

Building Energy Efficiency: Funding from RGGI and ARRA

Energy Home Monthly Call

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Environment Northeast (ENE)



Environment Northeast (ENE)

- Environmental Policy, Research, and Advocacy
 - Northeastern Based Non-profit NGO
 - Rockport, ME / Portland, ME / Boston, MA / Providence, RI / Hartford, CT / Charlottetown, PEI, Canada
- Program Areas
 - Energy Policy
 - Climate Change
 - Transportation and Diesel
 - Forest Practices and Land Use



Biographical Information

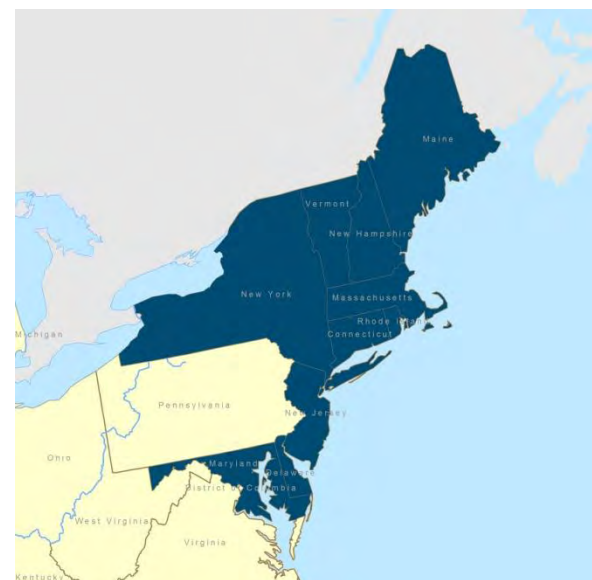
- Education:
 - Master's in Environmental Science from Trinity College, Dublin.
 - Bachelor of Arts in history from Yale College
- ENE Research Analyst
 - Lead Cap & Trade policy analyst
 - Design and Implementation of the Regional Greenhouse Gas Initiative (RGGI)
 - Federal Cap & Trade
 - Energy Policy

What is Cap & Trade?

- Market-based system to reduce emissions
- Regulates use of atmosphere as disposal site
 - Government sets limit on emissions – the “cap”
 - Permits/allowances to emit up to the cap level are distributed
 - Quantity of allowances decreases over time
 - Allowances are tradable, so entities able to deliver low-cost emissions reductions sell excess permits or buy fewer permits
 - System delivers emissions reductions at lowest cost

