

Benefits, Costs and Rates: The Role of the DPU

Energy Policy Commission Energy 101 Discussion

January 17, 2013

Ann Berwick, Chair

Jollette Westbrook, Commissioner

David Cash, Commissioner

DEPARTMENT OF PUBLIC UTILITIES

Agenda

- Who we are
- What we do
- The Massachusetts Energy Context
- Rates
- Cost-effectiveness
 - Energy Efficiency
 - Renewable Energy Long-Term Contracts
- Implementing Legislation
- Regional Issues
- Agenda looking forward



DEPARTMENT OF PUBLIC UTILITIES

Who we are

- **The Commission**
- **Legal Division**
- **Rates Division**
- **Electric Power Division**
- **Gas Division**
- **Consumer Division**
- **Division of Regional & Federal Affairs**
- **Siting Division/Energy Facilities Siting Board**
- **Transportation**
- **Pipeline safety**



What we do related to energy

The mission of the Department is to:

- ensure that utility consumers are provided with reliable service at the lowest possible cost, and that utilities incur costs prudently;
- to assure just and reasonable rates;
- to protect the public safety related to gas pipeline infrastructure;
- to oversee the energy facilities siting process;
- to implement designated sections of the Green Communities Act and other energy-related statutes:
 - energy efficiency,
 - renewable energy long-term contracts,
 - net-metering, etc.



