

# **Electricity Trends in New England**

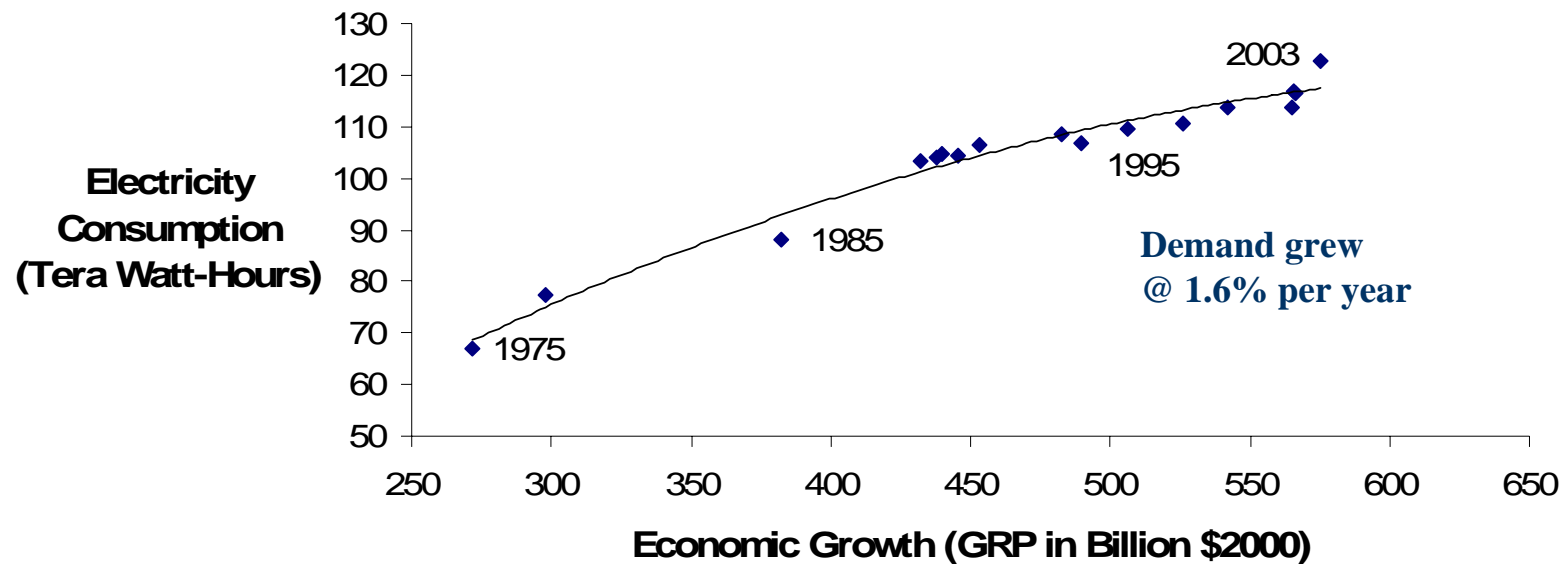
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**Greater Nashua Chamber of Commerce**