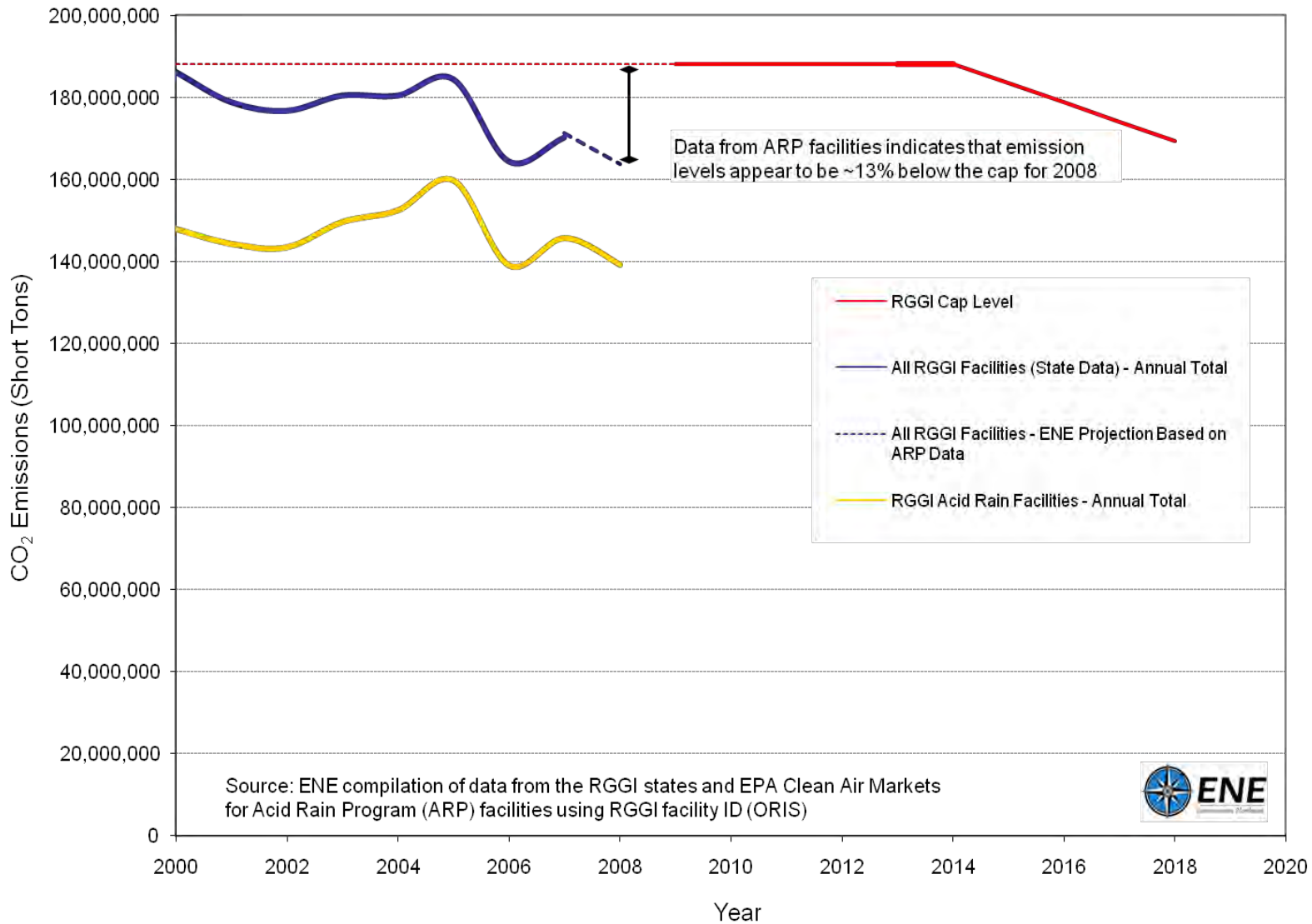
Regional Greenhouse Gas Initiative

- First mandatory carbon cap and trade program in the US
- 10 states: CT, DE, MA, ME, MD, NH, NJ, NY, RI, VT
- Electric power units over 25 MWs
- Reduce emissions 10% below 2009 levels by 2019
- 3.3% offset usage for compliance
- First compliance period: 2009-2011
- Compliance at state level
- Penalty 3x market price



RGGI Cap Level:

