

Building Energy Efficiency Programs in the Northeast

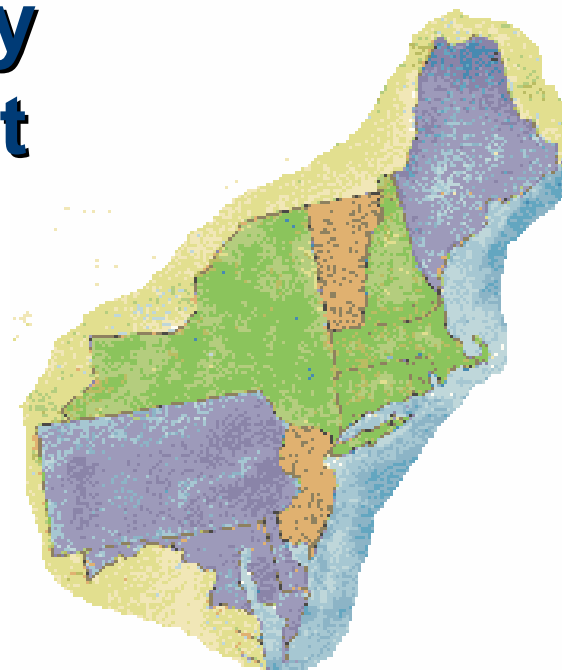
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Energy Efficiency Portfolio Standard

Overview Forum



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Northeast Energy Efficiency Partnerships (NEEP)

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Overview

- ✓ About NEEP
- ✓ Energy Efficiency in the Northeast – *Then and Now*
- ✓ Capturing All Cost-Effective Energy Efficiency
 - Policy Framework
 - Program Design
 - Evaluation Framework
 - Program Administration and Oversight
- ✓ Priorities for Regional Coordination

Northeast Energy Efficiency Partnerships (NEEP)

“Facilitating partnerships to advance energy efficiency.”

- Regional non-profit organization since 1996.
- Serving New England, New York and Mid-Atlantic states

Our mission: To promote **energy efficiency** in homes, buildings and industry in the Northeast U.S. through regionally **coordinated programs and policies** that increase the use of **energy efficient products, services and practices**, and that help achieve a **cleaner environment** and a **more reliable and affordable energy system**.

How NEEP Works

Services:

- Regional initiatives promote high efficiency products and services
- Policy outreach and communications inform policymakers
- Technical assistance to implement state efficiency policies

Strategy:

- Leverage regional and national resources (e.g., ENERGY STAR)
- Coordinate efficiency programs, marketing and outreach → ***consistent messages*** for retailers, manufacturers, consumers
- Market aggregation increases market pull and impacts

NY + New England + NJ = California market size

- Lock in market gains → energy codes and appliance standards
- Regional information resource to support policy adoption and implementation

A Brief Northeast History of Efficiency

- **The Past:** Energy efficiency based on resource acquisition in between 1985-1995
- **The Present:** Efficiency as a public benefit program 1995 - 2005
- **Since 2005:** Renewed interest in efficiency as a resource – potential to double-triple savings to:
 - *Reduce carbon emissions*
 - *Meet capacity needs*
 - *Reduce energy costs*

Ratepayer Efficiency Funding 1995 - 2007

Historical High:

\$900 million plus 1994

New England + New Jersey + New York

Post Industry Restructuring:

\$450 million 1997

\$623 million plus 2007

New England + New Jersey + New York

Future:

On track to exceed \$1.5 billion!



