

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



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ACEEE



The American Council for an Energy Efficient Economy (ACEEE)

- Non-profit (501c (3)) dedicated to advancing energy efficiency through research and dissemination.
- ~25 staffers in Washington DC, Delaware, Michigan and Wisconsin
- Focus on End-Use Efficiency in Industry, Buildings, Utilities, Transportation, & National Policy
- Offer Conferences and Publications
- Funding:
 - Foundation and government grants (55%)
 - Contract research (20%)
 - Conferences and Publications (25%)



America's Energy Straitjacket

*"Not Your Parents' Energy Crisis" **

- No current "supply" limitations – rather "deliverability" limitations in all energy markets
- Oil markets constrained by refining
- Coal markets constrained by mining and rail capacity
- Electricity constrained by available fuel and transmission – high demand taxes infrastructure
- Renewables limited by equipment manufacturing
- Fuel switching limited by tight markets



* Tom Friedman 2006

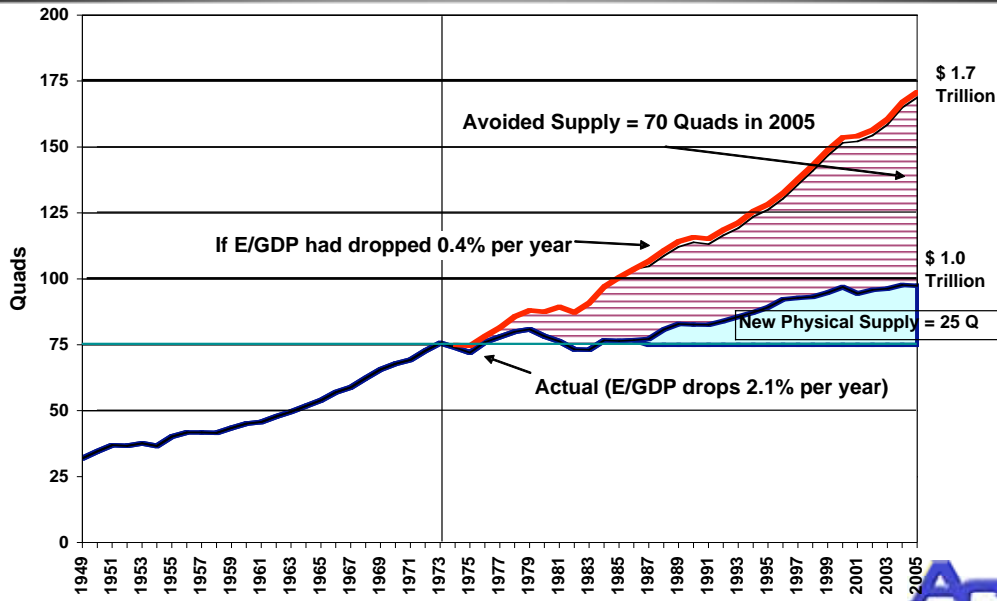


Energy Efficiency: a Way Out of the Straitjacket

- Market fundamentals show no signs of changing for ~10 years
- Efficiency can bring balance to energy markets—reduce electricity and gas prices
- Efficiency enables clean tech—slows demand growth so clean supply technologies can catch up
- Climate trumps all—efficiency is the best down payment on climate stabilization