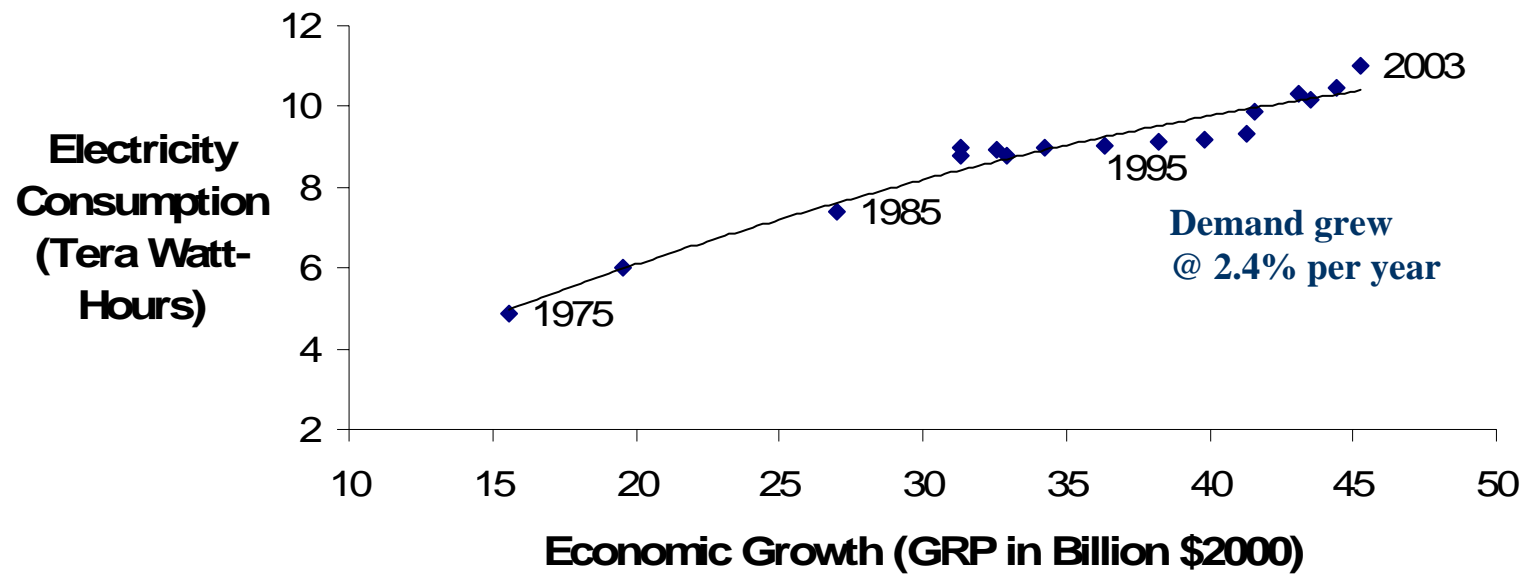
**Stephen Allen  
January 24, 2007**

# There is a Direct Link Between New England's Economic Growth & Electricity Demand

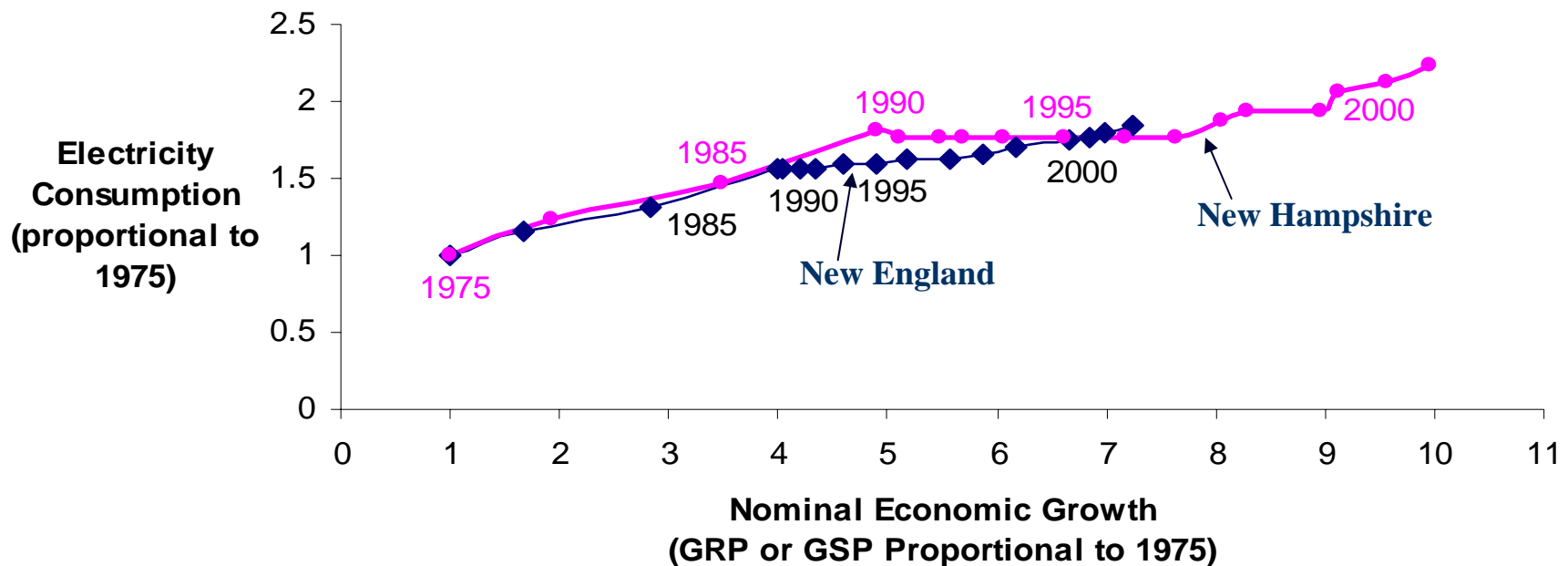
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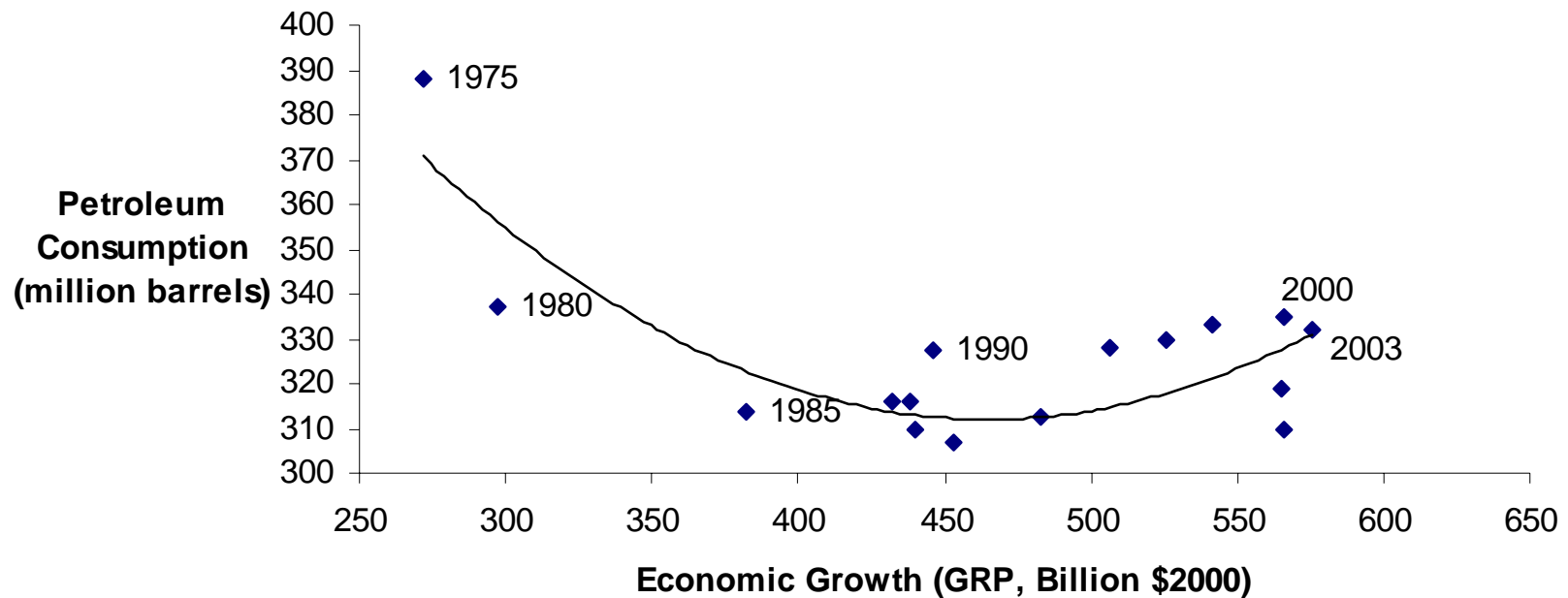
# New Hampshire Electricity Demand Growth Followed Regional Trend



