

# Public Benefit Allowance Allocations



**RGGI Allocations Workshop**

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Dale S. Bryk  
Natural Resources Defense Council  
[dbryk@nrdc.org](mailto:dbryk@nrdc.org)

# Impacts of Allowance Allocations



- **Overall cost of program**
- **Economic impact to customers**
- **Economic impact to generators**

# Overall Program Costs

- **Allocations to generators**
  - Output based w/ updating vs. auction, grandfathering
- **Energy efficiency – lower demand curves**
  - Modeling shows this is most effective way to reduce cost
- **Long-term solutions**
  - Renewables
  - Sequestration
  - Advanced fossil with carbon capture and storage

# Economic Impact to Consumers

- **Electricity price impact**
  - Energy efficiency/ demand curves
  - Allocations to generators/ output based vs. auction, grandfathering
- **Low income protection programs**
- **Consumer rebates**

# Economic Impact to Generators

## Increased revenues

- Higher wholesale electricity prices
- ISO rules may mitigate (e.g. LBMP)
- Long term contracts (most will expire by RGGI start date)

## Compliance costs

- Reduced output at a small number of plants
- Fuel switching, repowering at small number of plants
- Allowance purchases

# Public Benefit Allocations

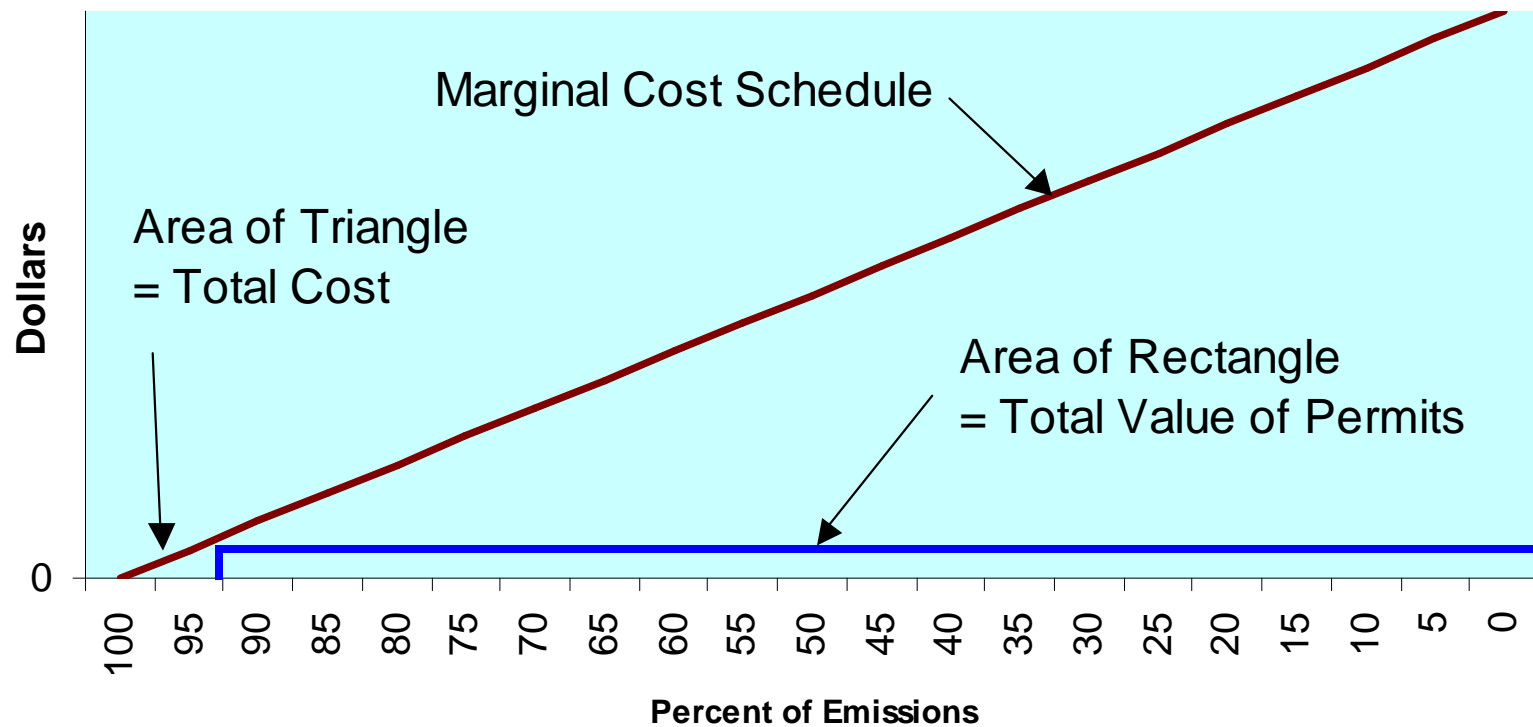
## **Generators do not require 100% allowances**

