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[sm] 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)

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REMI

- <u>Input-output model</u>: 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.

- <u>"Dynamic" capabilities</u>: Allows for behavioral responses to compensation, price, and other economic factors over time.

- Allows for <u>year-by-year</u> analysis.

General New York Energy $mart^{SM} 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
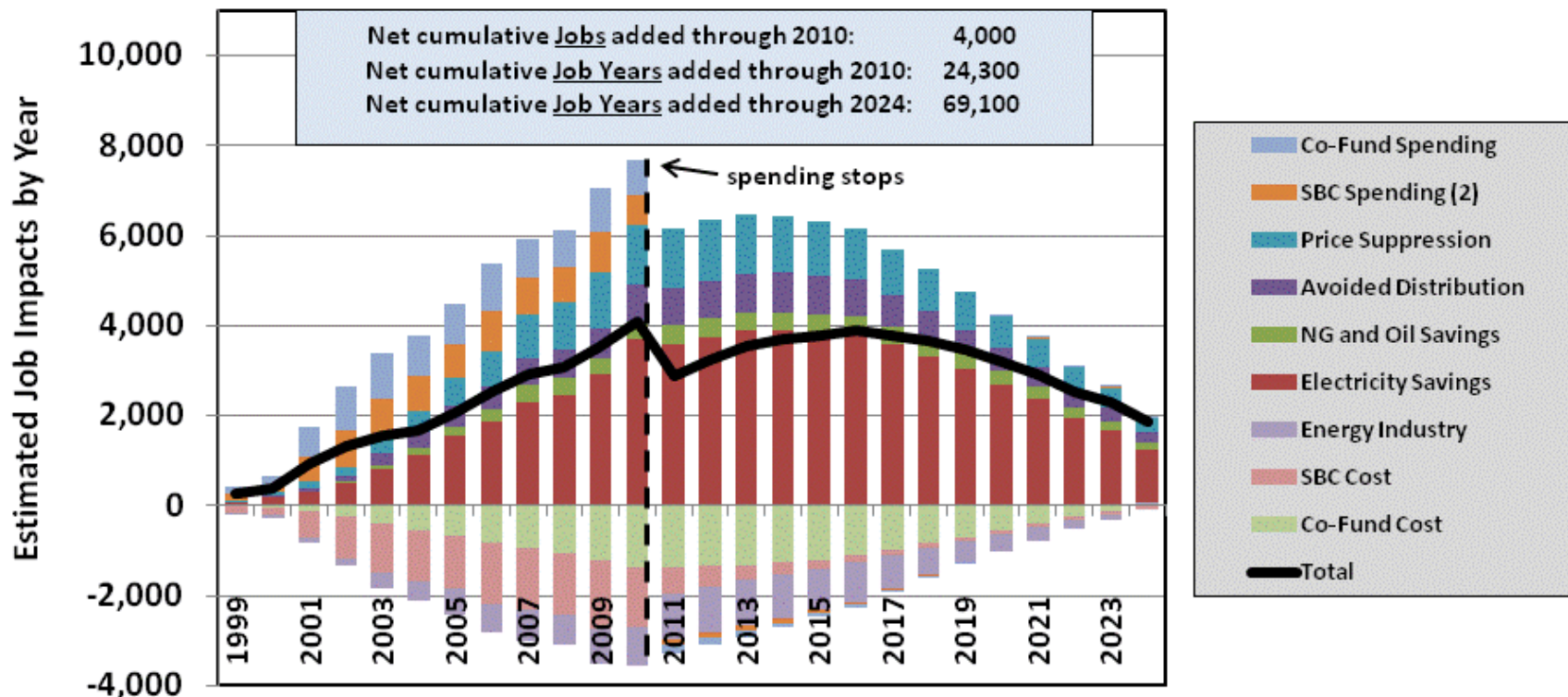
Positive Impacts Modeled

