Natural Gas and Power Generation in New England

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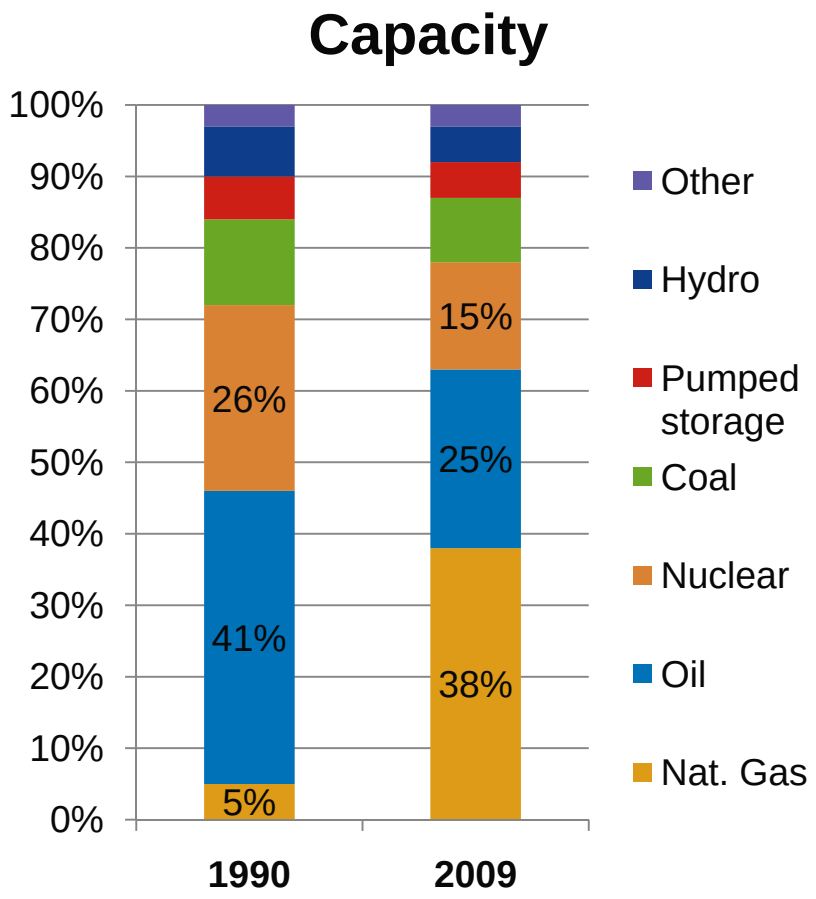