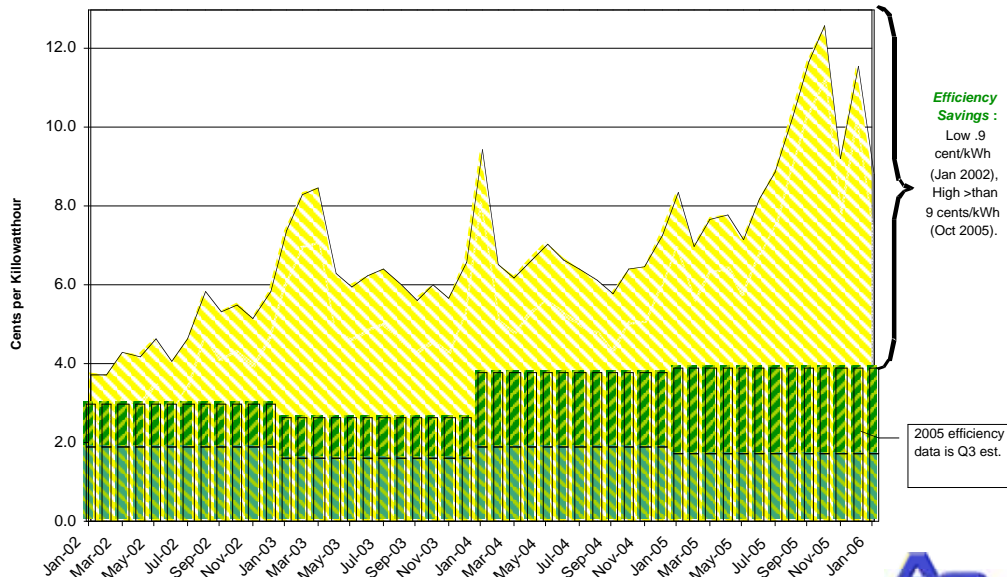
Energy Efficiency's Past Success



Source: Art Rosenfeld, CEC



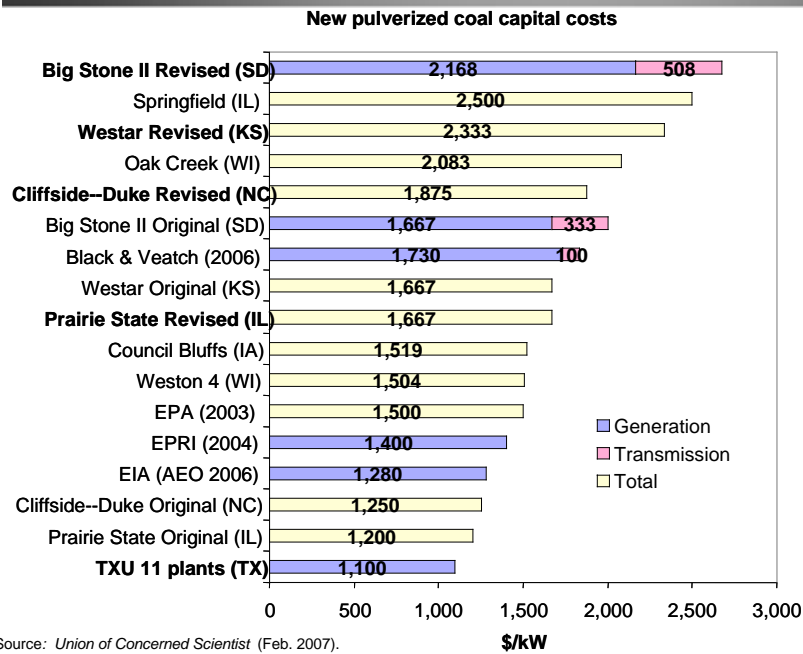
Cost-effectiveness & Price Stability Improve over Time



