

# **RGGI and New York State Carbon Pricing**

## *Challenges in effective carbon management at the sub-federal level*

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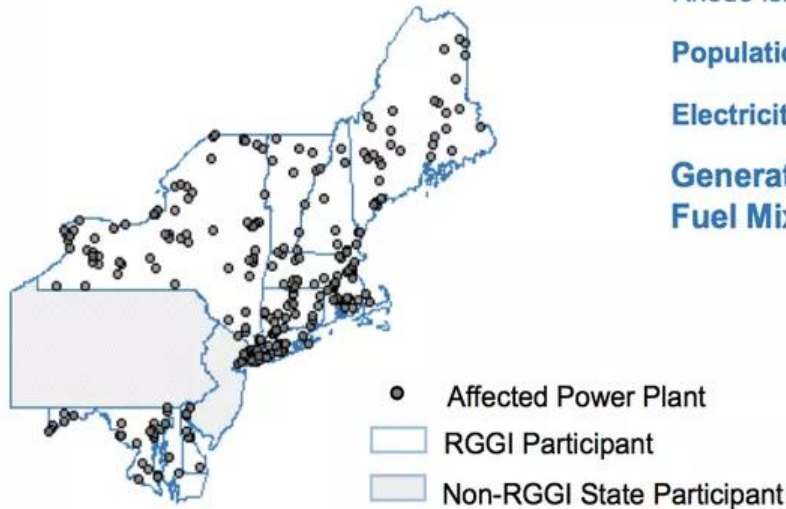
18<sup>th</sup> Annual IEA-IETA-EPRI Workshop on Greenhouse Gas Emissions Trading

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# Regional Greenhouse Gas Initiative (RGGI) Overview

