Integrating Demand Response in New England's Energy Markets

Massachusetts Restructuring Roundtable

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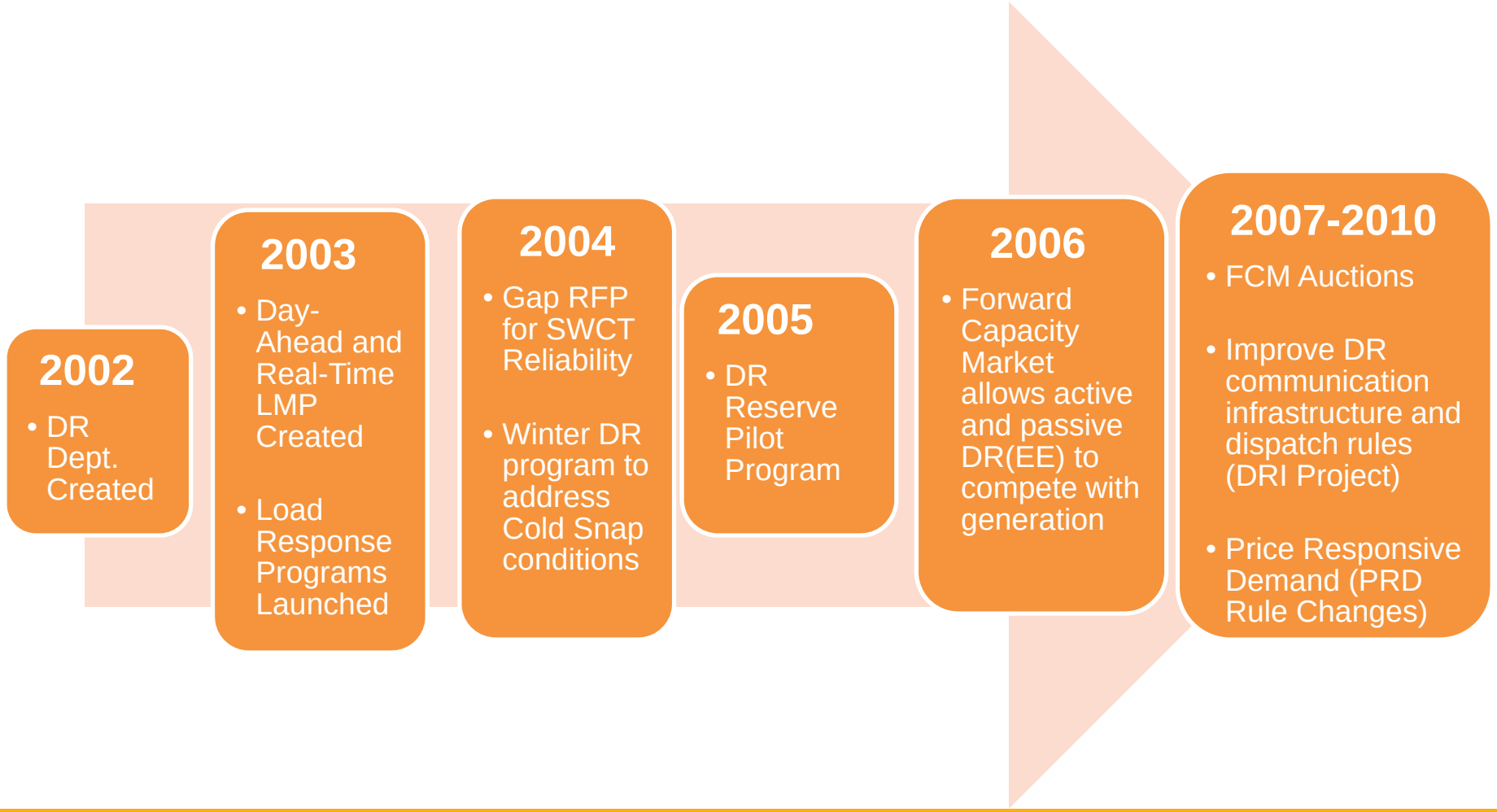
Regional Challenges

- Electricity Costs
- Growing Environmental Requirements
- Integrating Renewable Resources
- Complexity in Power System Operations and Planning