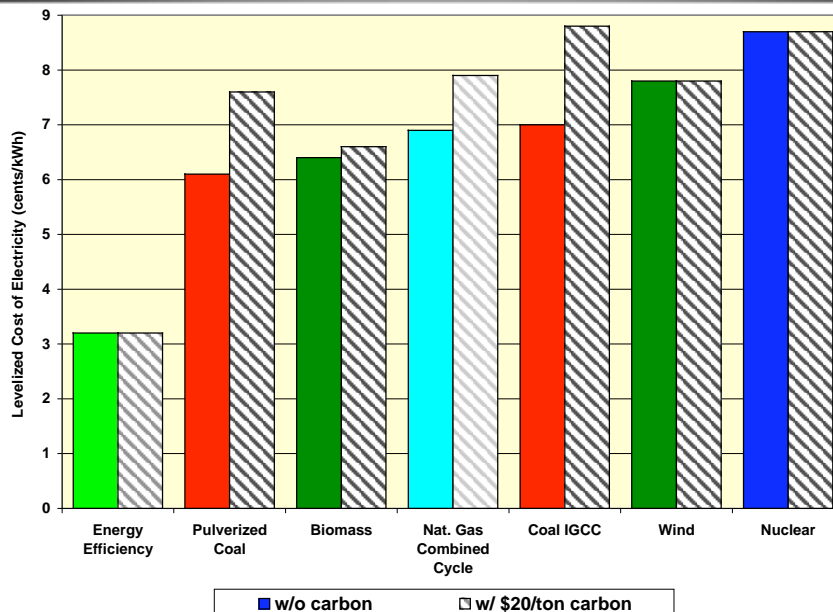
Source: Dworkin 2007 from VT-PSC data



As Plant Costs Rise Coal No Longer the Least-Cost Resource



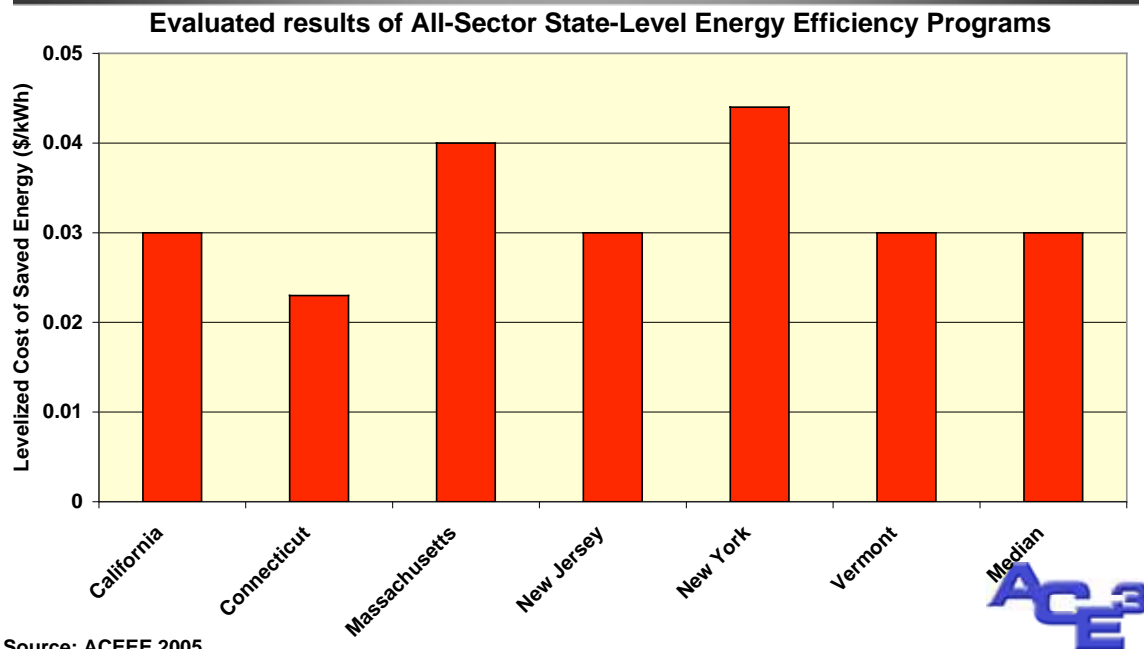
Costs of Saved Energy vs other Electricity Resources



Source: ACEEE 2007, EPRI 2006 & UCS 2007



Efficiency Resources Are Cost-Effective



Efficiency as a Resource: Two Approaches

DSM Programs

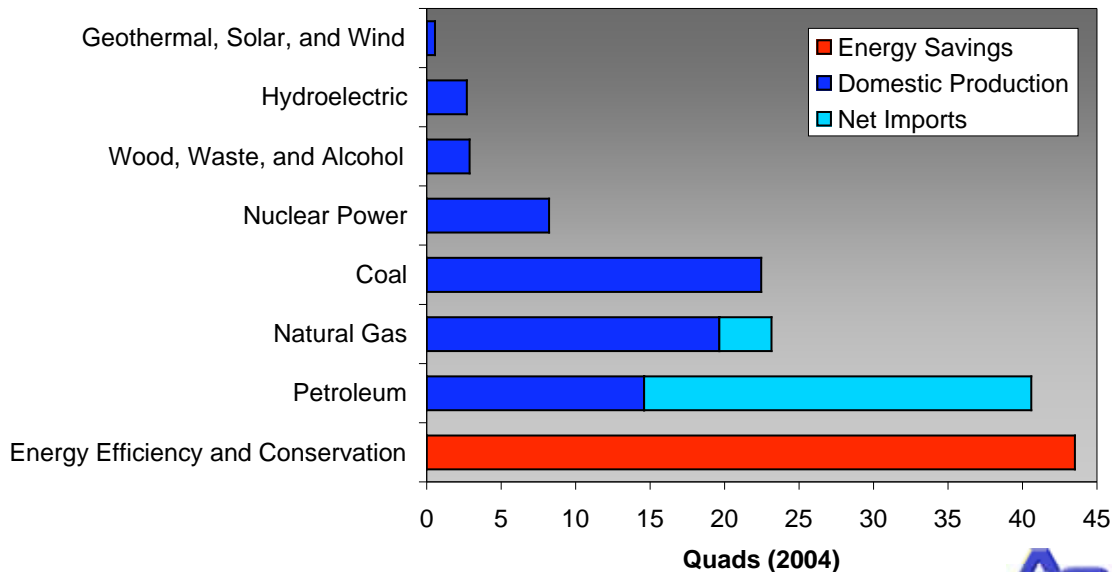
- Funded through PBF
- Programs managed by utility or 3rd Party
- Evaluate program cost-effectiveness
- Allow utility to collect lost revenues (& rate of return?)

All-Resources Acquisition

- Resource target set
- “Least-cost” savings sought from resource providers
- Savings verified
- Auction prices determine cost recovery & profit



Efficiency: America's 1st Energy Resource



Source: Alliance to Save Energy



Efficiency Investment is Big Business

- Total annual spending efficient technologies and services: \$200 billion
- Total annual U.S. investment in energy supply infrastructure: \$100 billion
- Inference: the “energy services” infrastructure is much larger than the “energy supply” infrastructure
- Question: How much additional efficiency spending can be tapped through financial investment mechanisms?



But if it's such a good deal.....

Why won't the market just do it?

- Market barriers—principal-agent problem affects ~half of buildings energy use
- Regulatory barriers—utility regulation especially
- Financial hurdles—the “Warren Buffet problem”



Conclusions

- Energy efficiency resources are available, affordable and can be quickly deployed
- Efficiency technologies and practices represent new business opportunity
- Efficiency resources can represent the foundation of climate policy that allows for continued economic health



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