

# **Energy Prices & Our Energy Future: Economics of New Nuclear and Renewables**

Webinar PRESENTATION

March 26, 2010

# About Us

**Southern Alliance for Clean Energy (SACE) has been a leading advocate for clean, responsible energy choices that better our communities, our region and our world for over 20 years.**

**Since its formal inception in 1985, SACE has grown from a small group of individuals into a dynamic organization, with offices across the Southeast and initiatives at federal, state and local levels. SACE continues to expand organizationally, to address the needs of a rapidly changing planet.**

**As we look towards the future, SACE's commitment to preserve, restore and protect our environment through the use of innovative technology, community outreach, grassroots and grassroots education, and pioneer policy work remains steadfast.**



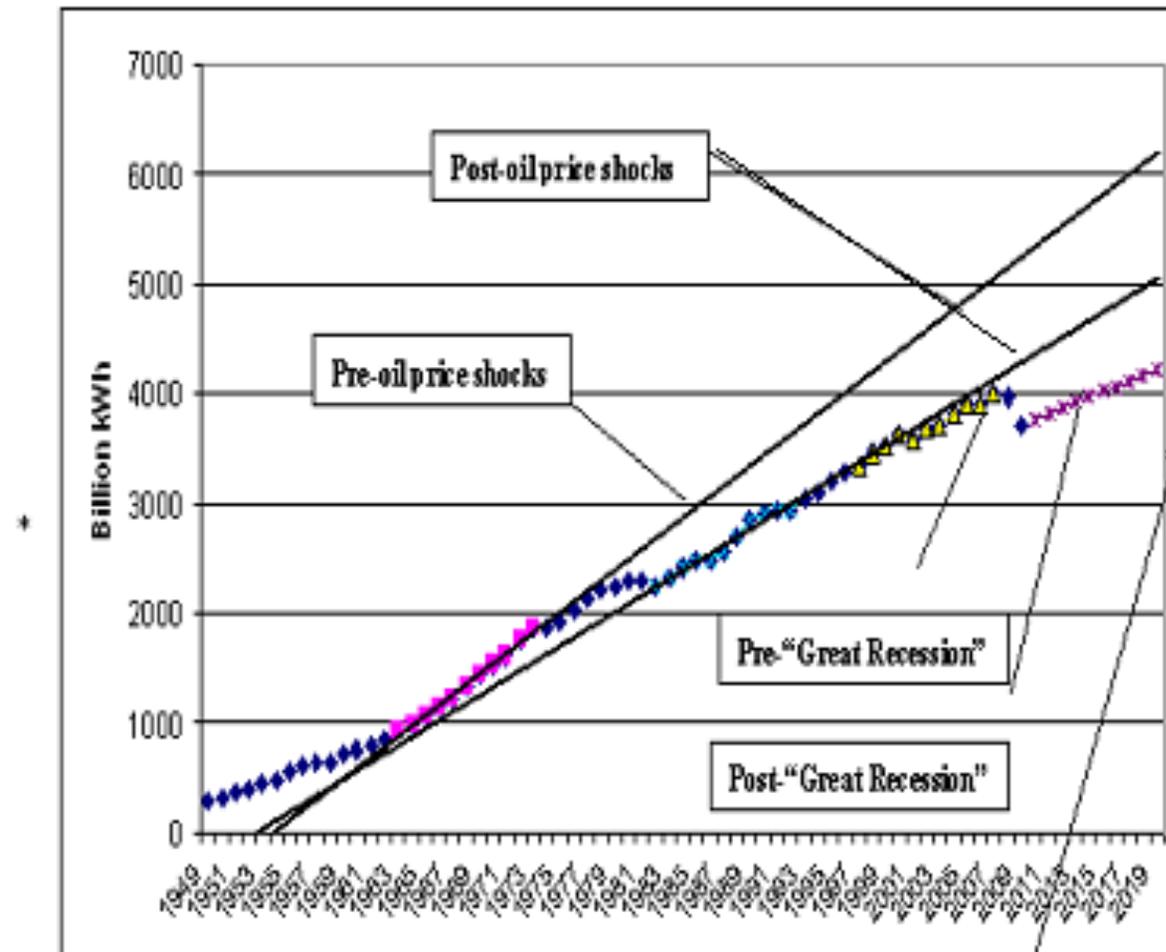
**For more information visit [www.cleanenergy.org](http://www.cleanenergy.org)**