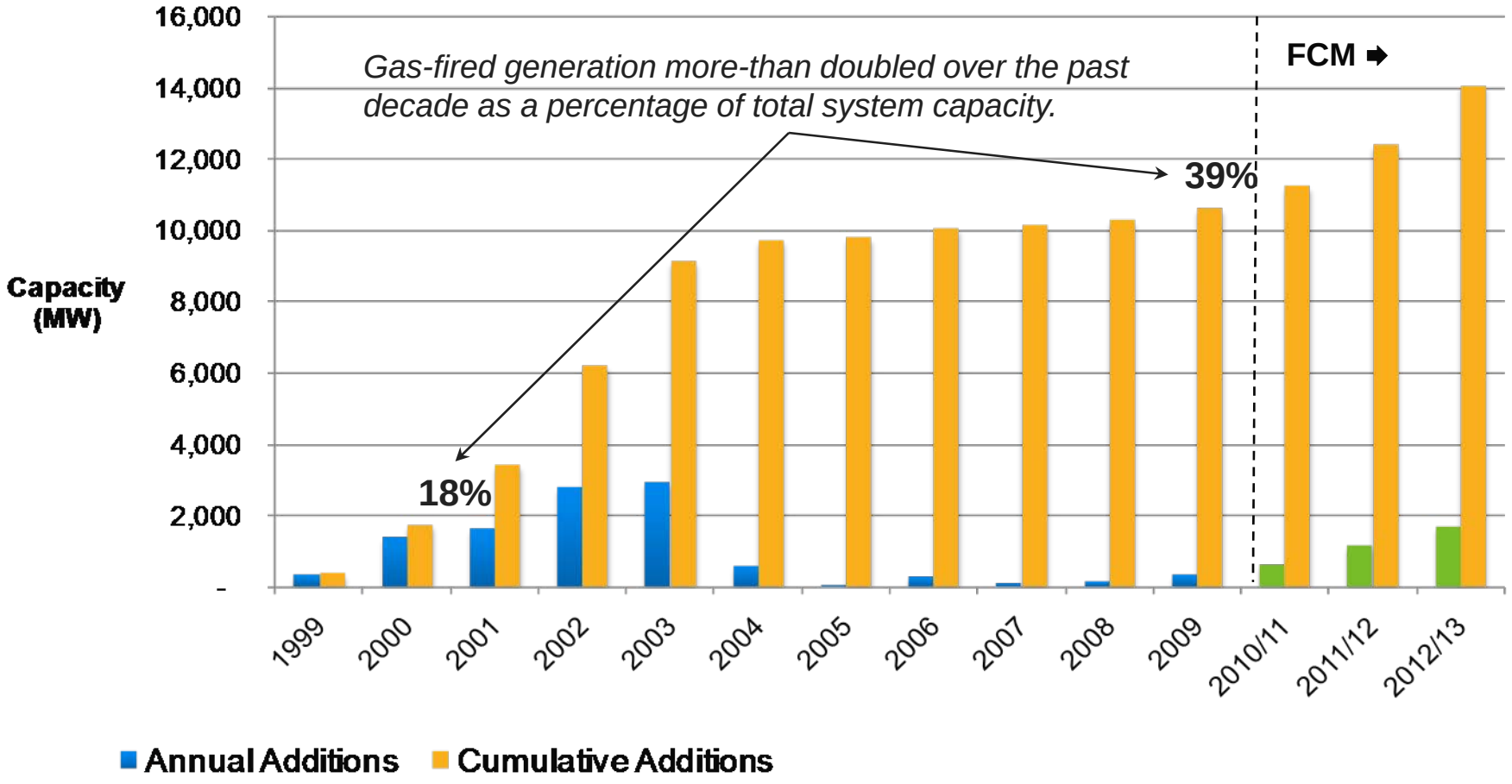
New England's Generation Fleet Historically Dominated by Nuclear and Oil

