

# Congressional Briefing on Greenhouse Gas Allowance Allocation

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# What is academic advice on the distribution of emission allowances?

- Economics literature broadly finds there are significant **efficiency** advantages to auctioning emission allowances.

## Why give any allowances away for free?

1. Compensation
  - But 100% free allocation can dramatically over-compensate affected firms at expense of consumers raising concerns about **equity**.
2. Promote Technology
3. Promote Competition

# NPV of CO<sub>2</sub> Emission Allowances = \$141 billion

Losses at Industry Level (-\$9b)

Losing Facilities (-\$50b)

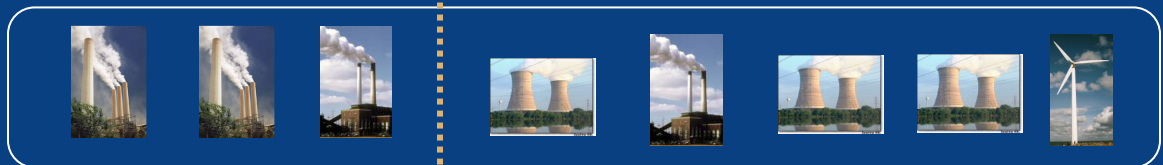
Winning Facilities (+\$41b)

Losing Firms (-\$14b)

Breakeven

Winning Firms (+\$5b)