## Regional Greenhouse Gas Initiative Participating States



Source: RGGI Inc., MJB&A Analysis

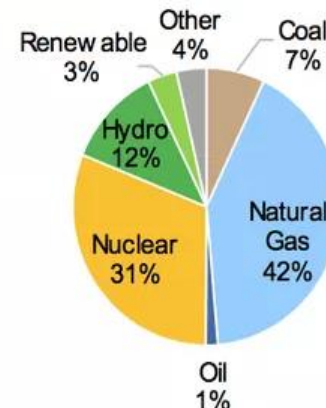
## Key Statistics

**Participating States:** Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New York, Rhode Island, and Vermont

**Population:** 41.5 million

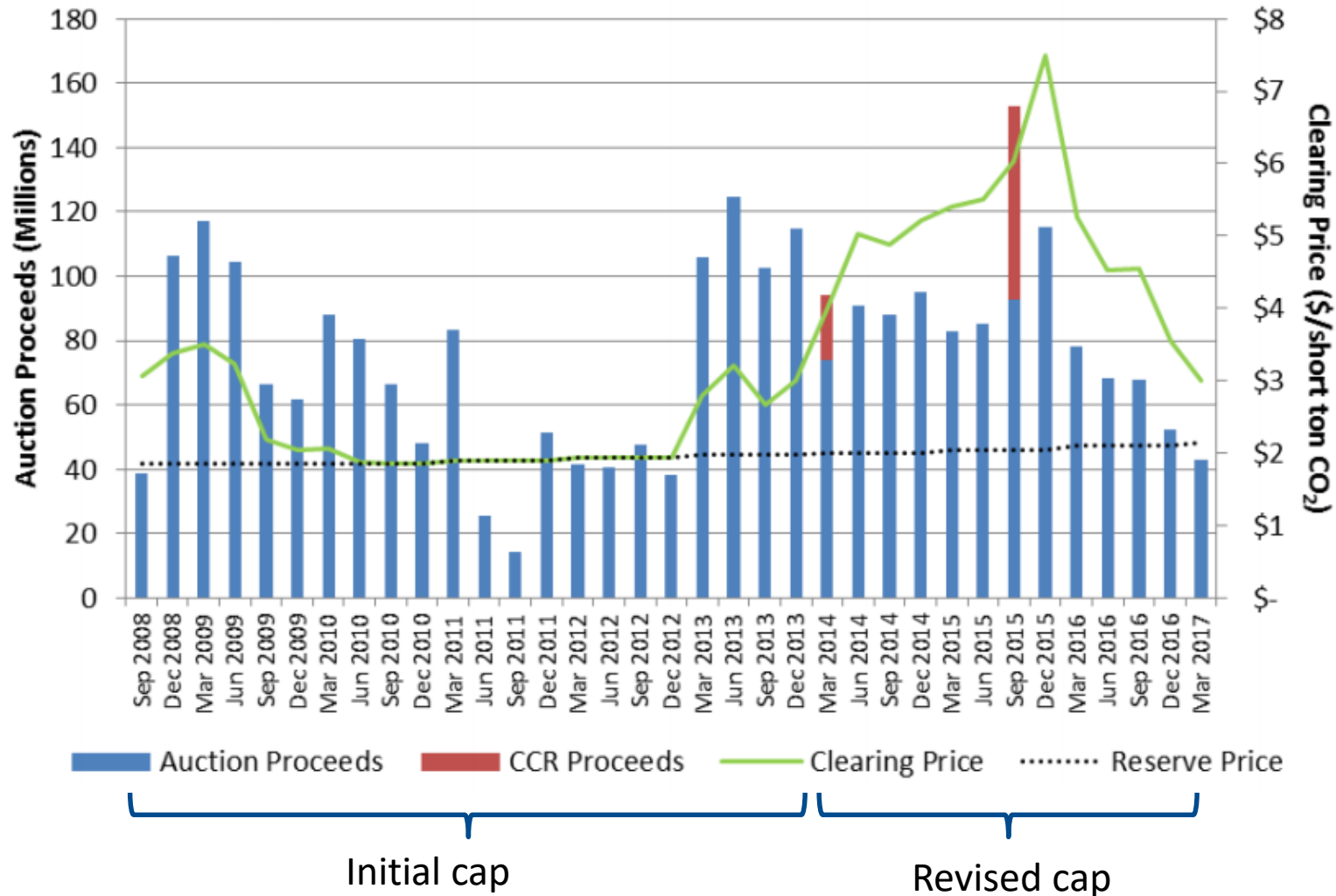
**Electricity Sales:** 342 terawatt-hours

## Generation Fuel Mix: 2015



- **Includes 9 states**, ~14% of total US population and 16% of GDP
- **Currently covers 1.4%** of total US CO<sub>2</sub>e emissions (2015)
- **Original objective:** Reduce CO<sub>2</sub>e by 10% by 2018 from 2009 levels (from the electric sector)

