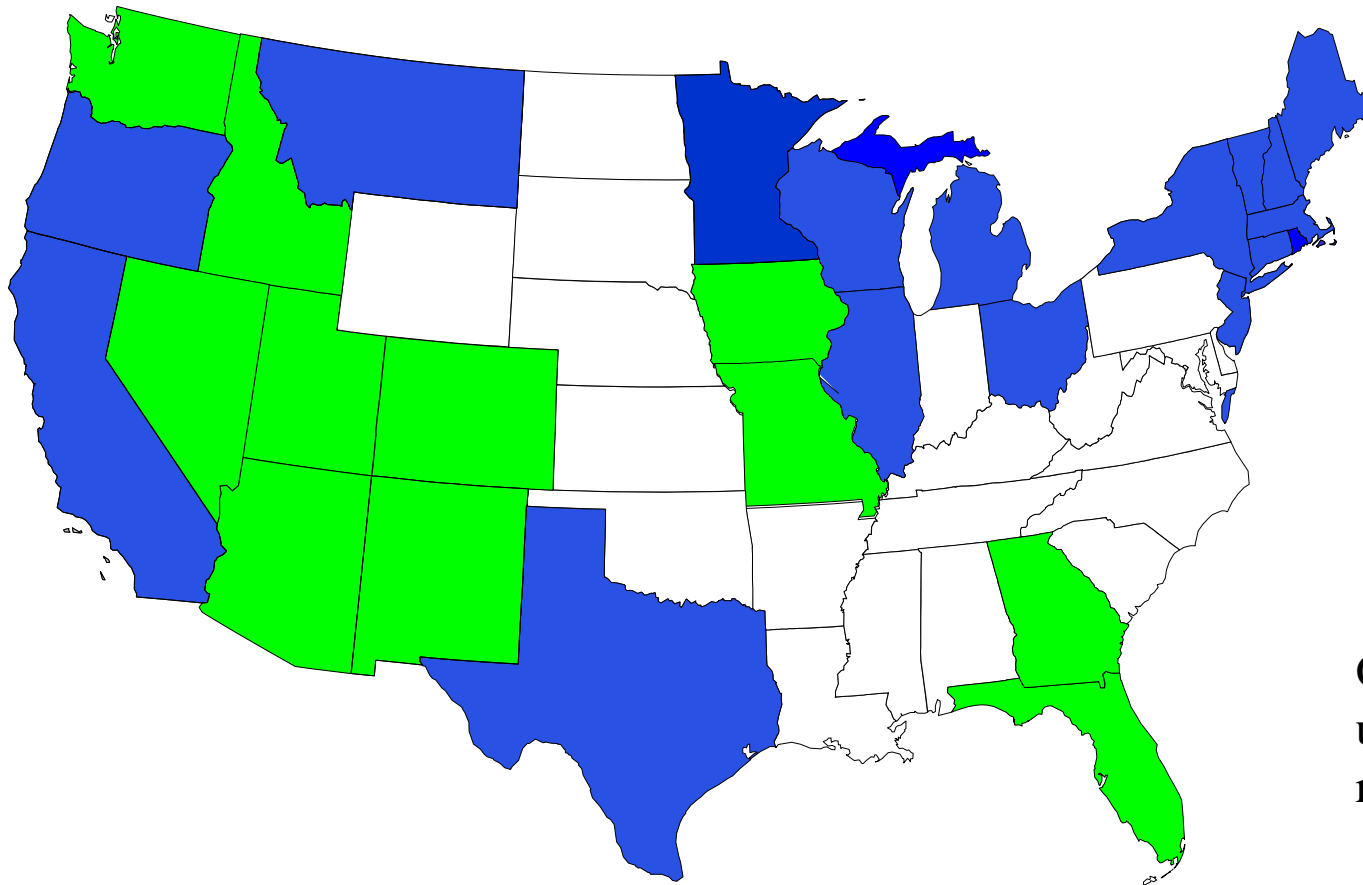
But: Efficiency is Hard to Harvest

- Markets alone won't reap enough
 - Income elasticity and cross-elasticity block price elasticity
 - Principal-agent barriers—builder-buyer, landlord-tenant
 - Information-cost barriers—consumers don't have time/\$ to study each purchase
- IEA study: over half of building energy usage is affected by barriers
- Then there is the utility regulation paradigm.....