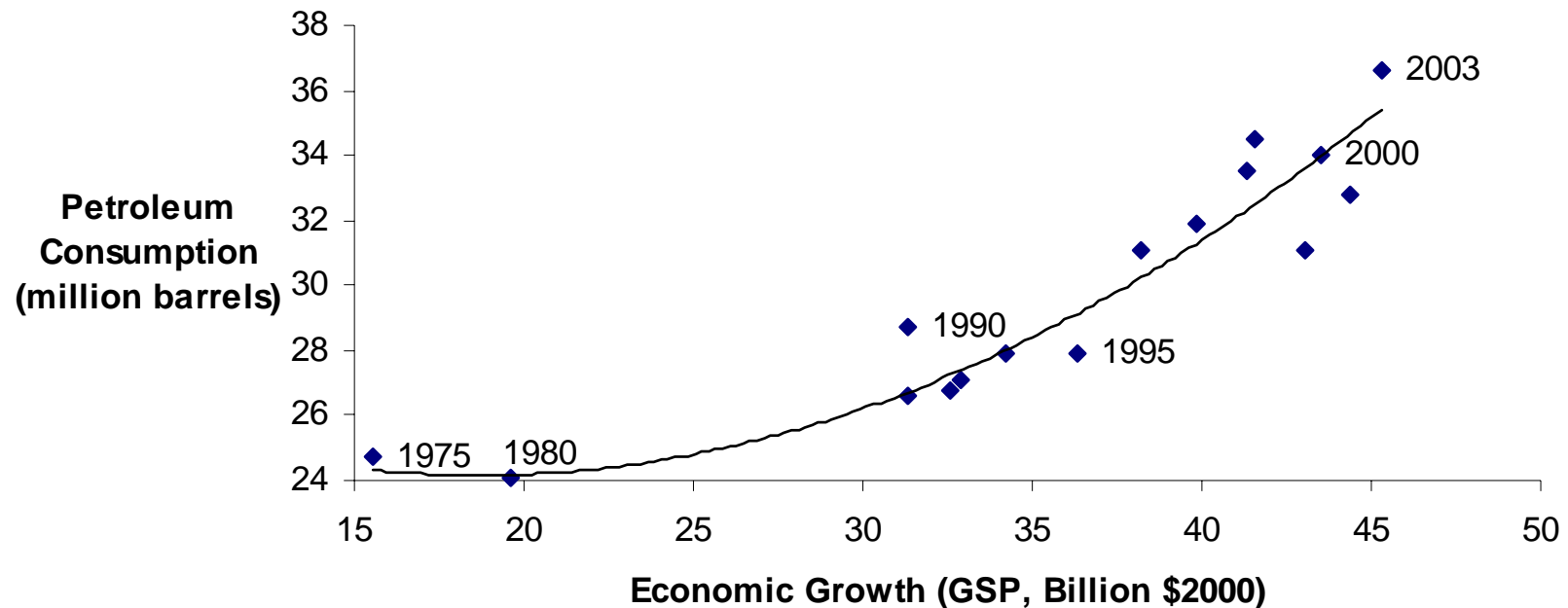
# New Hampshire's Economy Has Grown More Than Region's – But Electricity Demand Trend is Similar



