

# Cap & Trade Regulation of Carbon – Hitting Targets with Market Mechanisms

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**Environment  
Northeast**



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# About Us



## **Mission:**

to address large-scale environmental challenges that threaten regional ecosystems, human health, or the management of significant natural resources. We use policy analysis, collaborative problem solving, and advocacy to advance the environmental and economic sustainability of the Northeastern United States and Eastern Canada

## **Project Areas:**

- Energy
- Climate Change
- Transportation
- Forests

## **Offices:**

Rockport, ME / Portland, ME /  
Boston, MA / Providence, RI /  
Hartford, CT / Charlottetown, PEI

# ENE's Cap & Trade Experience

- ENE was 1 of 24 official Stakeholders (industry, ENGOs, academic) in RGGI – the Regional Greenhouse Gas Initiative
- Authored “straw” proposals for the RGGI Model Rule and state legislation / regulations
- Provided extensive input and analysis on economic and emissions modeling
- Reviewed and commented on rulemakings in all states
- Studying potential new categories of offsets
- Sharing “lessons learned”
  - U.S. Congress
  - other regions of U.S.
  - Canada

# What Policy Tools Can Reduce Carbon Emissions from The Built Environment ?

- Energy Efficiency Policies
  - Building Codes
  - Appliance & Equipment Standards (e.g., HVAC)
  - Efficiency (Investment) Programs
  - Procurement Policies (Utilities, State & Local Govt)
- Clean Energy Policies
  - Demand Side (Net metering, RPS for Distributed Resources)
  - Supply Side (Tax incentives, R&D for DR)
- Cross-Cutting Policies
  - Carbon Cap & Trade
  - Carbon Tax

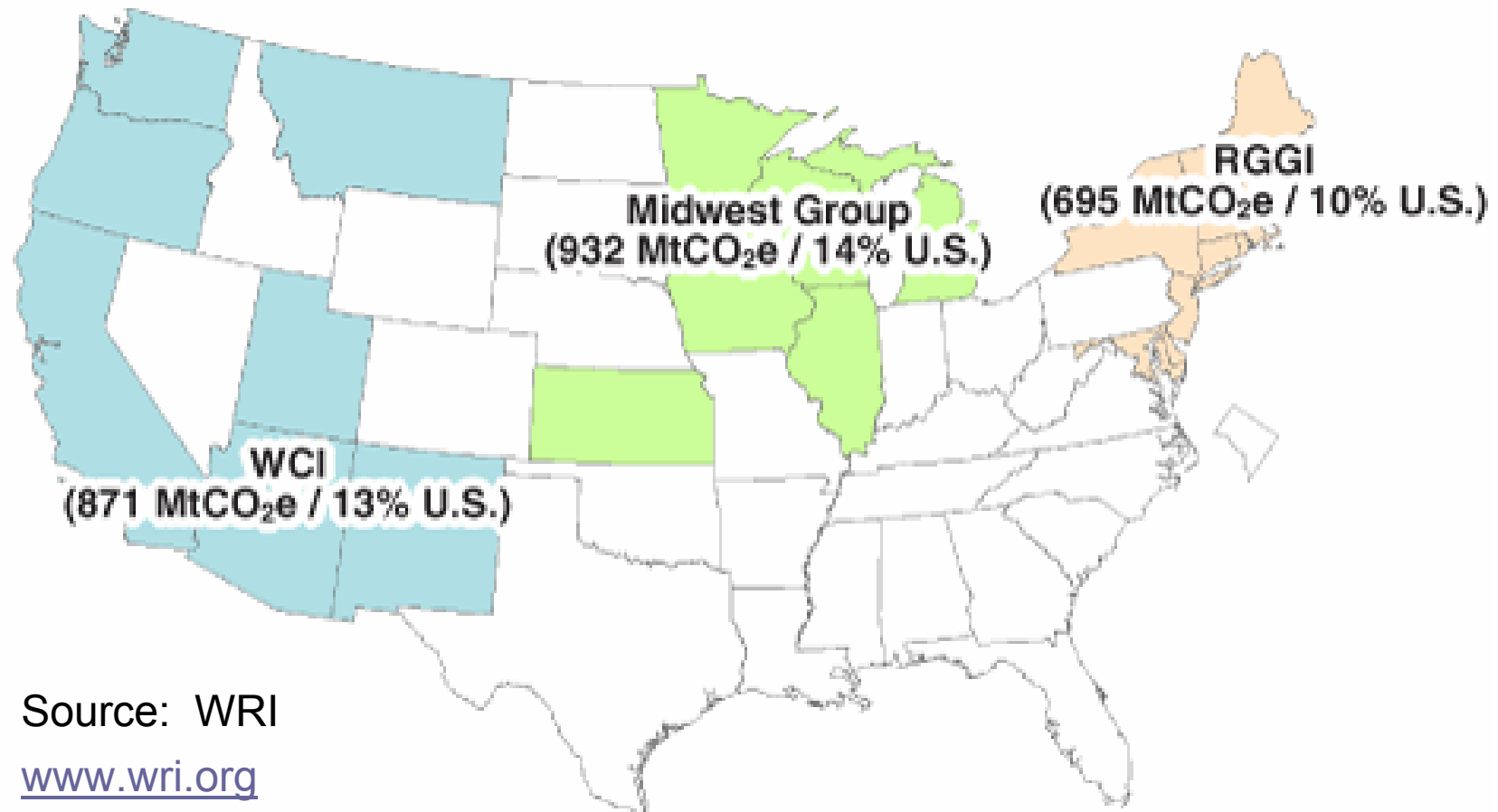
# How Does Cap and Trade Reduce Carbon in the Built Environment?