Ex parte issues

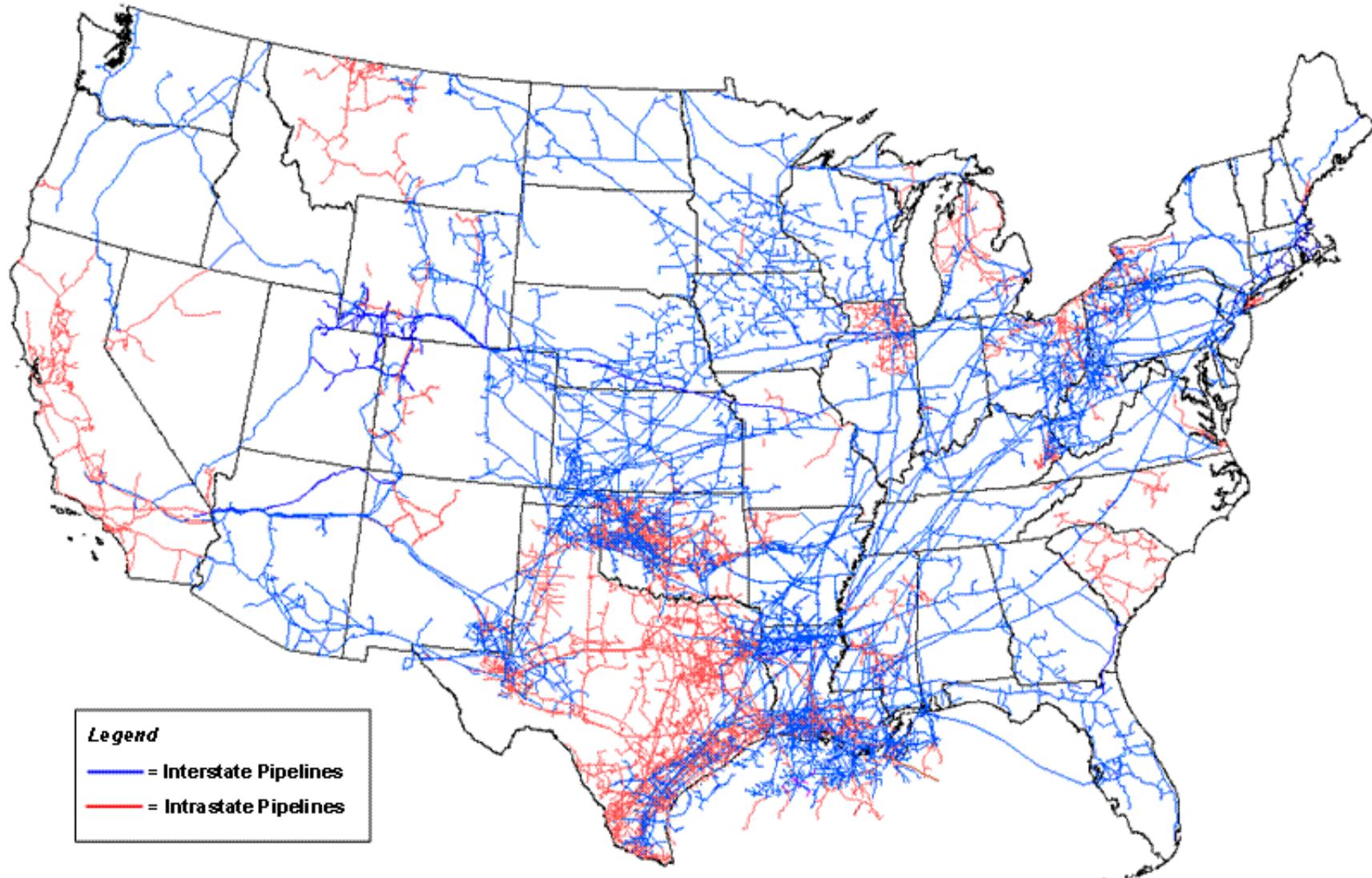
- Adjudicatory v. Regulatory



The Massachusetts Energy Context

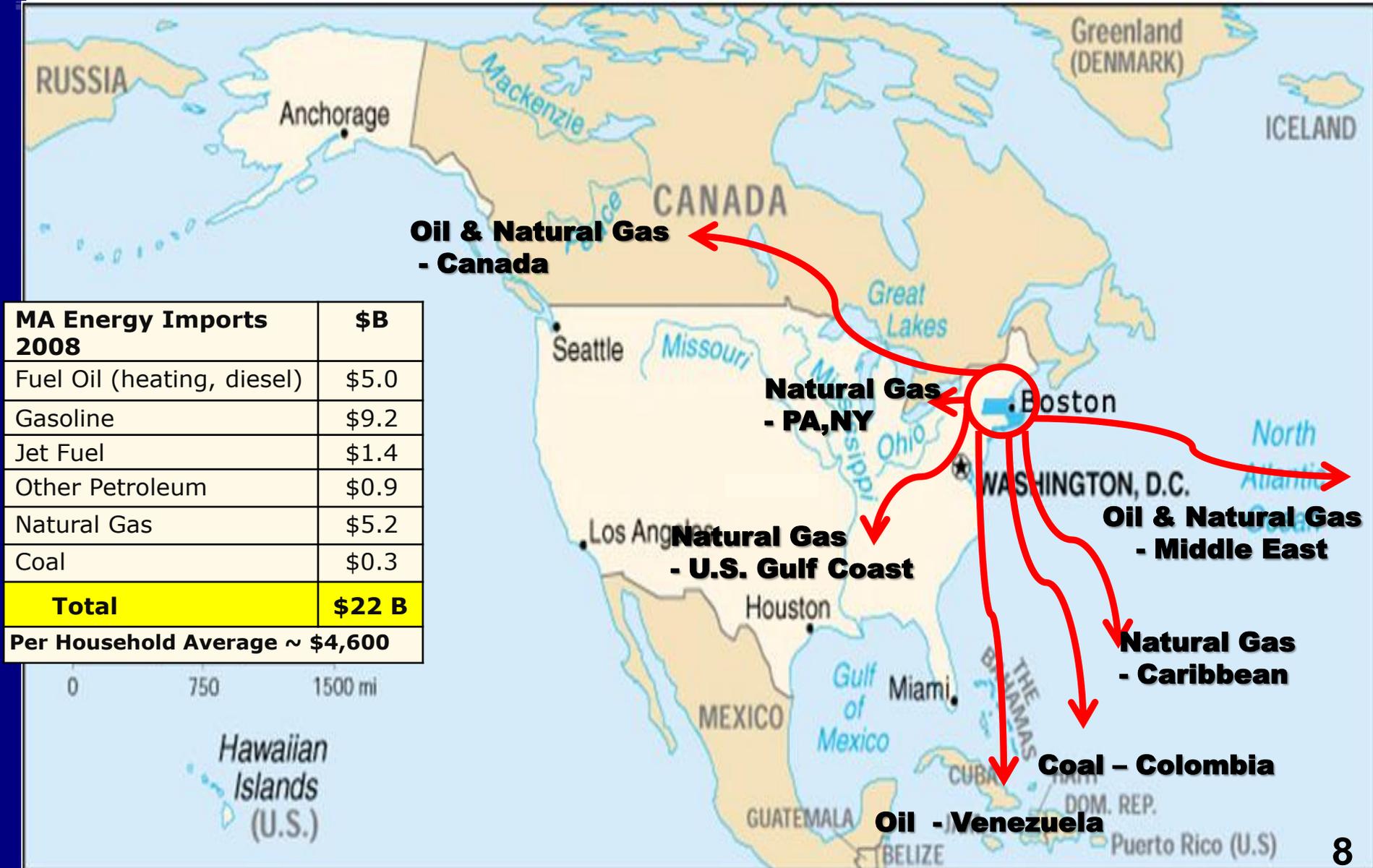


Mass. is at the End of the Energy Pipeline



Energy Dollars Flow Out of MA

We spend **\$22B** per year on energy; 80% leaves MA -- **\$18B**

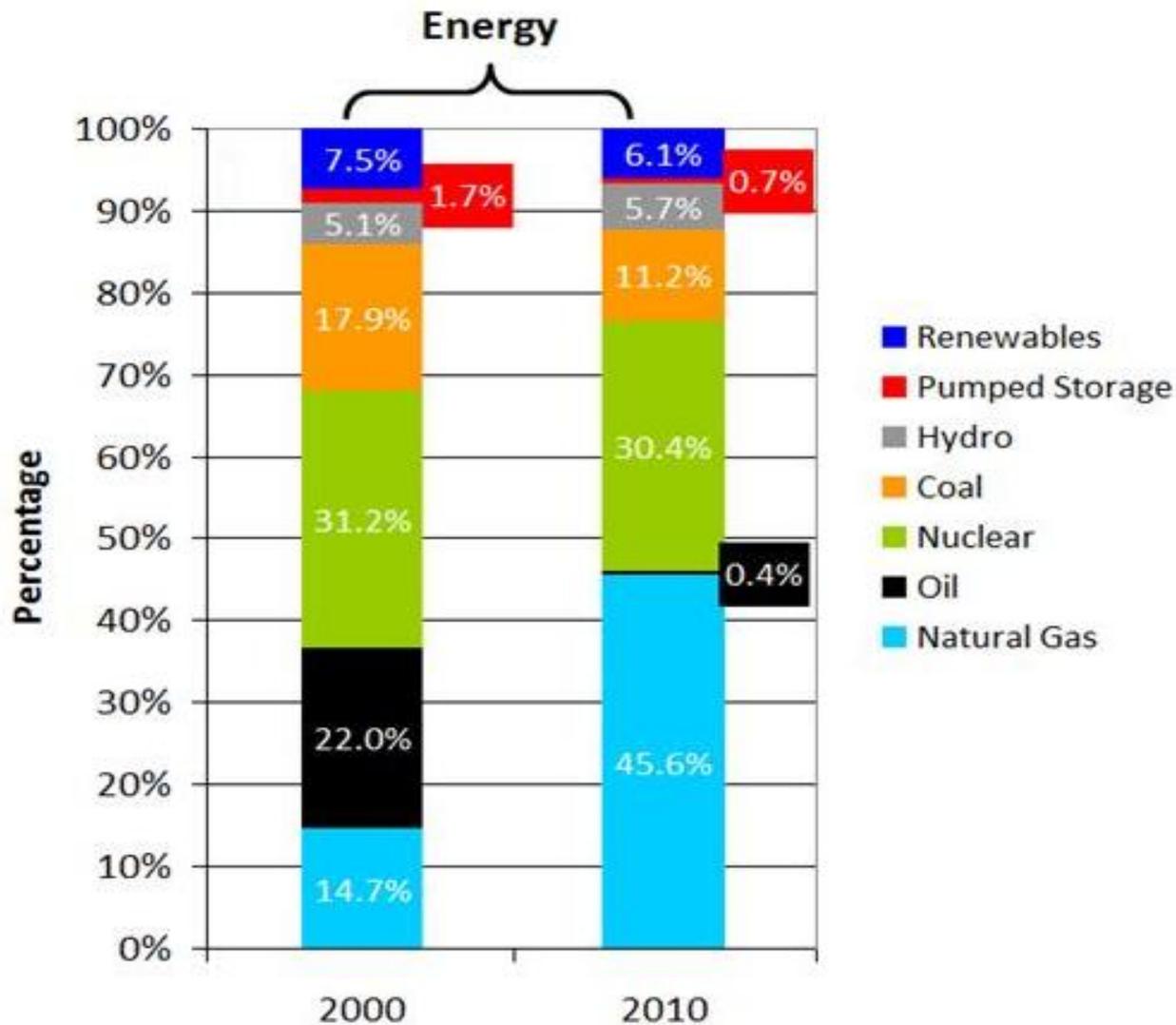


MA Energy Imports 2008	\$B
Fuel Oil (heating, diesel)	\$5.0
Gasoline	\$9.2
Jet Fuel	\$1.4
Other Petroleum	\$0.9
Natural Gas	\$5.2
Coal	\$0.3
Total	\$22 B
Per Household Average ~	\$4,600

0 750 1500 mi

Hawaiian Islands (U.S.)

Still Need to Diversify Fuel Mix



Energy Costs: Low now; Will inevitably increase and remain volatile in the future

US Natural Gas Price in Jan 2012 \$

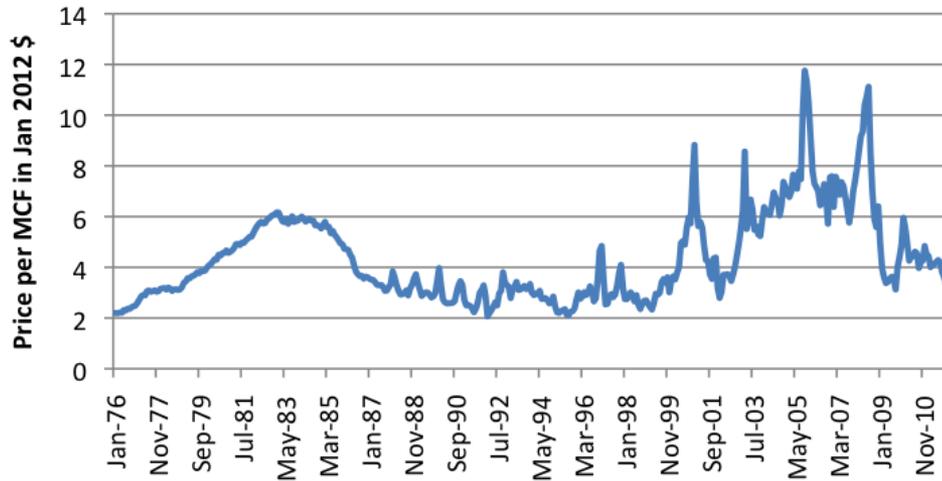
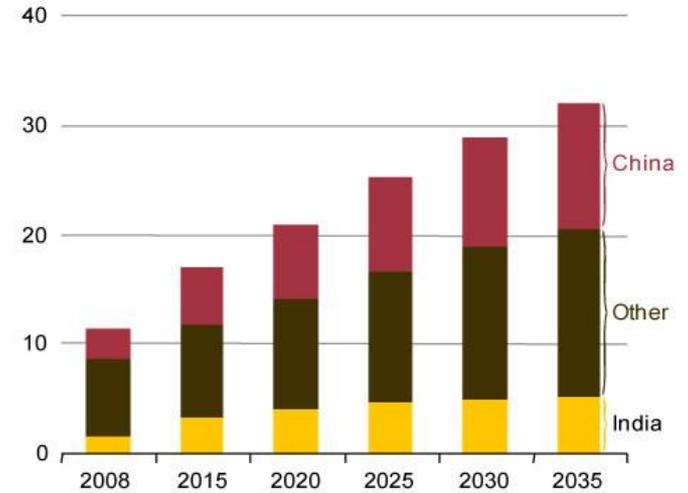
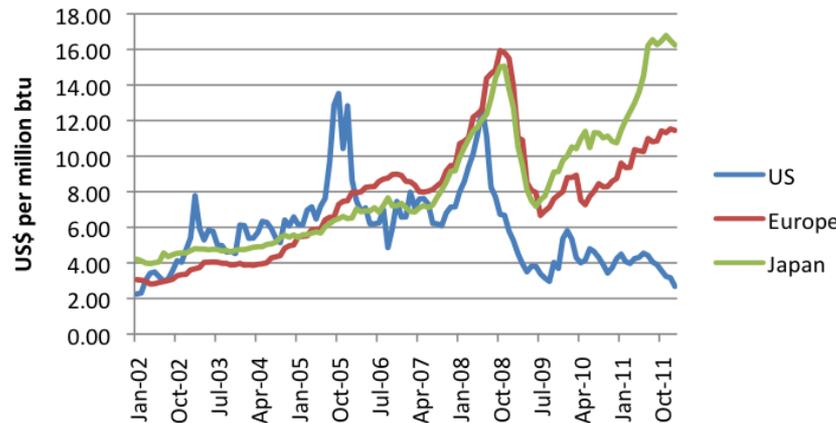


Figure 47. Natural gas consumption in non-OECD Asia by Country, 2008-2035 (trillion cubic feet)



