

# Macroeconomic Impact Analysis of New York's Energy Efficiency Programs

*Using REMI Software*

New York State Energy Research & Development Authority  
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# Why do we do this?

- Everybody wants to know about jobs
- Enables us to quantify the benefits of what we do
- The benefits are very substantial

# Benefit/Cost Ratios for NYSERDA Energy Efficiency Programs Through 2010

Benefit Source	Present Value of Benefits (Constant Millions \$2008)	Cumulative Benefits (across benefit sources) (Constant Millions 2008\$)	Program Administrator Cost (PAC) Test	Total Resources Cost (TRC) Test
Resource Benefits	\$2,493	\$2,293	4.3	1.3
Non-Energy Impacts	\$1,130	\$3,623	6.2	1.9
Price Suppression Effects	\$169	\$3,792	6.5	2

- Macroeconomic impacts increase benefit-cost ratios

# New York Energy \$mart<sup>sm</sup> Program Background

- Program funding initiated in July 1998
- Program funds collected by utilities through a “system benefits charge” & administered by NYSERDA
- Current funding level = \$175 million per year
- Total expenditures = ~\$1.4 billion through 2010 (2010 dollars)

# REMI

- Input-output model: Uses transaction tables or a matrix representation of a region's economy to estimate the impact of changes in one industry's output on others and on consumers, government, and foreign suppliers. Contains a detailed representation of transactions in NY economy, & interrelationships among industries and sectors.
- "Dynamic" capabilities: Allows for behavioral responses to compensation, price, and other economic factors over time.
- Allows for year-by-year analysis.

# General New York Energy \$mart<sup>SM</sup> Study Assumptions

- Assumes Program ends in 2010 to measure impacts of programs run through 2010 only
- No market transformation assumed
- No health impacts measured
- Energy prices held constant

# Positive Impacts Modeled

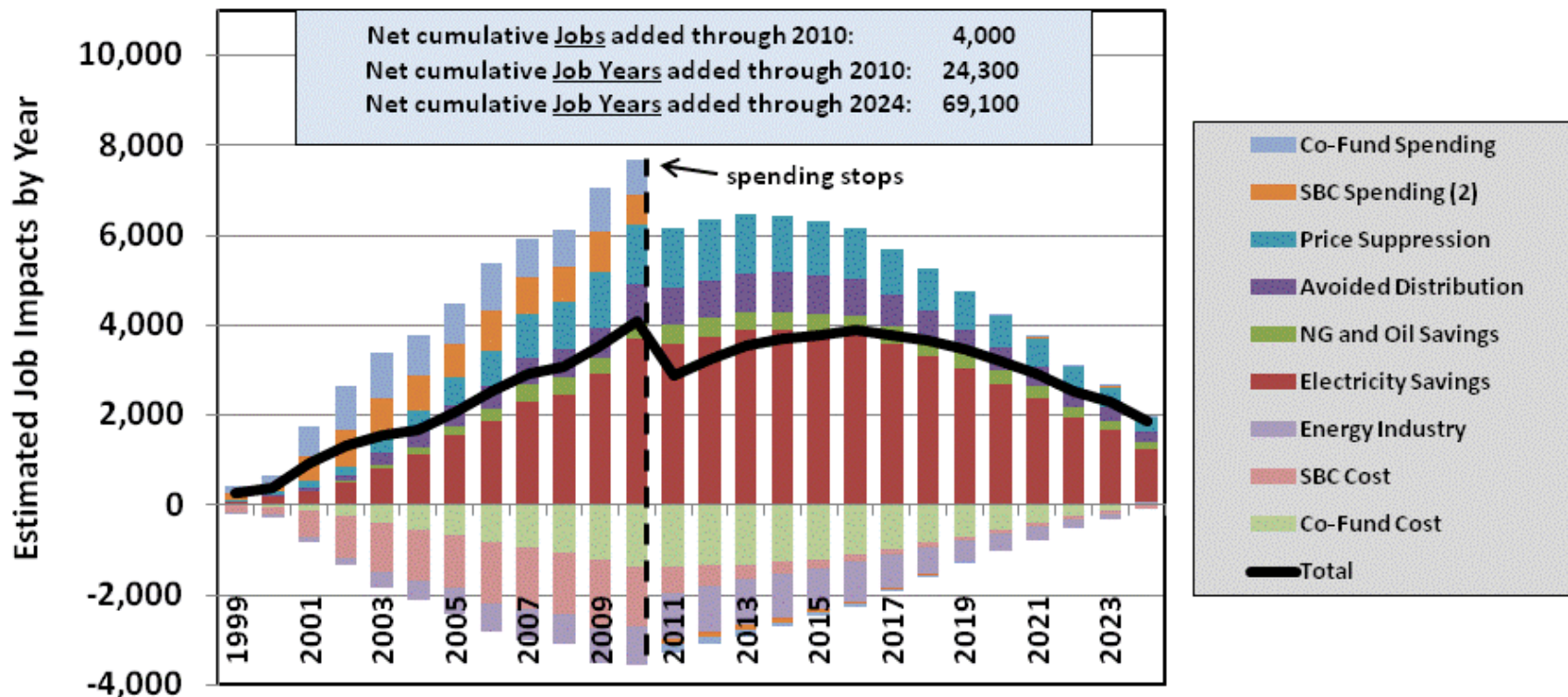
- **Spending**: The increased demand for goods and services resulting from the spending of SBC and co-funding monies in the New York economy.
- **Direct Bill Savings**: The increased disposable income and lowered production costs to residential and business customers related to energy bill savings.
- **Price Suppression**: The increased disposable income and lowered production costs to residential and business customers that result from the slightly lower system-wide electricity prices caused by efficiency installations.