- New England largely dependent on oil and nuclear power through the mid 90's.
- At this time, things began to change - FERC opening access to the transmission system, deregulation in the states, implementation of wholesale electric markets, and the shut down of significant amounts of nuclear power.
- These events changed New England's generation fleet to new combined-cycle generation technology -- ahead of the rest of the country.



Today Nearly 40% of Capacity is Gas-Fired

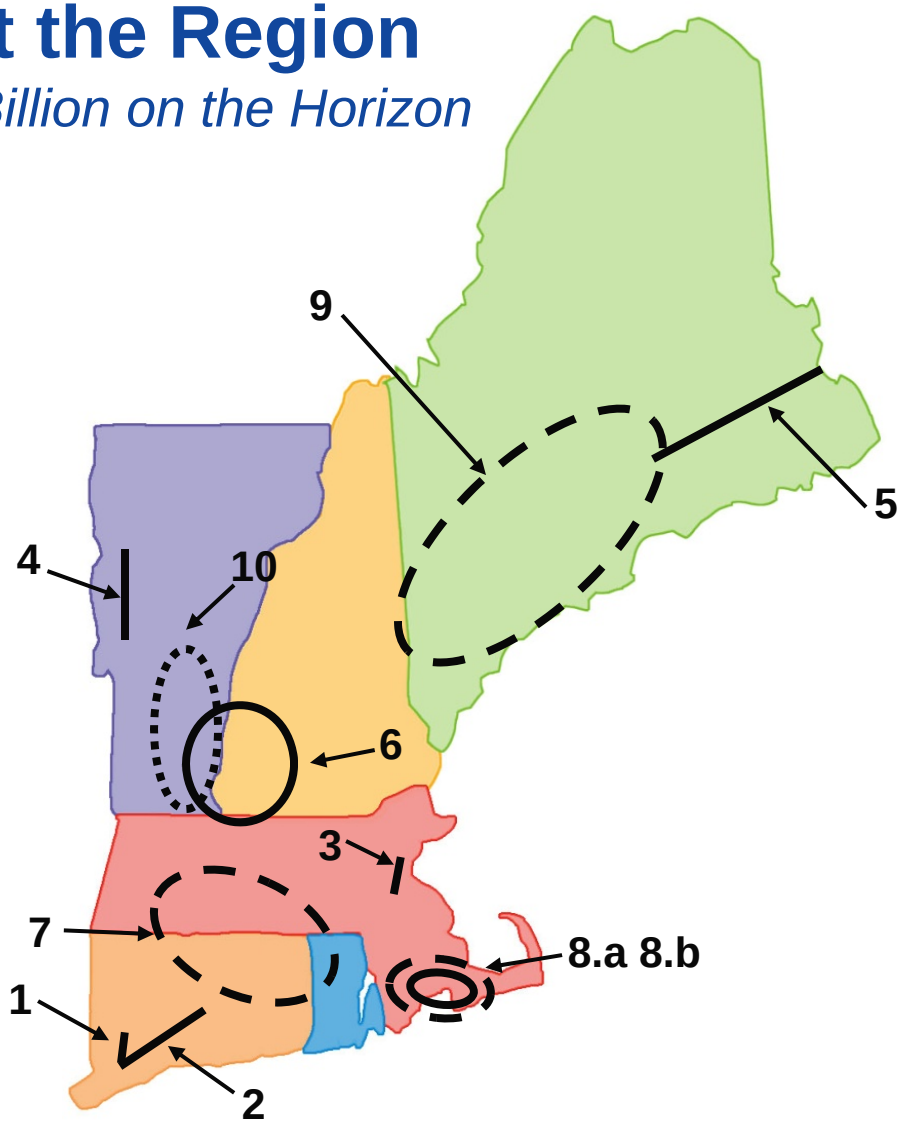
10,500 MW Added Since 1999; Additional 3,500 MW Committed for 2010-2012



New Transmission Increases Deliverability of New Supply Throughout the Region

$4 Billion Invested Since 2002; $5 Billion on the Horizon

1. Southwest CT Phase I
2. Southwest CT Phase II
3. NSTAR 345 kV Project, Phases I & II
4. Northwest Vermont
5. Northeast Reliability Interconnect
6. Monadnock Area
7. New England East-West Solution
8. Southeast Massachusetts
   a. Short-term Upgrades
   b. Long-term Upgrades
9. Maine Power Reliability Program
10. Vermont Southern Loop



