
Meeting California's Future Natural Gas Demand Through Conservation and Renewable Energy

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California Natural Gas Utilities are Not Playing by the Rules

- Utility proposals would require utility ratepayers to pay for interconnections with LNG supplies
- Under traditional ratemaking, LNG suppliers would bear these costs
- The costs can be substantial – several hundreds of millions of dollars
- Pre-approval of cost recovery undermines traditional regulatory oversight by CPUC



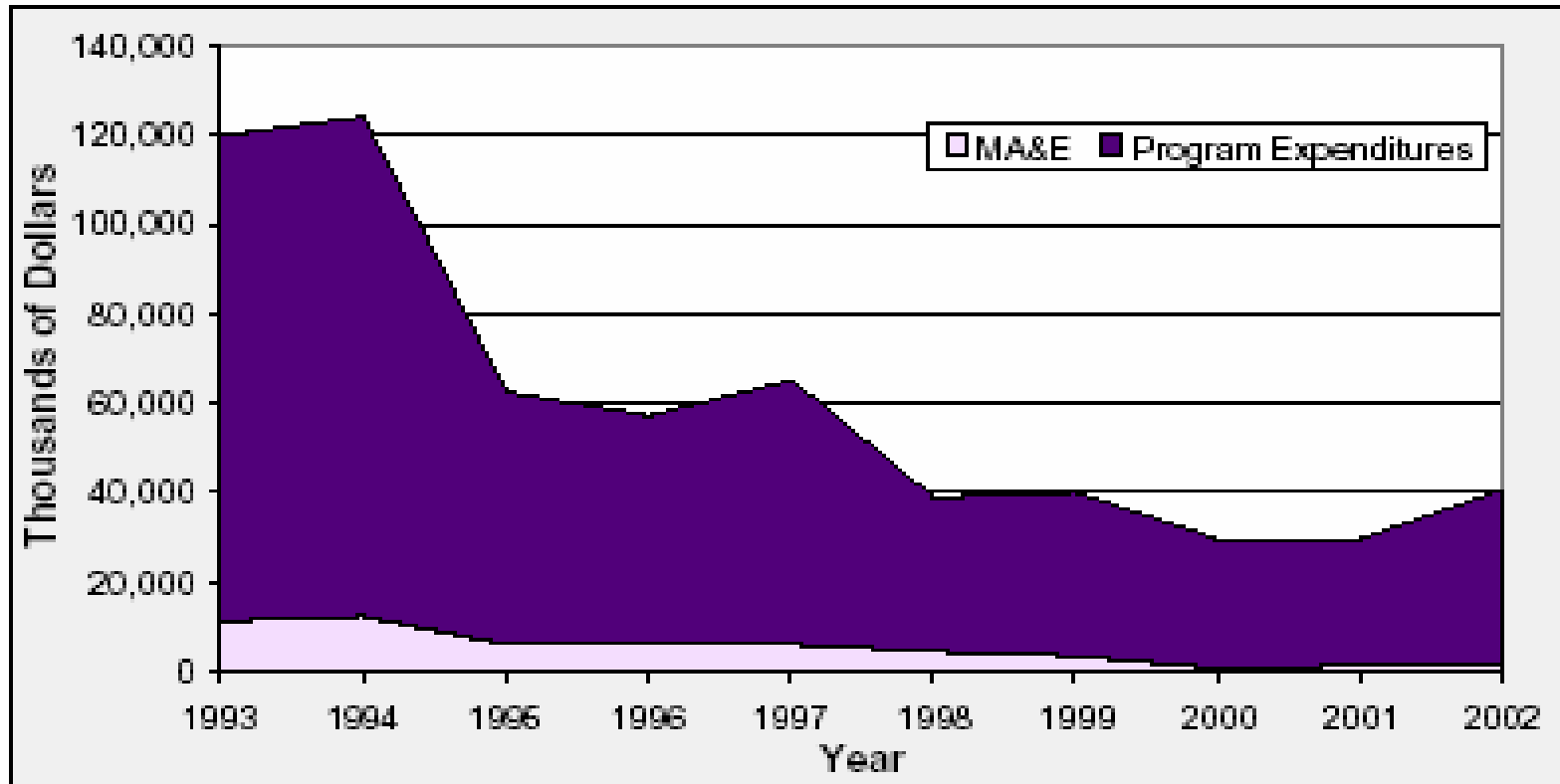
Synapse Report

- Synapse was asked by Ratepayers for Affordable Clean Energy to review the utilities' proposals
- Synapse examined recent studies of the potential for saving electric energy and natural gas in California
- Synapse concluded that the California Public Utilities Commission should not adopt the fundamental changes in traditional gas ratemaking policies requested by the utilities



The Problem: Natural Gas Efficiency Programs Have Been Dramatically Reduced Since the Early 1990s

Natural Gas Efficiency Program and Evaluation Expenditure Trends¹⁵



Annual spending on natural gas efficiency programs and evaluation has declined over the past decade.