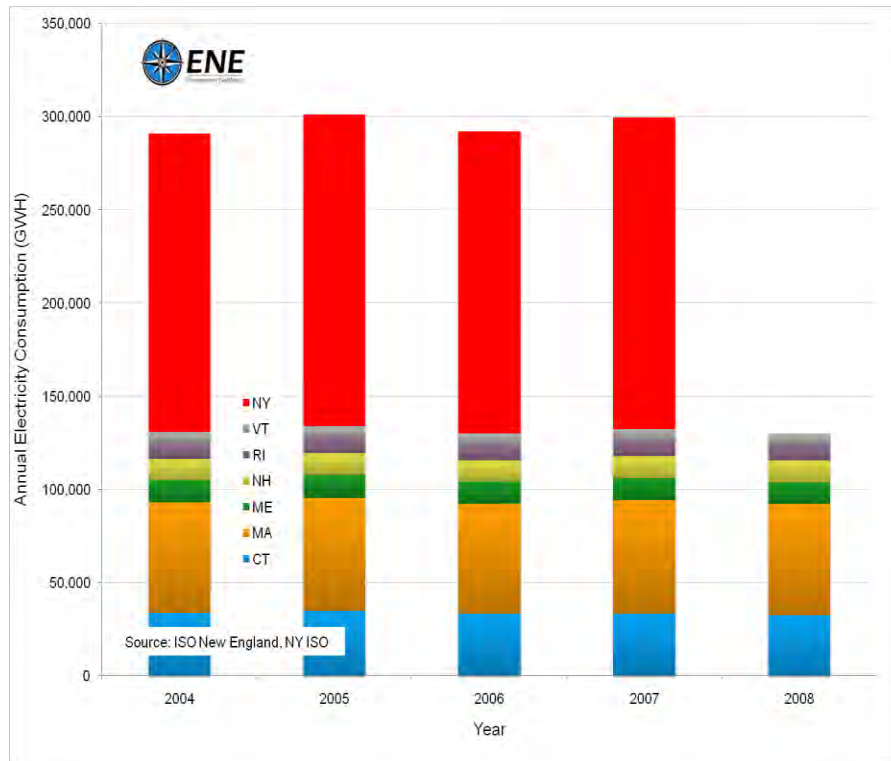
More Modest by the Day



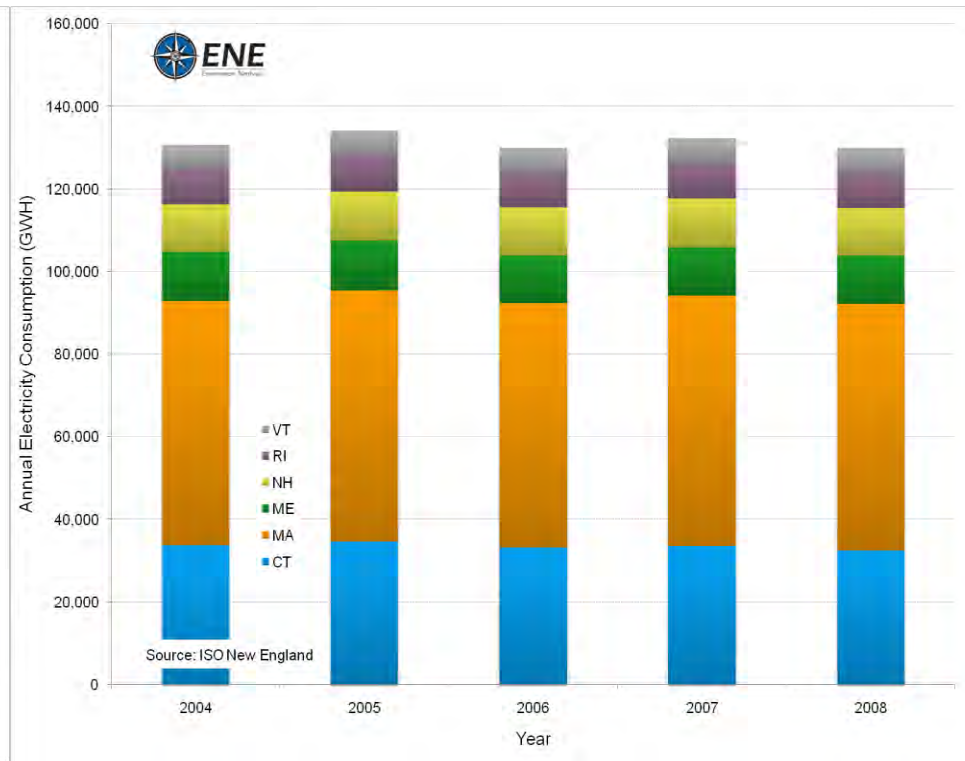
Energy Consumption (New England & NY):

