



**Regional Greenhouse Gas Initiative**

An Initiative of the Northeast & Mid-Atlantic States of the U.S.

# Regional Greenhouse Gas Initiative (RGGI): Interaction with Renewable Energy Markets

2007 New Jersey Clean Energy Conference

September 28, 2007

New Brunswick, New Jersey

Christopher Sherry

New Jersey Department of Environmental Protection



## Overview

- Overview of RGGI program
- General relationship between carbon cap-and-trade markets and renewable energy markets
- RGGI provisions impacting renewable energy technologies



## Observations on the RGGI Process

- Staff Working Group  
→ Agency Heads → Governors
- Unprecedented collaboration between energy & environmental agencies
- Expert input from ISOs, environmental & energy research organizations
- Extensive stakeholder input (two-plus year regional process)



## Timeline

- Dec 20, 2005: MOU signed by 7 states
- Mar 23, 2006: Draft model rule released to stakeholders and public for comment
- August 15, 2006: Model rule issued
- February 2007: Massachusetts and Rhode Island sign MOU
- April 2007: Maryland signs MOU
- September 2006 - December 2008: Individual state rulemaking to implement program



## Model Rule Overview

- Draft released March 23, 2006 for public comment
- More than 100 organizations submitted comments (1,000-plus pages)
- Significant revisions made based on public comments (requiring revisions to MOU)
- Revised model rule posted August 15, 2006
  - See <http://www.rggi.org/modelrule.htm>



## RGGI Program Components

---

- Start date of January 1, 2009
- Covers fossil-fired electric generating units 25 megawatts and larger
- Two-phase cap: stabilize emissions through 2014; reduce 10% by 2018
  - (cap start point 4% above avg. 2000-2004 annual emissions)
- Comprehensive program review in 2012



## RGGI Program Components

---

- Three-year compliance period
- Banking allowed (no limit)
- Allocations:
  - Minimum 25% allocation for Consumer Benefit and/or Strategic Energy Purpose, as defined in MOU (e.g., support end-use energy efficiency, clean energy technologies)
  - Remaining 75% allocated at discretion of each state
  - States comprising majority of regional emissions budget have committed to 100% auction with revenues to provide consumer benefits



# RGGI Program Components

---

## Offsets — Project-Based Reductions

- End-use energy efficiency (building sector; excludes electric end-use efficiency)
- Afforestation
- Landfill gas capture & combustion
- Methane capture & combustion from animal manure management operations
- SF<sub>6</sub> leak reduction (electricity transmission & distribution)
- International carbon currencies under limited circumstances (CDM)



# RGGI Program Components

---

## Offsets — requirements

- Limited to initial project types (to be expanded over time)
- Model rule specifies project criteria:
  - eligibility (generic and category-specific requirements)
  - quantification and verification of emissions reductions
  - independent third-party verification
  - accreditation standards for independent verifiers



## Cap-and-Trade and Renewables

---

- Distinct markets (separate compliance markets with distinct allowances/credits)
- Complementary markets
  - RPS supports achievement of carbon cap (increased generation from renewables moderates demand for carbon allowances)
  - Imposition of carbon cap raises wholesale electricity market clearing price (internalization of carbon environmental externality makes renewables more competitive with conventional power)
- Cap-and-trade programs may create specific opportunities for renewable energy technologies:
  - Revenue from allowance auction to support market transformation programs
  - Ability for some renewable energy technologies to generate carbon offsets
  - Allowance set-asides to address renewables (e.g., voluntary purchases of renewable energy by retail customers)





## RGGI Program Components Impacting Renewable Energy

---

- Consumer allocation approach
  - Move toward 100% auction, with revenue to support end-use efficiency, renewables, clean energy technologies
- Eligibility to generate CO<sub>2</sub> offsets
  - Landfill gas, anaerobic digesters, use of renewables (non-electric) in building sector
- Compliance deduction for co-firing of eligible biomass fuels
  - CO<sub>2</sub> derived from firing of eligible biomass not covered by cap (sustainability determination required)
- Allowance set-aside for voluntary renewable energy purchases (non-RPS RECs)
  - Allowances retired in amount equivalent to avoided CO<sub>2</sub> emissions



**Regional Greenhouse Gas Initiative**  
An Initiative of the Northeast & Mid-Atlantic States of the U.S.

---

# Additional RGGI Program Background

---





# RGGI Program Components

---

## Offsets — geographic scope

- RGGI participating states
- Offsets from other U.S. states if MOU executed with state agency to provide compliance/enforcement assistance to RGGI states
- If \$10/ton trigger hit, international offsets allowed (e.g., CDM)