Natural Gas Prices in US, Europe, Japan



Rates

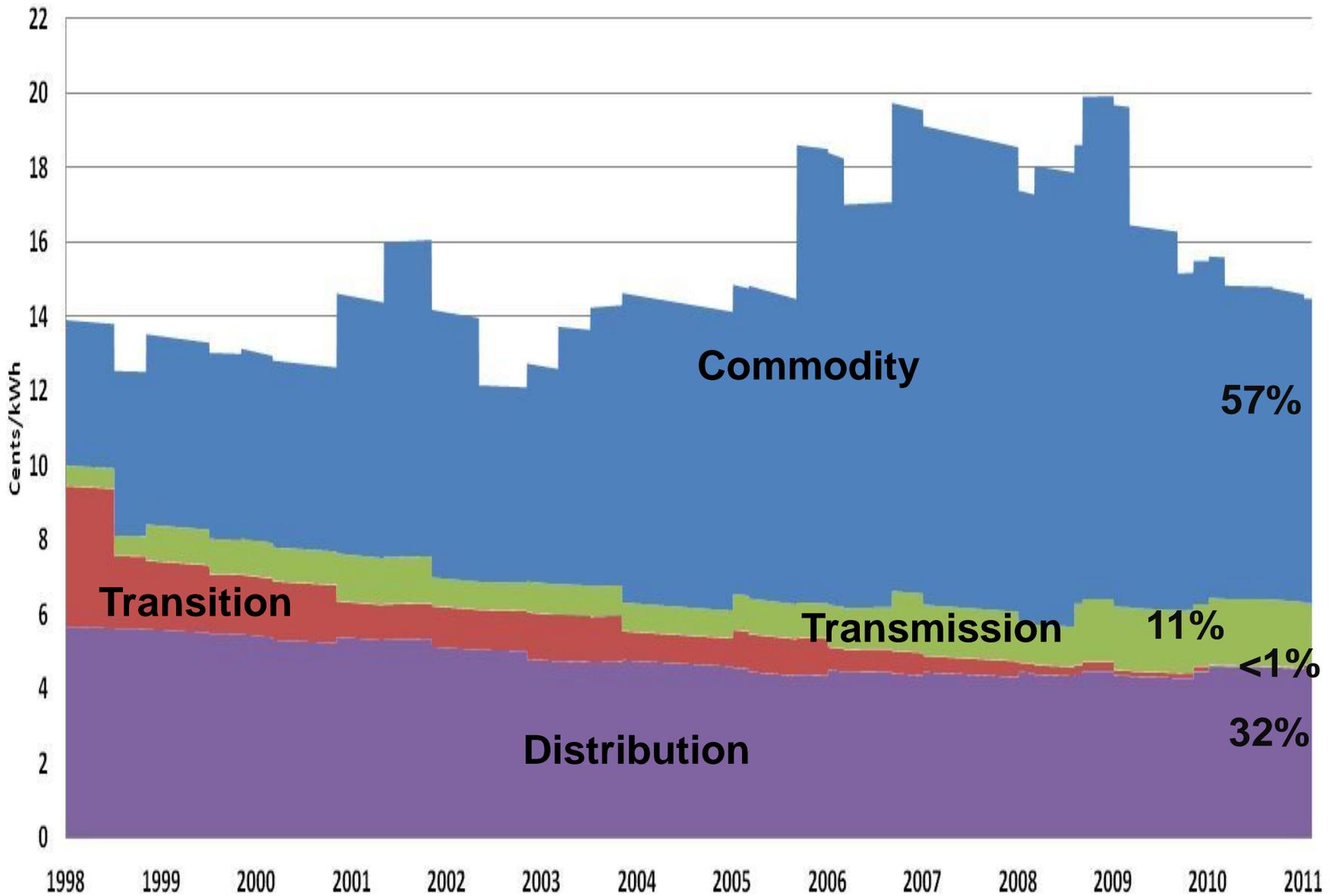


Rate Cases

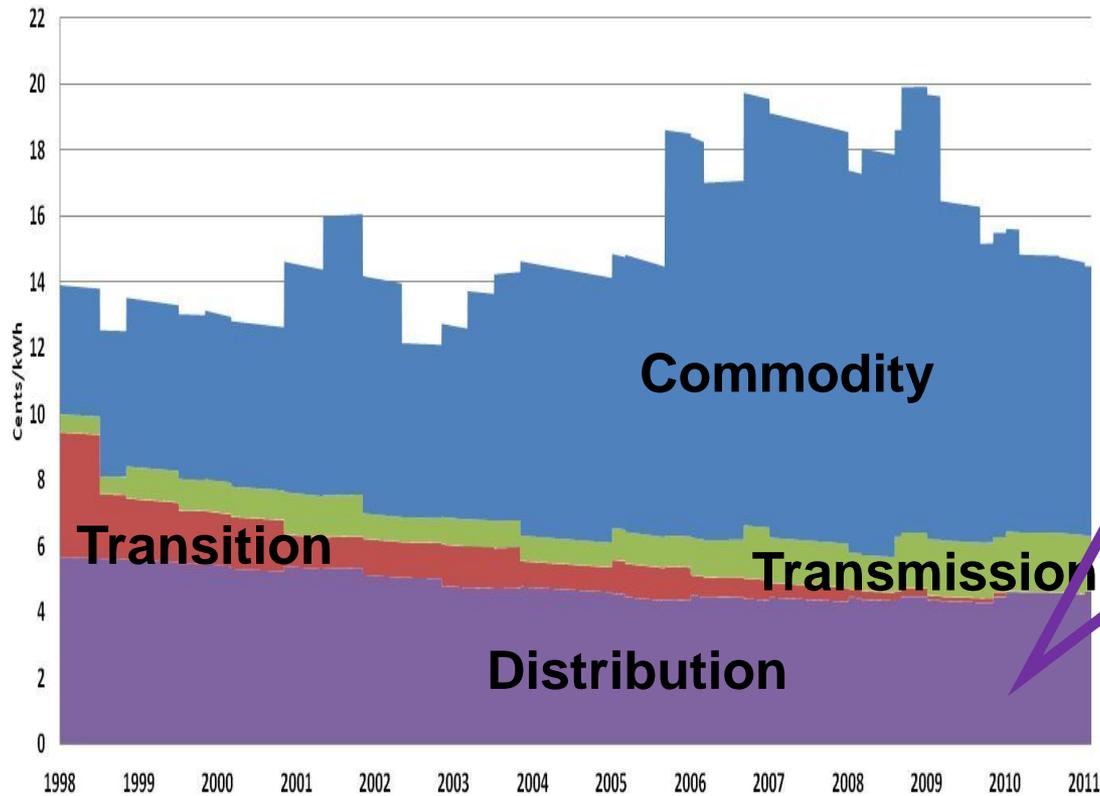
- Important role for the state in the case of a regulated monopoly;
- Assure that rates are just and reasonable;
- Allow utilities to recover costs for providing service and receive a reasonable return on investment.
 - DPU's deep analysis of the companies' books
- Rate Design Goals
 1. Cost recovery for prudent expenditures;
 2. Simplicity;
 3. Fairness (no class paying more than its cost)
 4. Continuity (gradual rate structure changes allow for adjustment)
 5. Earning Stability (earnings should not vary significantly over 1-2 years)



Residential Rates (adjusted for inflation)



Residential Rates (adjusted for inflation)



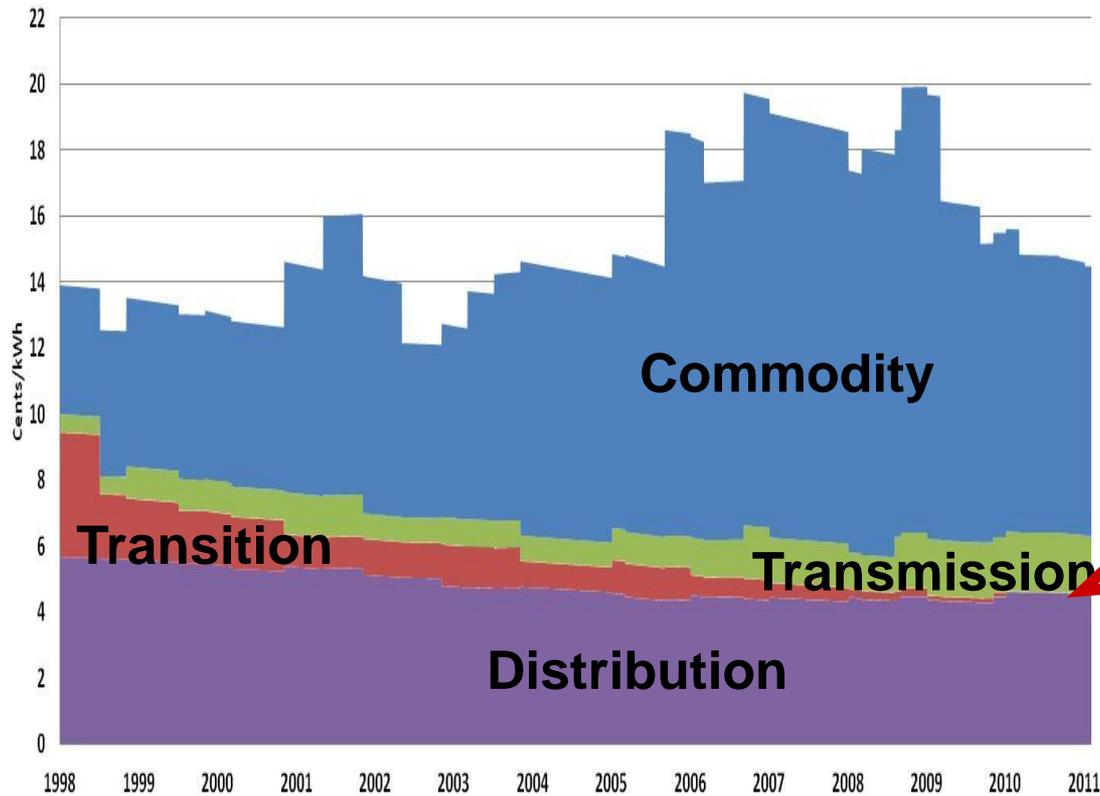
DISTRIBUTION

Regulated by MA DPU

- Operating the company: poles, bucket trucks, salaries and some clean energy charges



Residential Rates (adjusted for inflation)

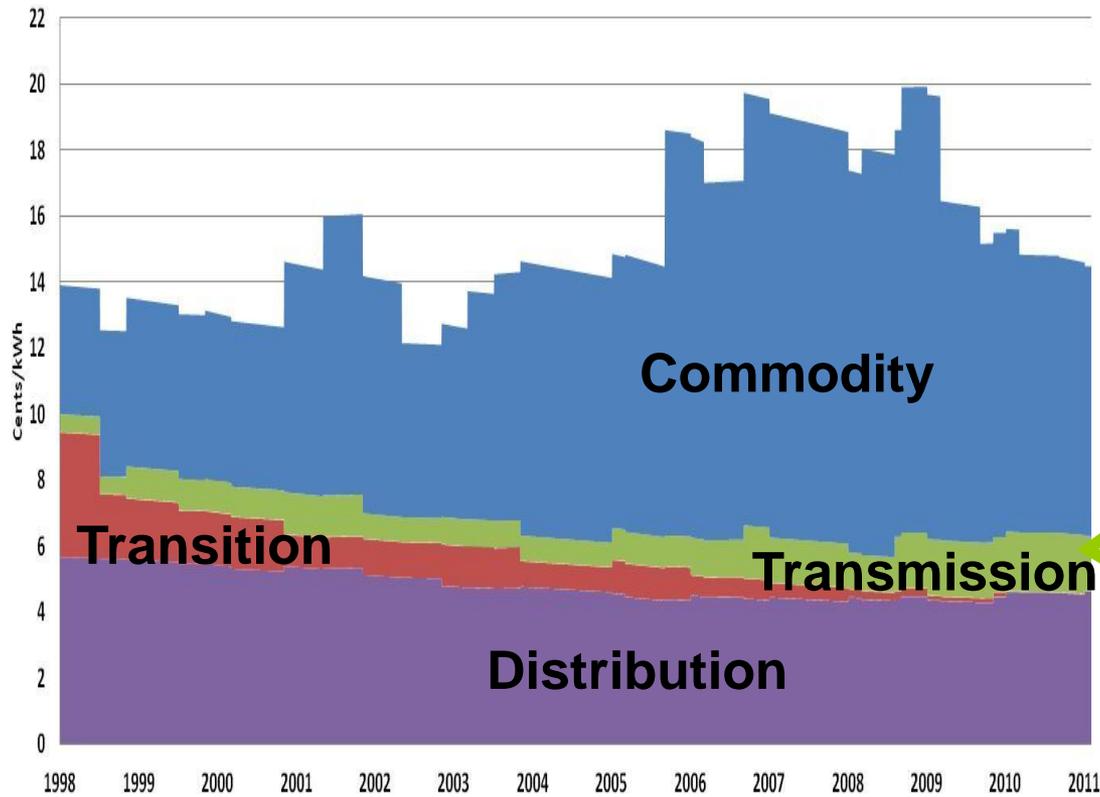


TRANSITION
<1%

Costs incurred in transition from restructuring



Residential Rates (adjusted for inflation)

