



Paper Days 2010

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University of Maine, Orono

*Climate Change – Legislation, Impacts, Solutions
What's happening in Maine?*

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Maine and Regional Chronology

- 1995 - Maine's first Greenhouse Gas Emissions Inventory
- 2000 - State Planning Office Climate Action Plan
- 2001 - NEG/ECP agree to regional reduction goals
- 2003 - Maine Climate Action Plan Legislation
- 2005 - Maine Finalizes Climate Action Plan
- 2005 - 8 Northeast Governors sign 20 page RGGI MOU

Maine and Regional Chronology

- 2007 to Present – Maine and other states adopt legislation/rules to implement RGGI
- Present – 10 Northeast Governors have signed MOU
- September 2008 – First Regional Auction
- December 2008 – Second Regional Auction
- January 2009 – Start of RGGI compliance program

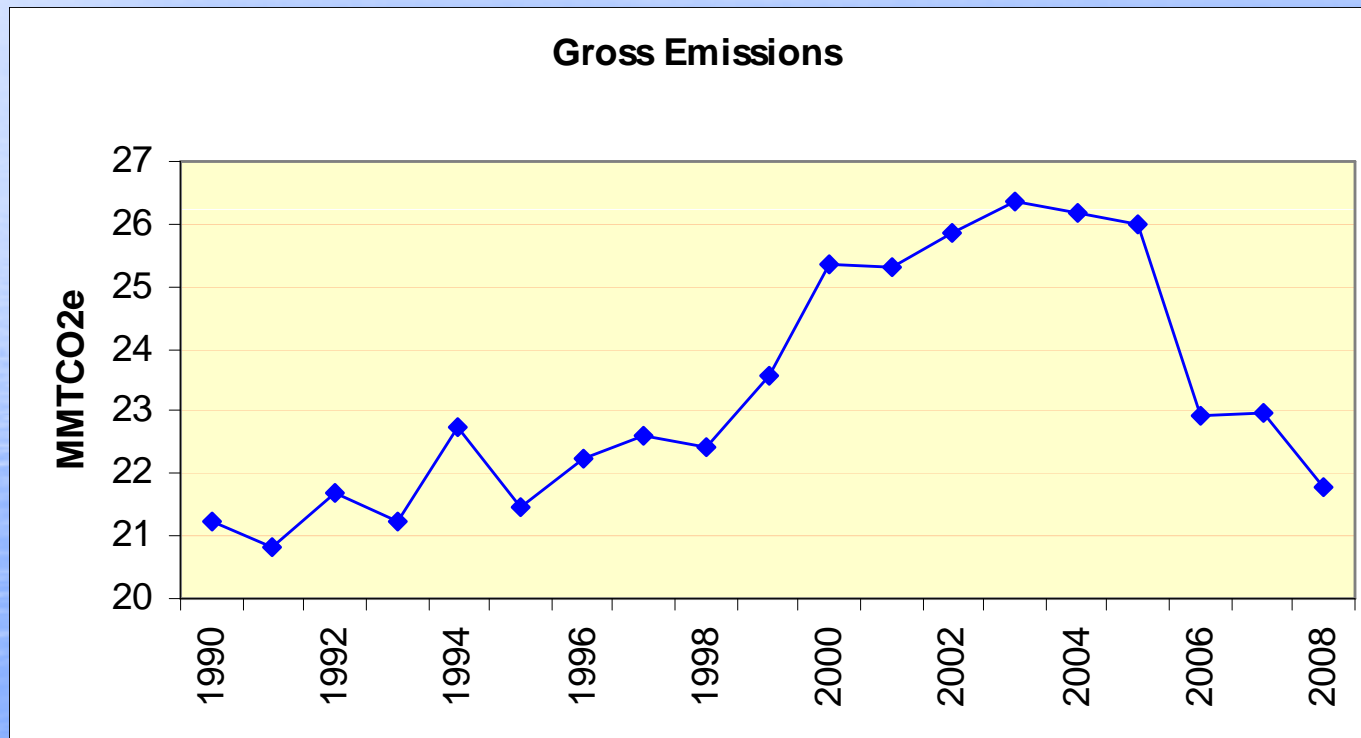
Maine's Climate Change Act

Passed by Maine Legislature 2003

Adopt a Climate Action Plan (CAP) to meet
Greenhouse Gas (GHG) Reduction Goals

- 1990 levels by 2010
- 10% below 1990 levels by 2020
- In the long term, reduction sufficient to eliminate any dangerous threat to the climate. To accomplish this goal, reduction to 75-80% below 2003 levels may be required.