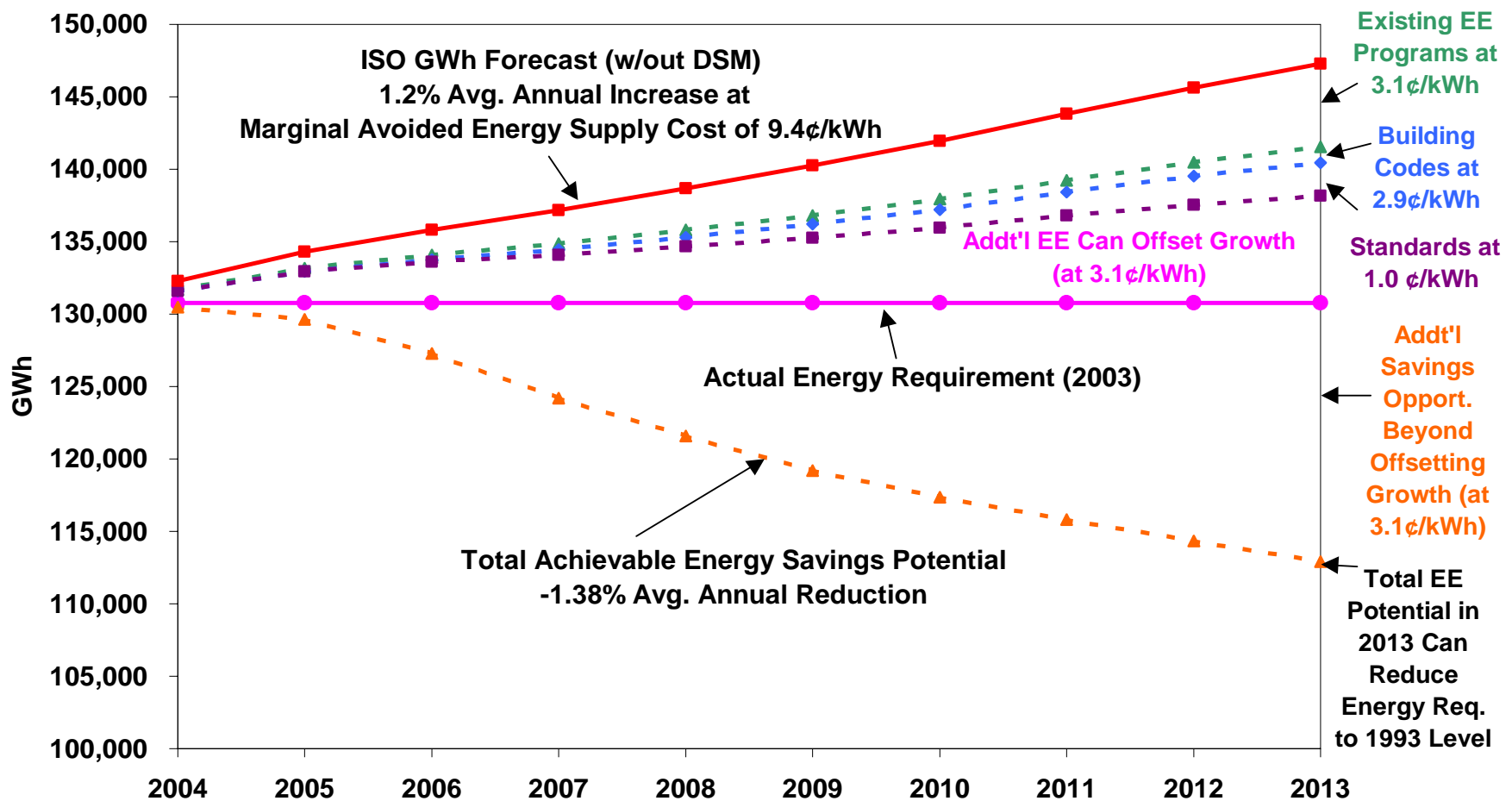
Impact

1995 – Present

Lowered energy growth:
kept at 1.5% per year

New England Achievable Energy Efficiency Potential

Existing and New EE Strategies Can Offset ISO Forecasted Energy Requirements (GWh) and Beyond



Emerging Trends and Issues

Policy: Efficiency as the most cost-effective, readily available resource to meet multiple policy objectives:

Power System Reliability

- ISO New England Forward Capacity Market → DSM resources
- Increased Short-term demand response programs – RTOs
- Geographically targeted efficiency → T&D constraints - VT, CT
- NYSERDA – Con Edison *Power Savings Partner Program*
- PSE&G procurement of energy efficient T&D equipment

Environmental

- RGGI – 100% consumer allocation of allowance revenues
- State Climate Change Policies – efficiency as top priority
- New England Governors/Eastern Canadian Premiers
- NJ Master Plan Process

Energy Affordability

- Procure all cost-effective energy efficiency – CT, RI, ME, MA
- More gas efficiency programs
- State appliance efficiency standards

Emerging Trends and Issues

Program/Technology: Increasing savings

- ***Program Ramp-up to Increase Resource Acquisition***
 - Increasing Discretionary Retrofit as budgets increase
 - Infrastructure development to increase capacities
- ***Statewide programs with Regional Coordination***
 - Consistent programs, requirements, joint marketing, co-branding
 - Co-promotions with manufacturers, distributors and retailers
- ***Community-Based Program Strategies – VT, MA, NY***
- ***Increased focus on Whole Building Solutions***
 - Home Energy Performance
 - Northeast Collaborative for High Performance Schools
 - LEED, Advanced Buildings, ASHRAE 189
 - NetZero Energy Homes and Buildings
- ***New Technologies/Big Opportunities:***
 - ENERGY STAR electronics (telephony, TVs, VCRs, external power supplies)
 - Ductless mini-split air conditioning
 - Solid State Lighting (still emerging)