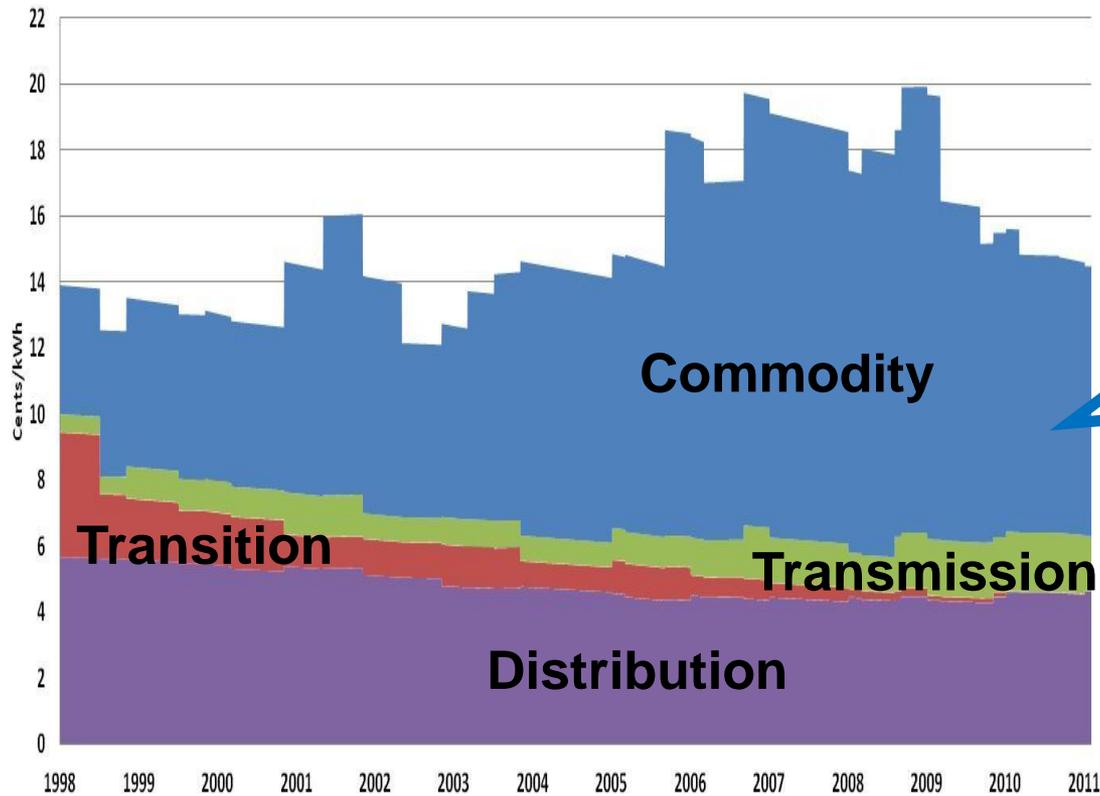


TRANSMISSION

- Federally regulated
- High voltage wires



Residential Rates (adjusted for inflation)

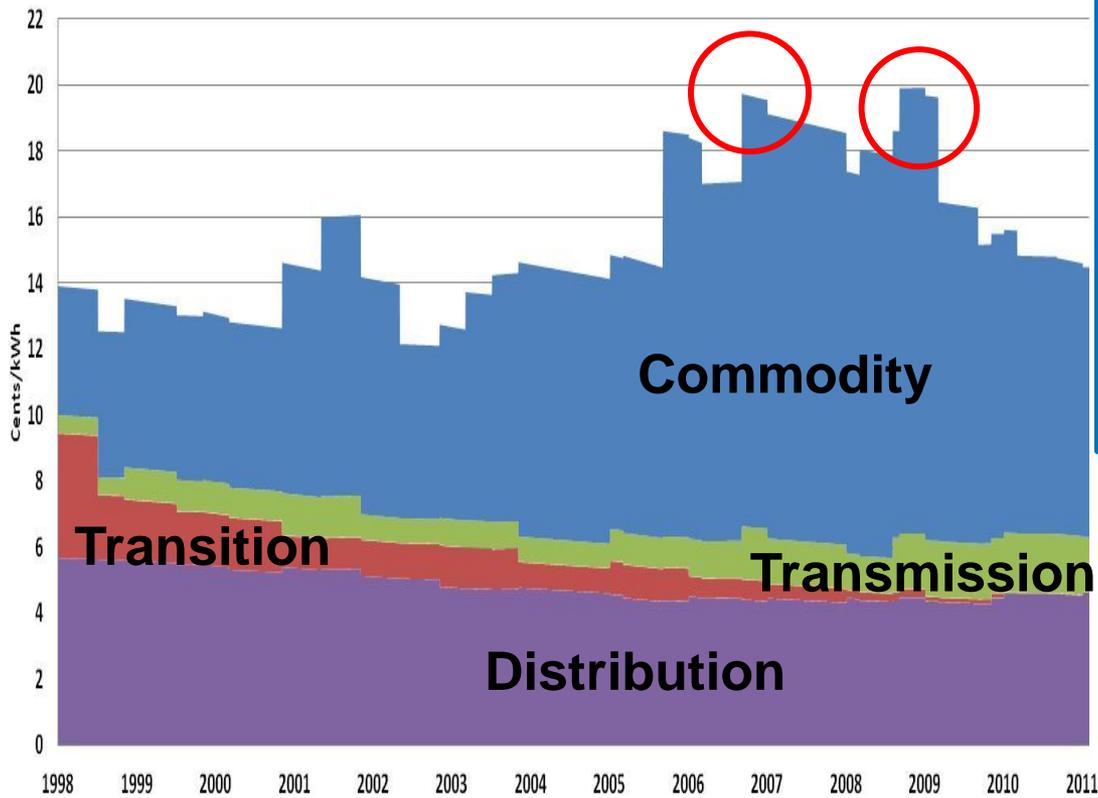


COMMODITY

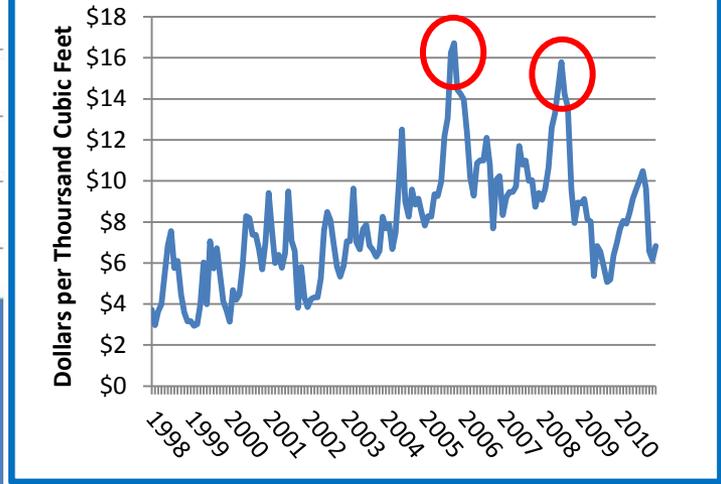
The energy: gas, oil, coal, etc.



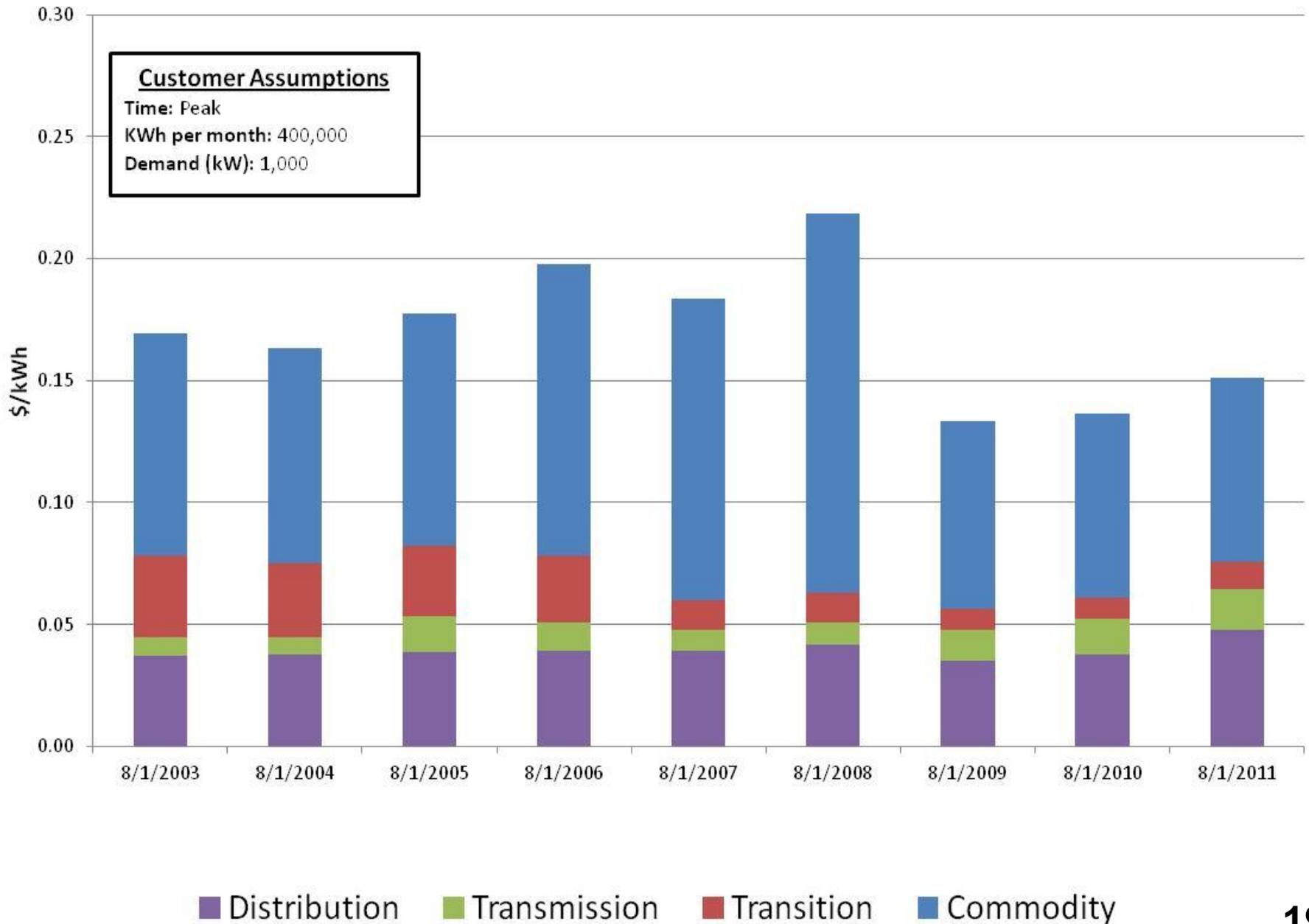
Residential Rates (adjusted for inflation)