Had anticipated 1+% load growth – instead flat

Annual Electric Consumption in NE & NY



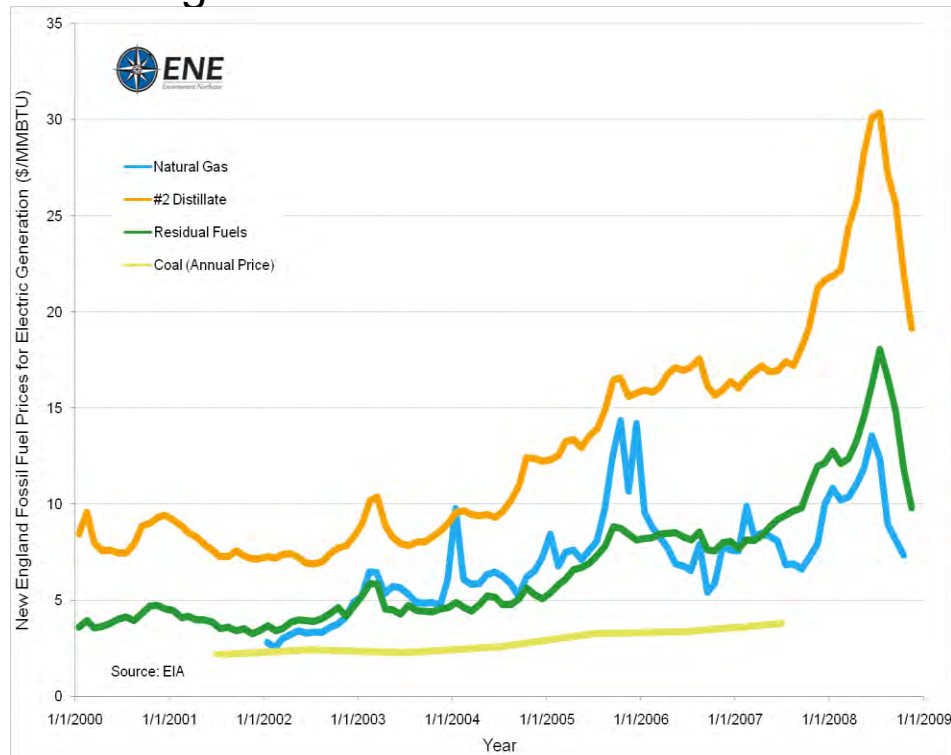
Year-to-Date Electric Consumption in NE



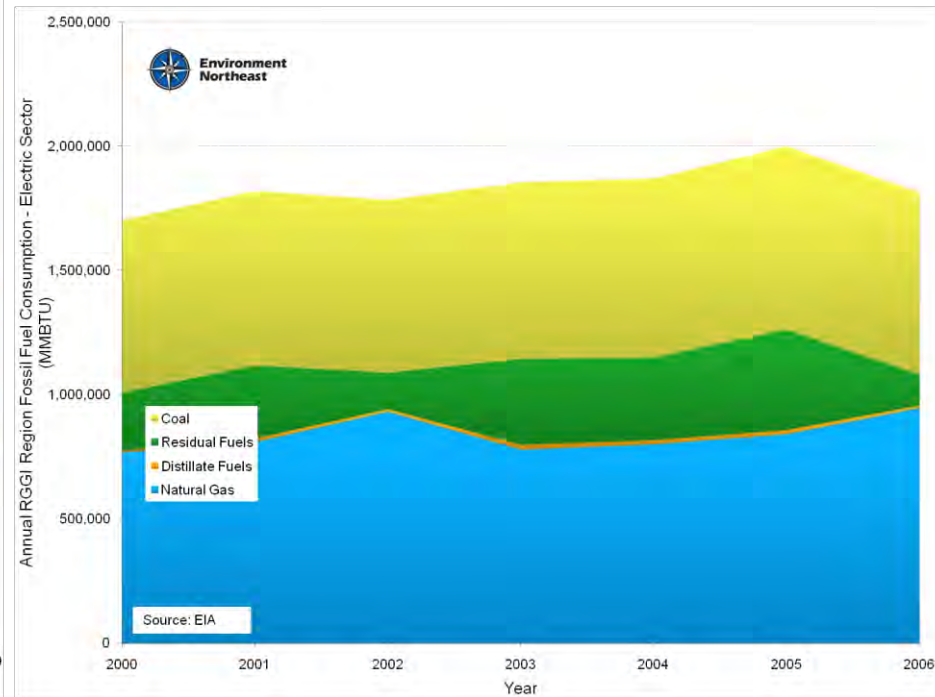
Natural Gas vs. Oil Prices:

Divergence has led to much more use of gas (dispatch and dual fuel plants)

New England Electric Fuel Prices



RGGI Electric Fossil Fuel Consumption



RGGI Lessons Learned

1. Good data and formula-driven cap
2. Importance of an auction – equity and efficacy
3. Energy efficiency as primary cost-containment tool

RGGI Lesson #1

Point of Regulation and Accurate Data

- Over 25MW capacity covers 233 plants
 - Utilize existing data mostly from EPA Acid Rain Program
 - Final cap slightly inflated due to selective averaging and political negotiation
- Federal Cap & Trade should:
 - Choose suitable point of regulation
 - Require reporting
 - Establish formula