Maine's CAP: 3rd Biennial Report



Maine is on track to meet the 2010 goal of 1990 levels.

Maine's CAP: 3rd Biennial Report

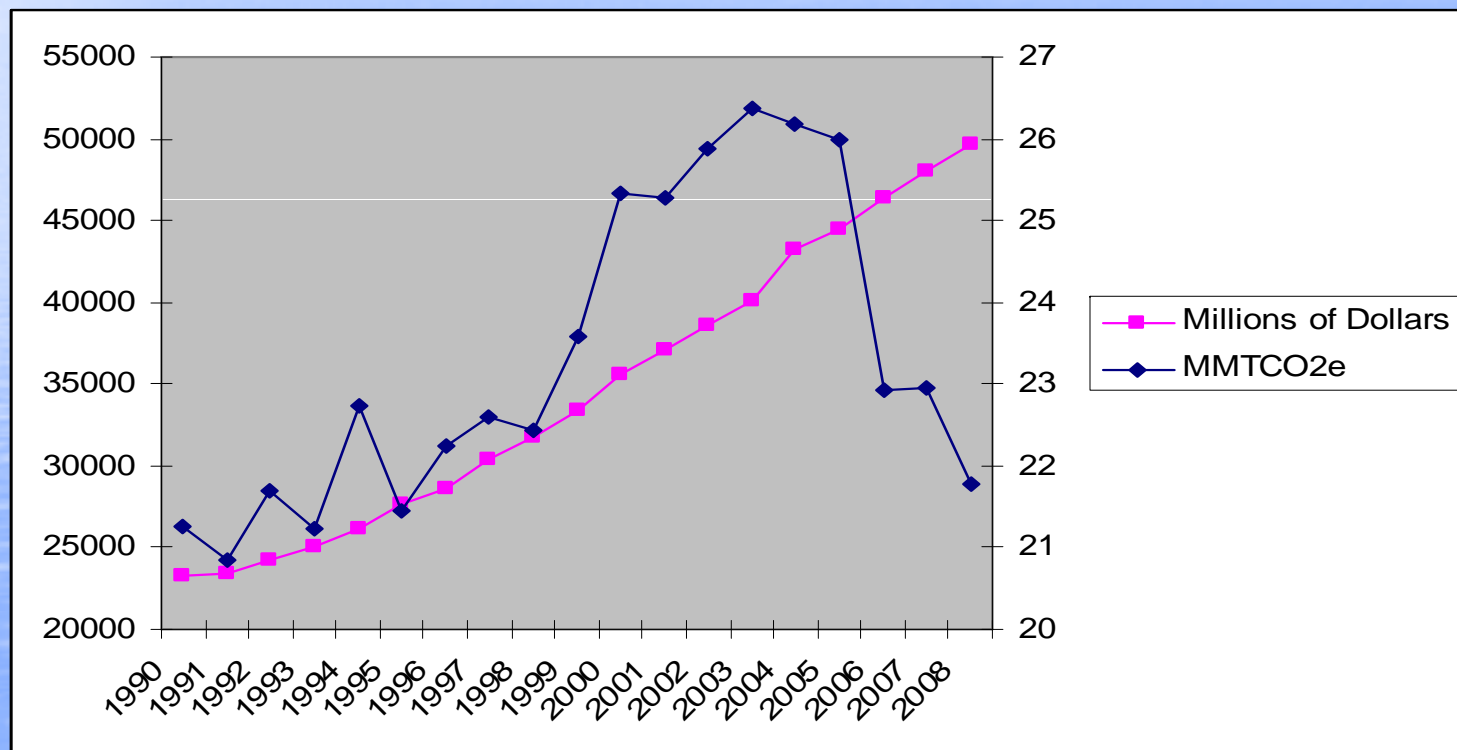
Emissions (MMTCO₂e)

	1990	2003	2004	2005	2006	2007	2008
Energy	19.77	24.13	23.91	23.55	20.61	20.64	19.47
Industrial Processes	0.36	0.84	0.88	0.96	0.94	0.94	0.97
Agriculture	0.48	0.56	0.60	0.66	0.69	0.69	0.69
Waste	0.65	0.83	0.78	0.83	0.68	0.68	0.63
Gross Emissions	21.26	26.37	26.18	26.00	22.92	22.95	21.77

The vast majority (90%) of GHG emissions in Maine are the result of energy consumption, largely produced by combustion of petroleum products.