# Negative Impacts Modeled

- **SBC Charge**: The decreased disposable income and increased production costs for residents and business owners resulting from electric ratepayer funding of program spending.
- **Co-Funding Cost**: The co-funding cost to residential and business program participants resulting in reduced disposable income and an increased cost of production over the life of the installed efficiency measures.
- **Energy Industry Impact**: The decreased revenues for companies in the energy industry related to the decreased demand for electricity, natural gas, and petroleum products.

## Employment Impacts of New York Energy \$mart<sup>SM</sup>

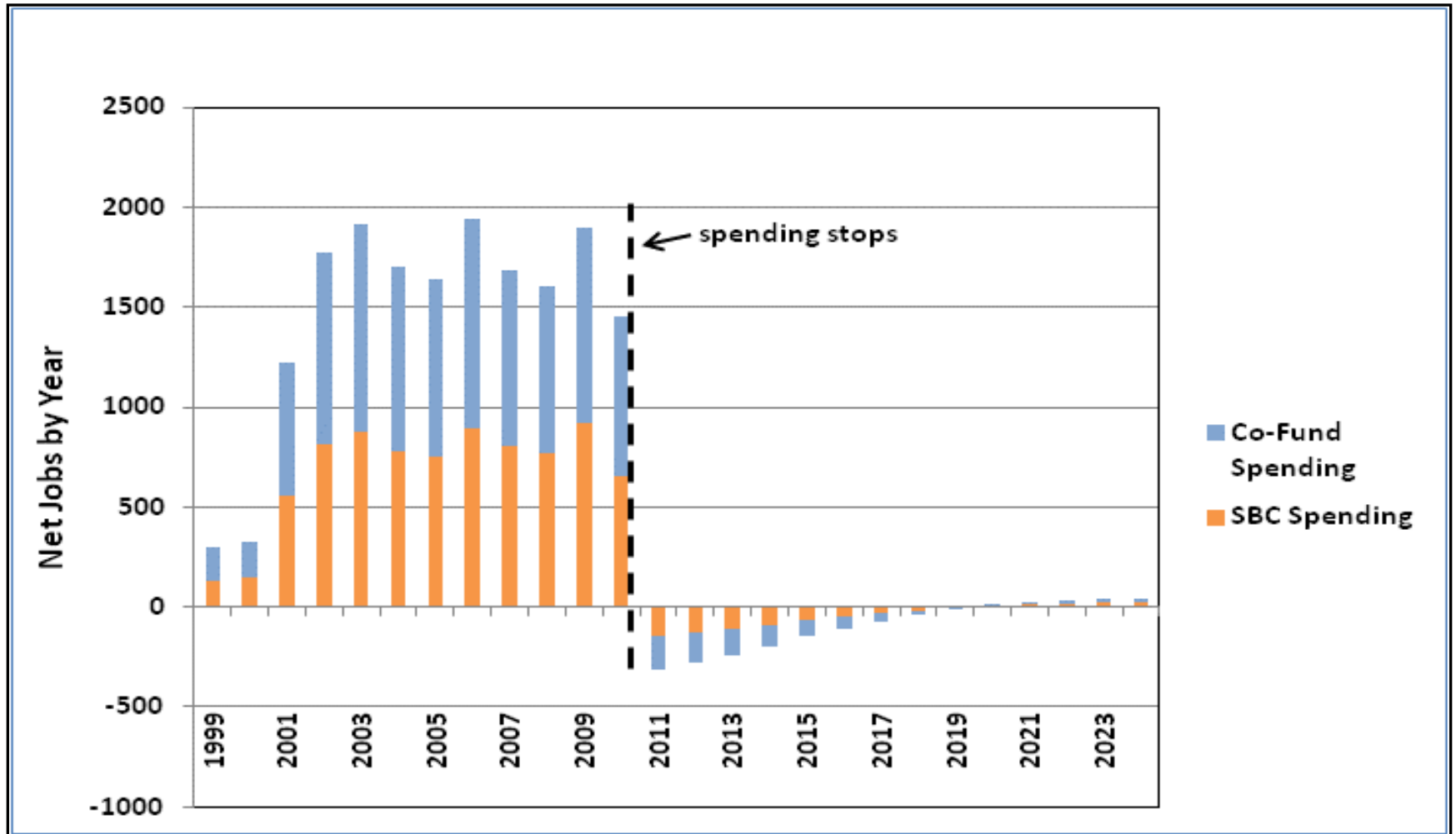
### Estimated Job Impacts due to Program Spending through 2010 (1)