# **A Least-Cost, Low-Carbon Electricity Future**

**Mark Cooper,  
Senior Fellow for Economic Analysis,  
Institute for Energy and the Environment,  
Vermont Law School**

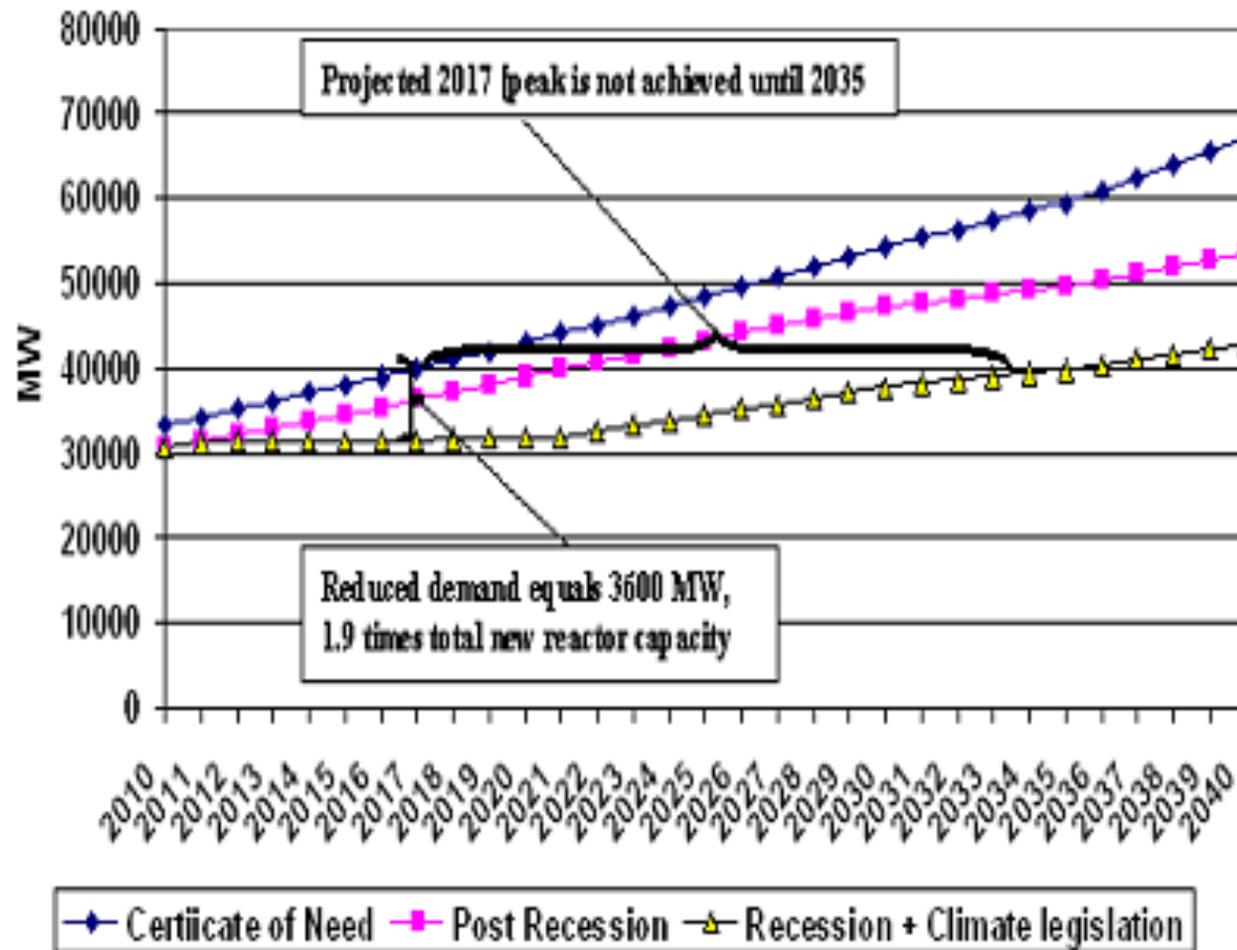
Extremely high nuclear reactor costs, slowing demand growth, falling natural gas prices, and plentiful, lower cost, low-carbon alternatives mean new nuclear reactors are not needed to build an affordable, low-carbon electricity future.