Source: California Energy Commission and Xenergy



The Solution = Portfolio Management: Adequate Supplies, Reasonable Rates, Minimal Environmental Impact

- Developing an optimal mix of resources is essential
- An optimal mix should include demand side options and obtaining gas from diversified supply sources under contracts of varying lengths and with some reliance on spot markets
- The implementation of cost-effective energy efficiency measures must be the first step in developing the optimal mix
- Reducing the use of electric energy also would reduce the amount of natural gas used at the state's power plants

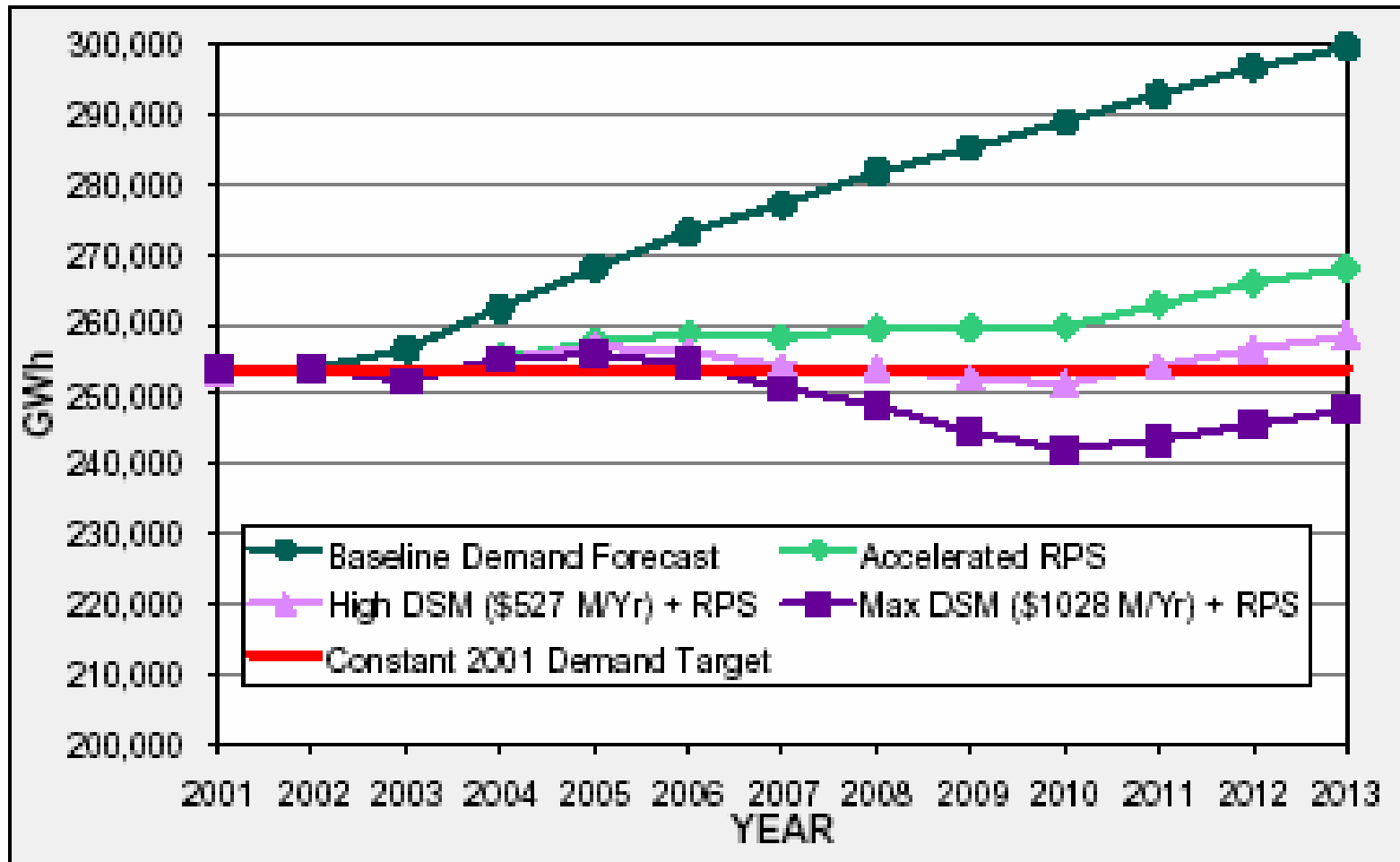


Electricity Conservation Leads to Reduced Natural Gas Demand

- Approximately 37 percent of the natural gas used in California is consumed at electric generating plants
- Therefore, reducing the demand for electric energy also will lower the demand for natural gas
- In fact, California-specific studies have shown that the demand for natural gas can be significantly reduced through more extensive electric energy efficiency programs and acceleration of the State's 20 percent Renewal Portfolio Standard from 2017 to 2010