In service

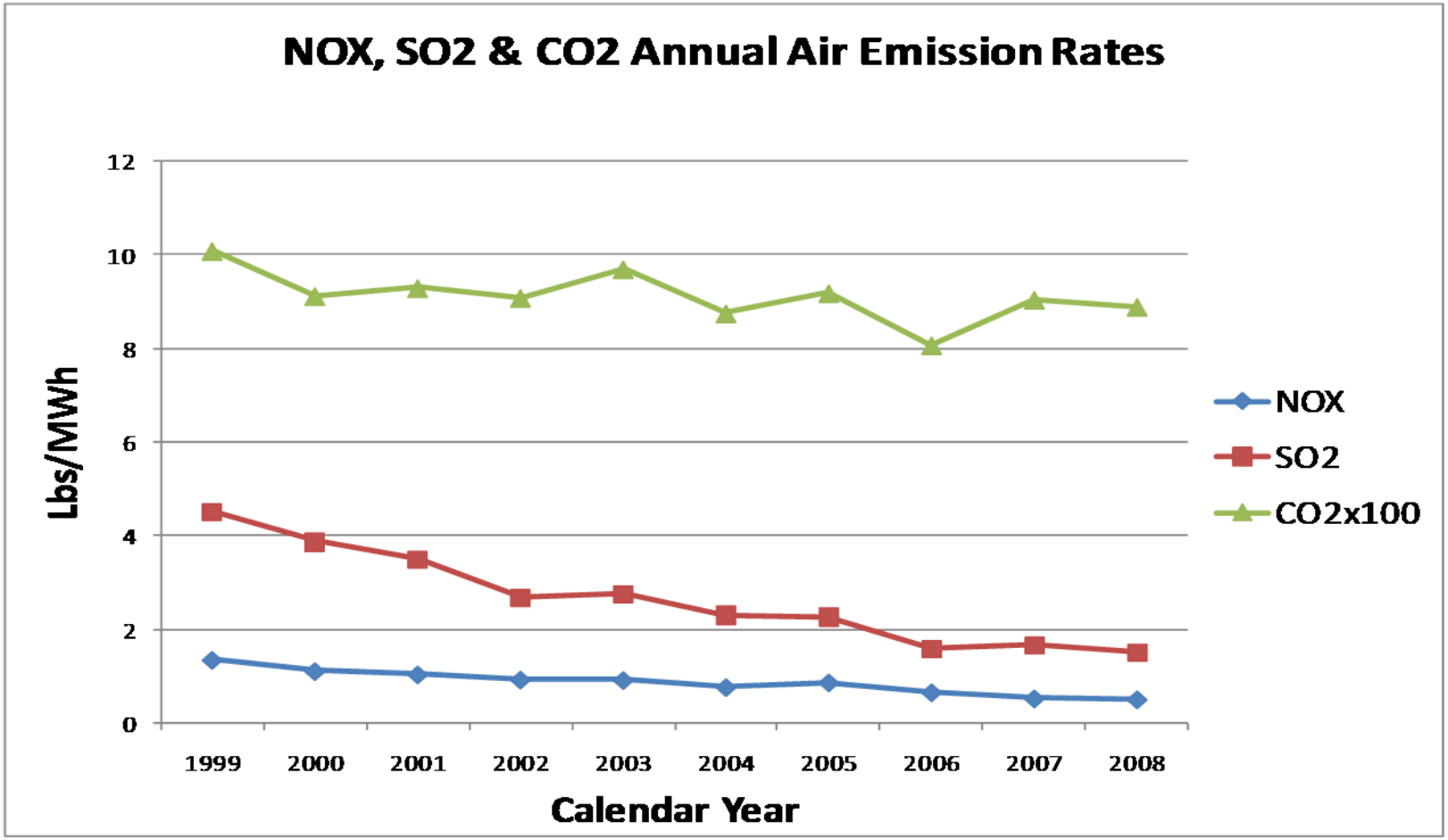
Under construction

Under study or in siting

Operational Benefits

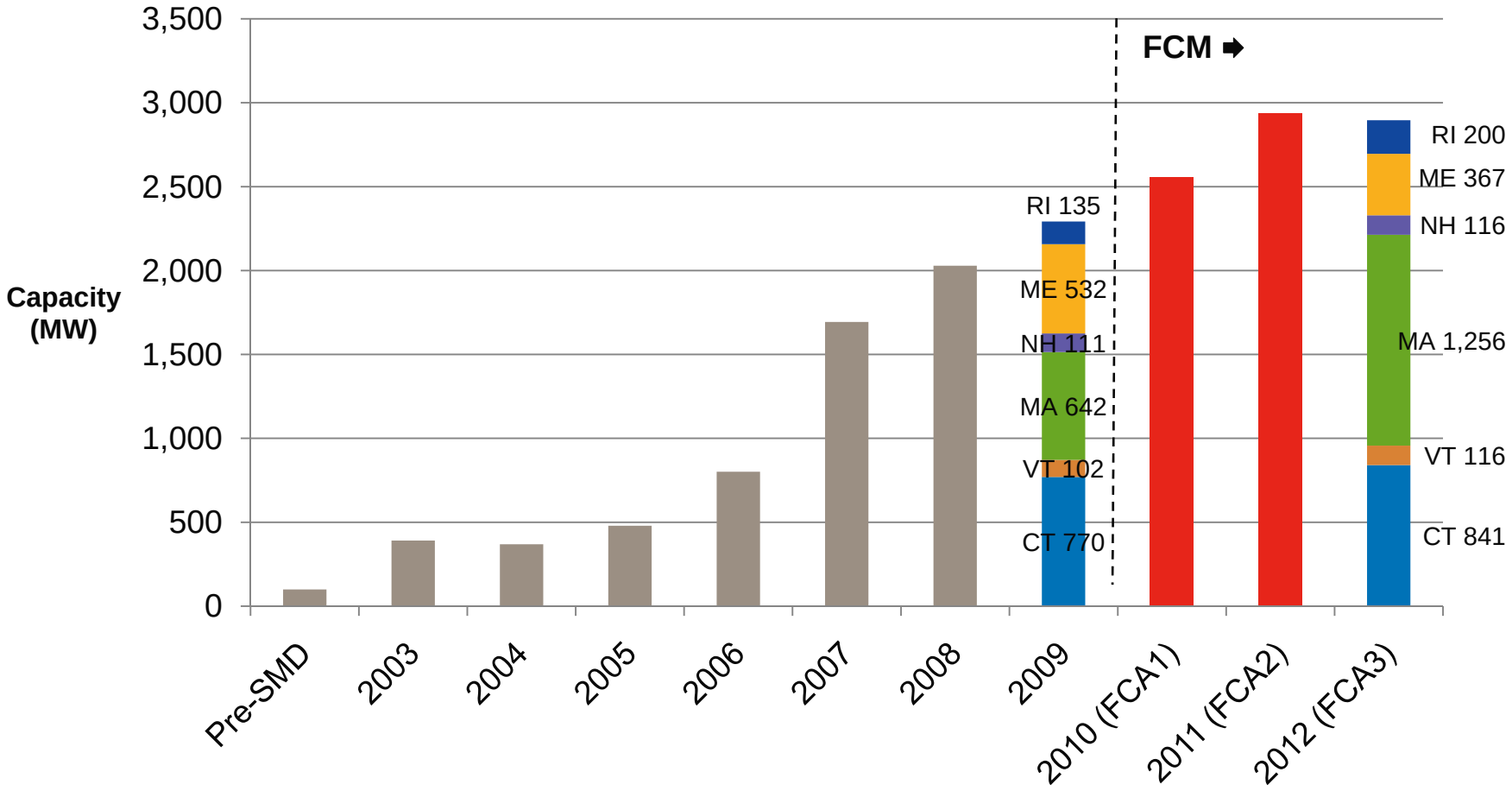
- Transmission upgrades have reduced the dependence on local oil-fired generation
- Improved operating characteristics of the newer generation
  - Less time required to start-up the plant
  - Reduced minimum run times
  - Reduced minimum down times
  - Response time (increasing/decreasing output)
- These system improvements have positioned New England to better integrate renewable, demand and variable (wind, solar, storage) resources into the operation of the power system