# Petroleum Consumption Has Become More Efficient Relative to Economic Growth in New England



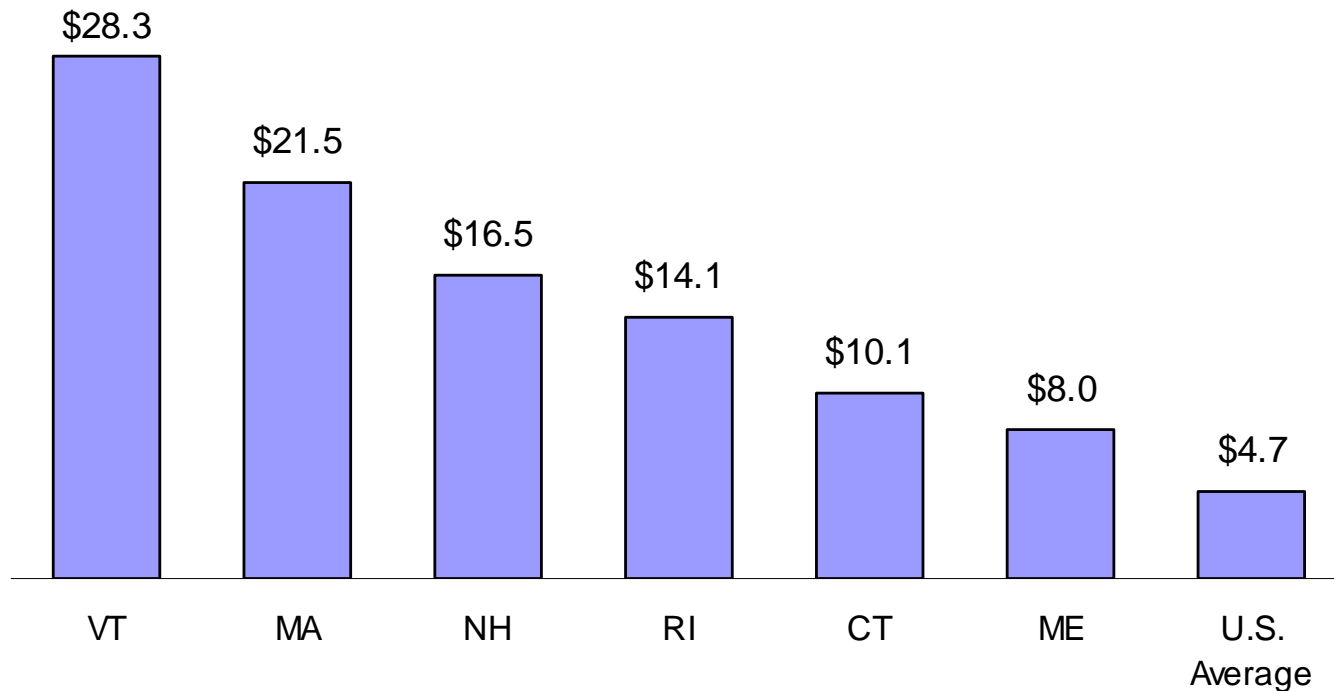
# New Hampshire's Population Growth Has Caused Petroleum Consumption to Increase Relative to Economic Growth