Procure All Cost-Effective Efficiency

The Policy Framework

■ **Statewide planning:**

- Continually assess efficiency potential and cost-effectiveness
- Statewide multi-year goals to address multiple objectives
- Address all fuels and coordinate with building integrated renewables

■ **Policies and programs to achieve goals:**

- R&D to identify new opportunities
- Voluntary programs + state procurement to build market adoption
- Regulation to lock in market gains (codes and standards)

■ **Stable funding** → cost recovery, decoupling, incentives, multi-year budgets

■ **Coordinated programs & policies** – statewide, regionally and nationally

■ **Evaluation requirements** to address multiple objectives

Procure All Cost-Effective Efficiency

The Program Framework

- **Statewide programs designed to:**
 - Maximize net benefits
 - Minimize lost opportunities
 - Address all market sectors
 - Overcome market barriers by market sector – targeted information, technical assistance and incentives
 - Achieve long-term impacts – *market transformation*
 - Leverage resources and engage market participation
 - National programs (e.g., Energy Star)
 - Manufacturers, distributors, retailers
 - Builders, designers, contractors, large customers
- **Flexible program implementation** → respond to developments
- **Evaluation and data collection** → embedded in program implementation

Program Design Evolution to Increase Cost Effectiveness

■ **First Generation**

- Information and loans, e.g., Audit programs
Cheap but not cost-effective – low savings!

■ **Second Generation**

- Rebates and performance contracting
- Focus on retrofit → pay full avoided cost
Cost-effective savings but not cheap!

■ **Third Generation**

- Strategic market interventions – overcome market barriers – incentives, tech assistance, target marketing
- Priority to new construction and equipment replacement
- Discretionary retrofit
- Near-term savings and long-term market transformation
- Tie to building energy codes and standard
Cost-effective, cheap, long lasting!

Third Generation Program Portfolio

Commercial & Industrial

■ Market Driven

- New Construction
- Equipment Replacement – Lighting, HVAC, etc.
- High Efficiency Lighting Design