- Revenues for most plants substantially exceed compliance costs
- Overwhelming majority of plants have no compliance costs

## **Public benefit allowances can be used to**

- Reduce overall program costs
- Protect consumers

# Where is the windfall revenue?



→ Value of Allowances = 20 times Compliance Cost

# Where is the windfall revenue?

*Plants >25 MWs - Annual Output and Emissions*

State	Total Elec. Production (MWh)	Total Fossil <sup>1</sup> Elec. Production (MWh)	Total CO <sub>2</sub> Emissions (tons)	Avg. Emissions Intensity (tons CO <sub>2</sub> /MWh)	Avg. Fossil <sup>1</sup> Emissions Intensity (tons CO <sub>2</sub> /MWh)	Avg. Emissions Per Capita (tons CO <sub>2</sub> /person)	RGGI State's % of Total CO <sub>2</sub> Emissions (%)
Connecticut	32,232,741	13,785,756	11,949,794	0.371	0.867	3.509	8.2%
Washington DC	144,374	144,374	191,797	1.328	1.328	0.335	
Delaware	5,898,533	5,812,926	5,911,894	0.986	1.017	7.545	
Massachusetts	39,519,725	30,276,198	28,087,693	0.690	0.862	4.109	17.9%
Maryland	51,118,133	34,649,721	35,138,107	0.687	1.014	6.834	
Maine	11,738,436	6,569,205	4,460,163	0.380	0.679	3.498	3.1%
New Hampshire	13,427,895	4,450,888	5,177,818	0.386	1.163	4.190	3.6%
New Jersey	58,600,644	27,125,653	21,391,578	0.365	0.789	2.542	14.7%
New York	133,374,207	79,652,401	67,374,900	0.505	0.846	3.550	46.3%
Pennsylvania	198,452,200	120,596,602	123,174,202	0.621	1.021	10.030	
Rhode Island	5,802,632	5,902,632	2,959,593	0.501	0.501	2.823	2.0%
Vermont	5,418,792	132,754	156,827	0.029	1.181	0.258	0.1%
Total RGGI States <sup>2</sup>	306,213,605	173,708,414	145,470,259	0.475	0.837	3.521	100.0%

Revenue Increase = **\$900m** **\$695m** **\$949m** = cost of 100% purchased allowances @ \$6.50/ton  
@ 3 mills/kwh

**\$47m** = projected compliance costs (1/20<sup>th</sup> allowance value)

Aggregate Fossil Industry can afford to purchase **70%** of needed allowances with no impact  
Aggregate Electric Industry can afford to purchase **90%** of needed allowances with no impact



# Where is the windfall revenue?

## Net Economic Impacts for Sample Plants

					Net Impact if Allowances Purchased @ \$6.50		
Plant type	Net Generation (MWh)	Emissions rate (tons CO2/MWh)	Revenue Increase @ 3 mill price increase	Compliance costs	30%	70%	100%
Coal 1 (50%)	2,700,000	1.25		\$40,500,000	(\$43,790,625)	(\$48,178,125)	(\$51,468,750)
Coal 2 (10%)	2,700,000	1.25	\$7,290,000	\$8,100,000	(\$6,733,125)	(\$14,630,625)	(\$20,553,750)
Efficient Gas	3,330,000	0.50	\$9,990,000	\$0	\$6,743,250	\$2,414,250	(\$832,500)

# Assessing relative impacts

- **Evaluate** – IPM modeling results will help states evaluate expected net economic impact to plants
- **Cushion** – states can allocate a substantial cushion of free allowances to generators, above what modeling shows is needed to prevent windfall gains
- **Phase In** – states increase percentage of public benefit allowances over time
  - This ensures substantial windfall profits in early years, providing funding for more allowance purchases in later years
- **Safety Net** – states can use public benefit allowances to address any reliability or other public policy need