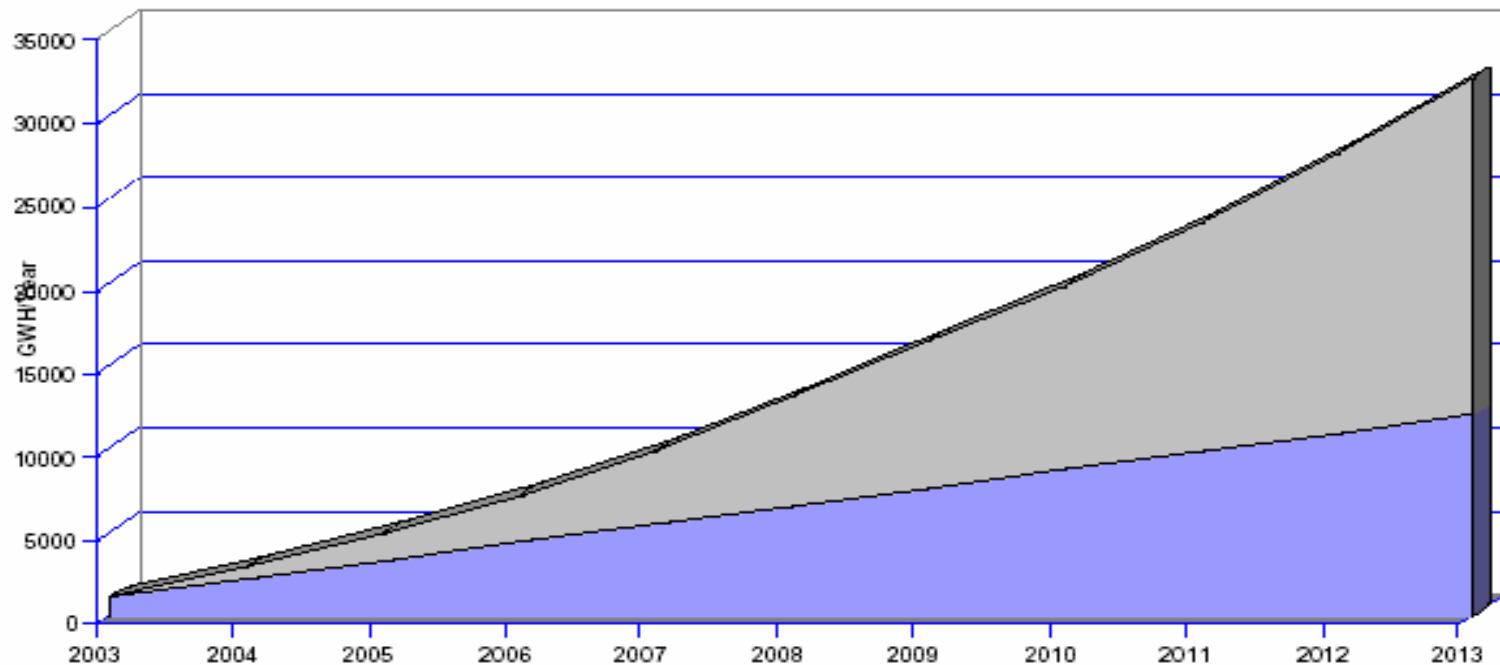


Annual Statewide Energy Demand (GWh) under DSM and Accelerated RPS Scenarios



California Energy Commission Staff-Recommended Electric Energy Efficiency Goals