## External Shocks and Public Policy Shift the Level and Growth Rate of Demand

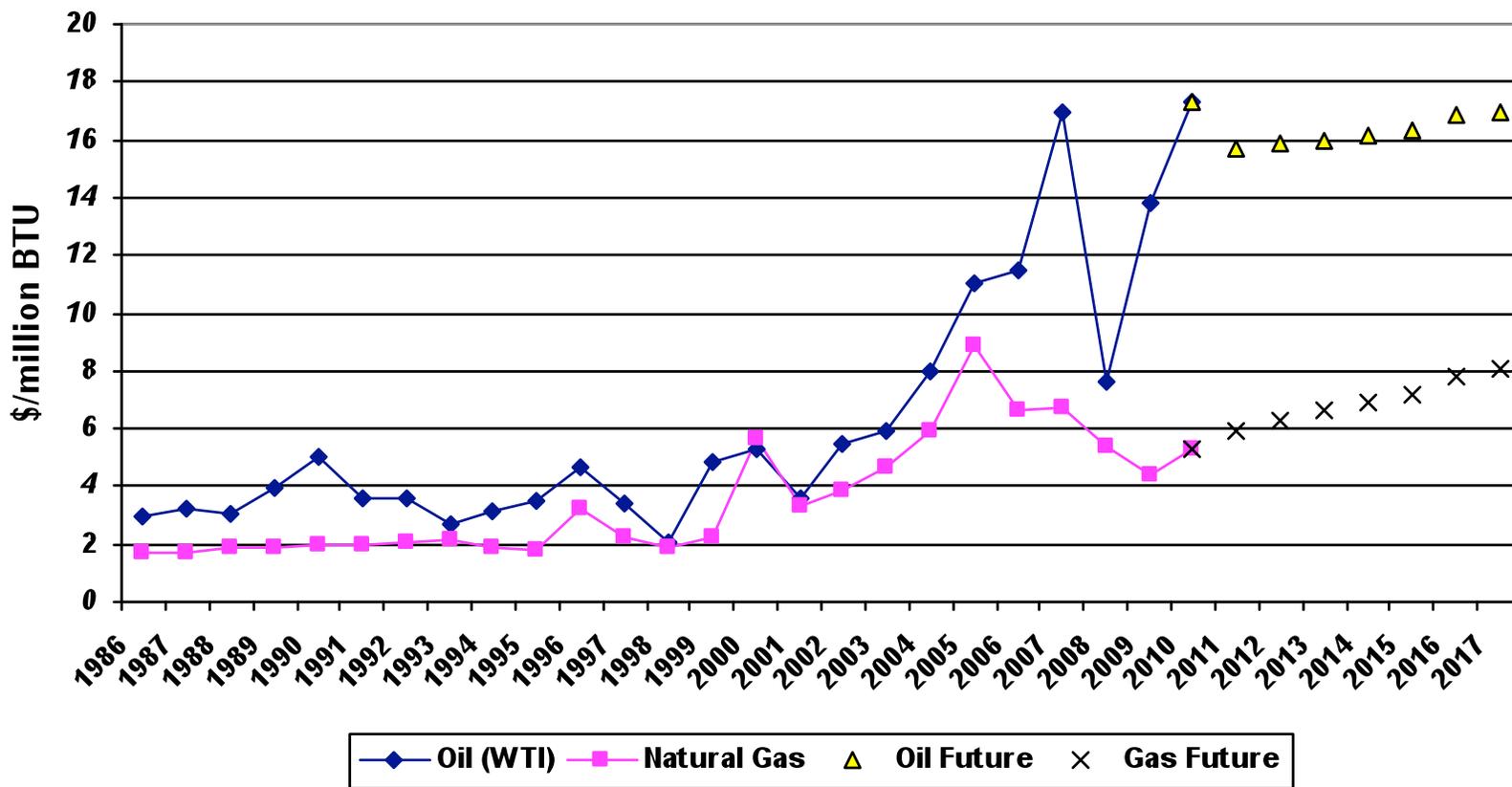


**20% efficiency &  
renewable driven  
reduction in demand for  
central station capacity**

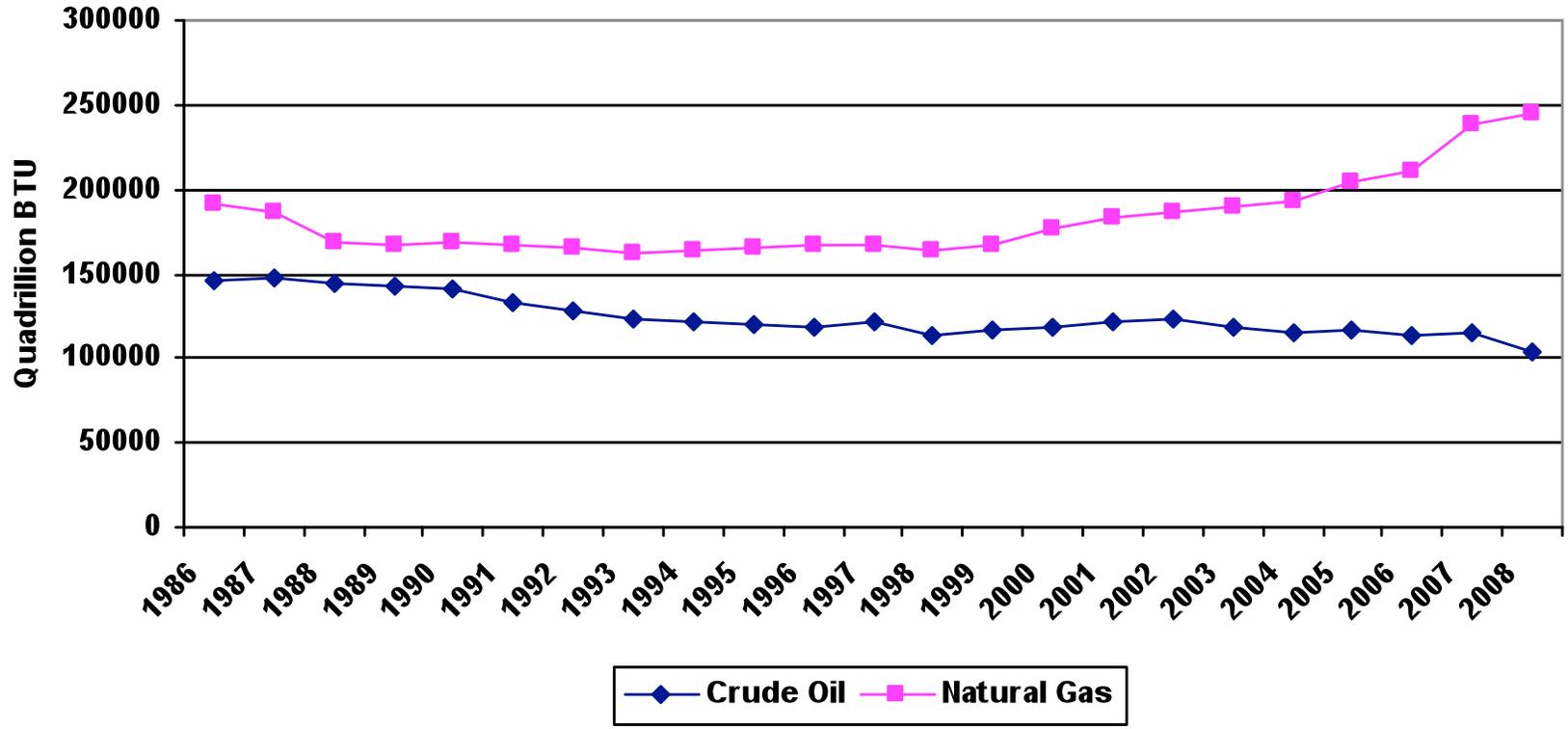
### Projections of Peak Summer Load: Florida Power and Light & Progress Energy Florida