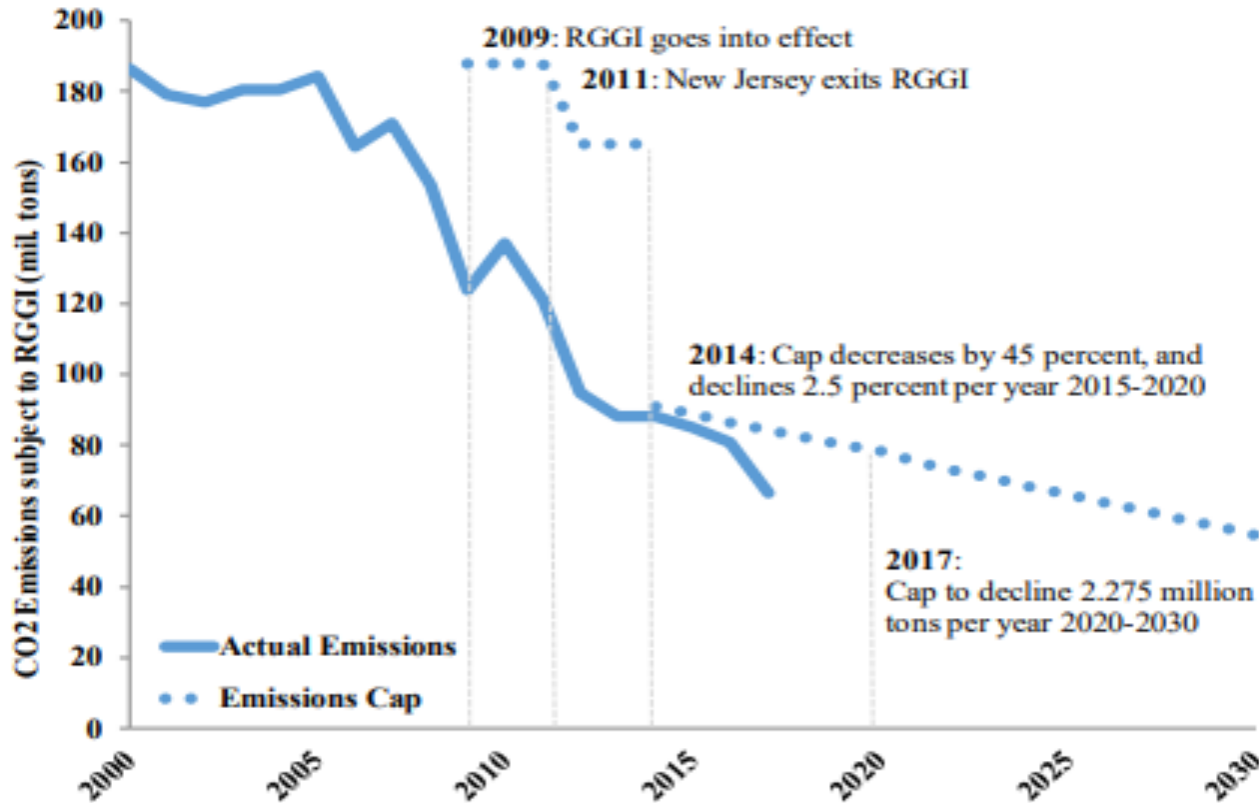
# RGGI - allowances & clearing prices through 2016



Source: CRS, RGGI

# RGGI's relationship to CO2 emissions reductions

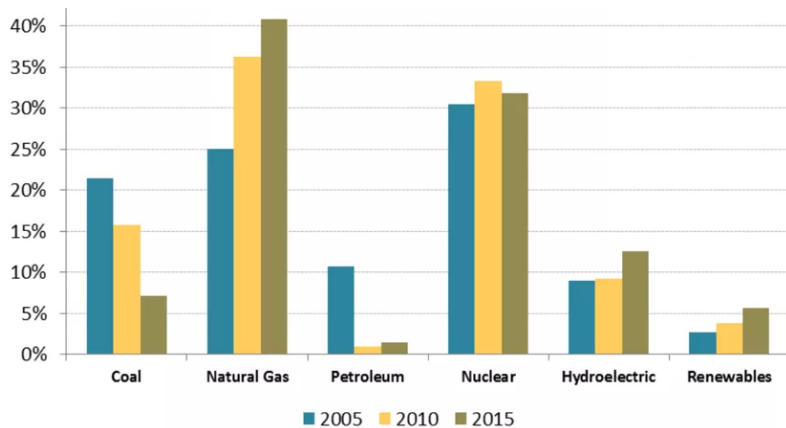
## CO2 Emissions from RGGI states vs. RGGI cap