Long Term Electricity Savings Goal for Energy Efficiency Programs

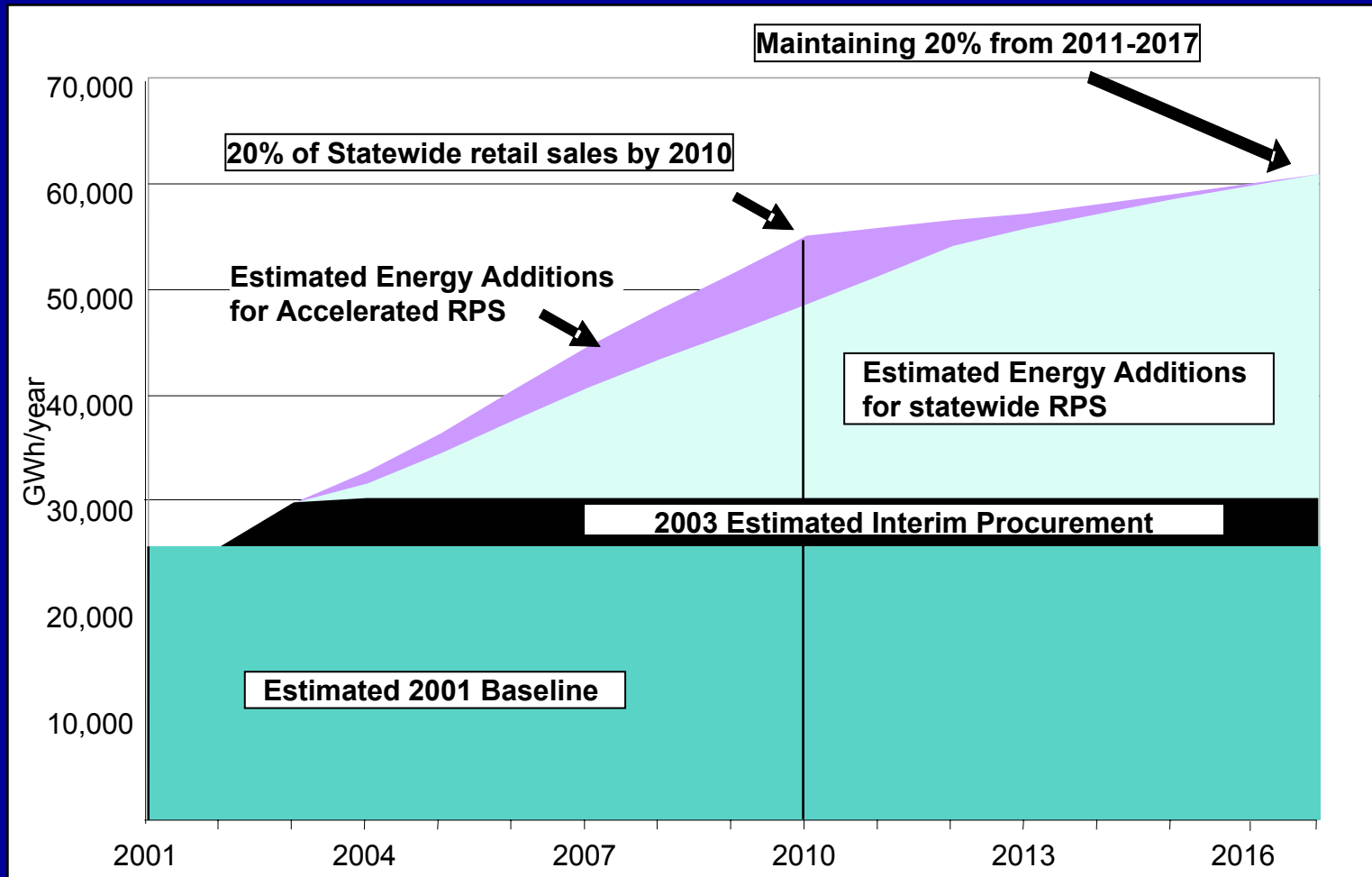


■ GWh Savings/year from baseline program 2004-2013 (\$225 MM/yr)

