

# Apportioning the Regional Cap Among States

## Allocation Options & Equitable Solutions

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# Principles for Allocation to States

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- Create a formula that is equitable and reflects the burden imposed on each state by the cap
  - Consumers (residential, commercial, industrial)
  - Generators (fossil v. non-emitting)
  
- Issues to consider between states:
  - Different levels of consumption / demand
  - Different investments in energy efficiency
  - Different economic make up (industry size and presence)
  - Different electric generation fleet
  - Different levels of power imports and exports
  - Changes with time
  - Political feasibility

# Likely Changes with Time

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- Generation & Transmission

- ☐ New plants
- ☐ Retirement of old plants
- ☐ New transmission lines

- Consumption / Demand

- ☐ Changes in population
- ☐ Economic expansion or decline
- ☐ Increased conservation

# Potential Measures per State

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- Generation

- ☐ Emissions (tons CO<sub>2</sub>)
- ☐ Heat input (MMBtu)
- ☐ Total electric output (MWh)
- ☐ Fossil electric output (MWh)

- Consumption / Demand

- ☐ Demand or consumption (MWh)
- ☐ Population (number of people)
- ☐ Size of economy (gross state product)

# Data Sources for Comparison of Measures

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- RGGI Working Group (C. Nelson, CT DEP)
  - Emissions (2000, RGGI Units)
  - Heat input (2000, RGGI Units)
  - Generation / fossil output (2000, RGGI Units)
  
- Compiled by Environment Northeast
  - Total Generation (Avg. 1999-2001, EIA, '02 Elec. PA)
  - Total Consumption (Avg. 1999-2001, EIA, '02 Elec. PA)
  - Population (2000, US Census)
  - State Economies – Gross State Product (Avg. 1999-2001, Dept. of Commerce)

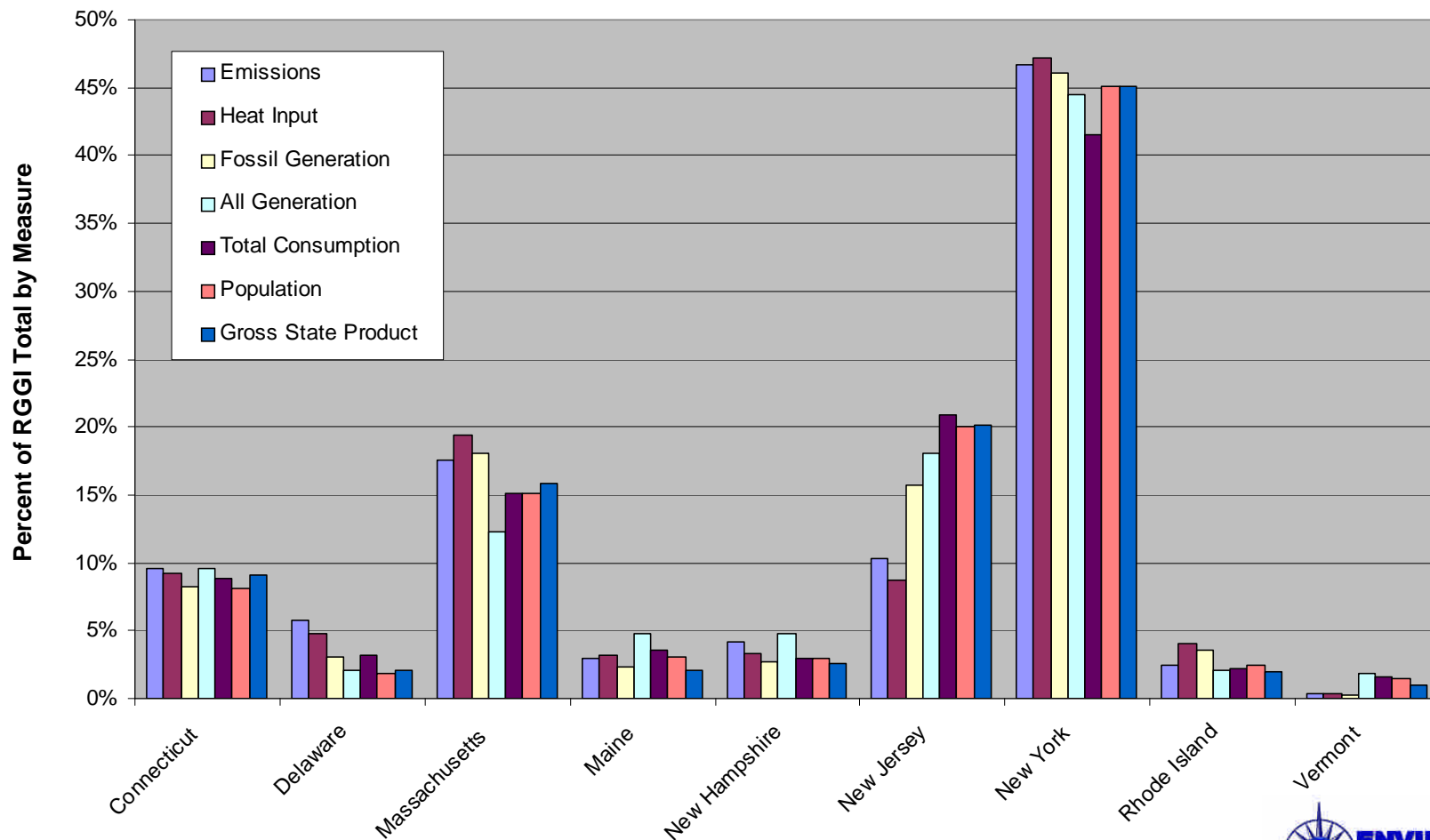
# Allocation of a Regional Cap to States – Potential Measures