- **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.
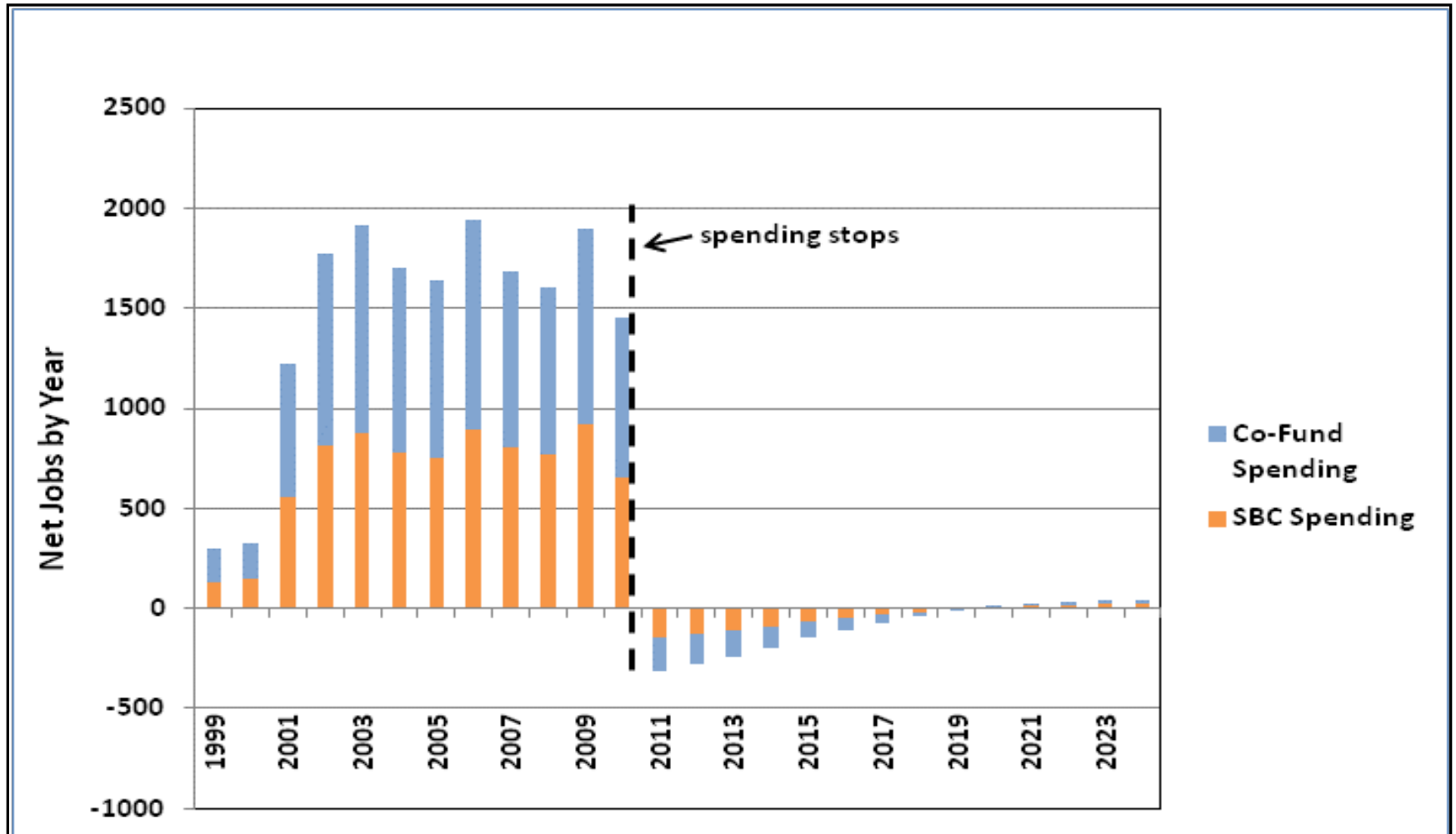
Employment Impacts of New