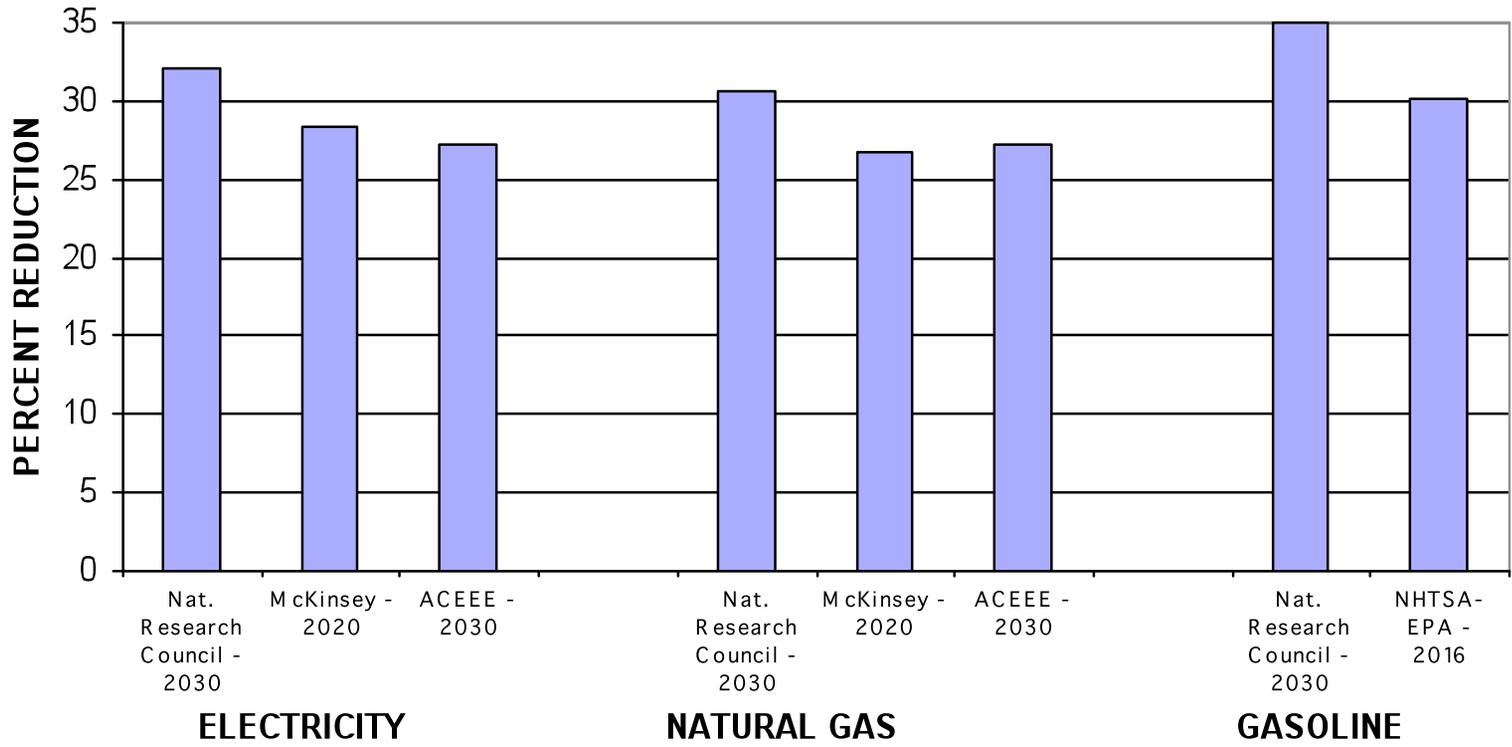
### Wellhead Prices: December



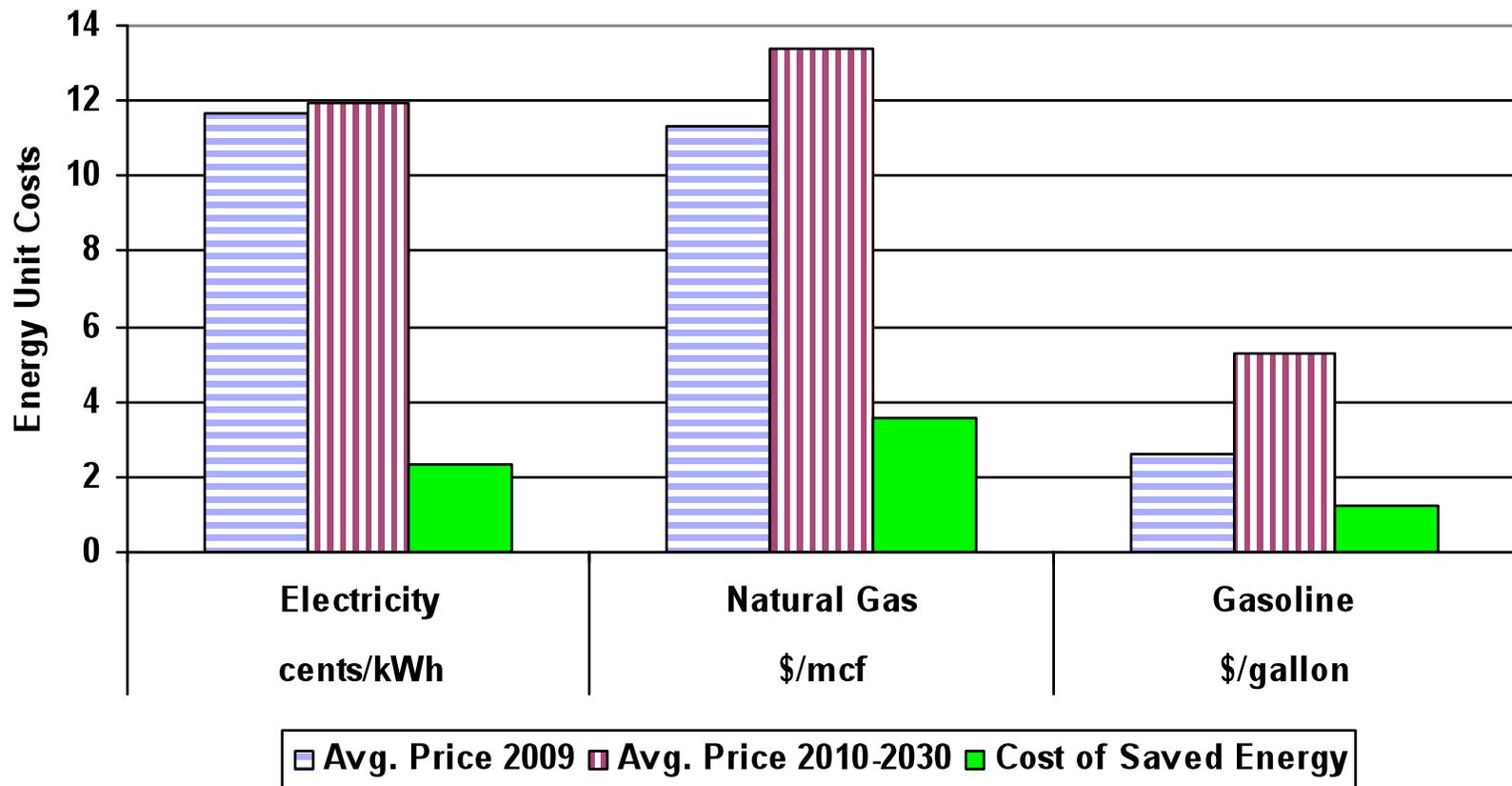
### Proved Reserves



**Recent Studies by Major National Research Institutions Document  
Large Quantities of Technically Feasible, Economically Optimal  
Efficiency Gains**