- Price signal for electricity (or other energy)
  - more efficient buildings are more competitive
  - only partial, indirect effect on building materials
- Auction allowances
  - generates new funds, linked to energy users, in each state
  - can be dedicated to energy efficiency and distributed (clean energy) resources
- Offsets
  - financial credits for qualified GHG reductions

# Cap and Trade Programs

- Adopted or Implemented
  - US Acid Rain Program
  - RGGI
  - European Union ETS
  
- Proposed
  - Federal U.S.
    - Lieberman-Warner Climate Security Act of 2007
    - Clinton, McCain, Obama Campaigns
  - Federal Canada
  - Other Multi-state Programs
    - Western Climate Initiative
    - Midwest GHG Accord
  - CT and MA multi-sector cap bills
  - Cal. Low Carbon Fuel Standard (LCFS)

# 3 Multi-state Cap & Trade Initiatives (37%)



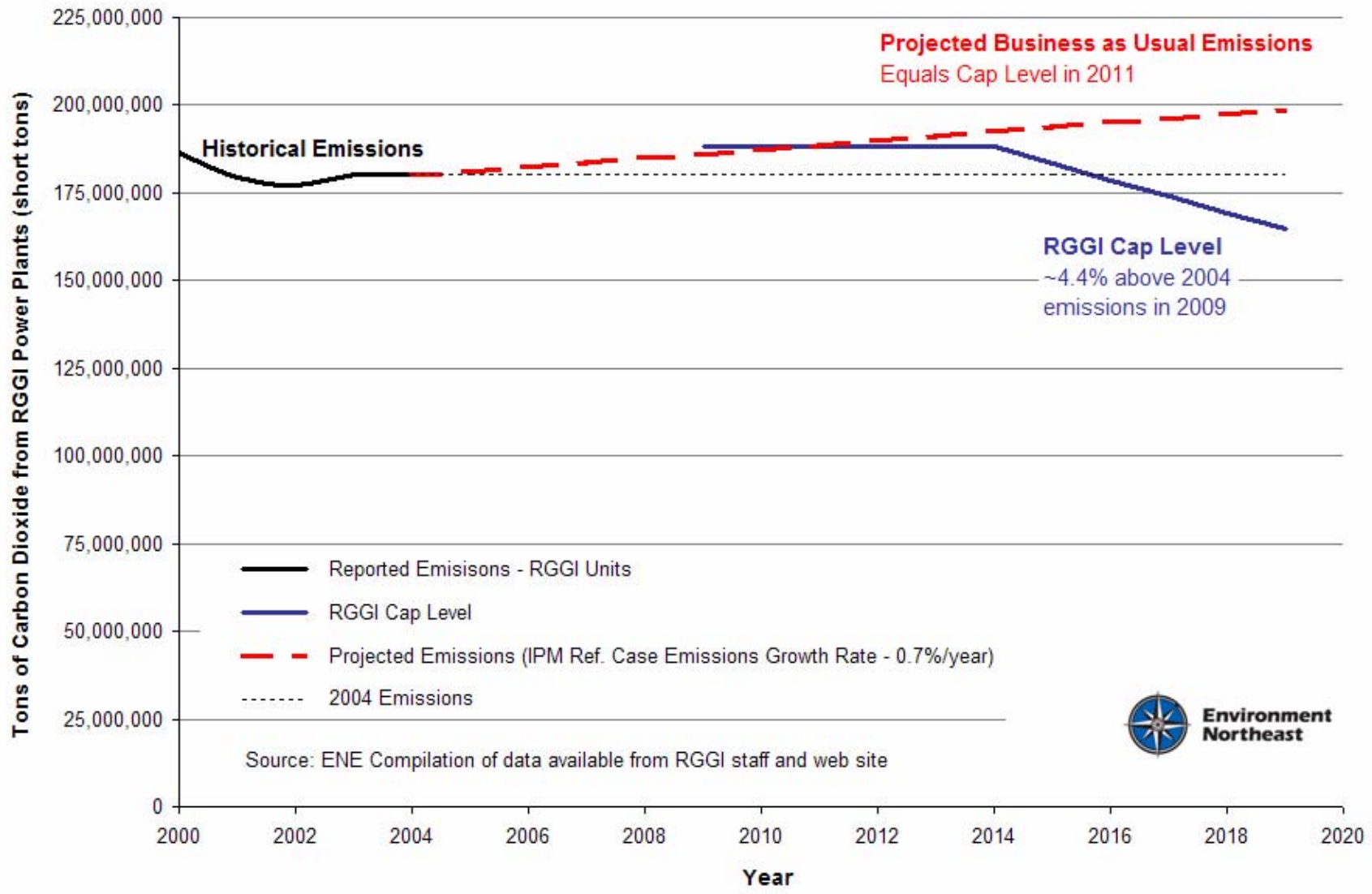
Source: WRI

[www.wri.org](http://www.wri.org)

# Regional Greenhouse Gas Initiative (RGGI)

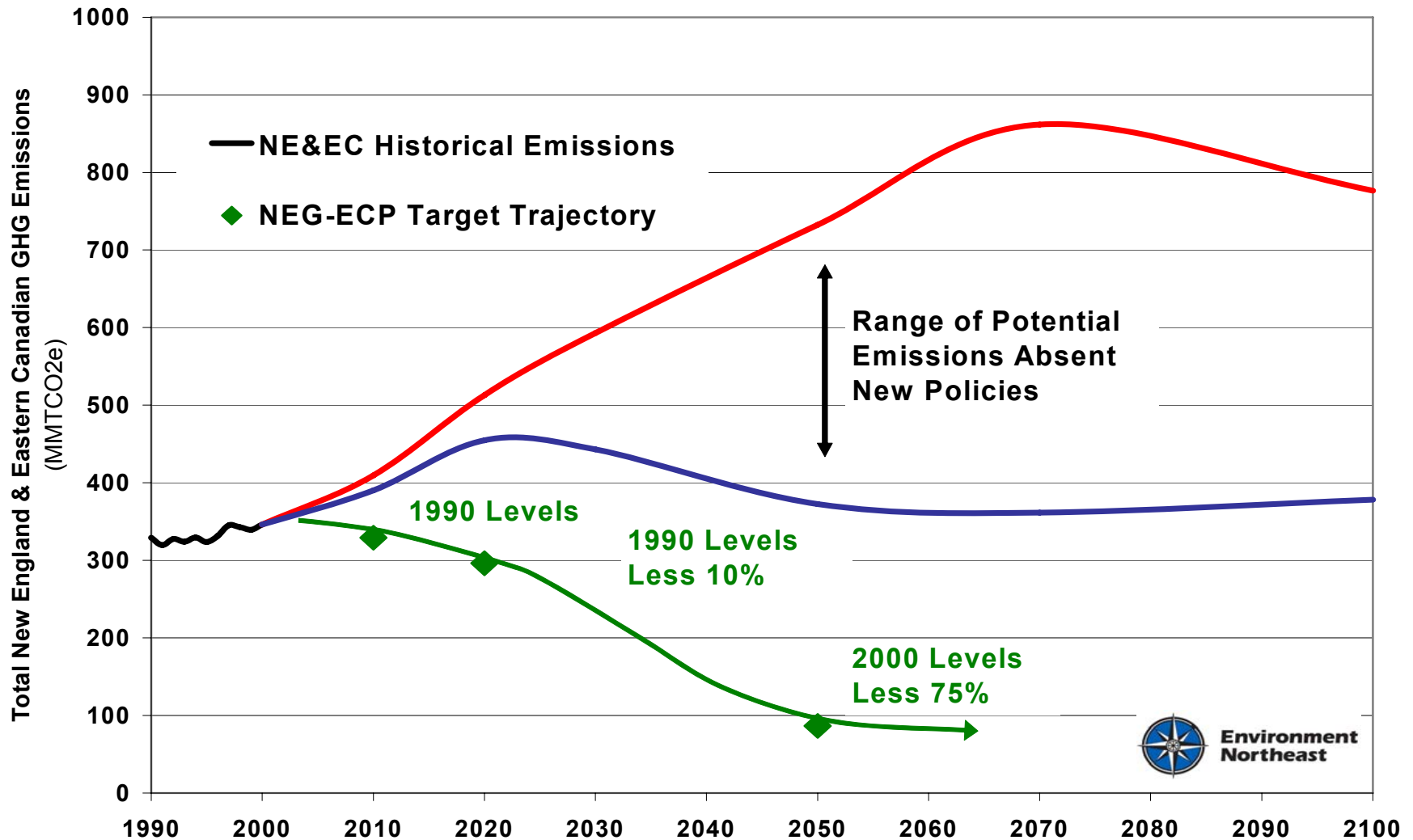
- 10 States
  - ME, MA, NH, VT, RI, CT, NY, NJ, DE, and MD
- 1<sup>st</sup> mandatory cap-and-trade program for CO<sub>2</sub> in the US
- One “allowance” or “permit” equals one ton of CO<sub>2</sub>e
- Covers all fossil fuel-fired electricity generating units 25 MW or greater
- Starts Jan. 1, 2009
- 3 year compliance period, banking is allowed
- States auctioning most allowances, investing proceeds in energy efficiency and clean energy