RGGI Lesson #2

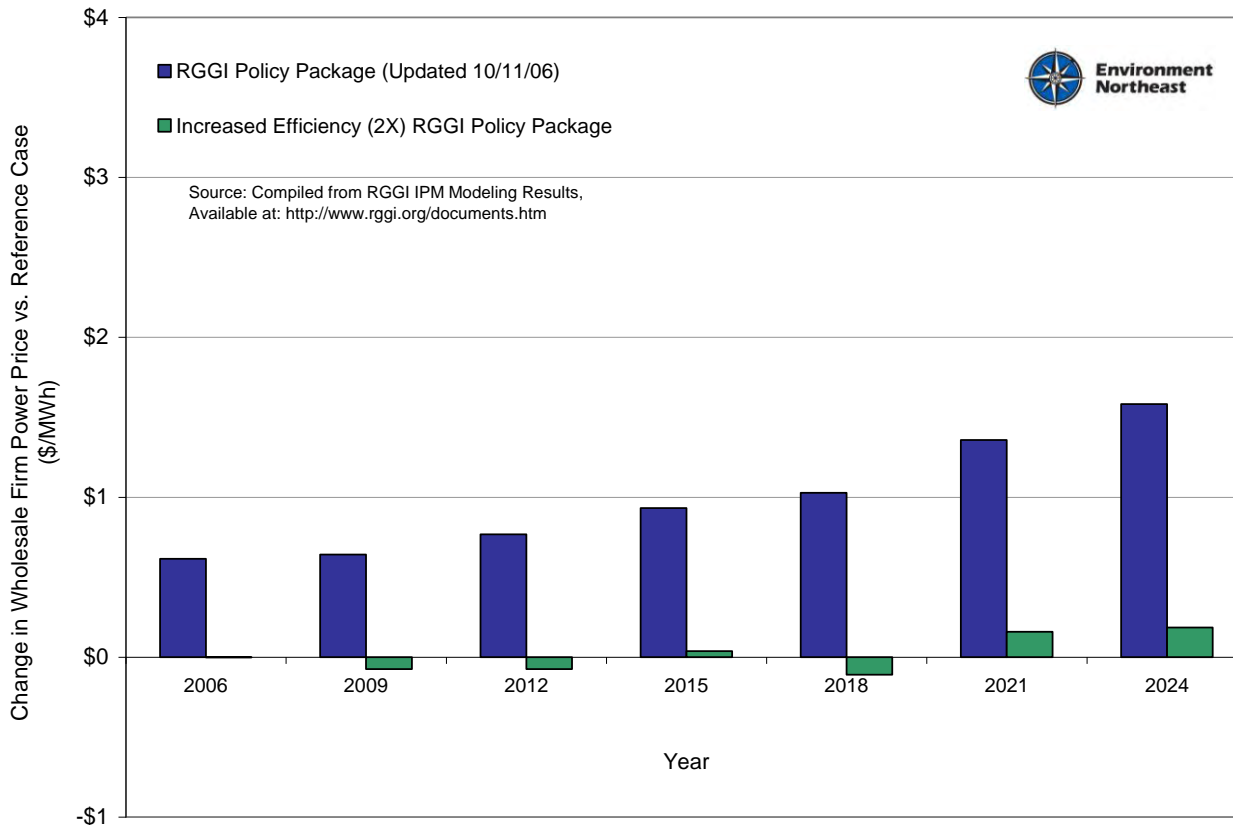
Importance of 100% Auction

- Equity – emitters bear true costs, cleaner, more efficient energy favored
- Fairness – allowance costs usually passed on, prevent ‘windfall’ profits
- Competitiveness – level playing field
 - Generators under different regulatory structures
 - Auction does not distort market
- Funding – price signal only first step

RGGI Lesson #3

Role of Energy Efficiency

- \$3 savings for every \$1 invested in Energy Efficiency



← Estimated cost without new efficiency

← Estimated allowance cost with expanded efficiency

RGGI Auctions

- 90% of allowances auctioned
- 1st Auction (9/25/08) - \$3.07/ton
- 2nd Auction (12/17/08) - \$3.38/ton
- 3rd Auction (3/18/09) - \$3.51
- Futures prices - \$3.39/ton for May 2009 delivery on Chicago Climate Exchange (as of 5/12/09)
- Reserve price - \$1.86/ton
- EUAs - \$19.00(€14.17)/tonne as of 5/5/09

RGGI State Auction Revenue

	9/25/08 Revenue @ \$3.07/ton	12/17/08 Revenue @ \$3.38/ton	3/18/09 Revenue @ \$3.51/ton	Total Revenue \$
Connecticut	\$4,213,667	\$4,639,151	\$5,184,553	\$14,037,372
Delaware	--	\$2,555,209	\$2,884,514	\$5,439,723
Maine	\$2,678,593	\$2,949,070	\$3,262,079	\$8,889,743
Maryland	\$16,368,568	\$18,021,420	\$19,934,205	\$54,324,192
Massachusetts	\$13,346,957	\$14,829,865	\$16,402,368	\$44,579,190
New Hampshire	--	\$4,020,882	\$4,440,427	\$8,461,309
New Jersey	--	\$15,320,732	\$16,774,050	\$32,094,782
New York	--	\$41,986,904	\$45,969,759	\$87,956,664
Rhode Island	\$1,347,036	\$1,483,056	\$1,640,470	\$4,470,562
Vermont	\$620,944	\$683,646	\$756,205	\$2,060,795
Total	\$38,575,766	\$106,489,935	\$117,248,630	\$262,314,331

Supported Programs

- Energy Efficiency (70% RGGI-wide): state- and utility-administered programs, weatherization, boiler replacement
- Voluntary Renewable Set-Asides (1% RGGI-wide)
- Combined Heat and Power (CT, ME, NJ)
- Green Jobs (MA, NY)
- Water & Wastewater Efficiency (NY)
- Conservation (NJ)

Maine

2009 Budget (allowances) = 5,948,902

Program	Allocation (%)
Auction	88%
Voluntary Clean Energy	2%
Combined Heat and Power	10%
Total	100%

Auction	2009 Allowances Offered:	Auction 1	Auction 2	Auction 3	Totals to date:
		2012 Allowances Offered:	872,506	872,506	872,506
		--	--	65,437	65,437
Proceeds Recipient*	Distribution (%)	Proceeds @\$3.07/ton	Proceeds @\$3.38/ton	Proceeds @\$3.51/ton	
Electric Energy Efficiency	85%	\$ 2,276,804	\$ 2,506,710	\$ 2,772,767	\$ 7,556,281
Fossil Fuel Energy Efficiency	15%	\$ 401,789	\$ 442,361	\$ 489,312	\$ 1,333,461
Total	100%	\$ 2,678,593	\$ 2,949,070	\$ 3,262,079	\$ 8,889,743