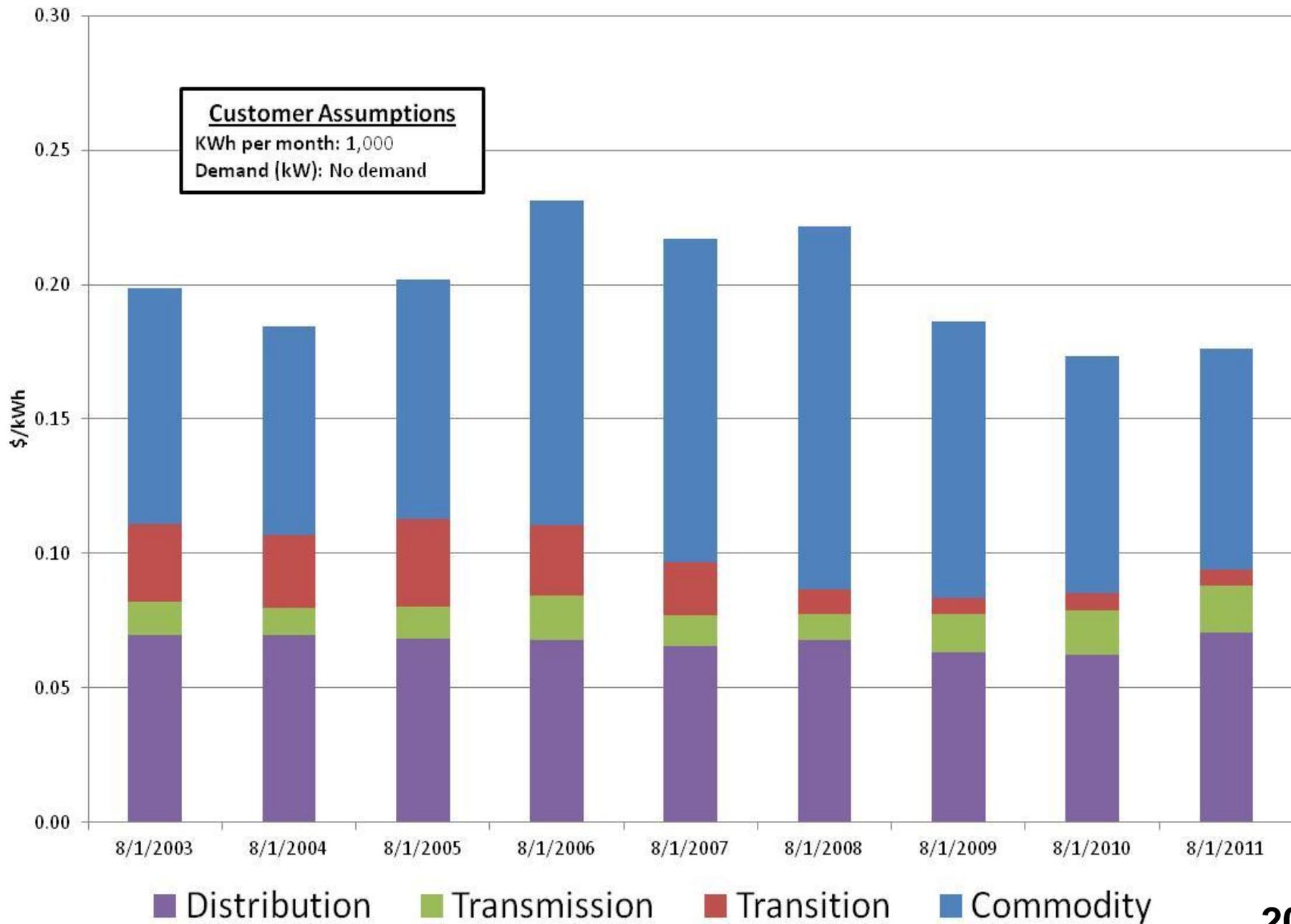
MA Natural Gas Prices



Average Rates for Large Industrial Customers (adjusted for inflation)

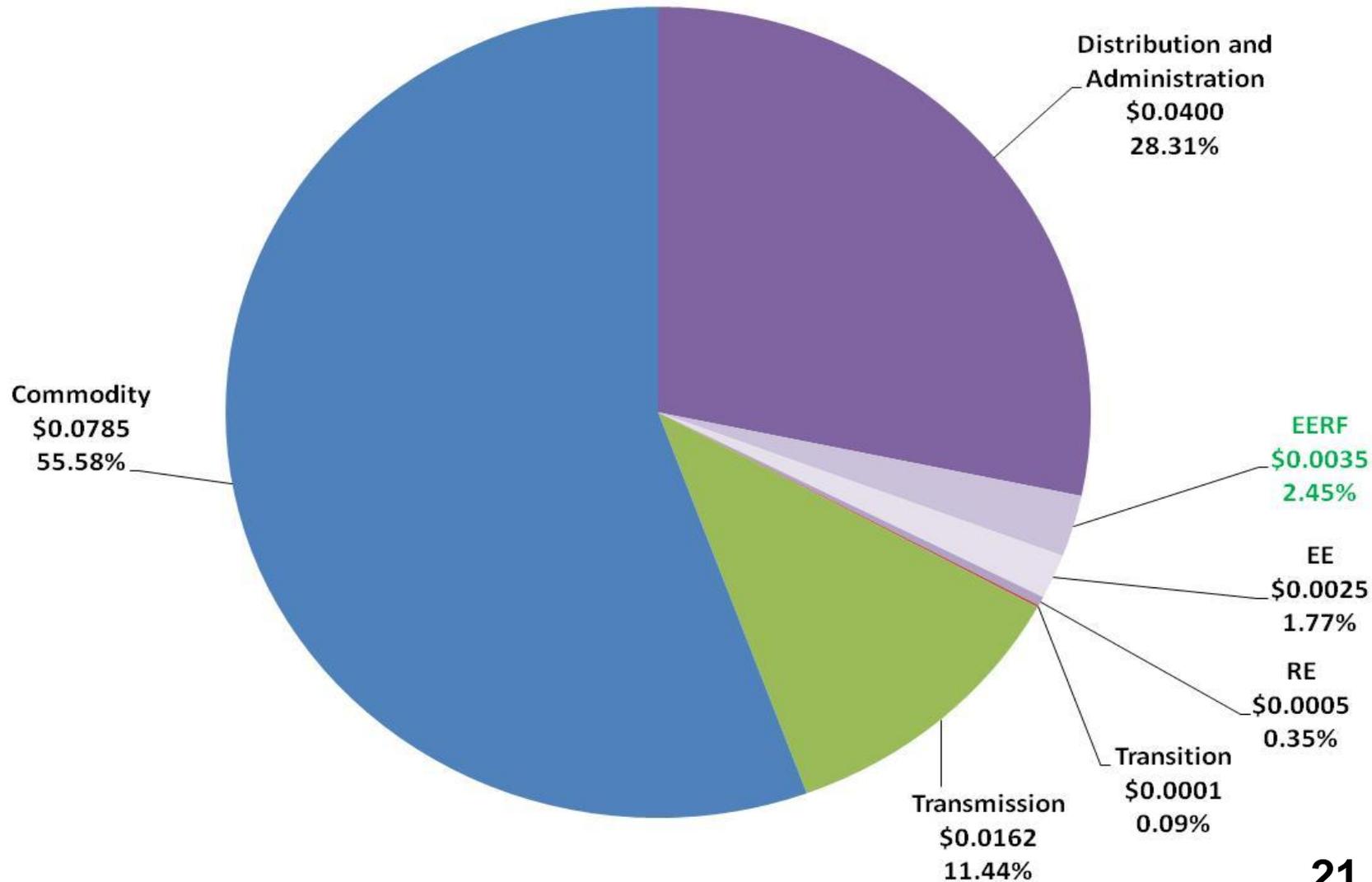


Average Rates for Small Commercial Customers (adjusted for inflation)