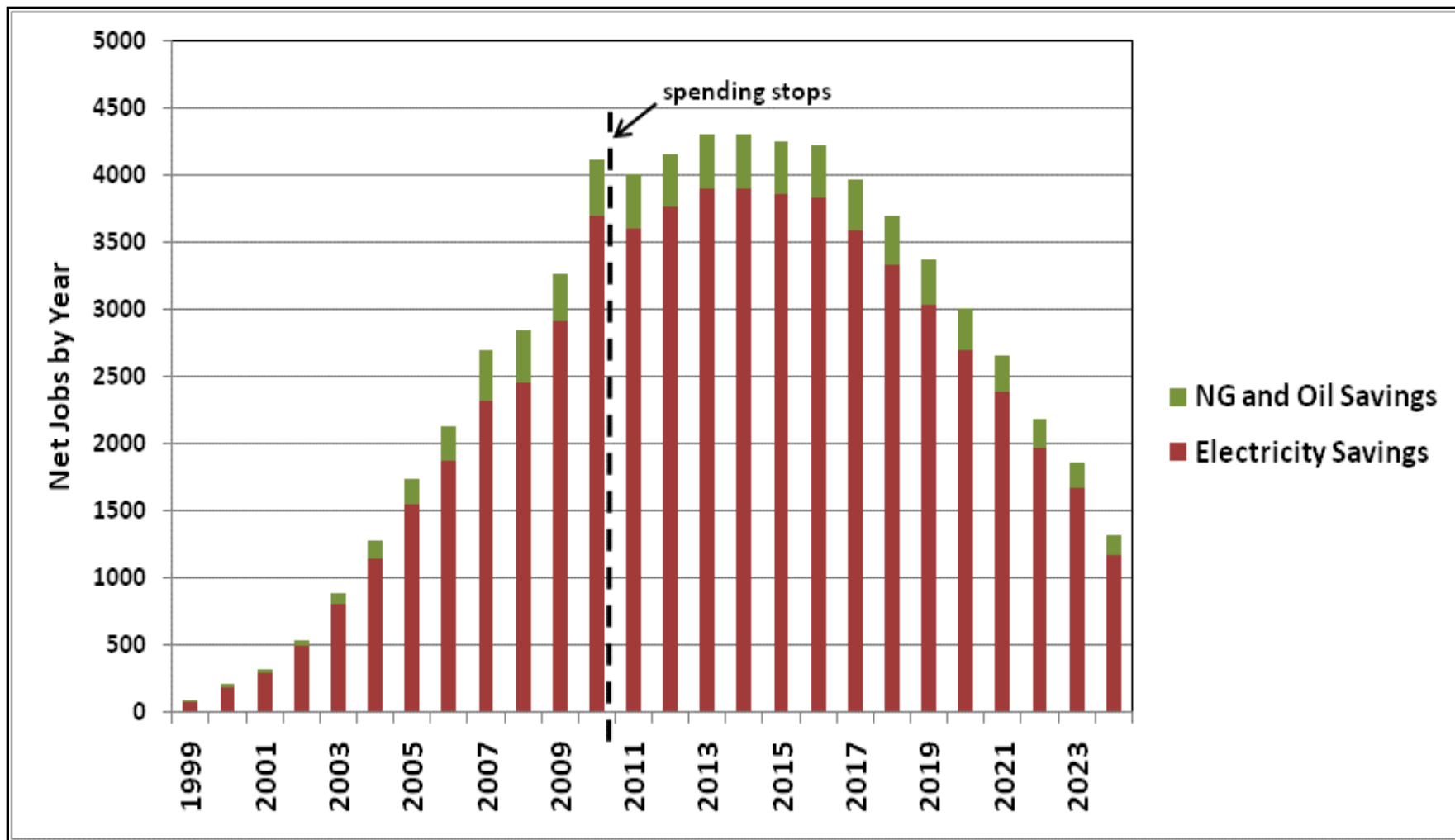
**Notes:**

- (1) Efficiency measures are assumed to carry a 15 year life. Results are truncated to end within 15 years after program spending stops.