Maine's CAP: 3rd Biennial Report

Maine GHG Emissions and State GDP (excluding forests/land use)



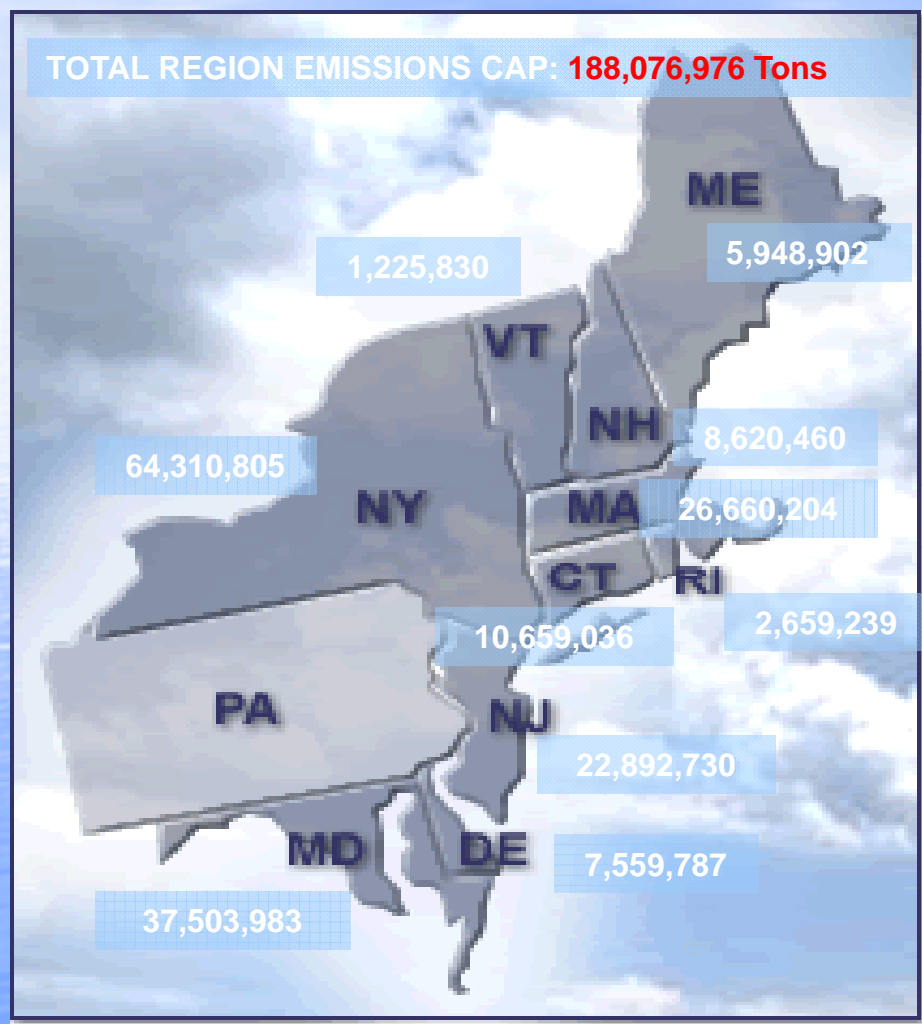
Source: U.S. Bureau of Economic Analysis

Emission reductions are not primarily related to economic activity.

3rd Biennial Report - Highlights

- Maine is on track to meet the goal of reducing greenhouse gas (GHG) emissions to 1990 levels by 2010.
- Gross statewide GHG emissions increased from 1990 until a peak in 2003, and have steadily declined since.
- The vast majority of GHG emissions in Maine are the result of energy consumption, largely produced by combustion of petroleum products.
- Petroleum consumption and associated greenhouse gas emissions have declined.
- The largest contributing sector is transportation.
- Vehicle miles travelled have continued to increase, but improvements in fuel efficiency have resulted in declining transportation emissions.
- During the early 1990s, electrical generation in Maine was primarily nuclear, hydro and petroleum-based. Now generation is primarily natural gas, hydro and renewable biomass-based, with wind power beginning to generate a notable portion.