States Have Become the Leaders on Energy Policy

- Congress unable to move transformational energy policies
- States more and more the laboratories of innovation and effectiveness
- States now outspending the federal government by 3:1
- State leadership more important than ever

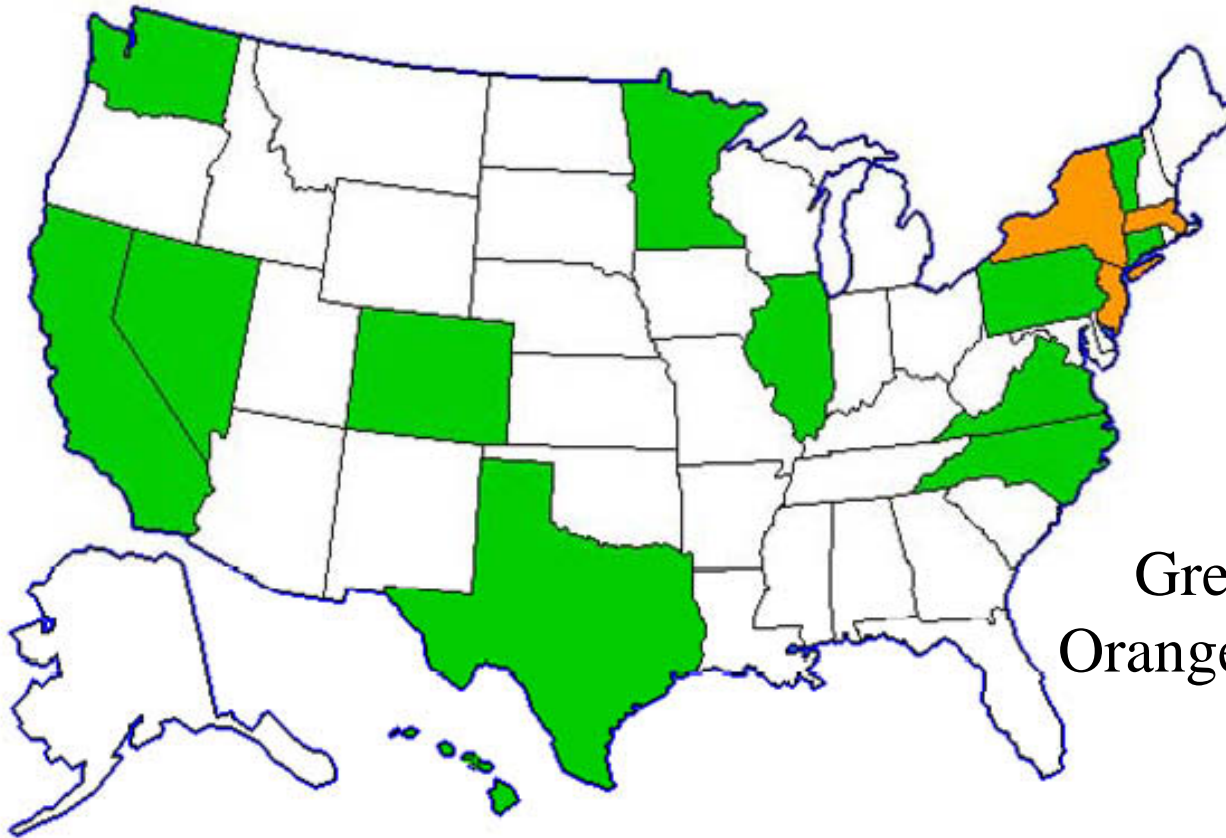
States with Utility Sector Energy Efficiency Programs



Blue states have public benefit funds or other statewide requirements for utility sector EE