■ Discretionary Retrofit

- Small C&I (Direct Install)
- Large C&I
- Institutional

Residential

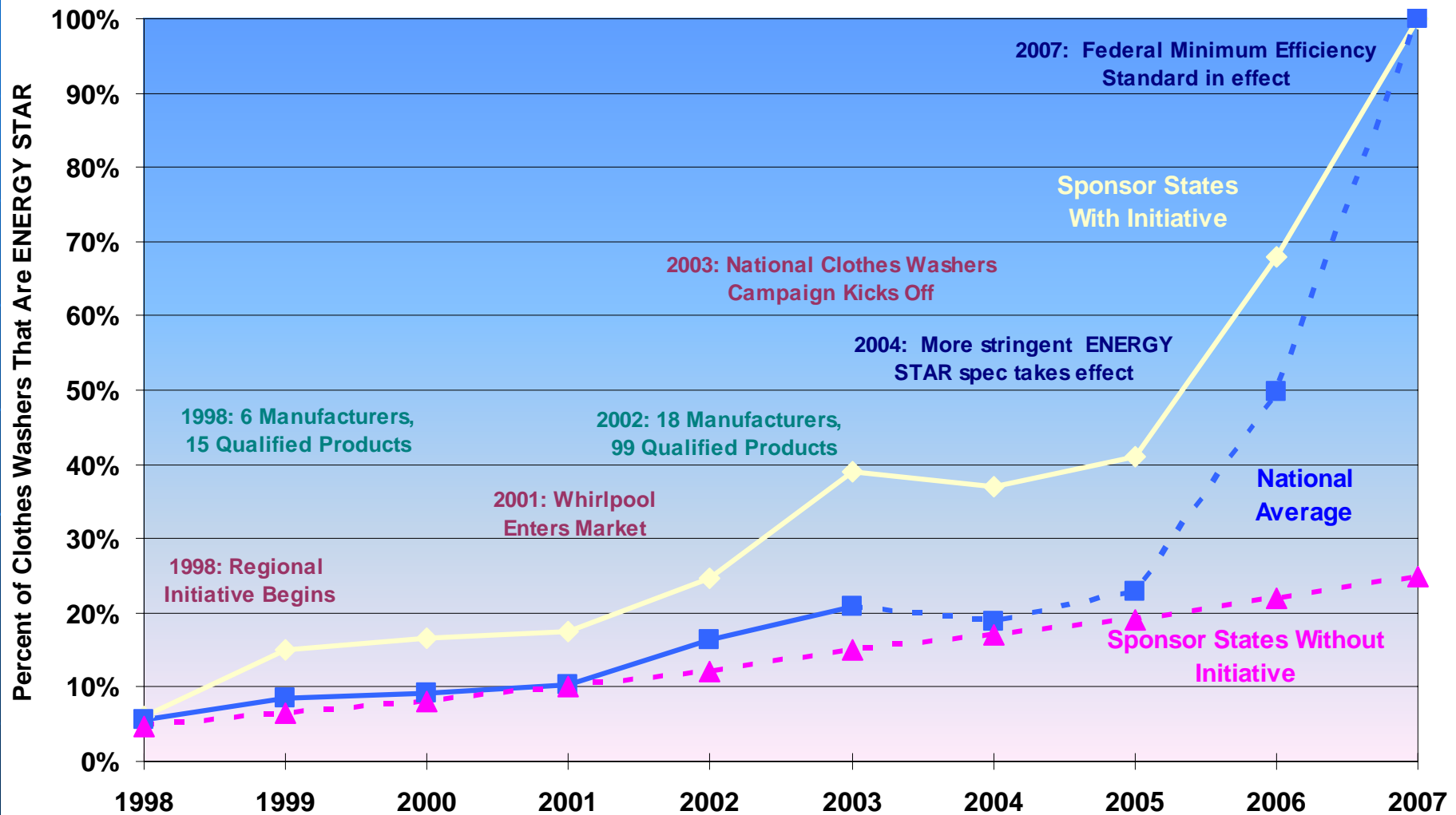
■ Market Driven

- New Construction
- ENERGY STAR Heating and Cooling
- ENERGY STAR Lighting, Appliances, Electronics

■ Discretionary Retrofit

- Low Income
- Whole House Solutions- Home Energy Performance
- Multifamily Services

Market Transformation for High Efficiency Clothes Washers In New England



Procure All Cost-Effective Efficiency

The Evaluation Framework

- Requirements set up-front to address multiple policy and program objectives:
 - Track impacts – energy, carbon, capacity, dollars
 - Award performance incentives
- Program baselines established (cooperative, regional studies)
- Data requirements, methods and schedules identified
- Consistent protocols and inputs – state + regional coordination
- **Process evaluation** to guide program effectiveness – identify mid-course corrections
- **Impact evaluation** - to verify savings estimates

Procure All Cost-Effective Efficiency

Program Administrative and Oversight

■ Many models:

- One statewide efficiency utility – VT, ME, RI, NJ
- Coordinated/collaborative administration – MA, CT, NH

■ Issues:

- Arms length regulatory oversight
- Focus on performance, results vs. program detail
- Performance metrics that address near-term and long-term goals
- Access to customer data → marketing, tracking
- Addressing multiple fuels – electric, gas, oil – to provide integrated service and solutions
- Coordination with renewable energy programs

Recommended Priorities for Regional Cooperation

Research, Analysis and Evaluation

- Piloting new efficiency opportunities - technologies
- Efficiency potential studies
- Load research and analysis
- Market characterization and baseline studies
- Program impact and process evaluations

Common Standards

- Common protocols to measure, verify, track and report energy and capacity savings, and related benefits
- Consistent cost-effectiveness requirements and inputs
- Appliance efficiency standards
- Building energy codes
- State facility building energy performance requirements
- Efficiency requirements for government procurement
- Economic indicators (jobs, growth, productivity)

Recommended Priorities for Regional Cooperation

Strategic Program Coordination

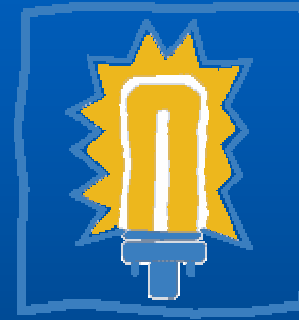
- Market transformation strategies
 - Upstream market interventions
 - Co-promotions with retailers, distributors and manufacturers
 - Joint solicitations
 - Consistent requirements and timeframes
- Training and education (e.g., best practices for design community)

Infrastructure Development

- Framework to track and report impacts of efficiency programs and policies
- Guidelines and technical resources to implement policies
- Energy efficiency training and education – policymakers, professionals, workforce

Thank You

Northeast Energy Efficiency Partnerships, Inc.



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