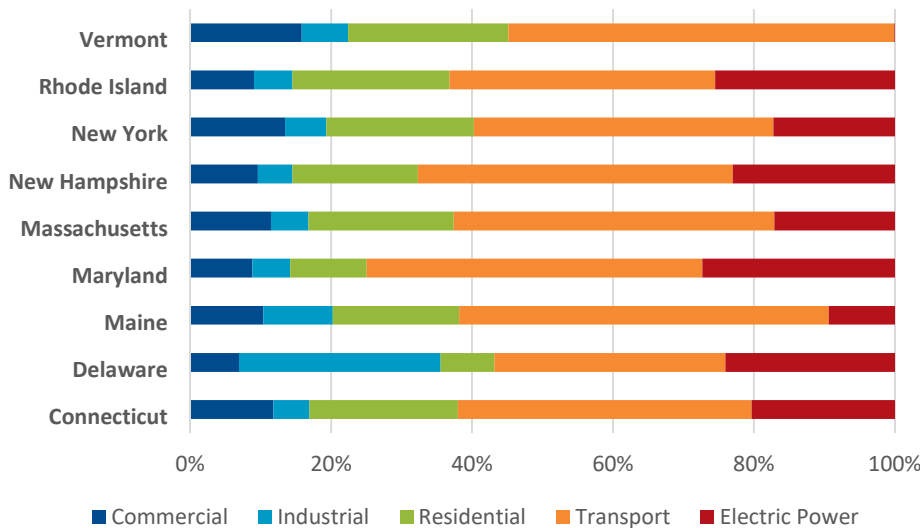
- RGGI states' covered emissions dropped more than 20% between 2009-2015, and more than 60% since 2000
- Covered emissions only account for ~19% of total RGGI emissions

# RGGI carbon emissions today

Electric generation resource mix change (2005-2015)



Share of CO2 emissions by sector (2015)