Gas Additions Improve New England's Electric Sector Air Emissions



Exceptional Growth in Demand Resources

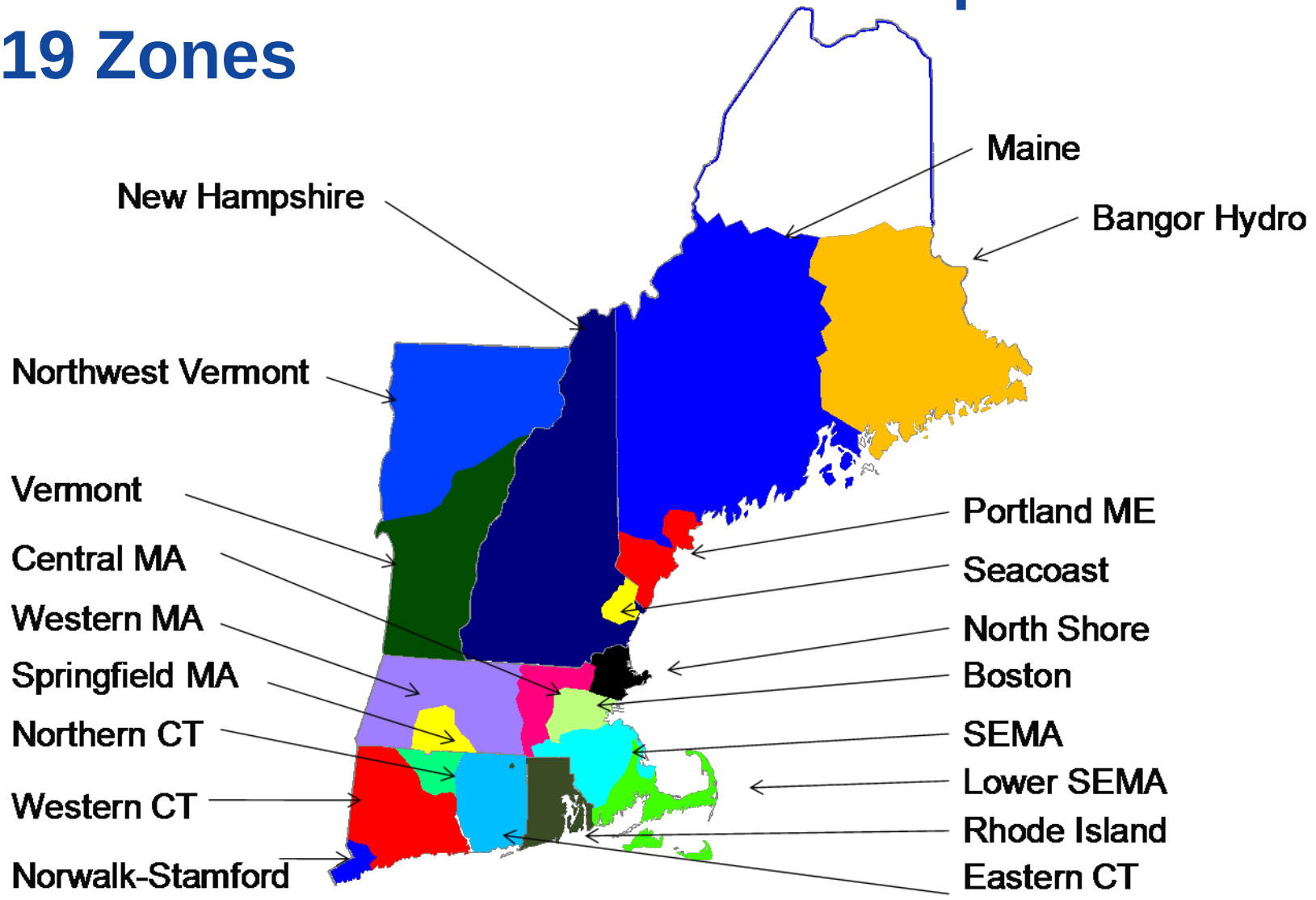
Positive Market Impacts, but Operational Challenges