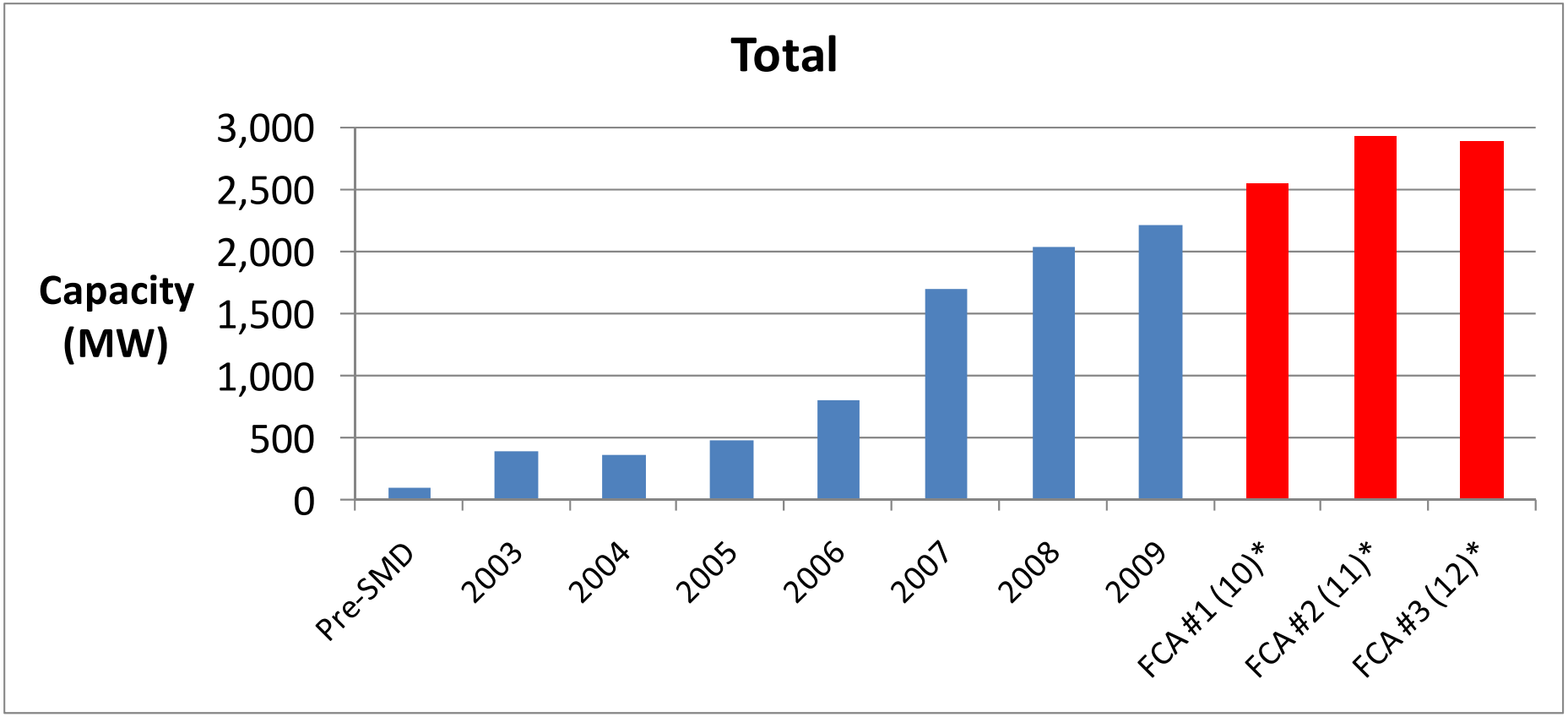
The Role of Demand Resources

- Improves efficiency of electricity use
  - Shifts consumption to lower cost periods
  - Relies on more efficient and cleaner supply to meet demand
  - Reduces peak load – mitigating the need for additional transmission and generation
- Improves reliability in times of tight supply