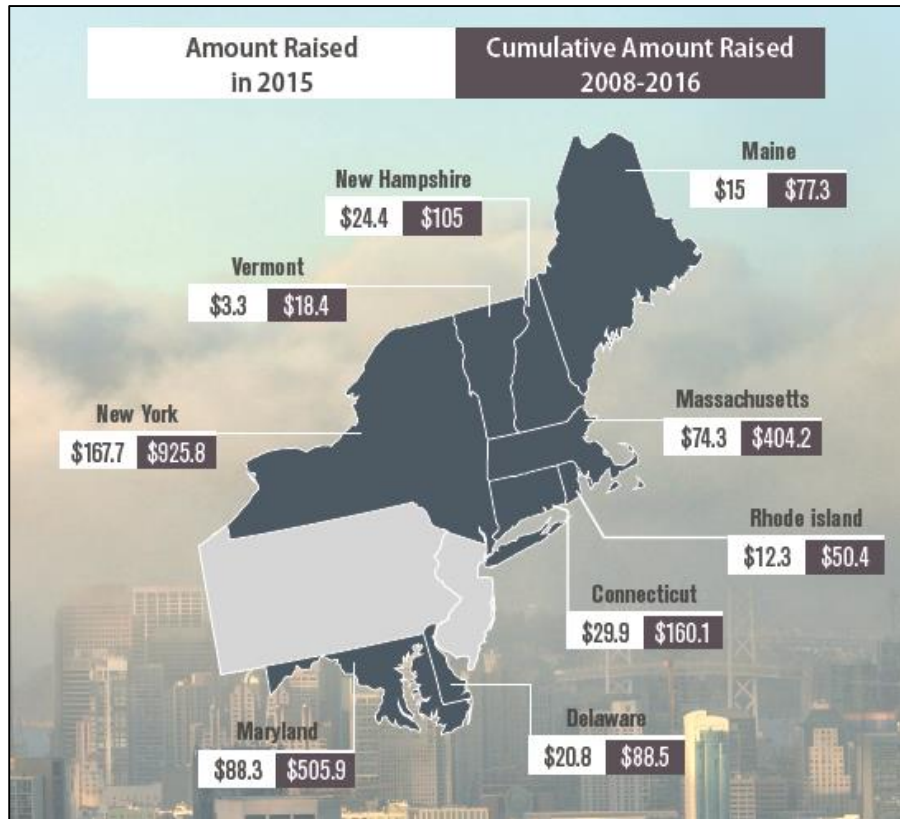


## Outcome-to-date:

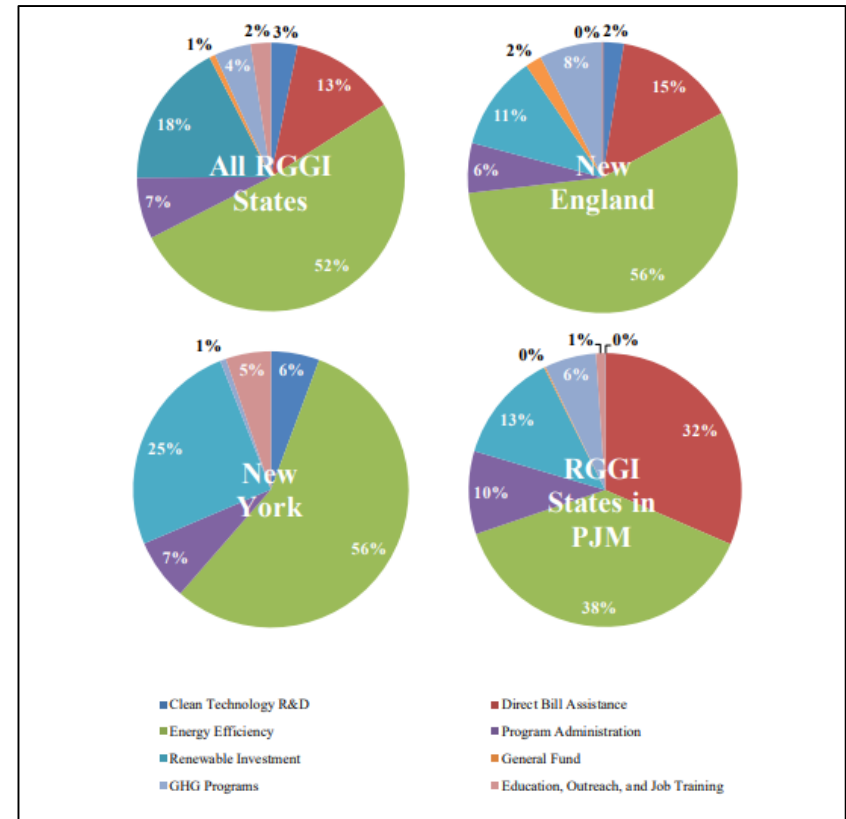
- CO2 emissions from RGGI electric sector have declined significantly, but primarily due to other factors (State policies, low gas prices)
- Total CO2 emissions from RGGI states declined 5% from 2009-2015 (20% from electric sector)
- Transportation and heating make up the majority of CO2 emissions from RGGI states

# RGGI's indirect benefits – reliable funding for supporting programs

## RGGI auction proceeds by state



## RGGI auction funds spending by state



Source: RGGI, Analysis Group

# RGGI – thinking about next steps and tradeoffs

- RGGI has provided indirect economic and energy benefits but has not been the main driver of GHG emissions in RGGI states
- RGGI's program and auction structure has been perceived positively among member states
- How to make RGGI more effective?
  - Include more States?
  - Reduce the cap much faster and drive allowance prices up
  - Expand to include transportation and heating

# Observations and Discussion

- “Low-hanging fruit” carbon initiatives have already been accomplished in NYS and some RGGI states – remaining cost to mitigate is higher and more complex (e.g., transportation, heating, industrial process loads, etc.)
- Ratcheting up of carbon values at a local, State or regional level will begin to have more significant competitiveness / economic impacts, which can increase political friction and necessitate choices that will have winners/losers
- Nested goals create interaction effects that could have unintended consequences (e.g., City and State competing over where and how renewable resources are connected to the system)
- Does it leave the hard choices for beyond 2030?



# Per capita energy-related CO2 emissions

Figure 2. Per capita energy-related carbon dioxide emissions by state, 2015

metric tons carbon dioxide per person