Through 2009: Total DR Enrollment in ISO Programs

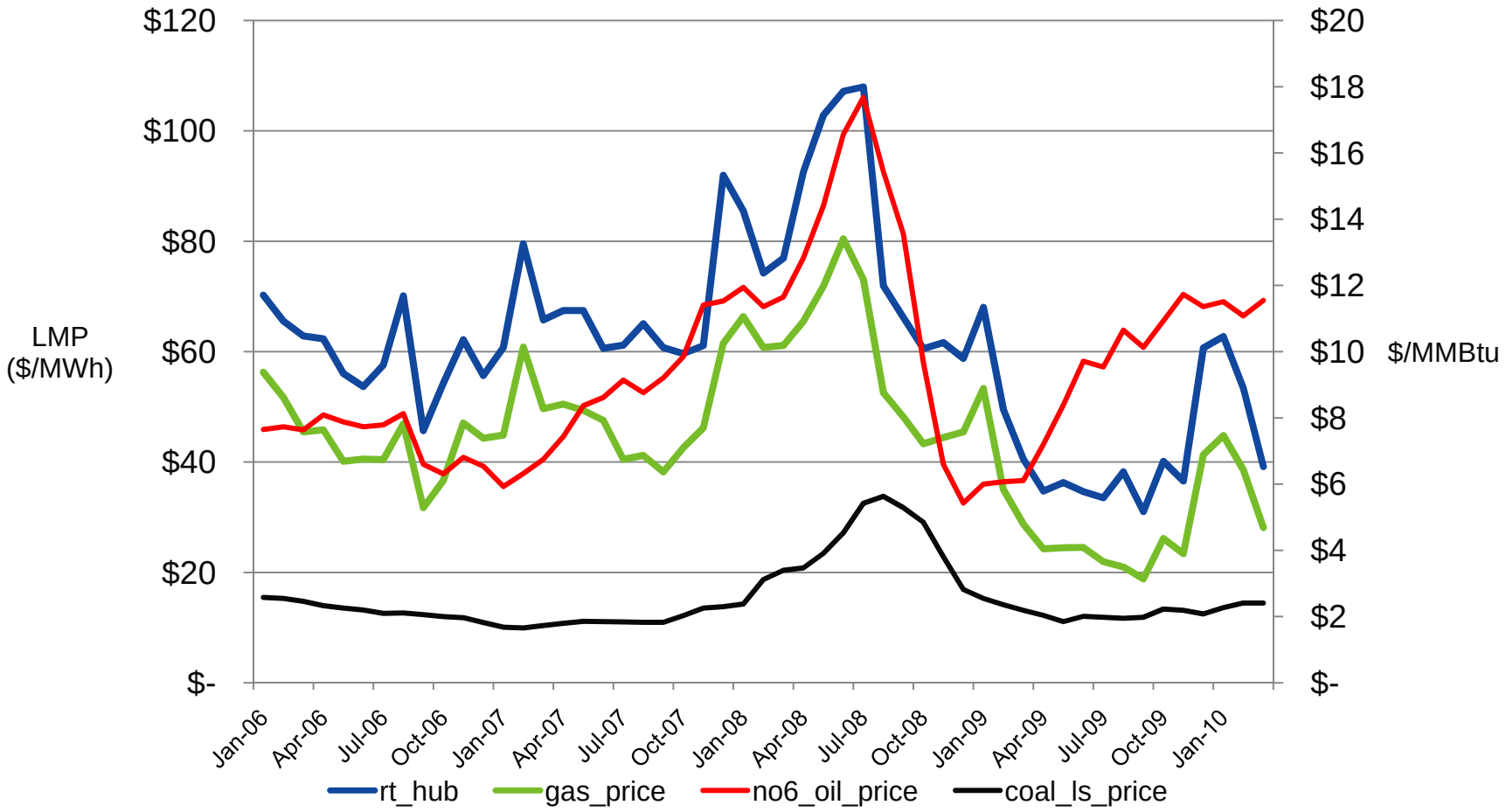
2010-2012: Total DR Cleared in FCM (New and Existing)