*Up to \$5/ton, overage rebated

Program Allocation & Proceeds Recipients based on:
 Chapters 156-158: CO2 Budget Trading Program
<http://www.maine.gov/dep/air/greenhouse/rggi.htm>

www.env-ne.org/public/resources/pdf/ENE_Auction_Tracker_040209.pdf



Massachusetts

2009 Budget (allowances) = 26,660,204

Program	Allocation (%)
Auction	98.7%
Voluntary Clean Energy	0.5%
310 CMR Allowance Conversion	0.9%
Total	100%

Auction	2009 Allowances Offered:	Auction 1	Auction 2	Auction 3	Totals to date:
		2012 Allowances Offered:			
		4,347,534	4,387,534	4,387,534	13,122,602
		--	--	328,565	328,565
Proceeds Recipient	Distribution* (%)	Proceeds @\$3.07/ton	Proceeds @\$3.38/ton	Proceeds @\$3.51/ton	
Electric and N-Gas EE Programs Administration	50%	\$ 3,500,000	\$ 2,400,000	\$ 16,402,368	\$ 22,302,368
Low-income Boiler Replacement	2%	\$ 500,000	\$ 400,000	\$ -	\$ 900,000
Green Communities programs	9%	\$ 2,000,000	\$ 2,000,000	\$ -	\$ 4,000,000
O% interest loans for local EE	22%	\$ 5,000,000	\$ 5,000,000	\$ -	\$ 10,000,000
Energy Efficiency Skills and Innovation	7%	\$ 3,000,000	\$ -	\$ -	\$ 3,000,000
Total	100%	\$ 13,346,929	\$ 14,829,865	\$ 16,402,368	\$ 44,579,162

*Distribution varies by auction and percentages reflect portion of total funding to-date

Program Allocation based on:

310 CMR 7.70 Massachusetts CO2 Budget Trading Program

www.mass.gov/dep/air/climate/index.htm#rggi

Proceeds Recipients based on:

An Act Relative to Green Communities - www.mass.gov/legis/laws/seslaw08/s1080169.htm,

MA Winter Energy Costs Task Force Report - http://www.mass.gov/Eoeea/docs/eea/winter_energy_costs_report.pdf, and

Auction II distribution based on 12/19/08 Press release :

http://www.mass.gov/?pageID=gov3pressrelease&L=1&L0=Home&sid=Agov3&b=pressrelease&f=081219_rggi&csid=Agov3

Auction III distribution based on: <http://www.mass.gov/Eoeea/docs/doer/rggi/rggi-proceeds--mar-20-2009.pdf>



Rhode Island

2009 Budget (allowances) = 2,659,239

Program	Allocation (%)
Auction	99%
Voluntary Clean Energy	1%
Total	100%

Auction	2009 Allowances Offered:	Auction 1	Auction 2	Auction 3	Totals to date:
		2012 Allowances Offered:	438,774	438,774	438,775
		--	--	32,908	32,908
	Distribution	Proceeds	Proceeds	Proceeds	-
Proceeds Recipient	(%)	@\$3.07/ton	@\$3.38/ton	@\$3.51/ton	-
Administration	5%	\$ 67,352	\$ 74,153	\$ 82,023	\$ 223,528
Utility-administered Energy Efficiency	57%	\$ 767,811	\$ 845,342	\$ 935,068	\$ 2,548,220
State-administered Energy Efficiency	38%	\$ 511,874	\$ 563,561	\$ 623,378	\$ 1,698,814
Total	100%	1,347,036	\$ 1,483,056	\$ 1,640,470	\$ 4,470,562

Program Allocation based on:

APC Reg. 46 & 47, CO2 Budget Trading Program
www.dem.ri.gov/rggi/index.htm

Proceeds Recipients to be determined, based on:

Chapter 23-82 Implementation of the Regional Greenhouse Gas Initiative Act Section 23-82-6
<http://www.rilin.state.ri.us/Statutes/TITLE23/23-82/23-82-6.HTM>; and
 Rhode Island Energy Efficiency Resource Management Council draft auction proceed distribution plan



Connecticut

2009 Budget (allowances) = 10,695,036

Program	Allocation (%)
Auction	77.0%
Voluntary Clean Energy	1.5%
Customer-side Distributed Resources	3.5%
Combined Heat and Power (CHP)	5.0%
CHP Long-term PPA	up to 13.0%
Total	100.0%