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## New England Leads the Nation in Electricity Efficiency Spending (per capita)

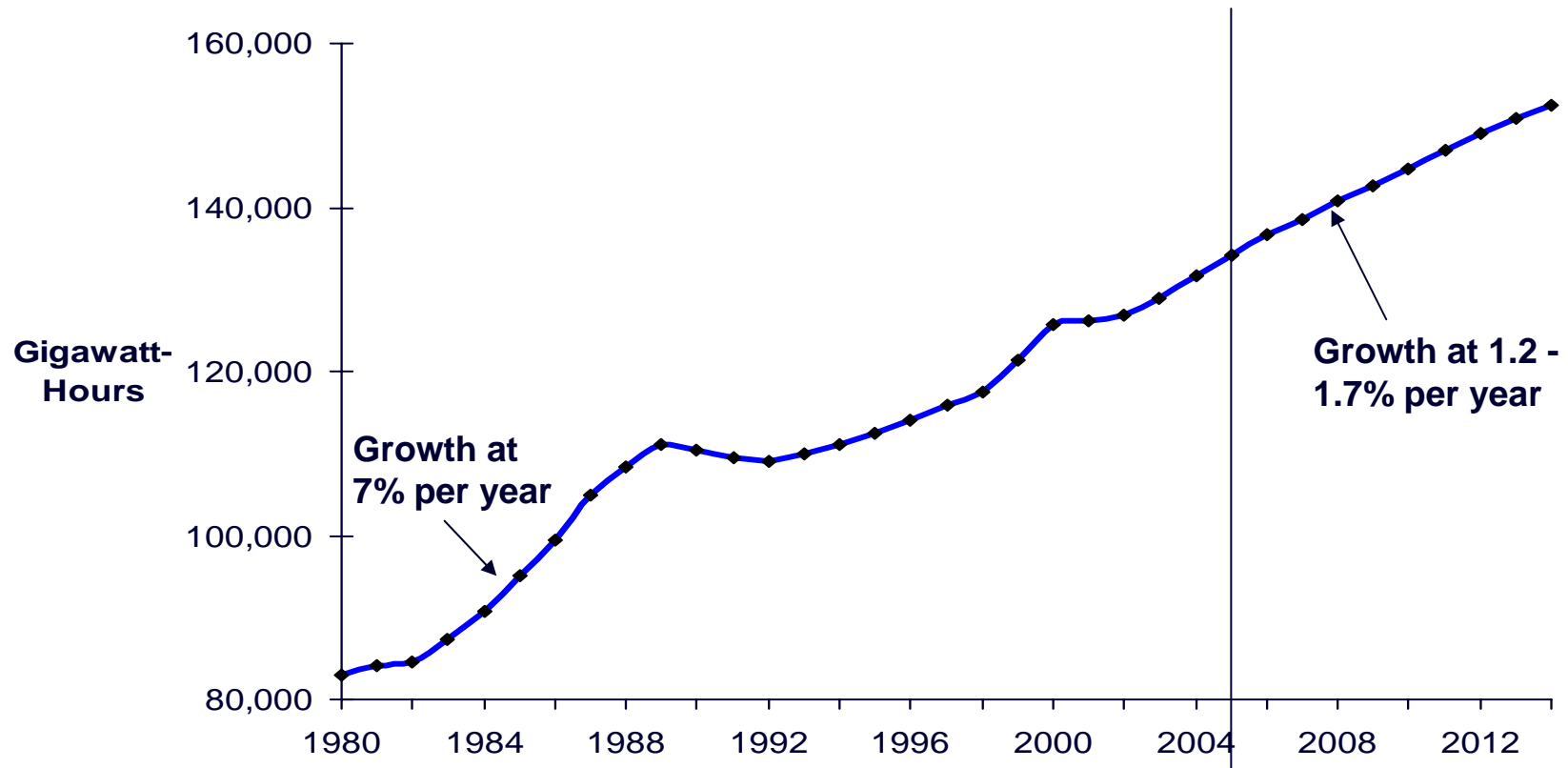
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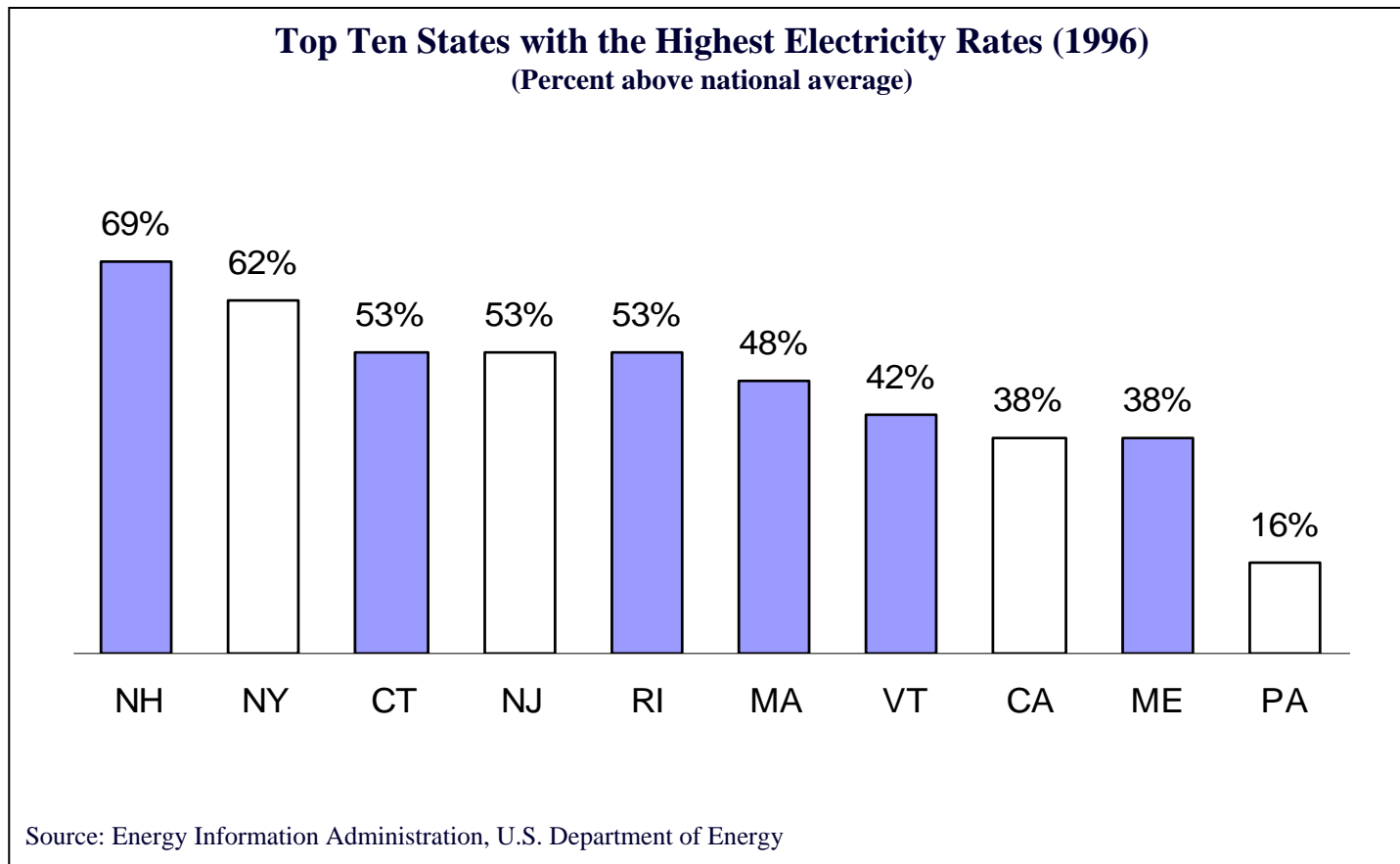
Source: ACEEE's 3<sup>rd</sup> National Scorecard on Utility and Public Benefits Energy Efficiency Programs: A National Review and Update of State-Level Activity, October 2005