York Energy $mart[SM]
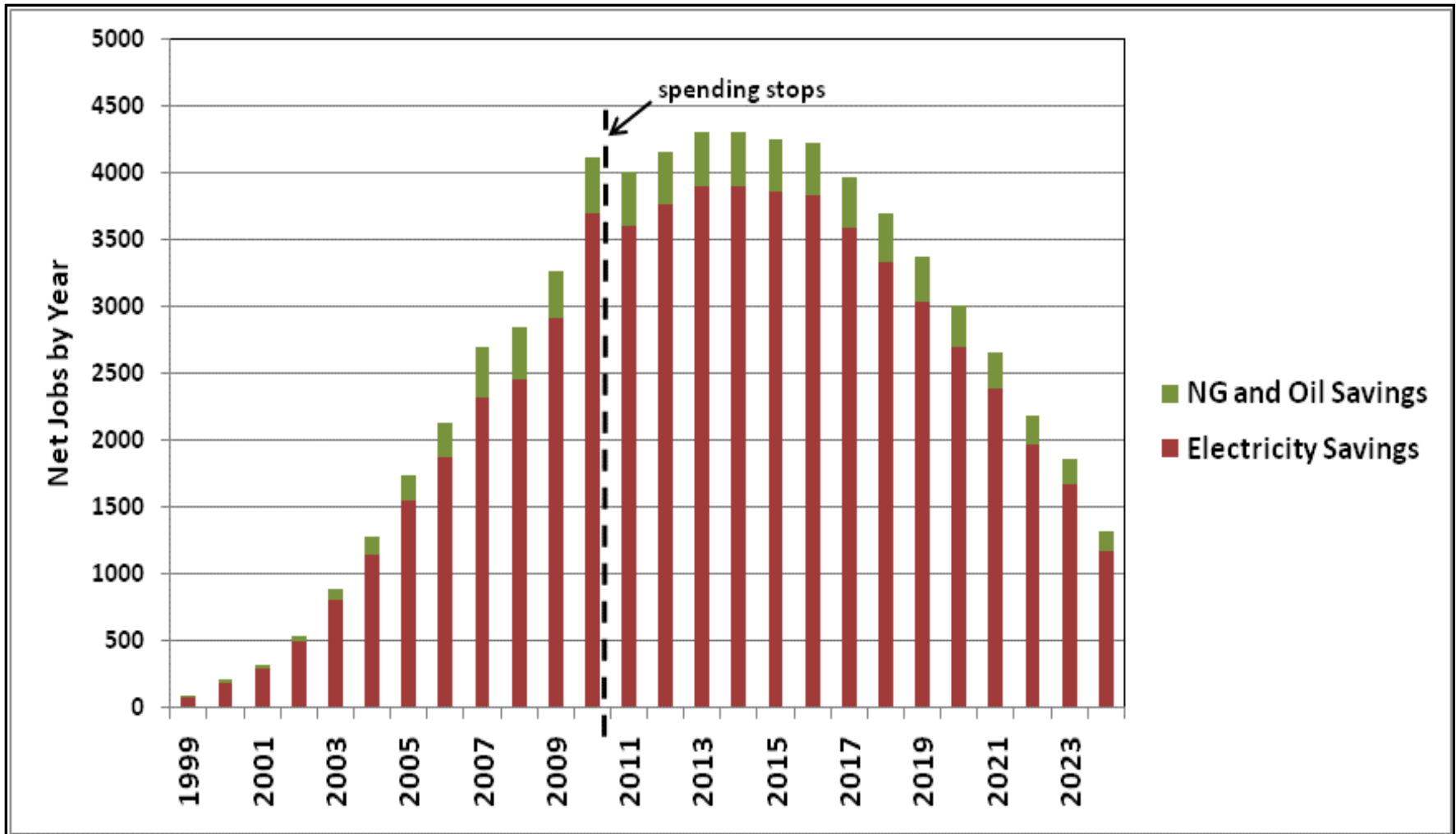Estimated Job Impacts due to Program Spending through 2010 (1)