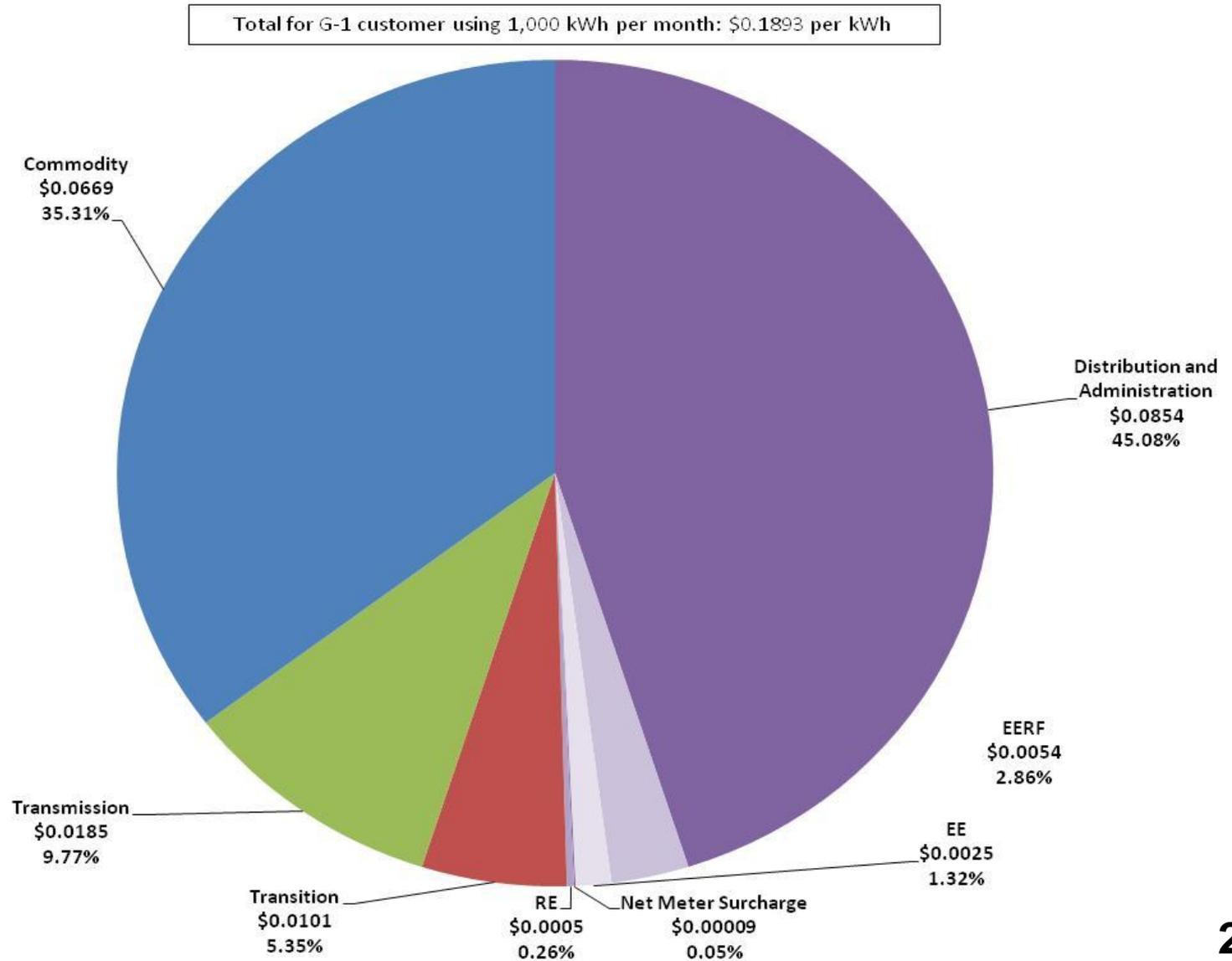


Components of total rate, NGRID residential

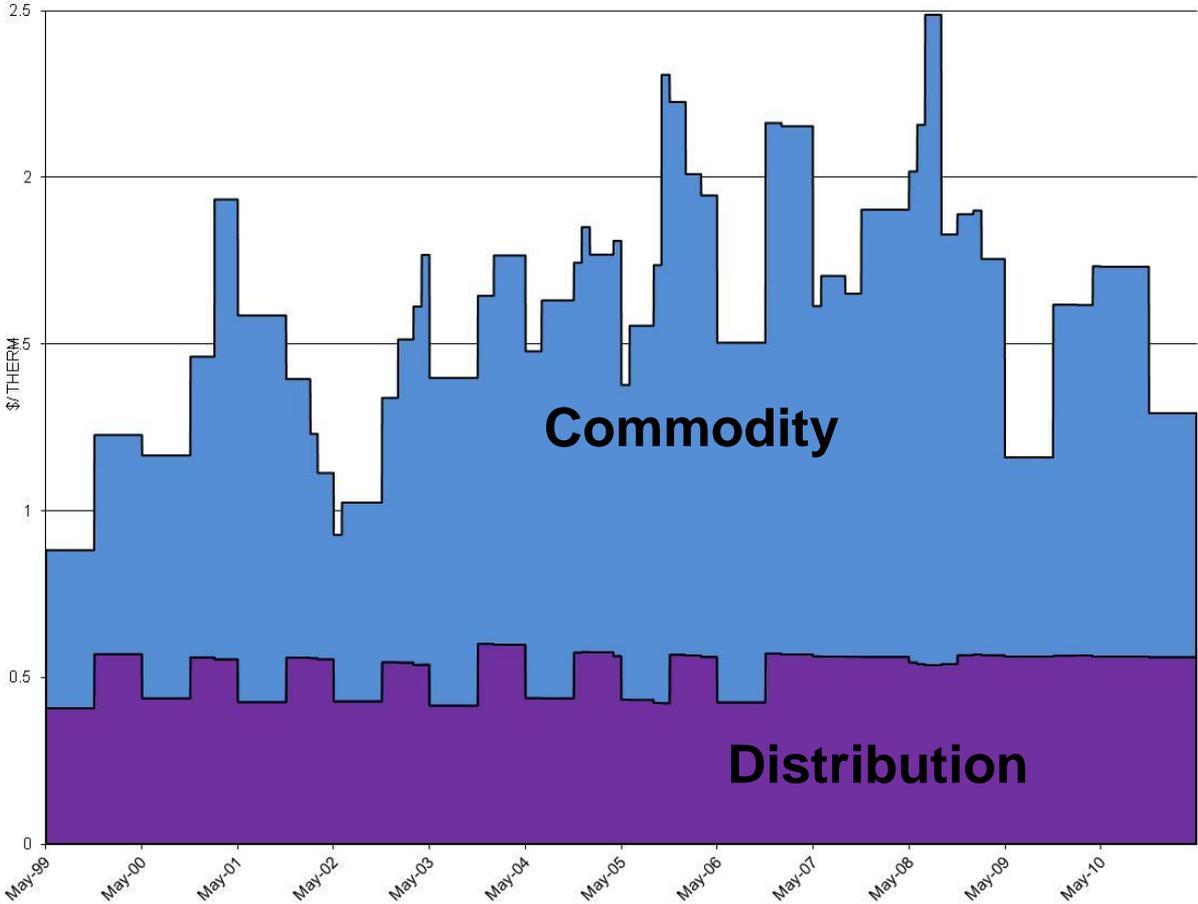
Total for R-1 customer using 500 kWh per month: \$0.1411 per



Components of total rate, NSTAR Commercial



Gas Customer

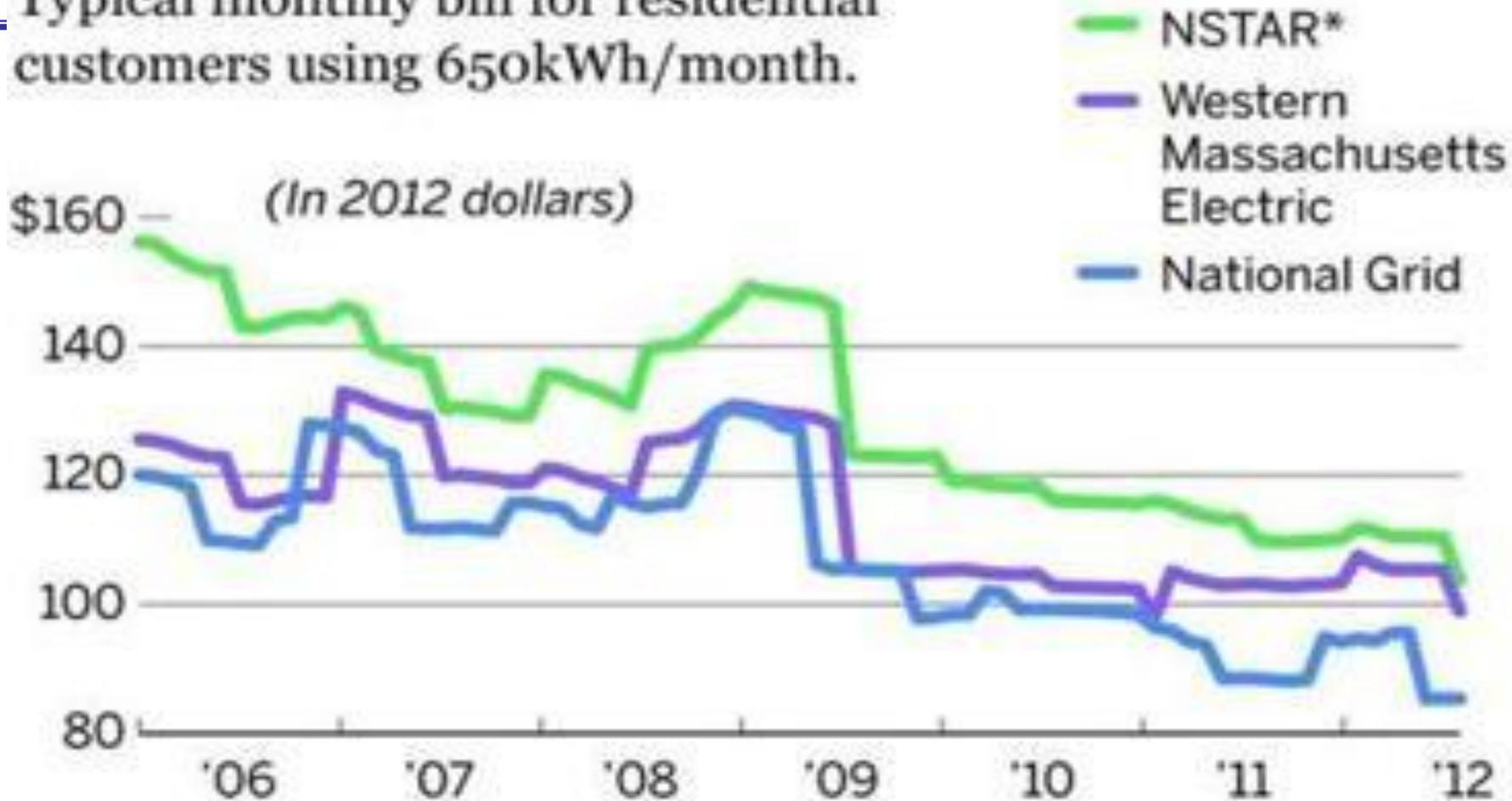


Recent decline in rates



Dropping electrical bills

Typical monthly bill for residential customers using 650kWh/month.



*Weighted average of NSTAR companies (Boston Edison, Commonwealth Electric and Cambridge Electric and Light Company)

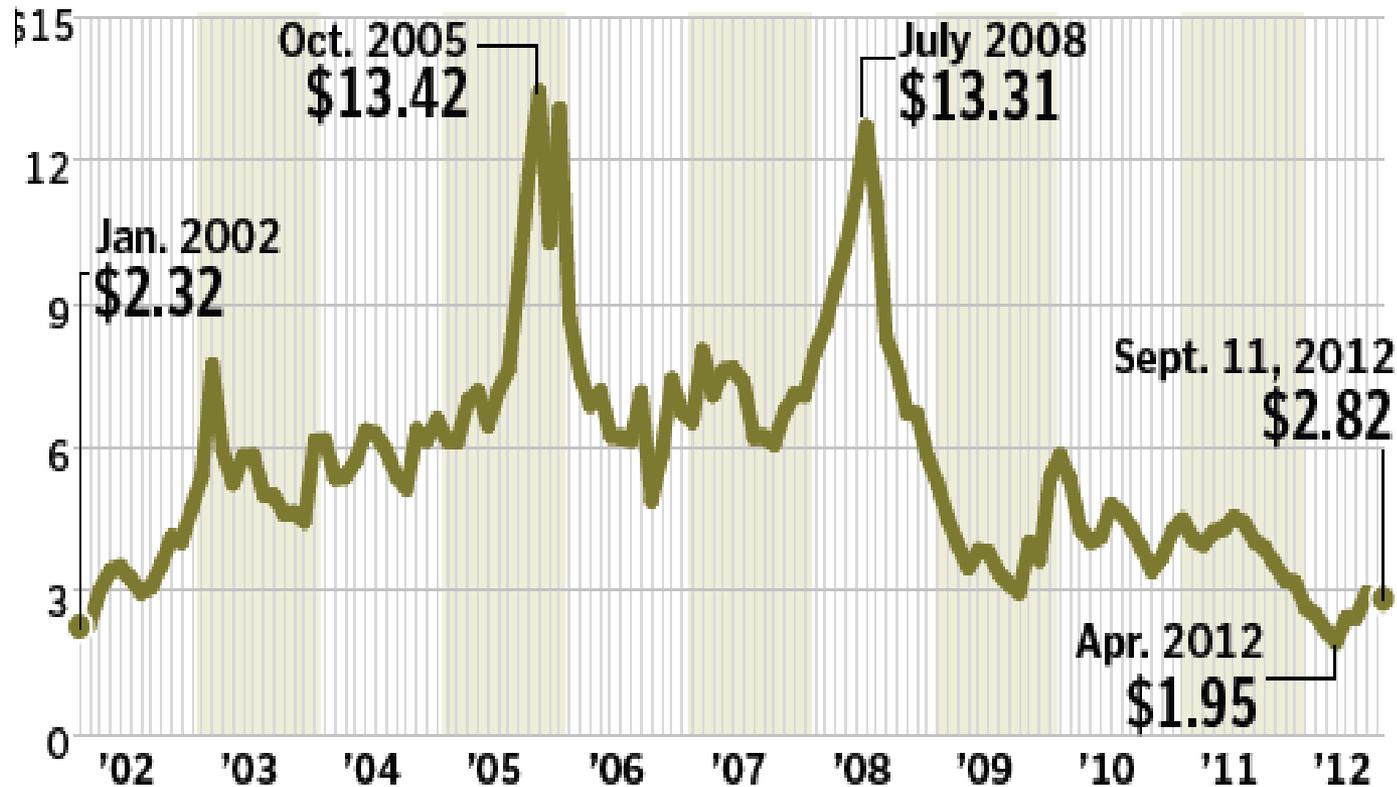
SOURCE: Massachusetts Department of Public Utilities