Green states have utility DSM through regulatory casework

States with EERS-Like Policies

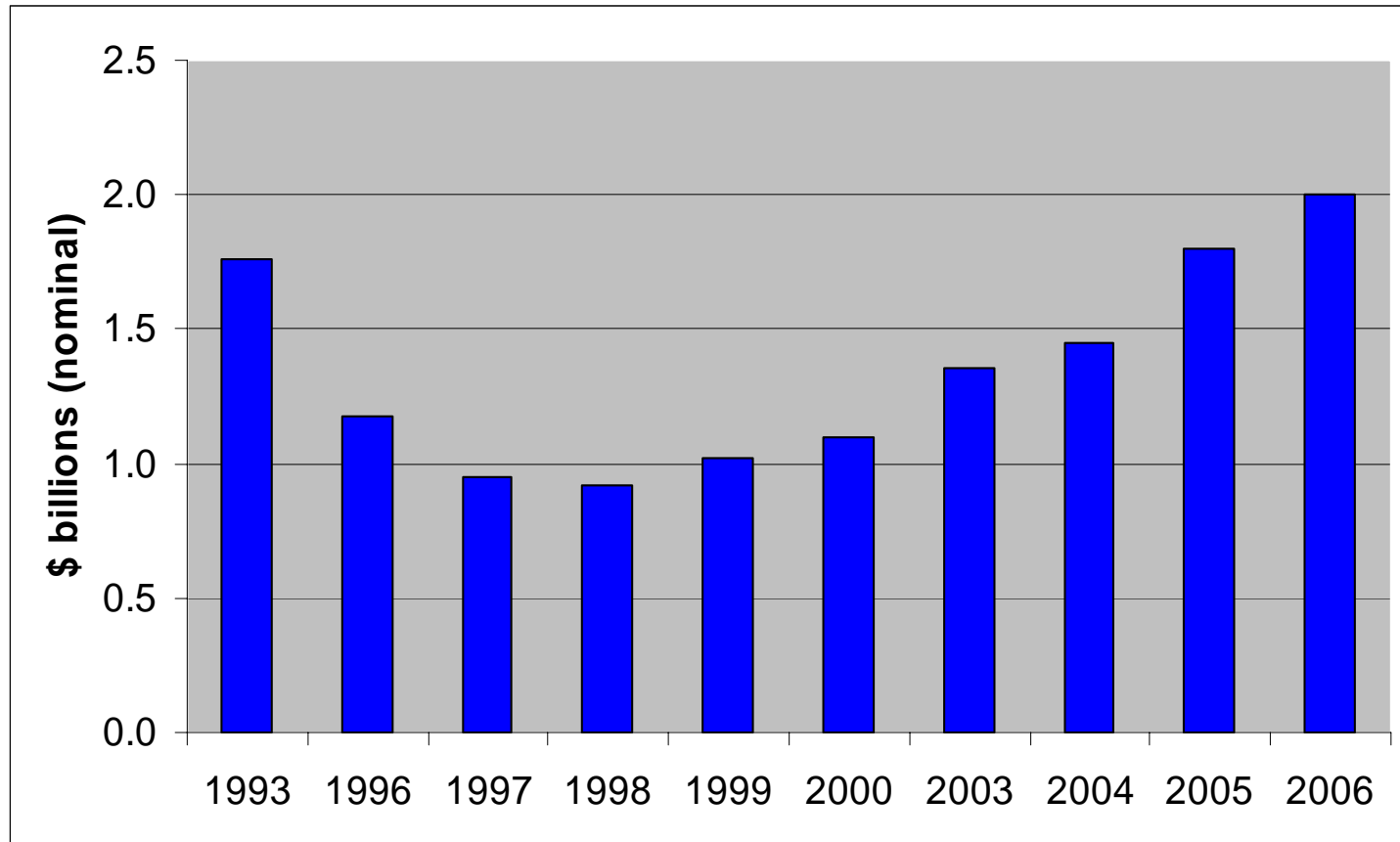


Green= has EERS
Orange= EERS pending

EERS Could Significantly Reduce Load Growth

- 15 states' EERS could cut national average load growth forecasts by half or more
- Rising prices from fuels and capital costs could add price elasticity effects
- Significant implications for longer term electricity business strategies

Spending on Utility Sector Efficiency Programs



Three Key Regulatory Issues

- **Allowing cost recovery** for direct costs of EE programs
- **Removing the disincentives** of “lost revenues” resulting from energy efficiency programs
- **Creating earnings potential** from energy efficiency program investments

ACEEE Report Reference

- ***Aligning Utility Interests with Energy Efficiency Objectives: A Review of Recent Efforts at Decoupling and Performance Incentives***

--M. Kushler, D. York & P. Witte. ACEEE, October 2006

--<http://aceee.org/pubs/u061.htm>

What's on Deck?