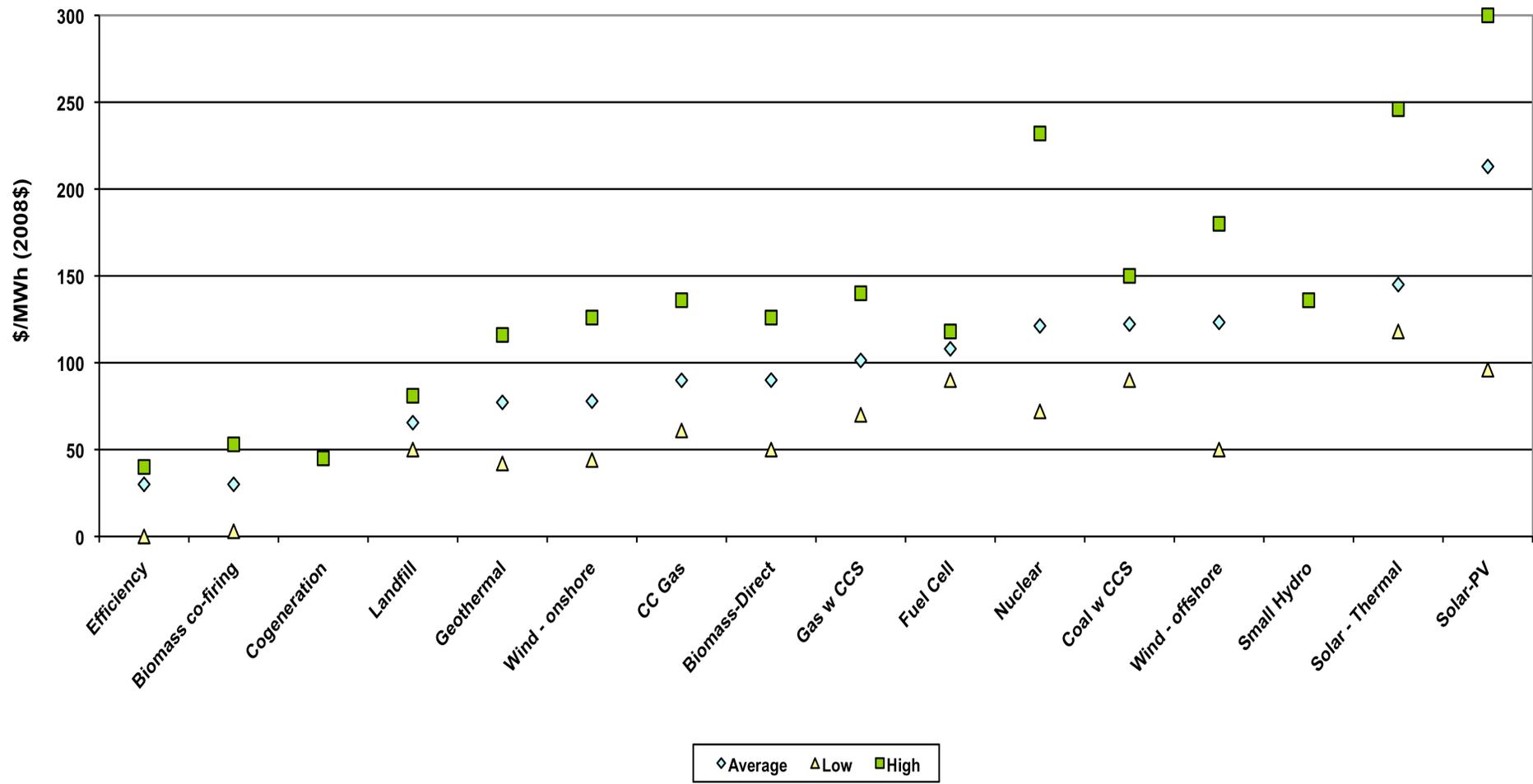
## The Cost of Saved Energy is Far Below Current and Projected Residential Energy Costs



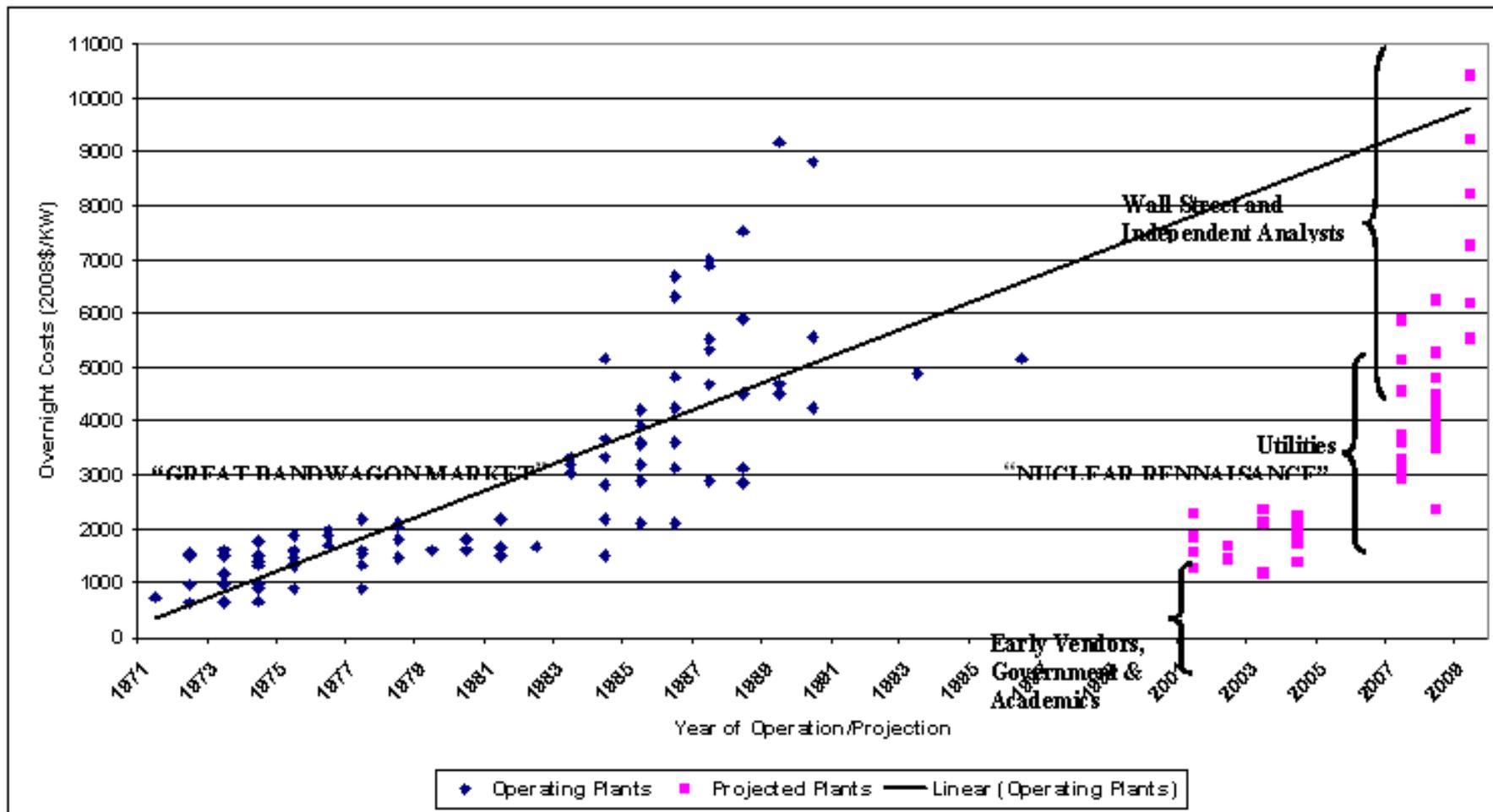
Capturing the full measure of efficiency at these costs and quantities produces well over \$1,000,000,000,000 (\$1 trillion) in net present value cost savings and provides 2/3 of the House Climate bill target reduction in CO2 emissions for 2030.