- (2) Includes program spending for the the full portfolio of New YorkEnergy \$mart<sup>SM</sup> programs but does not take account for all possible program benefits.

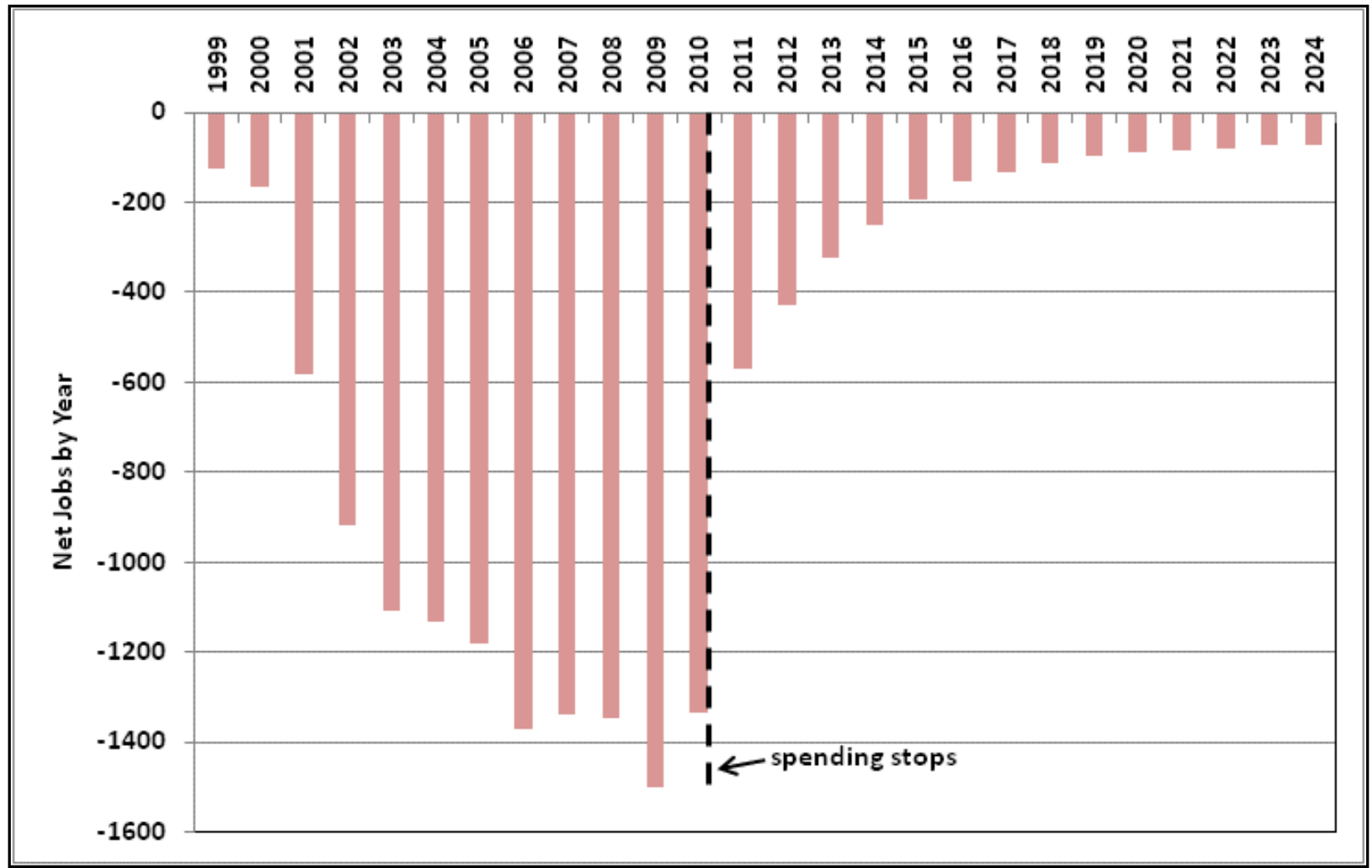
# Job Impact: *Program and Co-Fund Spending*