ISO New England Efforts to Expand DR



Demand Resources Growing in New England



* Represents Demand Resources that cleared respective capacity auction

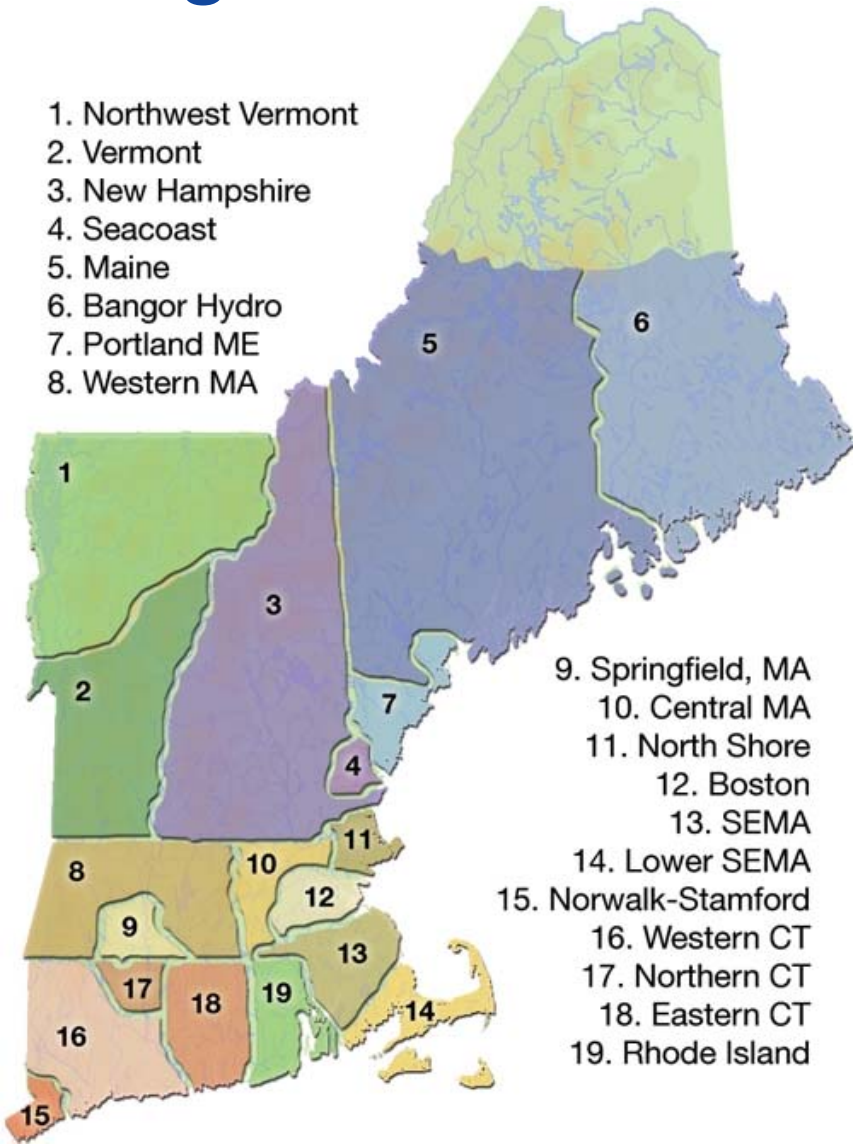
Success Brings New Challenges

- DR now replacing generation as capacity
  - Growth rate exceeded expectations
    - Greater than 20-fold increase in less than 10 years
    - 500% increase in the last 5 years

- Large amount of DR creates operational challenges
  - Increasing dispatch frequency
    - More DR will be called upon for more hours, including off-peak months

ISO to Dispatch DR in Targeted Areas

- 19 dispatch zones:
  - Promotes use of DR resources only when, where and in amounts needed
    - Prevents unnecessary activation of DR and limits customer fatigue
    - Providers may use a portfolio of assets to respond within a zone



PRD Can Further Improve Energy Market

- What is Price Responsive Demand?
  - Consumers change consumption in real time, in response to changes in wholesale power prices
    - Use *more* energy when prices are low and *less* when prices are high
- What are the benefits?
  - Improves capacity utilization of New England system
  - Reduces LMP when prices are highest
  - Helps consumers manage energy needs
- What are the challenges?
  - Wholesale and retail pricing are not aligned in real time
  - Creating efficient wholesale market rules that advance the full deployment of dynamic retail pricing

Achieving PRD in New England

- ISO New England is proposing two complementary approaches
  - **Demand-side**
    - Voluntary wholesale energy product at hourly real-time price
  - **Supply-side**
    - Market participants to offer load reductions into the wholesale energy markets as though such offers were an offer to supply energy
- Customers with advanced meters and access to dynamic prices can benefit from these approaches

Complex Issues and Differing Opinions

- Payment for load reductions
- Cost allocation
- Baseline
- Demand-side approaches

Looking Forward

- Stakeholder process ongoing
- ISO plans to file the design basis document with FERC in December
- Market rule development to commence early next year
- Market rule filing planned for Summer of 2010