Efficiency is a win-win for consumers and the environment and provides the cushion to keep electricity affordable in a carbon-constrained world.

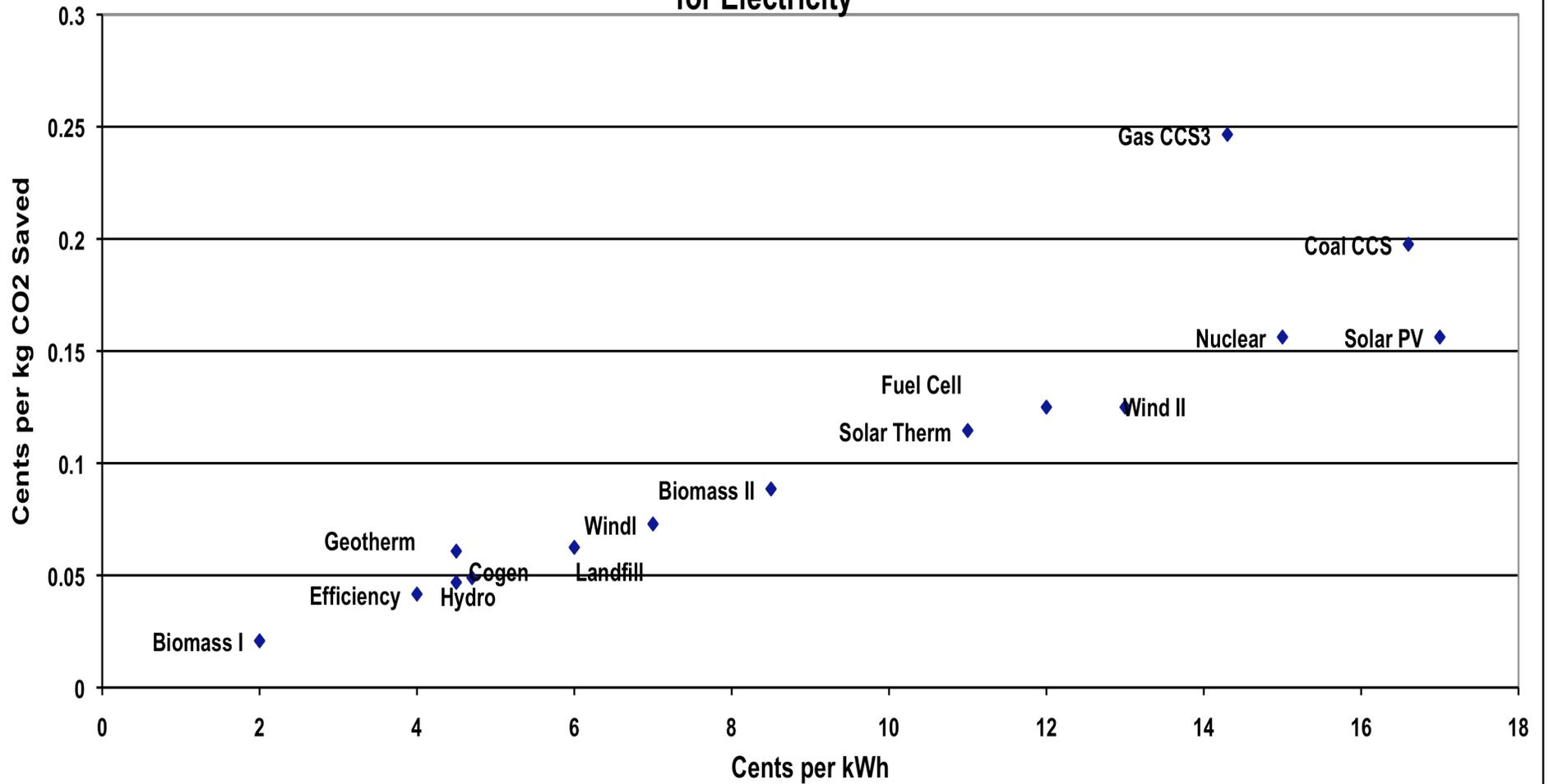
### Levelized Cost of Electricity "Resources"