Firm A  
Firm C



Firm B  
Firm D

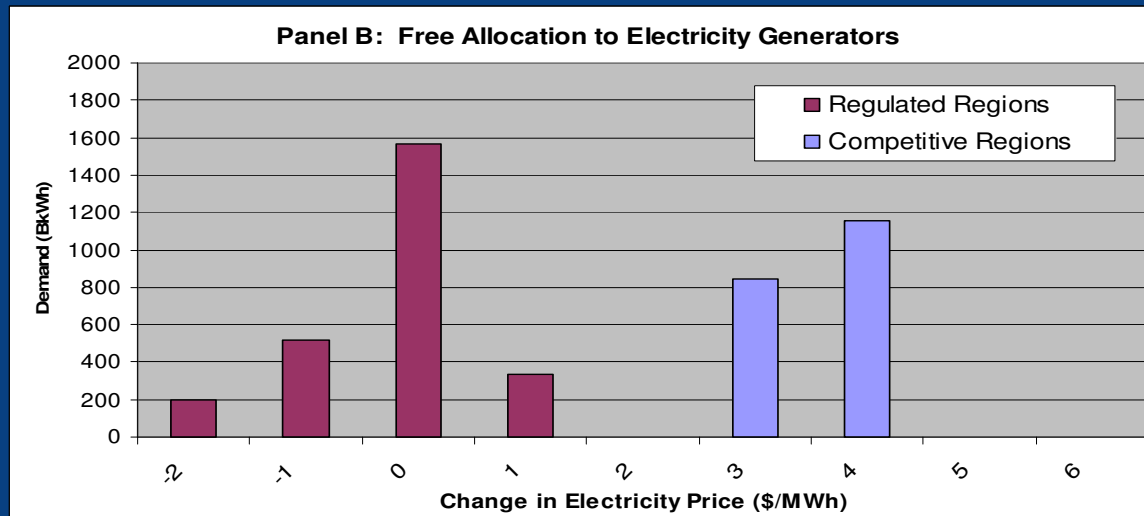
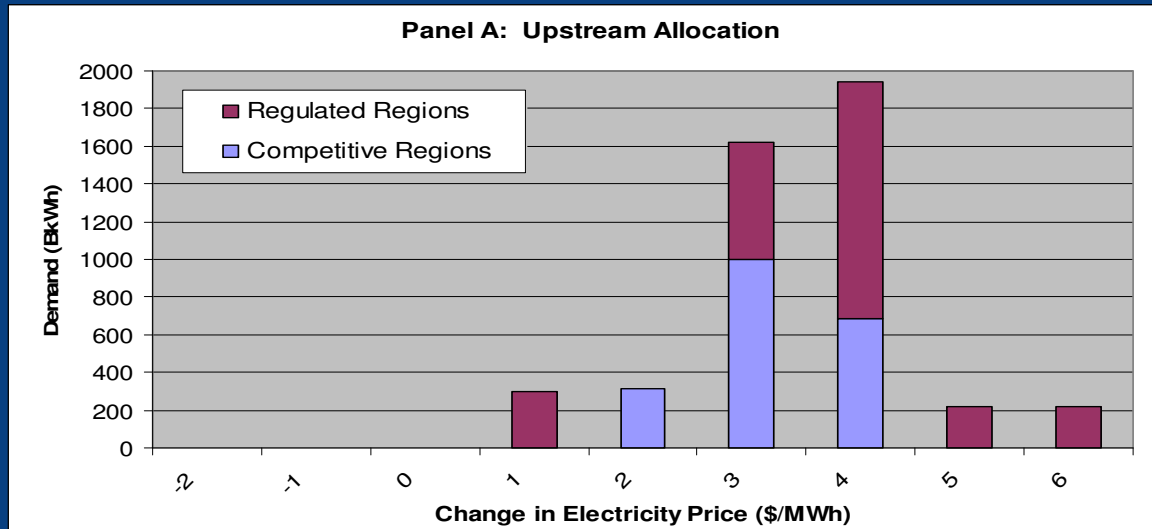
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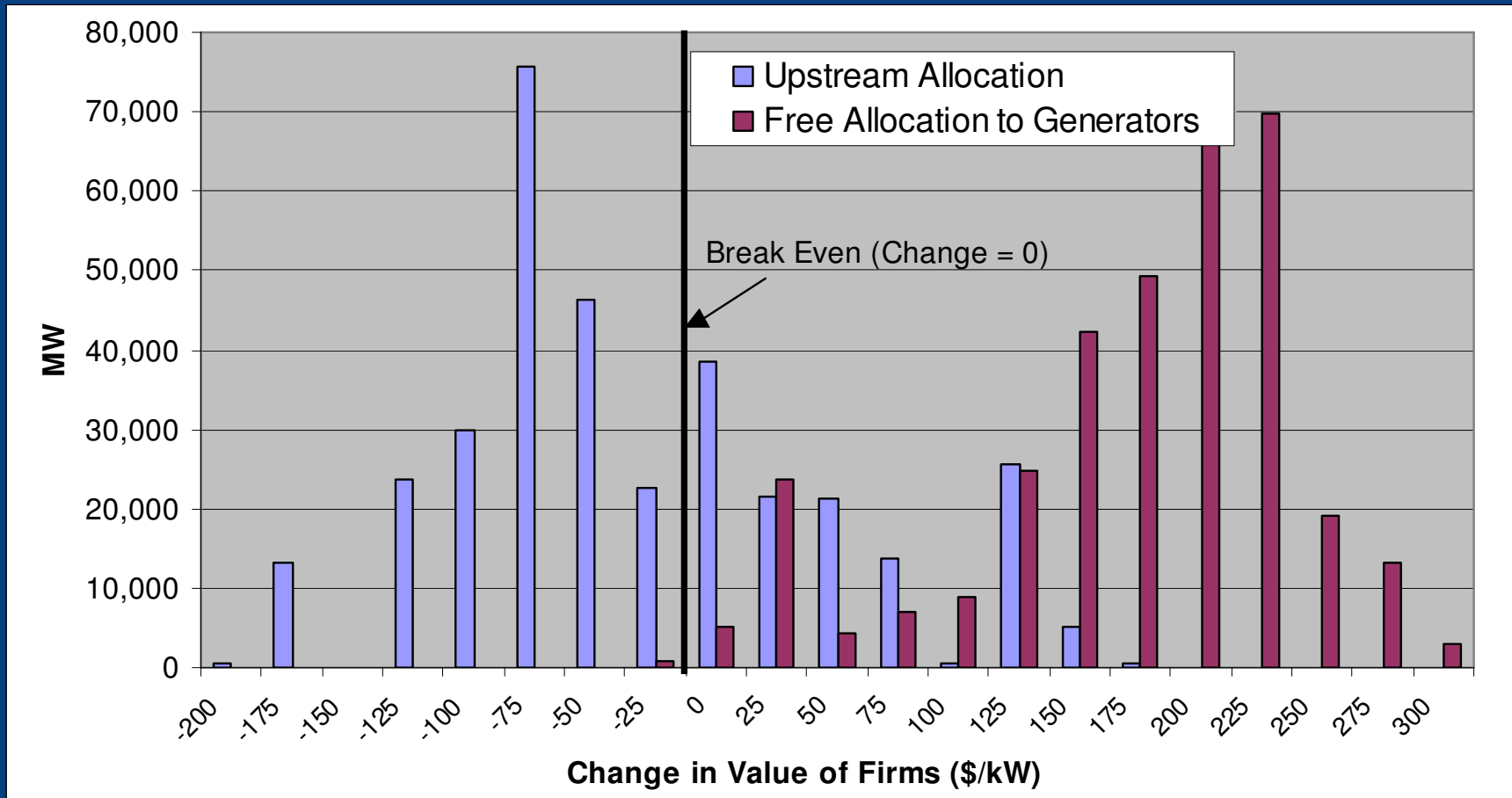
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Change in Market Value of Individual Assets (billion dollars)