# Getting on the Right Track - RGGI Cap Level



# The Target Trajectory (Green Line)

GHG Emissions & Targets for NE States and 5 E. Canadian Provinces



# Carbon Tax – some examples

- Quebec – Carbon tax on hydrocarbons imported into the region
  - gasoline, diesel, heating oil: 3-4 cents/gal
  - propane: ~2 cents/gal
  - coal: \$8/ton
- British Columbia
  - \$10/ton, ramping up to \$30/ton by 2012
  - gasoline, diesel, heating oil: 10-30 cents/gal
- Sweden, Netherlands, Germany and UK are members of the EU Cap & Trade that also levy a Carbon Tax

# Analysis of Cap & Trade Mechanism

- Environmental
  - pollution reductions are fixed and predictable
  - nexus between price impact on CO2 source and ability to change
  - nexus between cost of pollution allowances and investing auctioned allowance proceeds to mitigation measures
- Political
  - successful experience to date, growing familiarity
  - prices come from the marketplace - more palatable than tax
  - harder to alter / rescind than a tax
  - nexus between problem and solution
- Administrative
  - hard to set the cap right
  - works better on bigger, fewer, more centralized sources
  - works better where regulated sector has options (or good prospects of options)

# Offsets -- Defined

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- ***Offset = An off-system emissions reduction project***
- In RGGI, 1 carbon “offset” represents 1 ton of CO<sub>2</sub> reductions “from actions that have reduced or avoided atmospheric loading of CO<sub>2</sub> or CO<sub>2</sub> equivalent or sequestered carbon...”

(RGGI M.R. – Subpart XX-10)

# Offsets – Eligibility in RGGI

- Landfill methane capture and destruction;
- Reduction in emissions of sulfur hexafluoride (SF6);
- Sequestration of carbon due to afforestation;
- Reduction or avoidance of CO2 emissions from natural gas, oil, or propane end-use combustion due to end-use energy efficiency in commercial or residential buildings; and
- Avoided methane emissions from agricultural manure management operations.

M.R. Sec.10.3(a)(1)

# Eligible End-Use Efficiency Projects

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- (a) improvements in the energy efficiency of combustion equipment that provide space heating and hot water, including a reduction in fossil fuel consumption through the use of renewable energy . . . .
- (b) improvements in the efficiency of heating distribution systems, including proper sizing and commissioning of heating systems;
- (c) installation or improvement of energy management systems;
- (d) improvement in the efficiency of hot water distribution systems and reduction in demand for hot water;

# Eligible End-Use Efficiency Projects (cont'd)

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- (e) measures that improve the thermal performance of the building envelope and/or reduce building envelope air leakage;
- (f) measures that improve the passive solar performance of buildings and utilization of active heating systems using renewable energy; and
- (g) fuel switching to a less carbon-intensive fuel for use in combustion systems, including the use of liquid or gaseous renewable fuels, provided that conversions to electricity are not eligible.

M.R. Section 10.5(d)(1)(i)

# Fair warning – Offsets must be “Additional”

- Eligible offsets must demonstrate that the emissions reduction would not have happened without the offsets funding
- **Additionality:**
  - Regulatory vs. financial
  - Establishing baselines
- This is not an easy exercise and requires judgment calls
  - RGGI uses a performance standard method (set baseline)
  - Most projects and programs use a project-specific review and development of a baseline (see WRI/WBCSD GHG Protocol)

# Contact Us

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