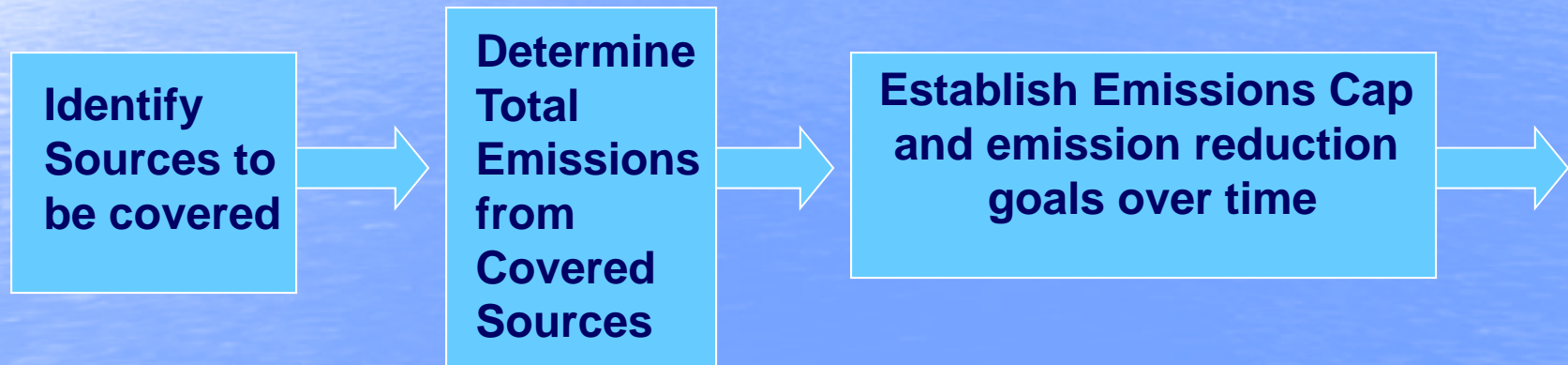
RGGI: A regional CO₂ cap and trade program