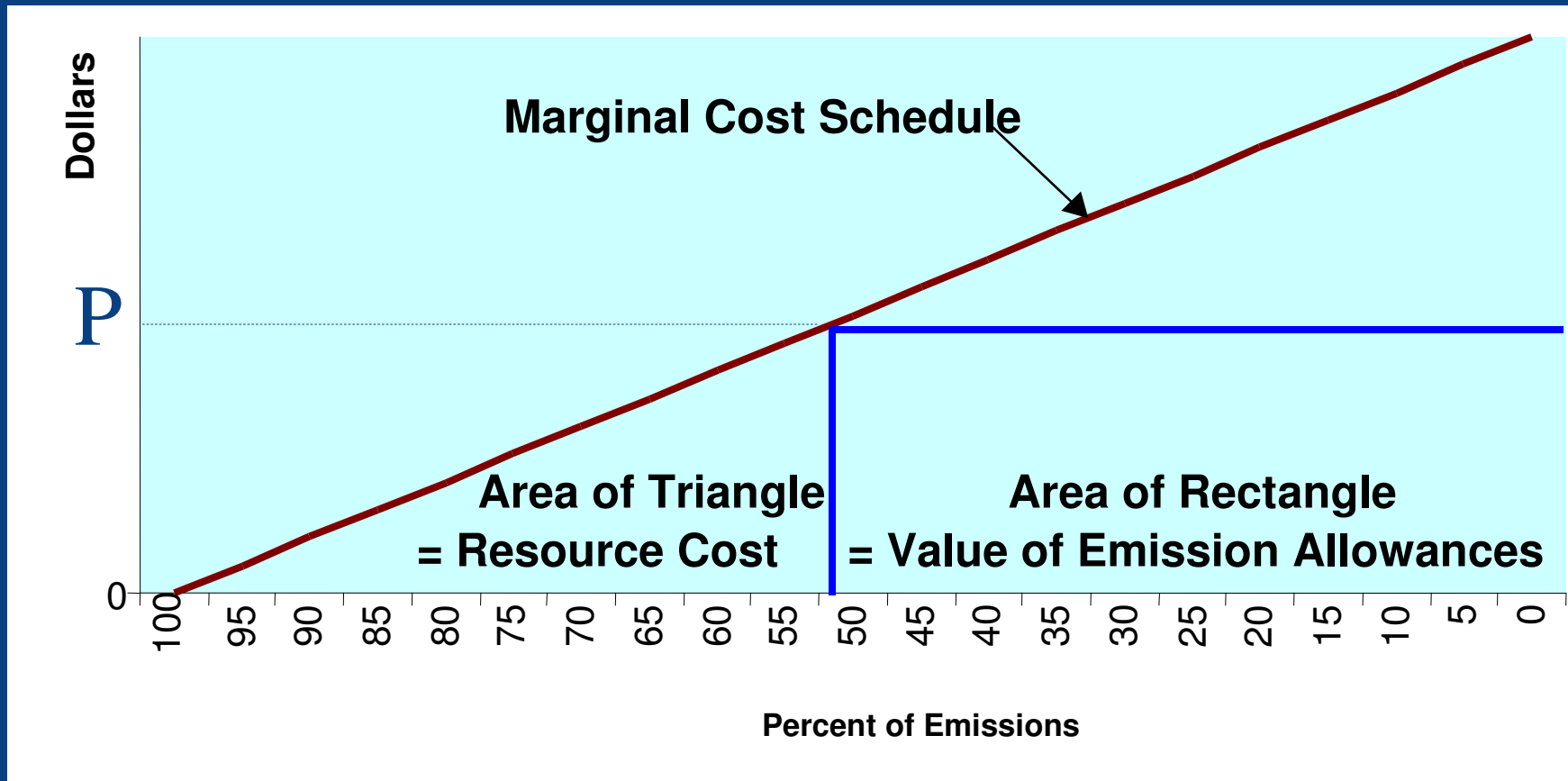
# Electricity Price Effects of Allowance Allocation Depends on Electricity Regulation