Net cumulative Jobs added through 2010: 4,000
Net cumulative Job Years added through 2010: 24,300
Net cumulative Job Years added through 2024: 69,100

spending stops

Legend: Co-Fund Spending, SBC Spending (2), Price Suppression, Avoided Distribution, NG and Oil Savings, Electricity Savings, Energy Industry, SBC Cost, Co-Fund Cost, Total

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 York Energy $mart[SM] programs but does not take account for all possible program benefits.
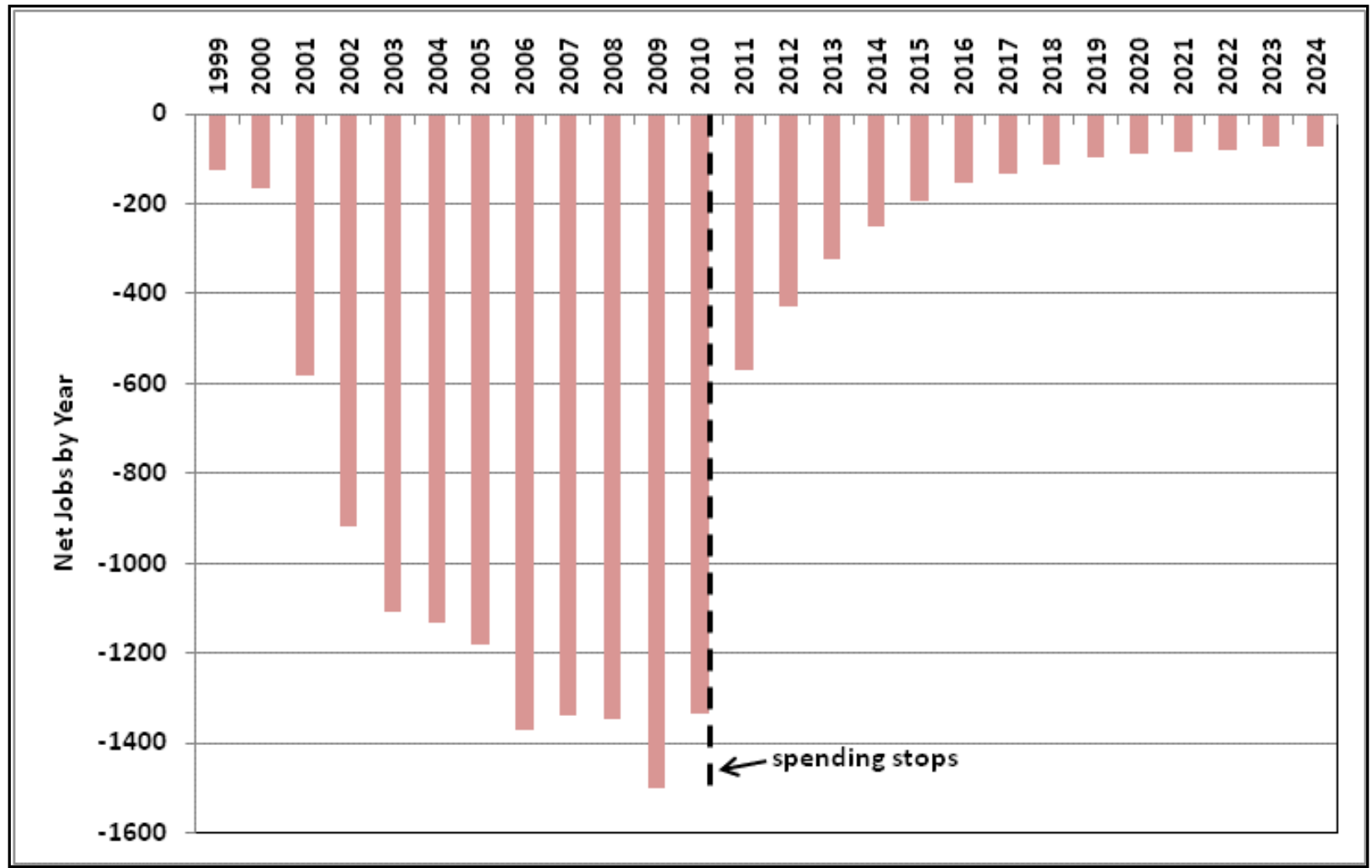
Job Impact: *Program and Co-Fund Spending*
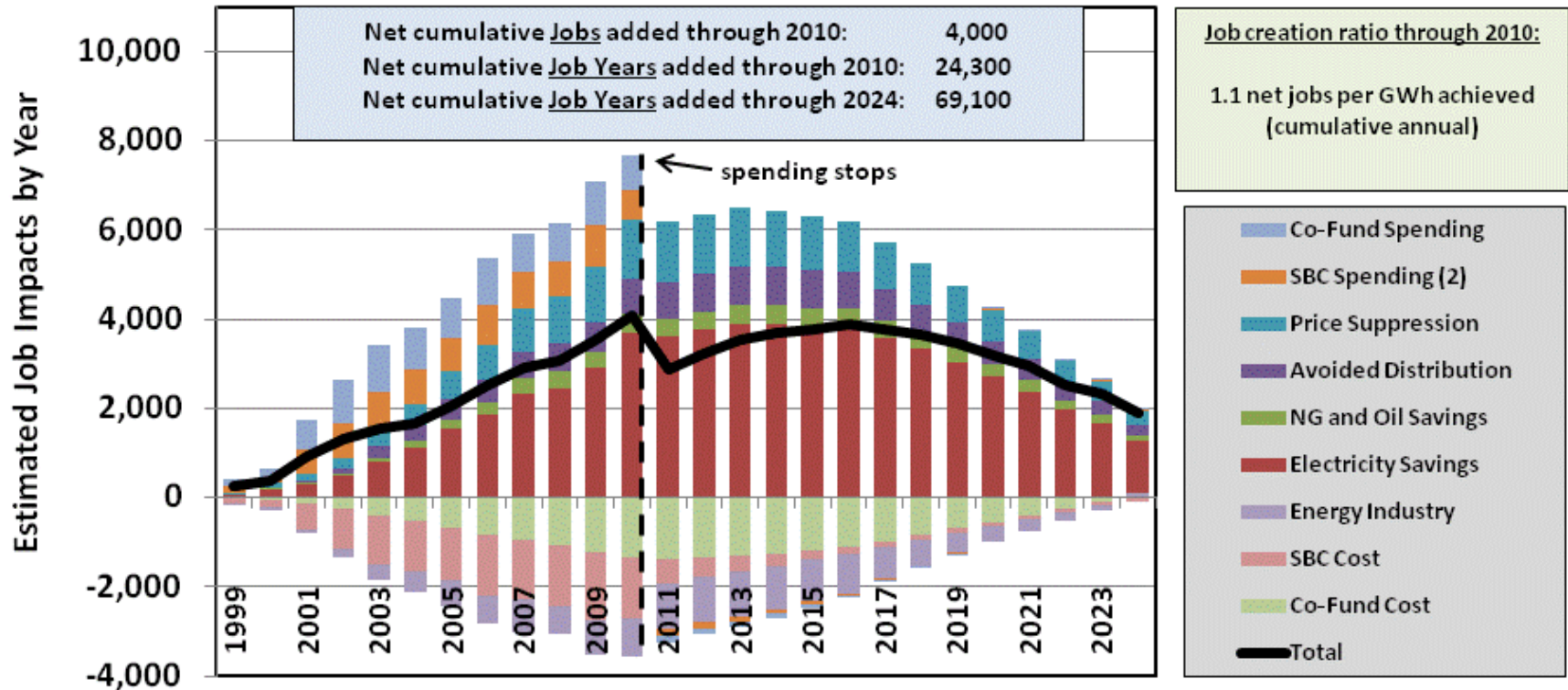
Job Impact: *Energy Savings*

Job Impact: *SBC Spending as Cost to Consumers*

Employment Impacts of New York Energy $mart[SM]
Estimated Job Impacts due to Program Spending through 2010 (1)

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Questions and Comments?

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