	Emissions	Heat Input	Fossil Generation	All Generation	Total Consumption	Population	Gross State Product
	RGGI Units 2000	RGGI Units 2000	RGGI Units 2000	1999-2001 Avg.	1999-2001 Avg.	2000	1999-2001 Avg.
State	(tons)	(MMBtu)	(MWh)	(MWh)	(MWh)	(Number)	(2003 Million \$)
Connecticut	11,705,306	143,795,020	13,550,787	30,685,038	30,095,320	3,405,565	159,035
Delaware	7,098,426	75,046,076	5,038,996	6,548,958	10,830,514	783,600	37,484
Massachusetts	21,470,003	304,198,631	29,666,022	39,250,569	51,281,099	6,349,097	276,225
Maine	3,658,580	49,950,572	3,837,784	15,428,899	11,980,778	1,274,923	35,942
New Hampshire	5,178,731	52,162,958	4,447,176	15,431,790	10,121,118	1,235,786	45,976
New Jersey	12,584,372	136,181,337	25,703,322	58,103,299	71,006,658	8,414,350	351,665
New York	57,114,441	739,932,584	75,527,320	142,758,167	140,934,302	18,976,457	789,581
Rhode Island	2,959,593	63,173,032	5,902,632	6,616,773	7,432,655	1,048,319	34,973
Vermont	441,311	4,844,253	308,098	5,829,074	5,594,460	608,827	18,143
Total	122,210,761	1,569,284,463	163,982,136	320,652,565	339,276,904	42,096,924	1,749,025
	Rank=1; Largest for Measure		Rank=2; 2nd Largest for Measure		Rank=3; 3rd Largest for Measure		

# Potential Measures – Percent of Total RGGI Cap

	Emissions	Heat Input	Fossil	All	Total	Population	Gross State
State	RGGI Units 2000	RGGI Units 2000	Generation	Generation	Consumption	2000	Product
			RGGI Units 2000	1999-2001 Avg.	1999-2001 Avg.		1999-2001 Avg.
Connecticut	9.6%	9.2%	8.3%	9.6%	8.9%	8.1%	9.1%
Delaware	5.8%	4.8%	3.1%	2.0%	3.2%	1.9%	2.1%
Massachusetts	17.6%	19.4%	18.1%	12.2%	15.1%	15.1%	15.8%
Maine	3.0%	3.2%	2.3%	4.8%	3.5%	3.0%	2.1%
New Hampshire	4.2%	3.3%	2.7%	4.8%	3.0%	2.9%	2.6%
New Jersey	10.3%	8.7%	15.7%	18.1%	20.9%	20.0%	20.1%
New York	46.7%	47.2%	46.1%	44.5%	41.5%	45.1%	45.1%
Rhode Island	2.4%	4.0%	3.6%	2.1%	2.2%	2.5%	2.0%
Vermont	0.4%	0.3%	0.2%	1.8%	1.6%	1.4%	1.0%

# Potential Measures – Percent of Total RGGI Cap





# Potential Measures

## % Change Over Past 10+ Years

	<b>CO2 Emissions</b>	<b>Generation</b>	<b>Consumption / Sales</b>	<b>Population</b>	<b>Gross State Product</b>
	RGGI Plants (ENE/EIA)	All Plants (EIA)	All Sectors (EIA)	(Census)	(Dept. of Commerce)
	1990 to 2002-3 Avg.	1990 to 2002	1990 to 2001	1990 to 2000	1990 to 2001
<b>State</b>	(short tons)	(MWh)	(MWh)	(Number of People)	(2003 \$)
Connecticut	-13%	-11%	12%	4%	78%
Delaware	-13%	-23%	29%	18%	100%
Massachusetts	-7%	6%	16%	6%	80%
Maine	209%	41%	3%	4%	59%
New Hampshire	1%	29%	15%	11%	98%
New Jersey	80%	54%	15%	9%	68%
New York	-20%	3%	9%	5%	65%
Rhode Island	438%	537%	22%	4%	71%
Vermont	-66%	6%	19%	8%	63%
Mean	68%	71%	16%	8%	76%
Standard Deviation	160%	176%	7%	5%	15%

Plants come and go – consumption, population, and economic growth are much more consistent



# Contact Information

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