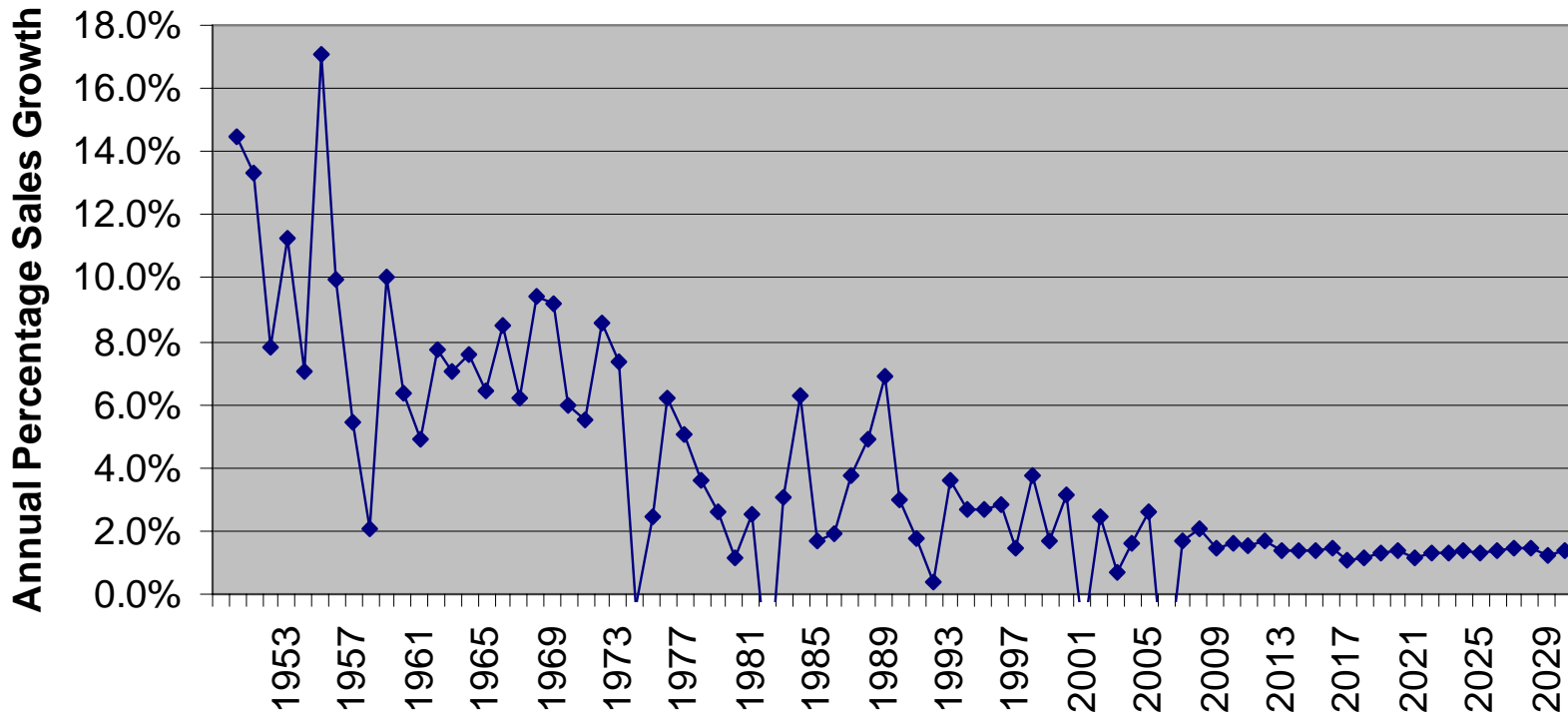
- A new assessment of the efficiency resource
 - U.S. total spending on efficiency ~ \$200 billion/year—Energy Star products alone exceed \$100 billion
 - Supply spending (2004) ~ \$100 billion
 - Inference: the market for demand side investment is larger than the supply side

What's on Deck?

- A shift in electricity industry strategy?
 - Slowing load growth
 - Rising prices
 - Capacity shortages
 - Carbon risk
 - Growing realization of the demand side investment potential
 - Consideration of new business models (eg. Duke Save-a-Watt)

What's on Deck?

Electricity Demand Growth 1949-2030



What's on Deck?

- Proliferating state EERS encouraging federal action
- House-passed RPS bill in August allows EE to meet up to 27% of requirements
- Resembles NC Senate Bill 3
- States may see a federal requirement driving EE and well as RE resource acquisition

ACEEE State Scorecard

- Rates states on efficiency policies:
 - Appliance efficiency standards
 - Combined Heat & Power (CHP) policies
 - Building energy codes
 - Transportation—fuel economy and smart growth
 - Spending on utility and public benefits energy efficiency programs
 - Tax incentives
 - State facilities – “Leading by Example”

ACEEE State Scorecard

- Florida—29th
- North Carolina—30th
- South Carolina—30th
- Kentucky—35th
- Virginia—38th
- Georgia—38th
- Louisiana—40th
- Tennessee—43rd
- Alabama—46th
- Mississippi—49th

Why Has the Southeast Lagged?

- Low historic energy prices kept political priority low
- Younger economies put focus on meeting growth needs
- Little exposure to restructuring
- But:
 - Higher energy prices looming
 - Capacity needs rising
 - Carbon emissions a growing risk
- It's never too late to catch up!

Conclusions

Efficiency is the “First Fuel” in the race for clean energy:

- Efficiency is the cornerstone of a sustainable and prosperous economy
- Efficiency is the first-responder to challenges of high prices, capacity shortages, carbon emissions
- Efficiency is abundant and renewable
- Efficiency requires policy action
- States continue to lead on energy policy
- The Southeast has great opportunities

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