# Demand for Electricity is Steadily Increasing: Requires Near-Term New Infrastructure Projects

Actual & Projected Electricity Demand



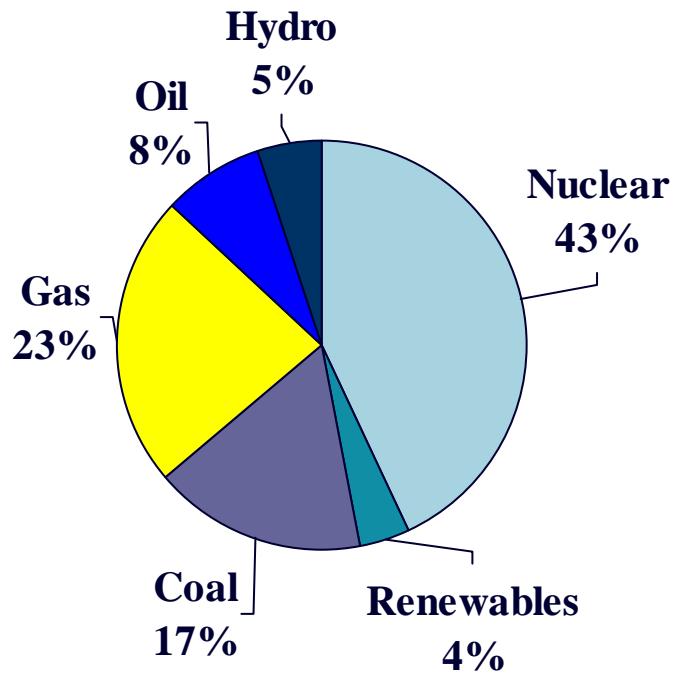
# Key Catalyst for Electricity Restructuring was High Cost of Electricity