Auction		Auction 1	Auction 2	Auction 3	Totals to date:
	2009 Allowances Offered:	1,372,530	1,372,530	1,372,530	4,117,590
	2012 Allowances Offered:	--	--	120,319	120,319
	Distribution	Proceeds	Proceeds	Proceeds	-
Proceeds Recipient*	(%)	@\$3.07/ton	@\$3.38/ton	@\$3.51/ton	-
Administrative Costs	7.5%	\$ 316,025	\$ 347,936	\$ 388,841	\$ 1,052,803
Clean Energy Fund	23.0%	\$ 969,143	\$ 1,067,005	\$ 1,192,447	\$ 3,228,596
Energy Efficiency, <i>of which:</i>	69.5%	\$ 2,928,499	\$ 3,224,210	\$ 3,603,265	\$ 9,755,973
- CL&P (75%)	52.1%	\$ 2,196,374	\$ 2,418,158	\$ 2,702,448	\$ 7,316,980
- UI (18.75%)	13.0%	\$ 549,093	\$ 604,539	\$ 675,612	\$ 1,829,245
- CMEEC (6.25%)	4.3%	\$ 183,031	\$ 201,513	\$ 225,204	\$ 609,748
Total	100%	\$ 4,213,667	\$ 4,639,151	\$ 5,184,553	\$ 14,037,372

Program Allocation & Proceeds Recipients based on:

Section 22a-174-3: Control of Carbon Dioxides Emissions

<http://www.ct.gov/dep/lib/dep/air/regulations/mainregs/22a-174-31.pdf>



RGGI Efficiency Programs

Program Design

- Generally existing programs
 - Cost-effectiveness evaluated annually – evolution and innovation
 - Nothing radical
 - Avoid duplication

- Participation
 - Democratic process – legislature
 - Oversight boards – state-specific

American Reinvestment & Recovery Act

Advocating for energy efficiency

- Job creation benefits
 - **Direct** – lots of figures floating around
 - **Indirect** –
 - \$3 savings for \$1 invested, bill savings back to economy
 - 1.5 million jobs and \$56b savings in CA from 1972 to 2006 (Holst, 2008, *Energy Efficiency, Innovation and Job Creation in California*)
- Senate version - worse
- House version - better
- Inslee-Welch floor amendment – SAVE Energy Coalition
 - Prioritization language
 - Governors' letters – energy savings targets and codes
 - 30% held back to ensure compliance

ARRA Authority for Efficiency Funding Overview

- State Energy Programs (\$3.1b) - *was \$25m*
- Energy Efficiency Conservation Block Grants (\$3.2b) – *was \$400m*
- Weatherization Assistance Program (\$5b) – Existing WAP administration by DOE/HUD?
- Green Jobs (\$.5b)
- Energy Star Rebates (\$.3b)
- HUD Section 8 Housing (\$.25b)

State Energy Program

- \$3.1b
- Administered by State Energy Offices
- ARRA language:
 - Conditioned on “intent to initiate process to achieve decoupling and code upgrades”
 - Prioritize expansion of existing state and regulatory programs where practicable (renewable and efficiency)
- http://apps1.eere.energy.gov/state_energy_program/

Energy Efficiency Conservation Block Grants

- \$3.2b
- Authorized in *Energy Independence and Security Act of 2007*, but never fully funded
- Administered by DOE (Office of Weatherization and Intergovernmental Affairs, Gil Sperling)
- Reduce emissions and energy; increase efficiency in transport, buildings, etc.; create jobs
- Modeled on CDBGs
 - Cities over 35k and counties over 200k direct grants
 - Towns under 35k, grants managed by state
 - Each entitlement city/county prepares plan for DOE and annually reports progress
 - <http://www.eecbg.energy.gov/>

Low Income Weatherization (WAP)

- \$5b
- Administered by DOE (Office of Weatherization and Intergovernmental Affairs, Gil Sperling), in conjunction with existing state WAP apparatus
- Increase per-house expenditure from \$2,500 to \$6,500
- Increase eligibility from 150% to 200% of poverty level
- <http://apps1.eere.energy.gov/weatherization/>