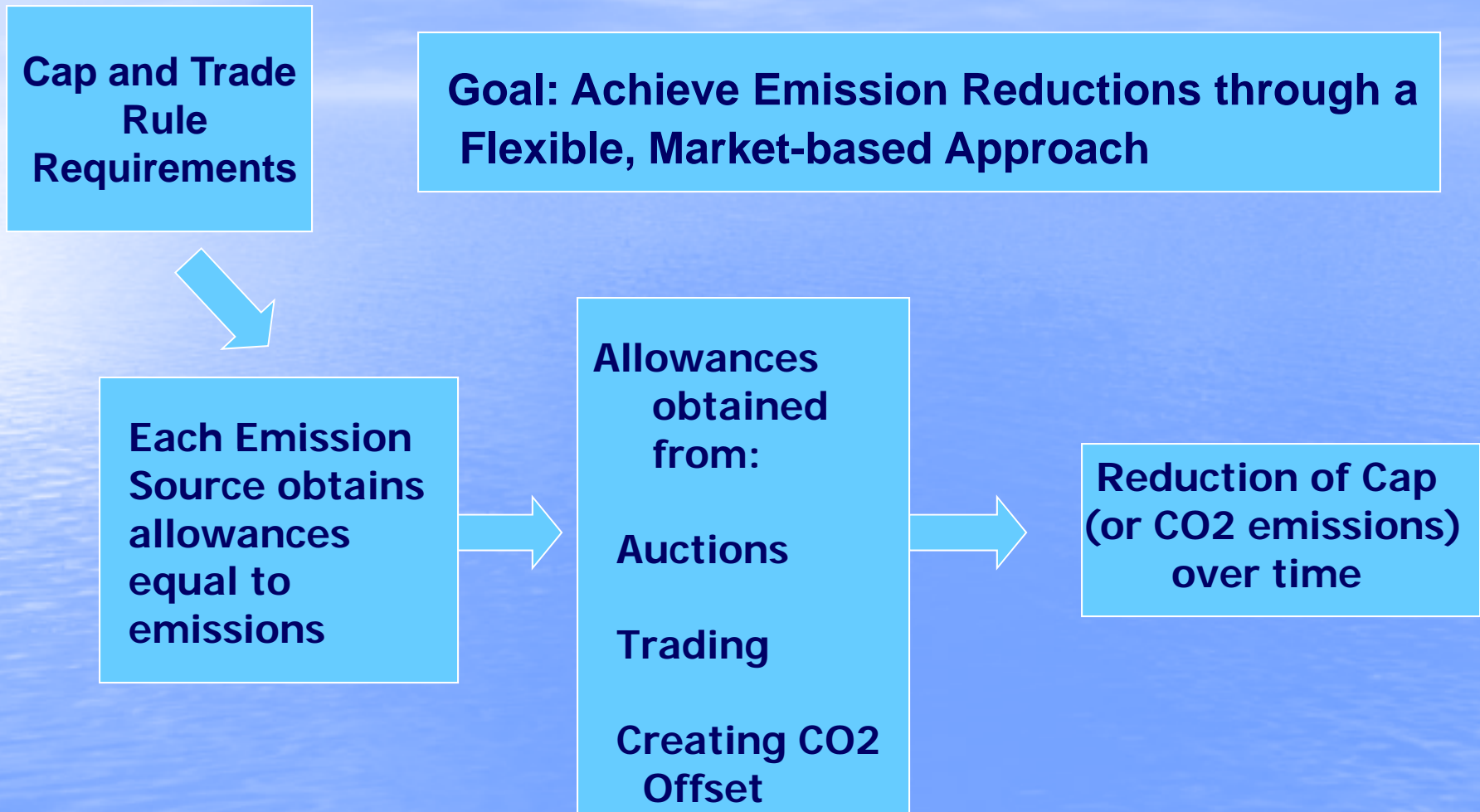
- Effective 2009
- CO₂ reduction target goal of 10% from present levels, plus additional reductions from Business As Usual due to growth
- Covers Electric Generators
 - Fossil Fuel-fired
 - 25 MW or greater
 - >10% annual gross sales to grid
- Purpose
 - Reduce Greenhouse gases
 - Promote energy efficiency & low carbon resources
 - Establish a carbon price
 - Encourage innovative technologies
 - Establish a national model

Cap-and-Trade Program

Goal: Achieve Emission Reductions through a Flexible, Market-based Approach



Cap-and-Trade Program



The RGGI Auctions

Auctions:

- ✓ Ensure that all parties have access to allowances under fair, uniform terms in a **transparent market**.
- ✓ Enable states to return allowance value to consumers through reinvestment in strategic state programs