■ GWh Savings/year from increased program efforts-2004 to 2013

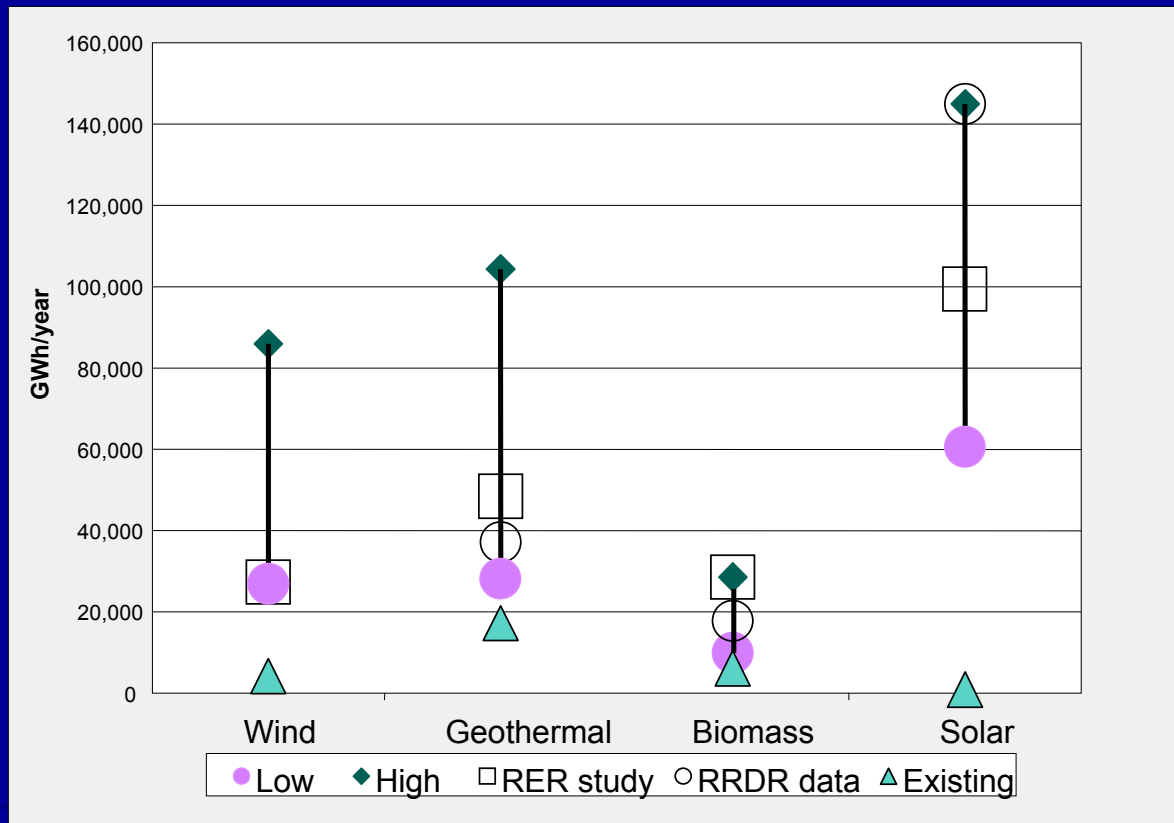


Accelerating California's Renewable Portfolio Standard from 2017 to 2010 Will Also Reduce Gas Demand



California has Significant Untapped Renewable Energy Resources

- California Energy Commission *Renewable Resources Development Report* found that there are more than enough resources to meet the accelerated Renewable Portfolio Standard in 2010



Potential Natural Gas Demand Reduction of 400 mmcf or More Per Day

- Meeting the energy efficiency goals recommended by the Energy Commission staff would reduce electric energy use by 25,000 GWh per year
- The state's 2005 building standards should reduce electric energy use by another 3,000 to 4,000 GWh per year
- Accelerating the Renewal Portfolio Standard from 2017 to 2010 would further reduce electric energy use by another 1,000 to 2,000 GWh per year
- These reductions in electric energy use would translate into reduced natural gas usage at power plants by approximately 400 mmcf or more per day



Further Gas Demand Reductions Are Possible Through Repowering or Retirement of California's Aging Power Plants

- California has approximately 16,600 MW of older natural gas-fired steam generating plants
- Generally more than 30 to 40 years old with high heat rates, i.e., above 10,000 BTU/KWh
- Repowering these facilities with newer, combined cycle technology would lower their heat rates to approximately 7,000 BTU/KWh
- This would save approximately 174 Bcf of natural gas per year, or 500 mmcf per day



Significant Potential for Reducing Both Core and Non-core Natural Gas Demand

- Diverse groups such as Sempra Energy, the National Petroleum Council, the American Council for an Energy-Efficient Economy and the Center for Energy Efficiency and Renewable Technology all agree that increased spending on gas efficiency programs can lead to significant reductions in natural gas demands
- Unfortunately, there are not any comprehensive California-specific studies of the potential for reducing natural gas demand through efficiency programs
- Nevertheless, recent estimates by Sempra, PG&E and ACEEE show that the potential for saving natural gas “remains high”
- Potential for Reduced Prices and Volatility



Recommendations

- A series of actions should be taken before the State agrees to LNG terminals and supplies
- State and region-specific studies of the potential for natural gas efficiency programs should be undertaken
- California and other states should mandate that spending on the cost-effective programs identified in these studies be increased
- Spending on electric energy efficiency programs also should be increased
- Aging natural gas power plants should be repowered or retired