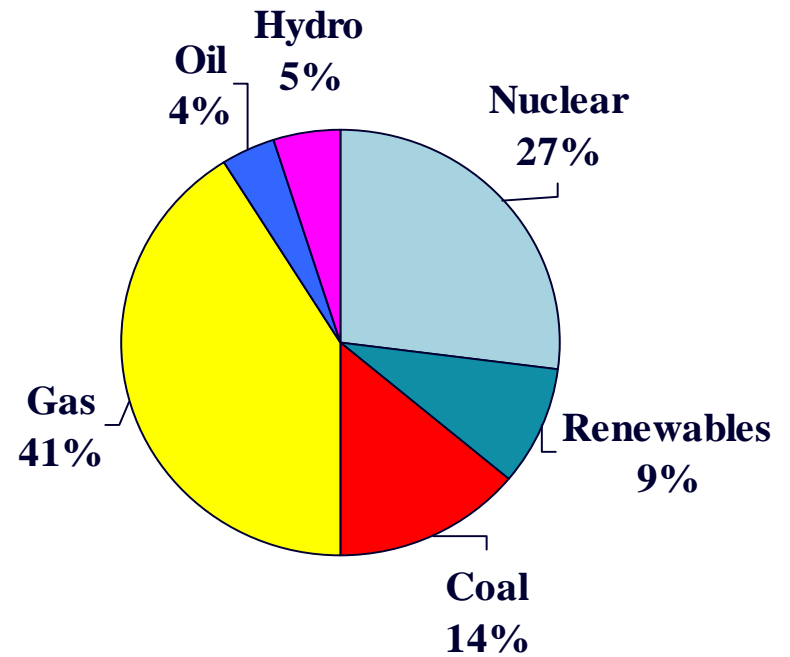
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# New Hampshire vs. New England Fuel Mix for Electricity Generation: Natural Gas Dominates Pricing

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**New Hampshire**



**New England**

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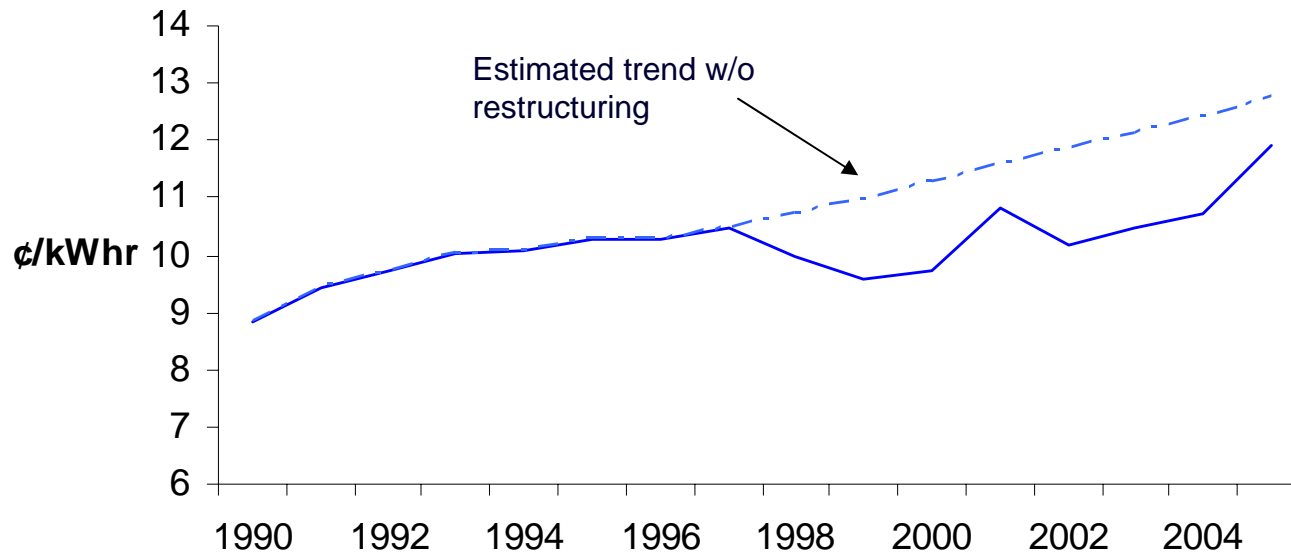
## Competitive Wholesale Markets Have Provided Consumer Benefits But Changed Pricing Structure