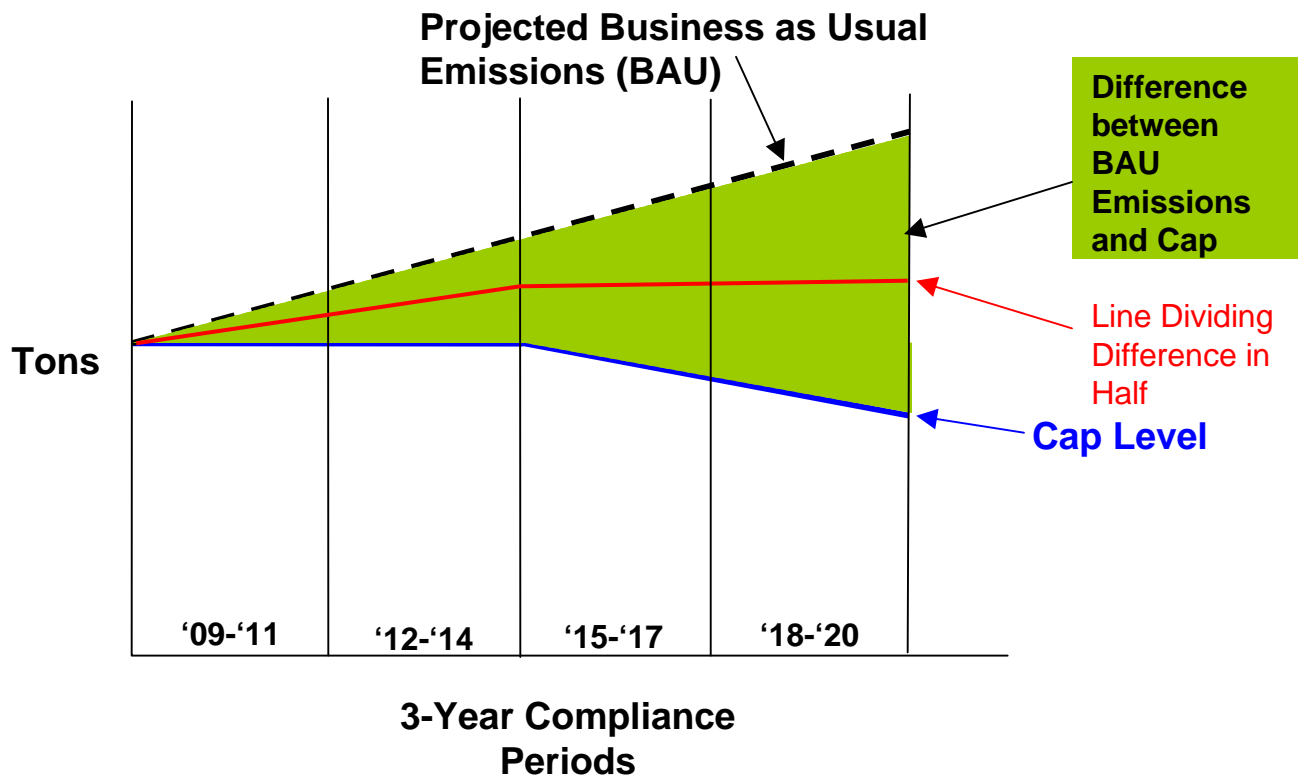
# Offsets Quantitative Limit

---

## Offsets—limit on use

- Limit applied to source compliance; no limit on issuance of offsets (creates competitive market--no limit on potential available pool of offsets)
- Each Source may “cover” up to 3.3% of its total reported emissions in a compliance period with offsets
- If \$7/ton price trigger hit, limit on use expands to 5% of reported emissions
- If \$10/ton trigger price hit, limit on use expands to 10% of reported emissions

# Offsets Limit Explained



Limit derived based on 50% of projected avoided emissions



## Innovative Design Elements

---

- Allowance auction: warranted due to implementation in competitive wholesale power markets
- Consumer allocation approach: allows source-based program to address electricity end-use, resulting in sectoral emissions reductions at lower cost
- Compliance flexibility: package of compliance flexibility measures designed to reduce market volatility without using price caps
  - Unlimited banking, multi-year compliance period, offset triggers
- Offset design: utilizes standardized approach to evaluating additionality through benchmarks and performance standards



**Regional Greenhouse Gas Initiative**  
An Initiative of the Northeast & Mid-Atlantic States of the U.S.

## For More Information

---

RGGI Web-site: <http://www.rggi.org>

Christopher Sherry

609-292-6818

[christopher.sherry@dep.state.nj.us](mailto:christopher.sherry@dep.state.nj.us)