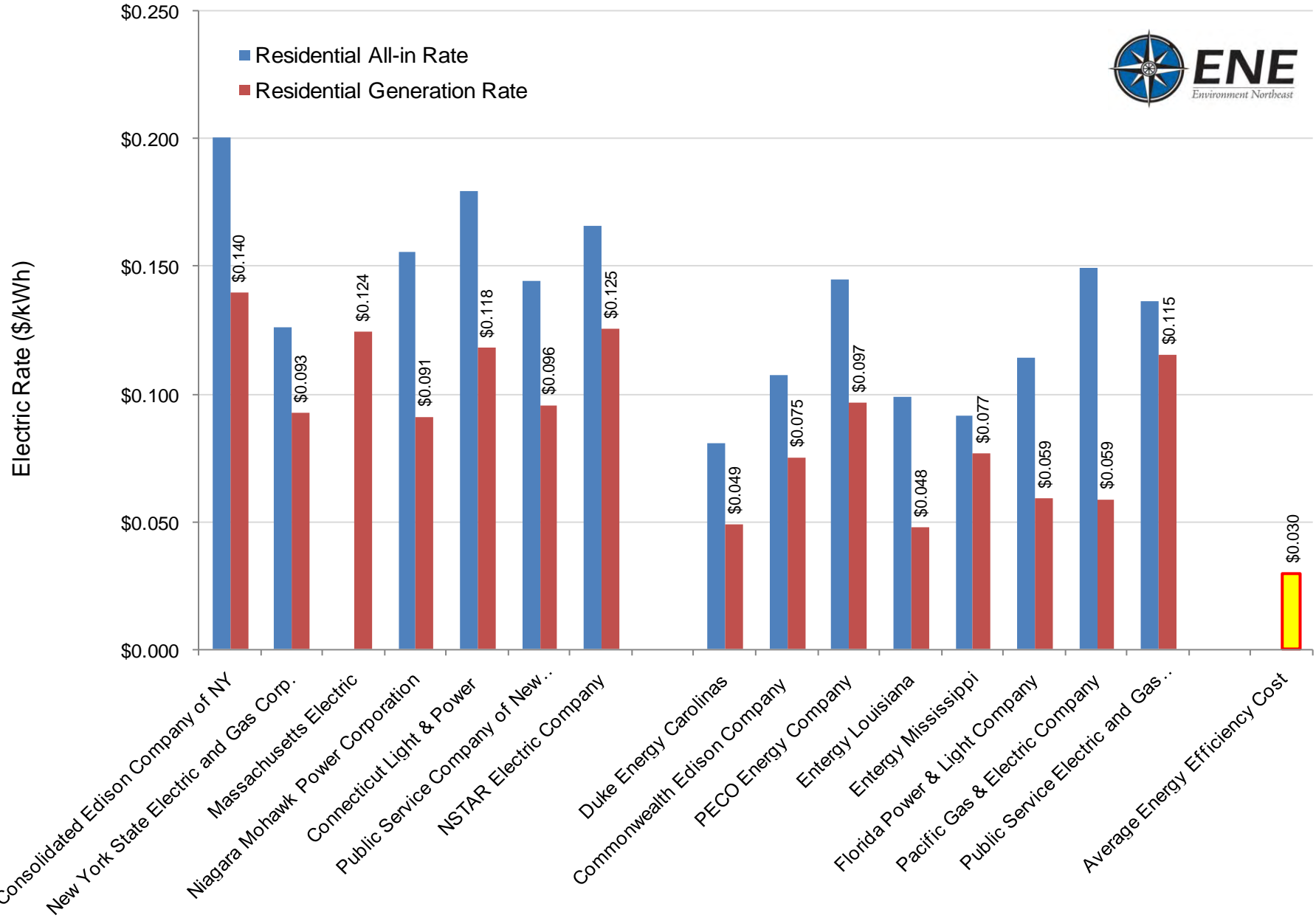
Massachusetts – ARRA Mechanics

- \$54.9 million – SEP
- Funds dispersed within 6 months – 1500 to 2000 jobs created
- Leverage SEP funds to “buy down” project costs and create \$250 million in financing, using:
 - Private capital
 - Clean Renewable Energy Bonds
 - Energy Conservation Bonds
- Proposals due mid-May, decisions within 2 weeks
- www.mass.gov/Eoeea/docs/doer/ARRA/2009/03/27/activities.pdf

Massachusetts – ARRA Potential Projects

- \$1.16b at Public Facilities – State agencies, UMass, MBTA, public housing, Water Resources Authority, Convention Center Authority
 - Efficiency
 - 15 to 30 MW solar
 - 1-2 turbines at select facilities
- Oil efficiency
- Governor's Private Development Task Force
 - Private solar
 - Loans to clean energy companies
 - Energy Conservation Bonds
- Revolving EE loans, deep EE retrofits

The Case for Efficiency



EE in Federal Cap & Trade: known

Waxman-Markey *American Clean Energy and Security (ACES) Act* of 2009

- Codes and Standards
 - Buildings, lighting, appliances, transport emissions
- Efficiency programs with placeholder funding
 - Building retrofit
 - Manufactured housing
 - Building energy performance labeling
 - Best-in-class appliances
 - Transit planning
- Energy Efficiency Resource Standard
 - 15% electric, 10% natural gas savings by 2020

EE in Federal Cap & Trade: unknown

- Allocations?
 - 35%-40% to Local Distribution Companies, no strings
 - Could be O.K. for restructured regions
 - 3%-4% for unregulated fuel (heating oil, propane) efficiency
- Auctions?
 - Uses of auction proceeds
 - Competition – rebates/refunds, adaptation, international assistance, etc.
 - Ramp up efficiency – RGGI model
- Preemption?
 - How to compensate RGGI states?
- Passage?

Contact Information

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