# Job Impact: *Energy Savings*

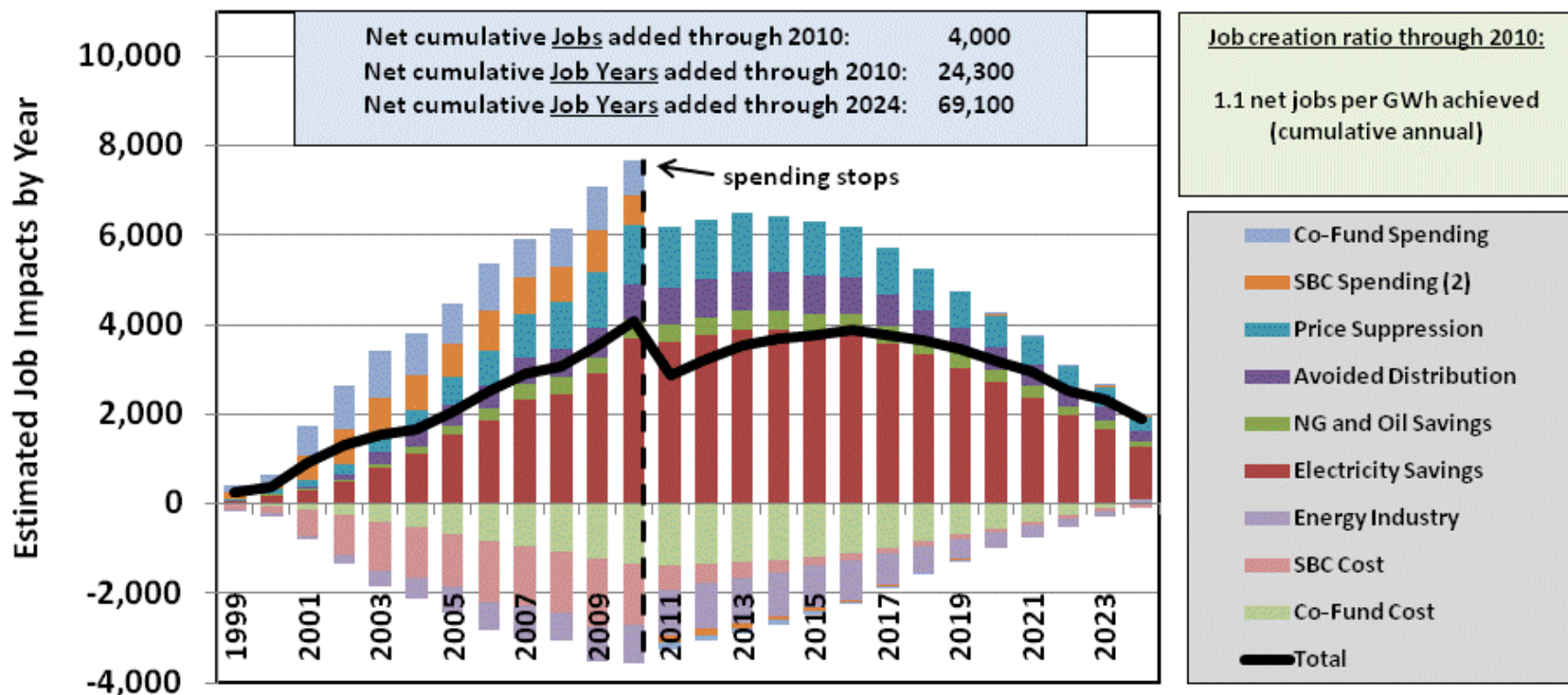


# Job Impact: *SBC Spending as Cost to Consumers*



## Employment Impacts of New York Energy \$mart<sup>SM</sup>

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# Questions and Comments?