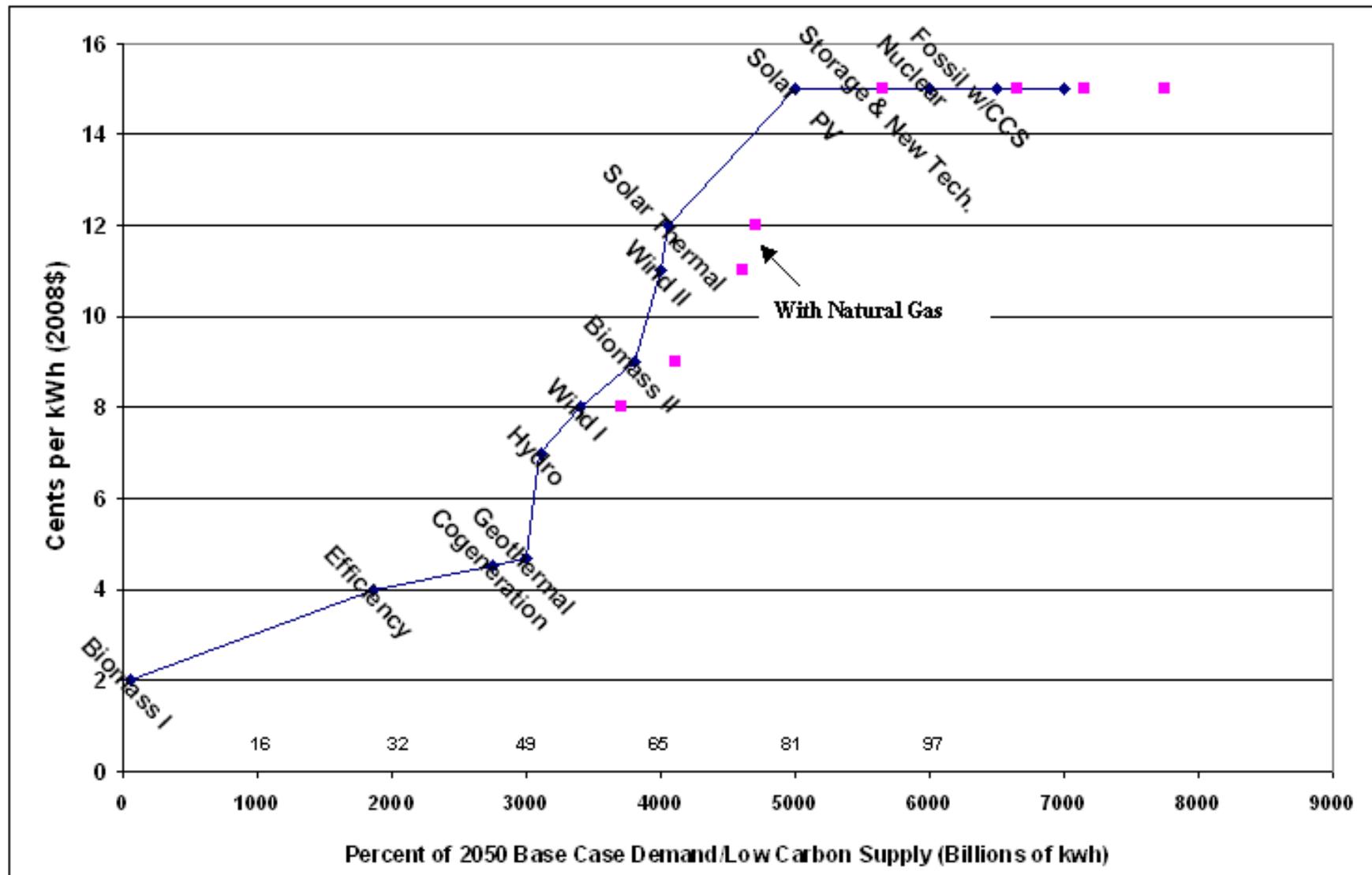
### Completed Nuclear Reactors Compared to Projected Costs of Future Reactors



# Economic Efficiency equates to Environmental Efficiency: The Energy and Environmental Cost Effectiveness of Alternative Means of Meeting the Need for Electricity



Meeting Electricity Needs in a Carbon Constrained Environment  
 (Cost of Alternatives Substitution Curve)



# Policy Conclusion:

It would still not be until 2040 that costly or as yet nonexistent technologies would be needed. Thus, pursuing these low cost options first meets the need for electricity and emissions reductions, allowing time for technologies to be developed that could meet electricity needs after 2040.

The contending technologies that would have to be included in the long term are all shown with equal costs, above the technologies that have lower costs today because it is difficult to project costs that far out in the future and there will likely be a great deal of technological change before those technologies must be tapped to add substantial incremental supplies.