



RGGI Allocation Workshop

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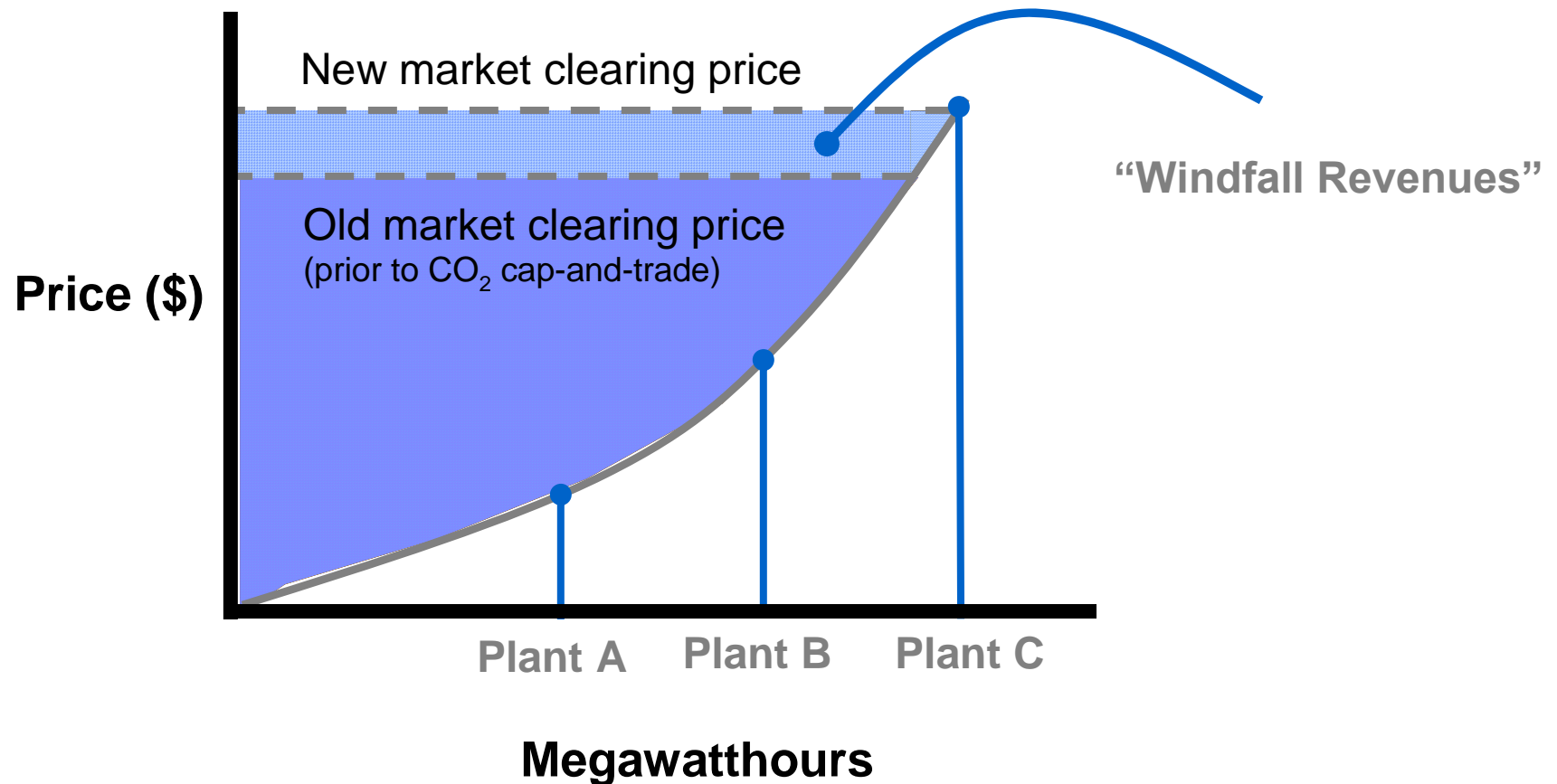
Public Benefit Allocation



- The Public Benefit Allocation is justified based on the premise that increased revenues will exceed the costs of compliance, resulting in “windfall revenues”.
 - There are institutional factors (e.g., rate caps and supply contracts) that suggest that these “windfall revenues” may not materialize.
 - There are also structural factors that will reduce the likelihood of “windfall revenues” within the RGGI region.
- I focus on the structural factors.

Theoretical representation of “windfall revenues”