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- Unprecedented 10,000 Megawatts of new generation added in first six years of restructuring, increasing supply by 30% .
- Power plant availability increased ~8%, avoiding construction of up to five, 400 MW generating facilities and reducing wholesale costs by \$750 M/yr.
- Lower wholesale electricity prices – after adjusting for fuel costs, wholesale market prices are between 2 and 6% lower than 2000.
- Electricity generation increased 25% between '98 and '04, emission rates decreased:
  - SO<sub>2</sub> by 56%
  - NO<sub>x</sub> by 57%
  - CO<sub>2</sub> by 22%
- Reverse auction process causes natural gas price (which is historically volatile) to dominate spot market cost --- value of diverse fuel supply diluted.

# Restructuring has Saved New England Consumers up to \$7.6 B Between '98 & '05 (NH has Saved about \$950 M)

Average New England Retail Electricity Rates

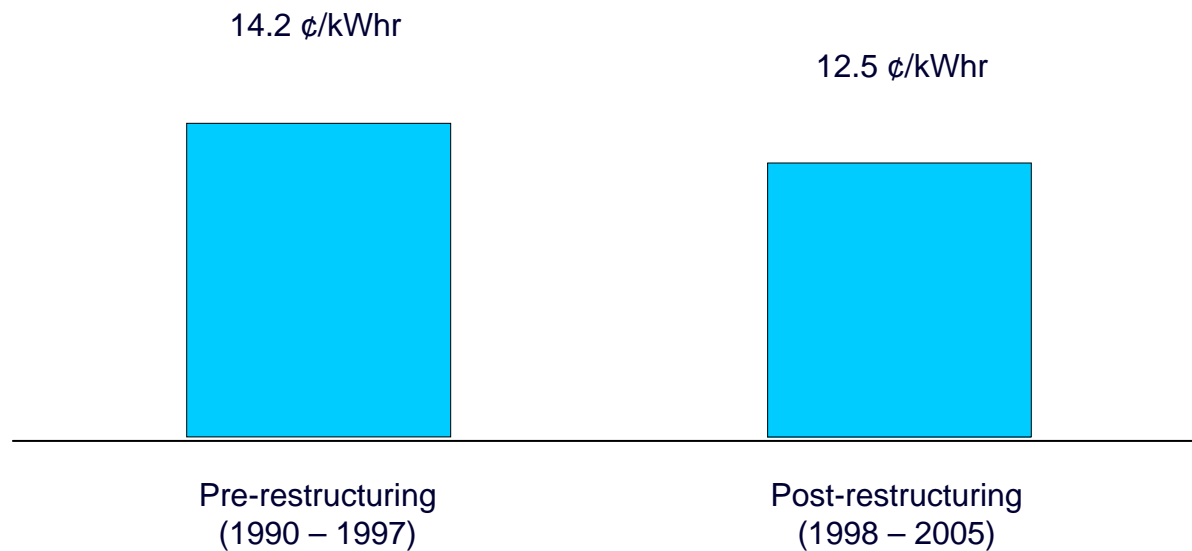


Source: Energy Information Administration, U.S. Department of Energy

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# New Hampshire Inflation-Adjusted Average Retail Electricity Prices Decreased 12%

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Source: Energy Information Administration, U.S. Department of Energy

## “RGGI” Will Put Upward Pressure on Electricity Costs\*

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- Rough calculations show that just maintaining the status quo on CO<sub>2</sub> emissions will require:
  - A Cape Wind sized project would have to be built every year, *or*
  - Two nuclear plants would have to be built before 2014, *or*
  - Existing useful and reliable coal facilities shutdown, with 8 natural gas plants built --- increasing the region’s demand for this commodity by 13%, *or*
  - End use efficiency breaking the historic energy/economy link with no increase in electricity demand for years on end.

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# Outlook for Electricity: Price Moderation with Upward Pressure, Infrastructure & Restructuring Challenges

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- Demand is steadily increasing to fuel the digital economy --- new infrastructure will is needed (~ 1 new plant every year, options are expensive and perhaps controversial).
- Prices will moderate this year because natural gas cost is declining (but remains volatile) --- but there is long-term upward pressure from new infrastructure, competitive market rules and environmental issues.
- Restructuring has brought all consumers significant economic and environmental benefits --- but very much remains a work in progress, so expect changes and controversy.