Boston Globe, May 18, 2012

Lowest Gas Rates Since 2002

NATURAL GAS COMMODITY PRICE

(US dollars/Mil. BTUs)



SOURCE: US Energy Information Administration

DAIGO FUJIWARA/GLOBE STAFF

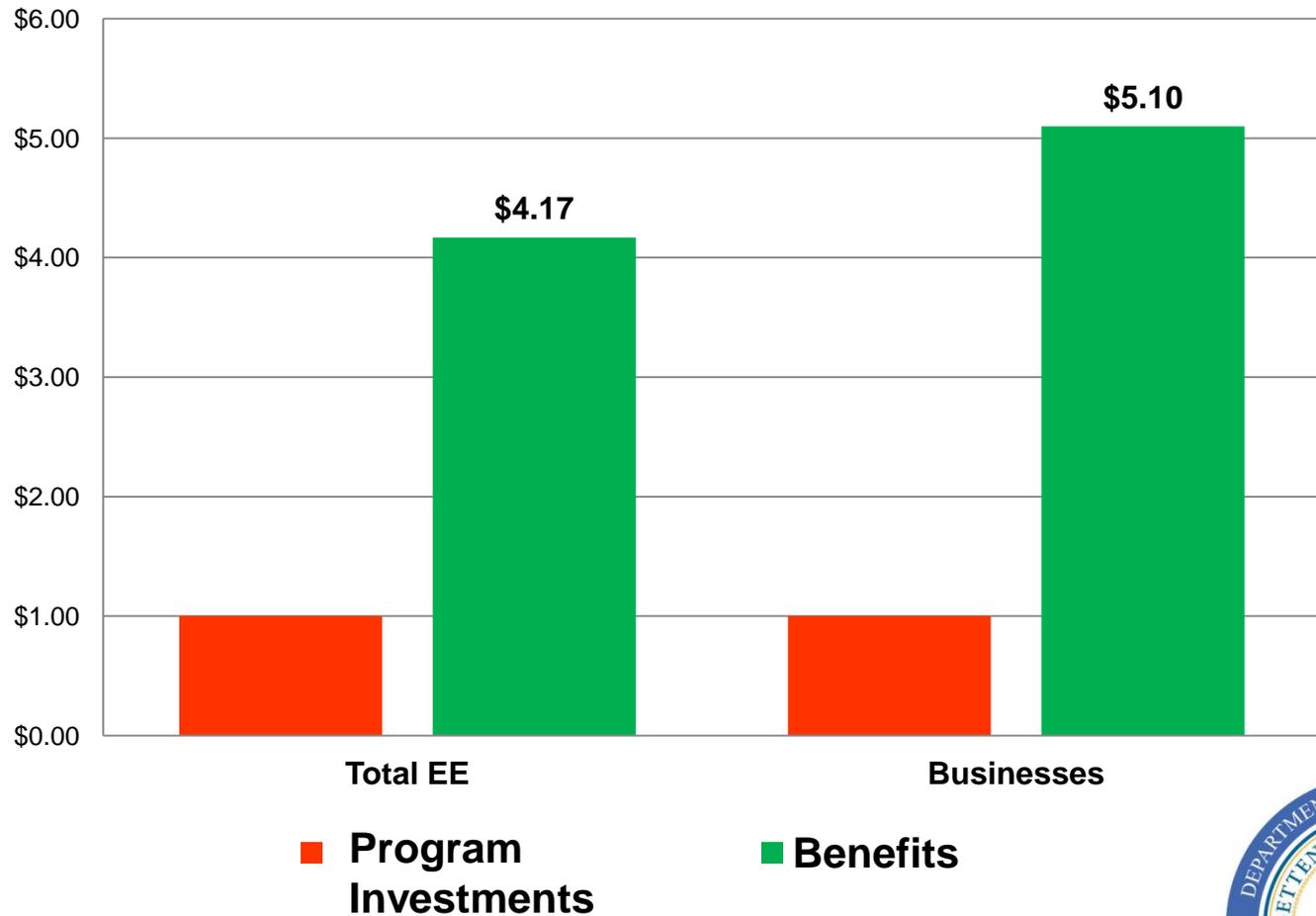


Cost-Effectiveness

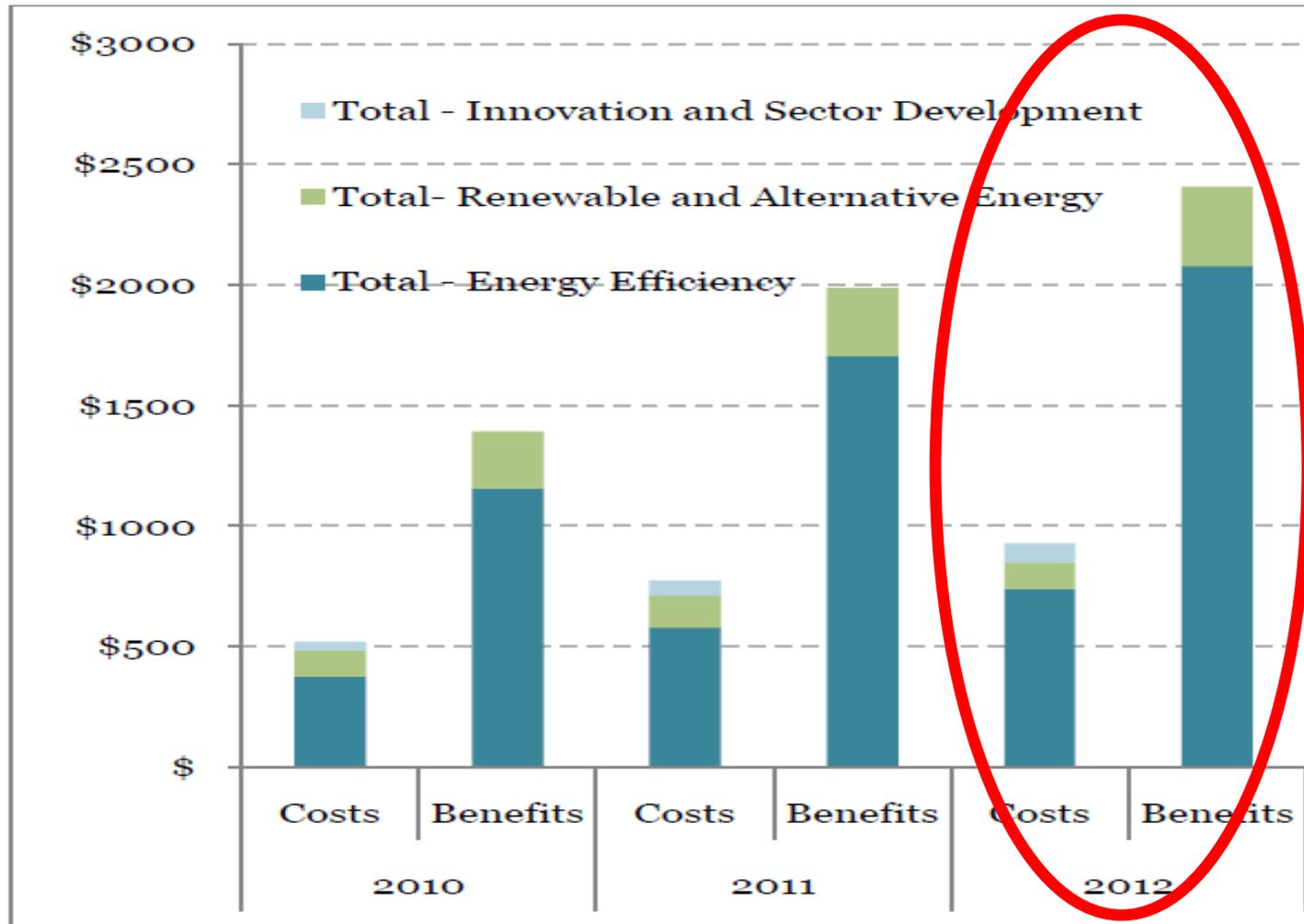
- *Energy Efficiency*
- *Renewable Energy Long Term Contracts*