Demand Resources to be Dispatched in 19 Zones



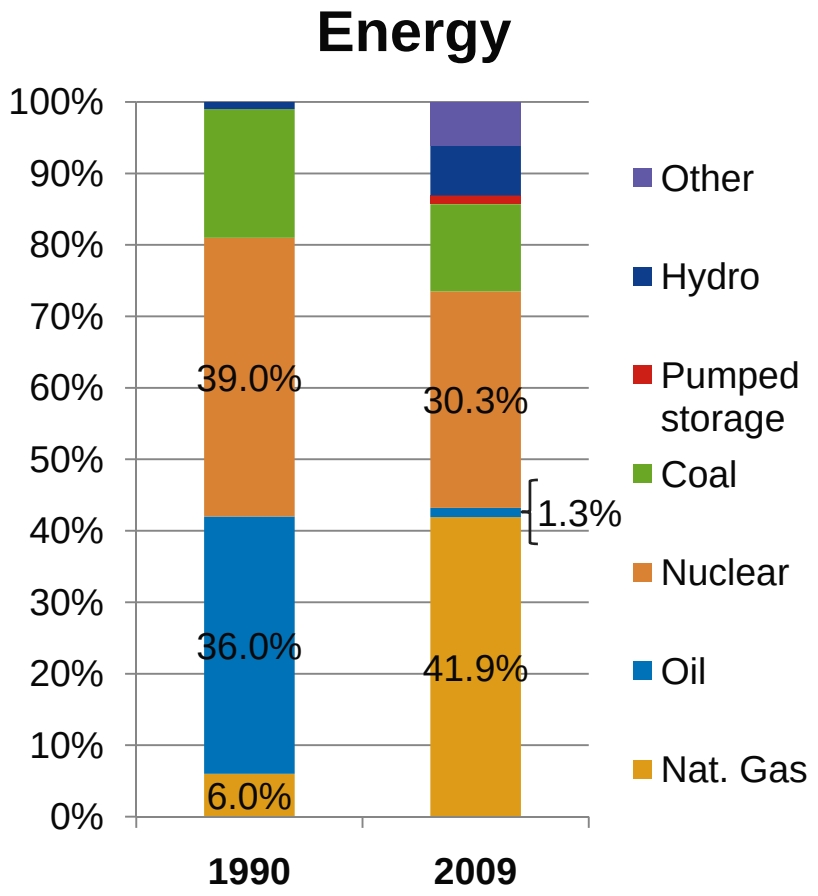
Wholesale Electricity and Fuel Prices

Electricity Prices Track Natural Gas Prices



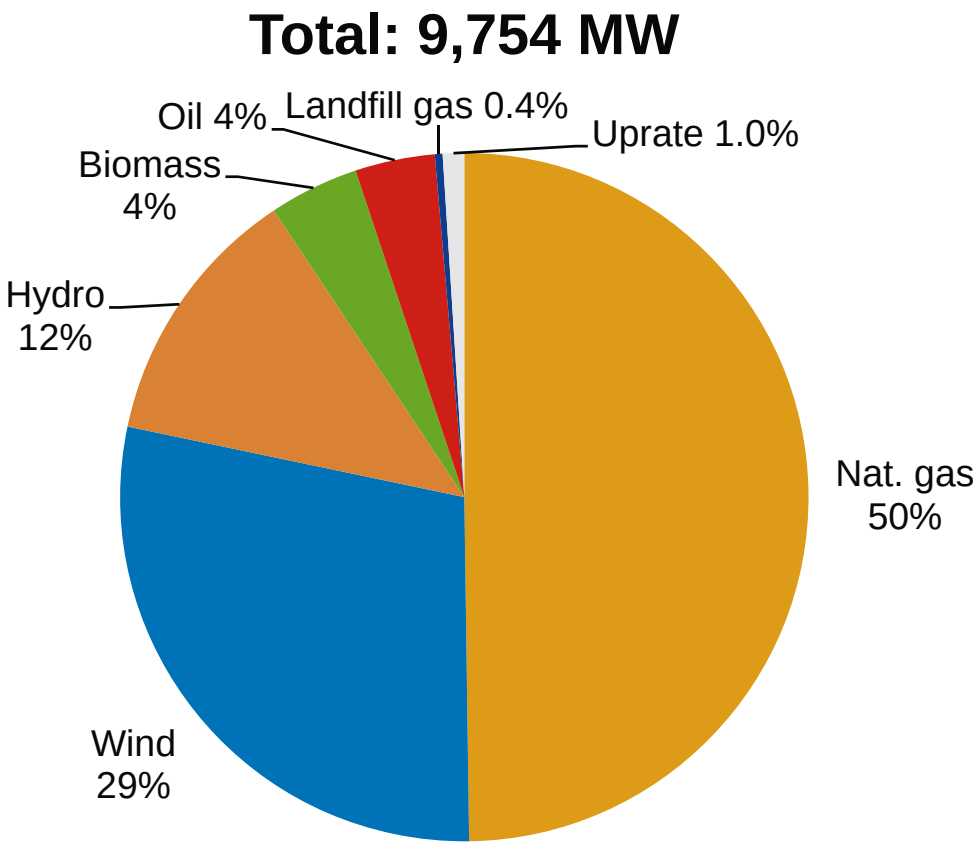
Economics and Policy Goals Continue to Shift the Fuel Mix

- Efficient combined-cycle gas units displacing the operation of the older oil-fired steam turbine generators
  - Today oil units provide less than 2% of the region's energy needs
- Emergence of renewable (and variable) sources of energy



New Generator Proposals

Primarily Natural Gas and Wind



Source: ISO New England Generator Interconnection Queue, January 1, 2010

Heavy Reliance on Natural Gas Expected for the Foreseeable Future

- 2004 Cold Snap raised concerns about the capability of the regional gas infrastructure to coincidentally supply both peak gas demands and gas-fired generation

- Revealed the need to:
  - Better understand the operation of the gas pipeline system
  - Invest in dual fuel capability

Supply and Delivery Risk Mitigated

- ISO and regional pipelines coordinate maintenance outages and communicate information of real-time system events
- Stronger market performance incentives
- Generator investment in dual fuel capability
- Significantly improved gas infrastructure and supply diversity