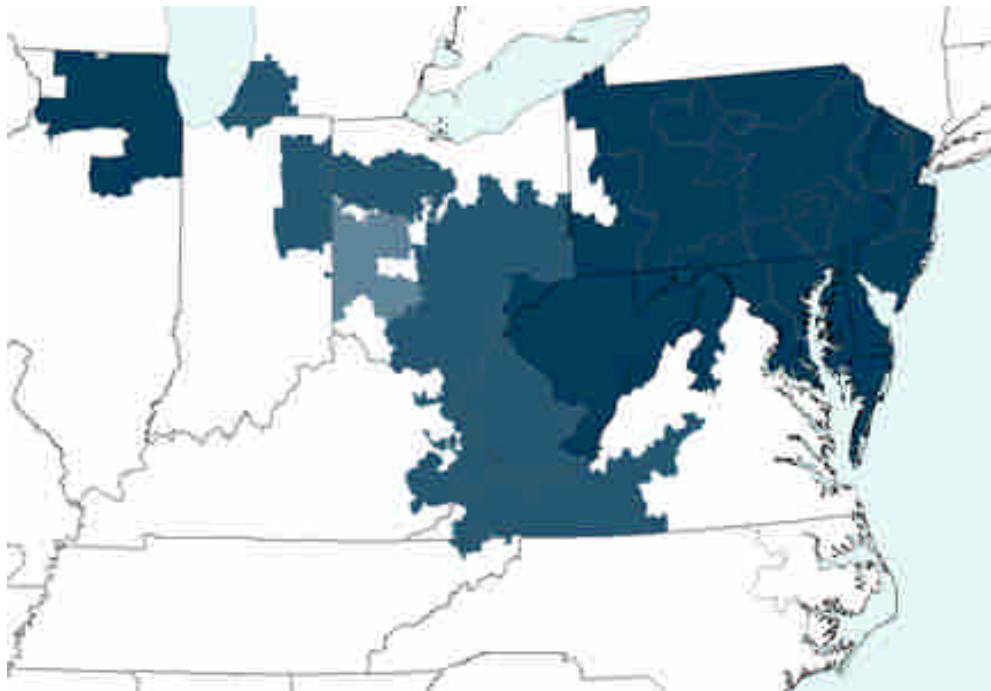
A fossil unit on the margin increases the market clearing price (i.e., the price paid to all generating units dispatched) to reflect the cost of CO₂ compliance



PJM vs. RGGI Region



PJM



RGGI



Scenario #1. Baseline (uncongested!)



Merit order dispatch

Load = 1,400 MWh

Market clearing price = \$40

CO₂ cost per MWh = \$0

Revenue

Facility A = \$20,000 Facility C = \$20,000

Facility B = \$4,000 Facility D = \$12,000

A.



Facility A

500 MWh
\$20/MWh

100%

B.



Facility B

300 MWh
\$40/MWh

33%

Pennsylvania - Maryland

New Jersey/RGGI

C.



Facility C

500 MWh
\$25/MWh

100%

D.



Facility D

300 MWh
\$35/MWh

100%

Scenario #2. CO₂ Cap (uncongested!)



Merit order dispatch

Load = 1,400 MWh

Market clearing price = \$45

CO₂ cost per MWh = \$10

Revenue

Facility A = \$22,500 Facility C = \$22,500

Facility B = \$13,500 Facility D = \$4,500

A.



Facility A

500 MWh
\$20/MWh

100%

B.



Facility B

300 MWh
\$40/MWh

100%

Pennsylvania - Maryland

New Jersey/RGGI

C.



Facility C

500 MWh
\$35/MWh

100%

D.



Facility D

300 MWh
\$45/MWh

33%

Scenario #3. CO₂ Cap (uncongested!)



Merit order dispatch

Load = 1,400 MWh

Market clearing price = \$40

CO₂ cost per MWh = \$10

Revenue

Facility A = \$20,000 Facility C = \$20,000

Facility B = \$8,000 Facility D = \$0

Facility E = \$8,000

A.



Facility A

500 MWh
\$20/MWh

100%

E.



Facility E

300 MWh
\$40/MWh

67%

Pennsylvania - Maryland
New Jersey/RGGI

C.



Facility C

500 MWh
\$35/MWh

100%

D.



Facility D

300 MWh
\$45/MWh

0%

Under my two scenarios, windfall revenues never materialize in the RGGI region, in fact revenues decrease. As a result, a public benefit allocation, which seeks to reclaim or tax these revenues, would impose a double burden on electric generators in the Northeast.



Scenario	Revenue	
	PA-MD	NJ/RGGI
Scenario #1: Baseline	\$24k	\$32k
Scenario #2: CO ₂ Cap (capacity held constant)	\$36k	\$27k
Scenario #3: CO ₂ Cap (additional capacity in PA-MD)	\$36k	\$20k

So which will it be? Scenario #2? Scenario #3? Or will revenues increase? Market dynamics suggest that windfall revenues are unlikely to materialize.



Factors to consider in evaluating whether “windfall revenues” will accrue.

- New Jersey capacity retirements
- High natural gas prices, combined with low cost coal-fired generating capacity in neighboring states
- When the market splits, due to congestion, a single clearing price no longer prevails
- Substantial capacity is tied to supply contracts, not spot market transactions

Capacity retirements in New Jersey increase the likelihood that power plants outside of the RGGI region will set the market clearing price in PJM.



- On February 12, 2004, Reliant announced plans to mothball or retire 622 megawatts of capacity, includes 370 megawatts in New Jersey. (In September 2004, the company dedicated a new 521-megawatt waste coal plant in Pennsylvania.)
- On September 20, 2004, PSEG Power announced plans to retire seven generating units in New Jersey that are no longer economically viable under the current market structure. The seven units have a combined installed capacity of 1,132 megawatts.
- The B.L. England facility in Cape May County is expected to shut down in 2007. B.L. England has a capacity of around 450 megawatts.
- Governor McGreevey has called for the permanent closure of the Oyster Creek nuclear power plant in 2009.

High natural gas prices increase reliance on coal-fired power plants outside of the RGGI region.



- CERA, in September 2004, issued a report suggesting that there are as much as \$300 million in annual savings within the Eastern Interconnection if transmission system investments allowed more low-cost coal-fired generation into the Northeast and other states.
- The primary reason---the price gap between coal and natural gas. CERA assumed gas prices of \$4.20/mmBtu in 2010. Energy & Environmental Analysis is forecasting a 2005 price of \$6.45/mmBtu (i.e., CERA's analysis may be conservative).