Benefits/Costs of Energy Efficiency



PROGRAM INVESTMENTS & NET BENEFITS OF ENERGY EFFICIENCY AND RENEWABLE ENERGY



Implementing Legislation

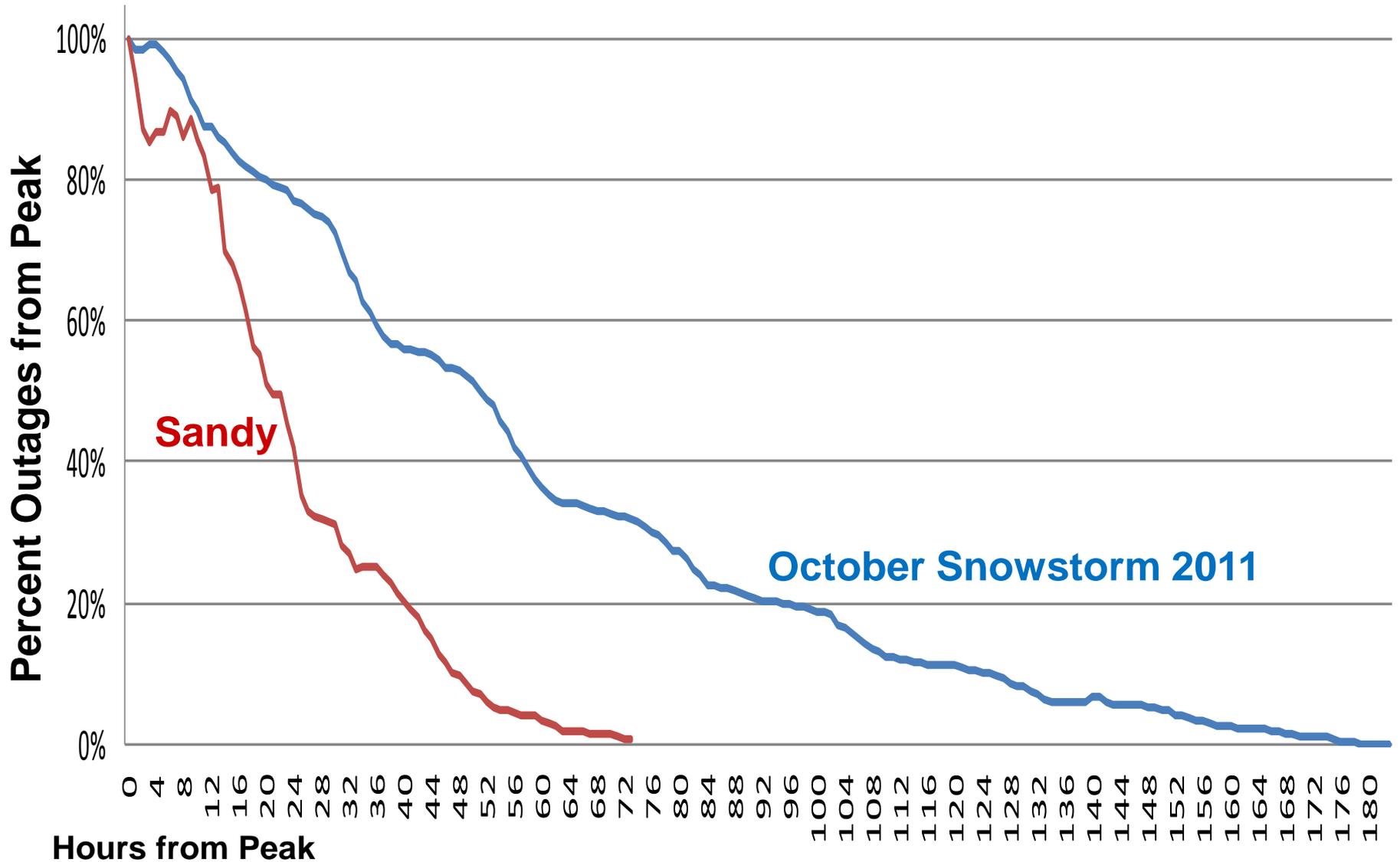


Implementing Legislation

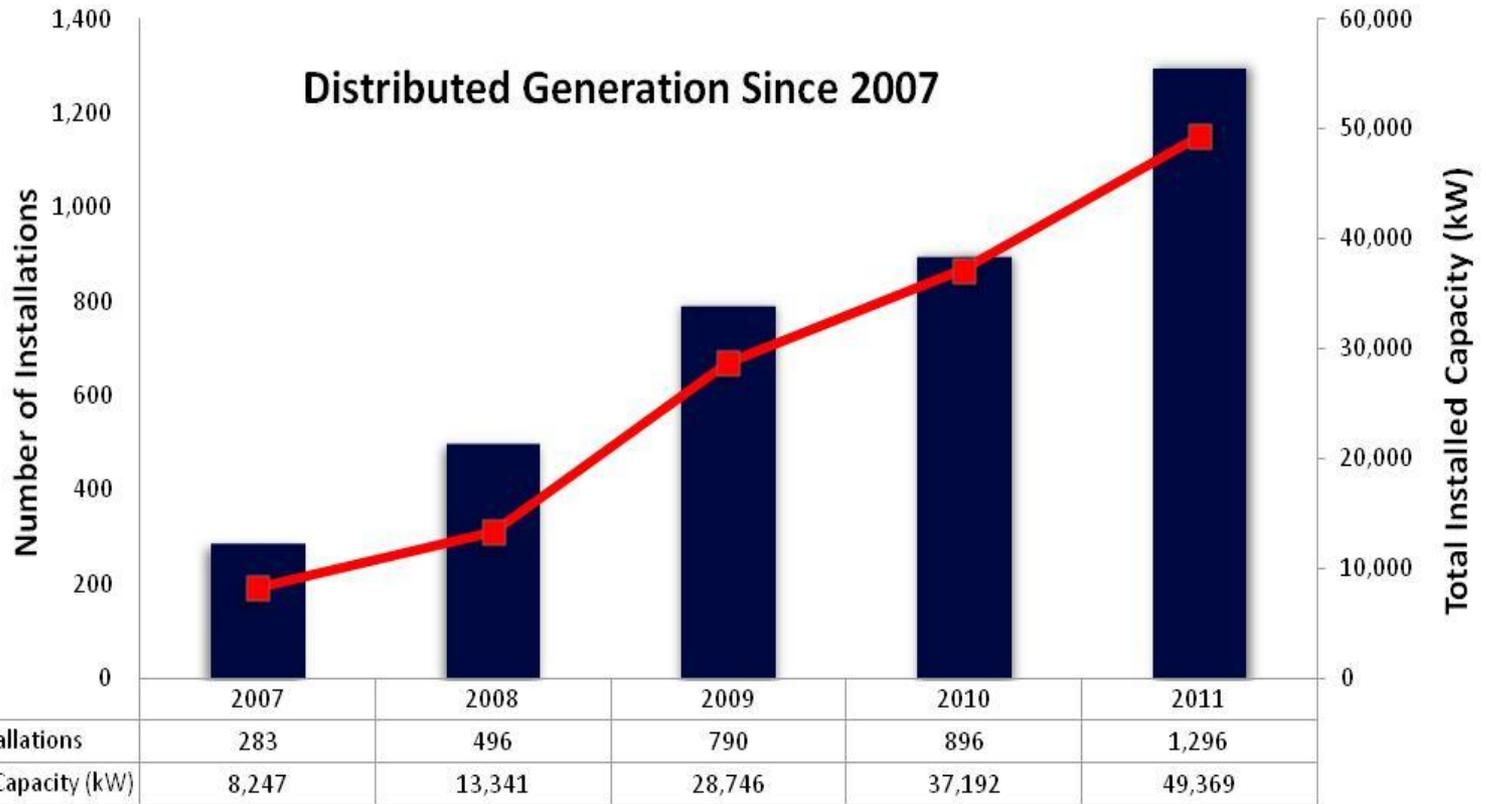
- *Cost-based reconciling mechanisms*
- *Service Quality*
- *Storms*
- *Net-metering*



Storm Response



Distributed Generation



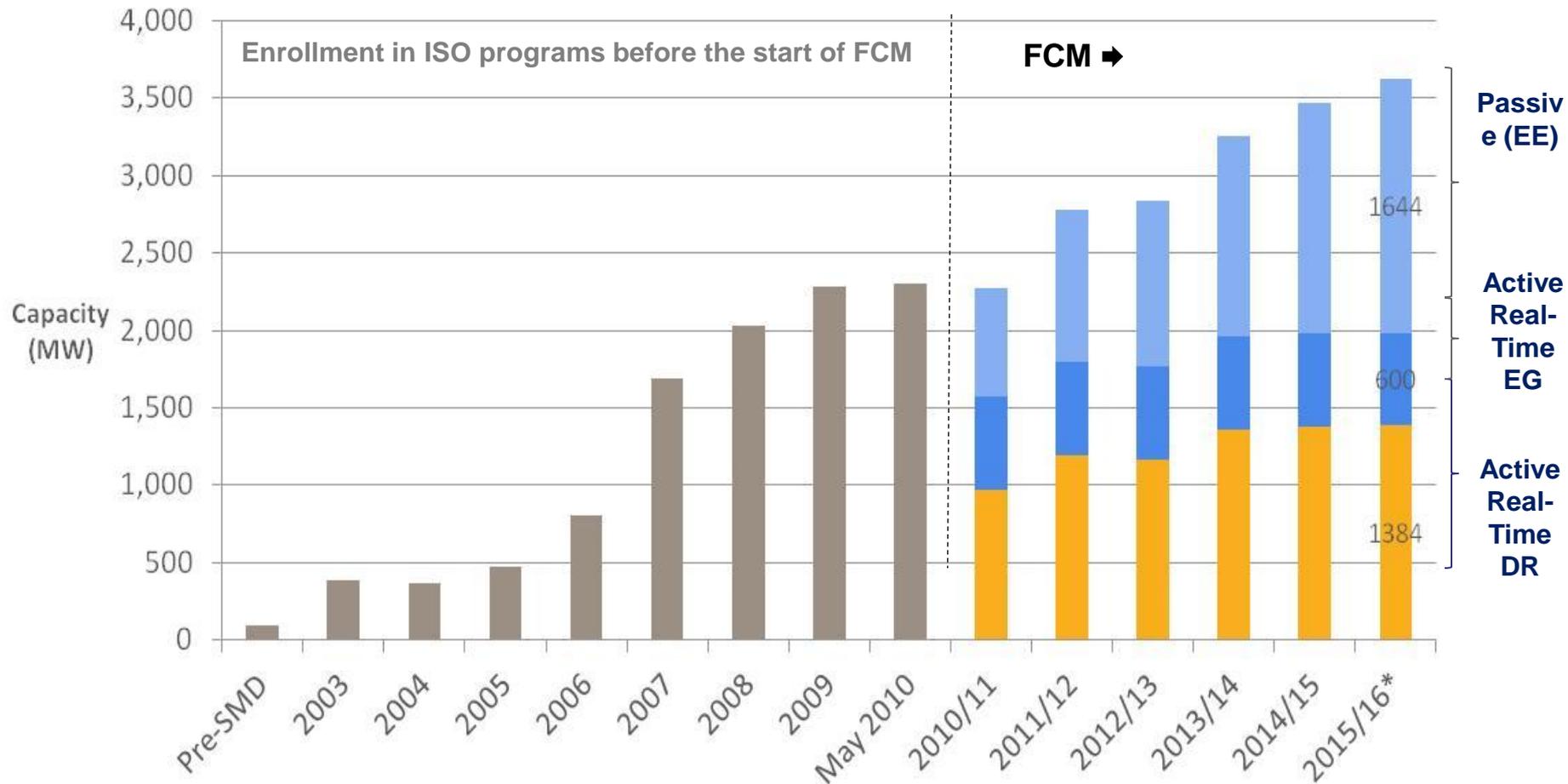
Regional issues



Demand Resources Growing in New England

Capacity Market has stimulated DR growth

Demand Resource Participation in Region



Energy Agenda Looking Forward at the DPU

- **Storms**
- **EE 3-year Plans**
- **Long Term Contracts**
- **Pipeline Safety**
- **Net Metering**
- **Interconnection**
- **Grid modernization**



Grid Modernization

Opportunities and Challenges

- Old infrastructure
- Demand for better reliability
- Fundamental inefficiencies in the system
 - Generation and cost driven by peak load
 - Dynamic pricing
- Begin to create the utilities of the future today
 - Electric vehicles
 - Renewables integrated into grid





Thank you