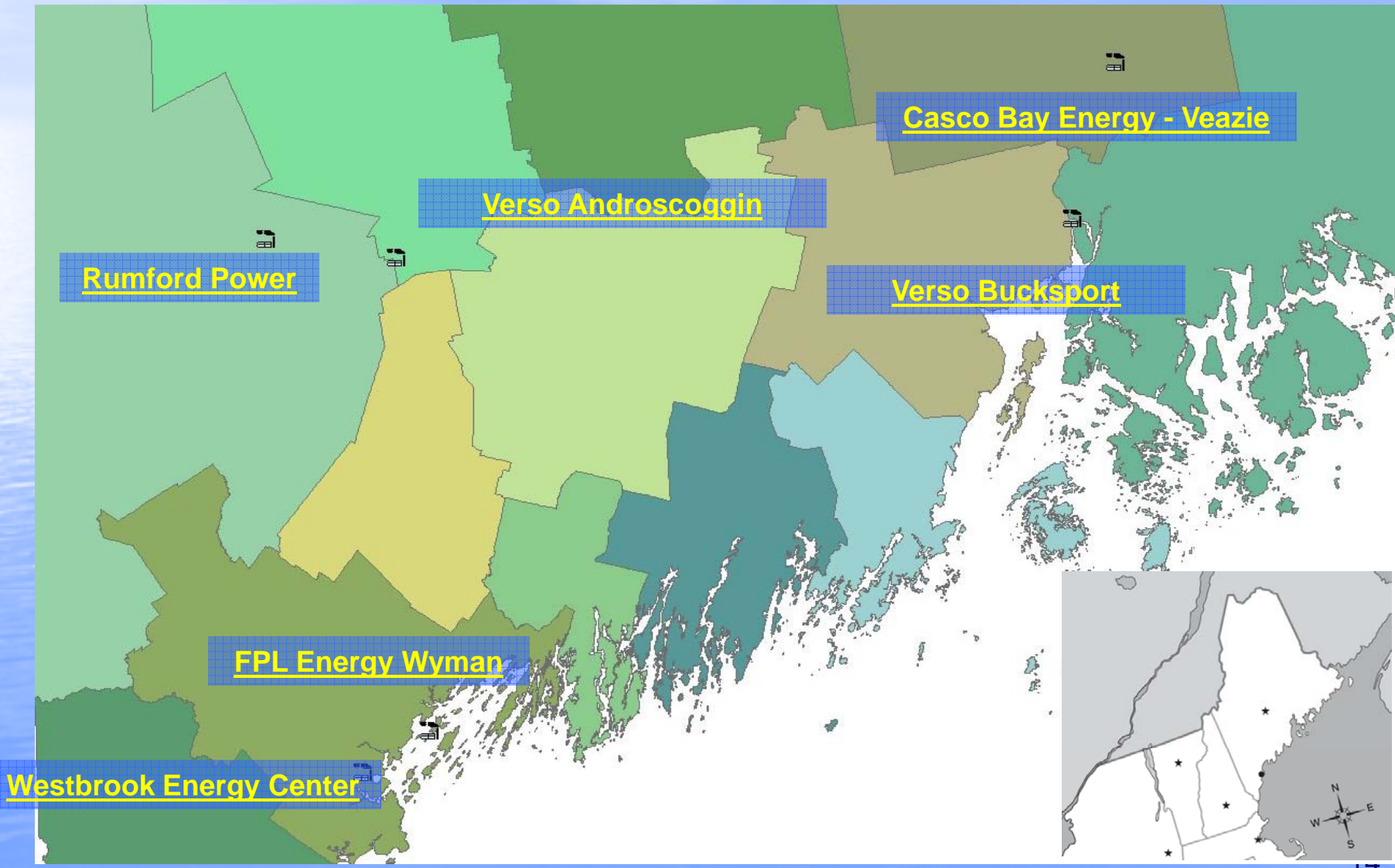
The RGGI auctions:

- ✓ Are regional
- ✓ Are **held quarterly for all ten states**
- ✓ Offer allowances from current and future control period vintages
- ✓ Use a reserve price (\$1.86 min; current market)
- ✓ Are open to all who apply and qualify
- ✓ Include a Notice and Qualification process that facilitates efficient administration and ensures **market oversight**

Emission Reductions

- Total RGGI CO₂ allocation: 188,076,976
Total Projected CO₂ reductions: 65 million tons
- Maine allocation: 5,948,902
Maine Projected CO₂ reductions: 2.1 million tons
- Six Year Stabilization Period:
2009 through 2014 = 5,948,902 CO₂ allowances/year
- 10% reduction from stabilization period budget

Maine RGGI Sources



Incentives

- **Combined Heat and Power (CHP)**

To promote and reward operation of CHP units at integrated manufacturing facilities (IMF)

RGGI source deducts CO₂ emissions associated with CHP from total CO₂ emissions, then actual amount is balanced annually and retired

- **Voluntary Renewable Energy Credits (VRECs)**

2% budget into voluntary renewable set-aside account at start of control period

Retire allowances in an amount equal to actual VRECs purchased annually

Offset Categories

- 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
- Avoided methane emissions from agricultural manure management operations

Avoided Methane Emissions



Next Steps

- Streamline Auction Process
- Offsets
 - Launch Existing Categories
 - New Categories
 - Forest management
 - Urban and community forests
 - Avoided deforestation
- Regional and National Action Plans
- Other Sectors
 - Transportation
 - Industry

Re-investment of Allowance Proceeds

- The RGGI states have completed seven successful auctions, raising \$582 million for investment in consumer benefit programs
- Overall, **states are investing more than 70% of proceeds in energy efficiency and renewable energy**
- These investments:
 - Reduce Emissions
 - 1 ton for every house weatherized (US DOE)
 - Create Jobs
 - 52 Jobs created for every million dollars invested in weatherization (US DOE)
 - Save Consumers Money
 - Many RGGI state energy efficiency programs produce \$4.00 in savings for every dollar invested

Questions?



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www.maine.gov/dep

www.rggi.org