# Distribution of Costs to Electricity Generating Firms in Competitive Regions

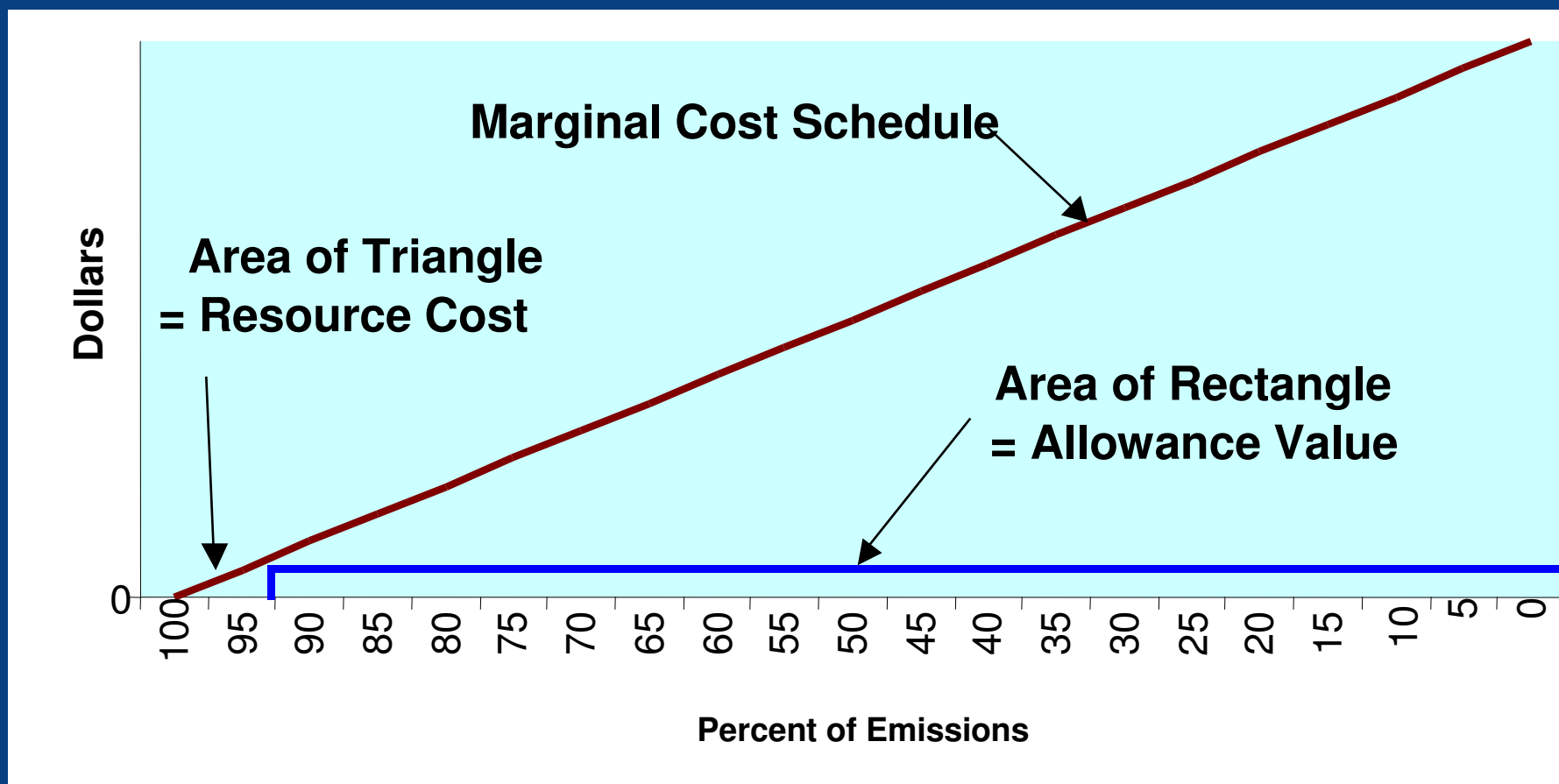


# The Previous SO<sub>2</sub> Trading Program Aimed at 50% Reductions



→ Value of permits = 2 times the cost of emission reductions

# Why Carbon is Special...



→ Value of Permits = 20 times Total Cost

# Allocation

## Annual Asset Value of Emission Allowances

Venus



**NO<sub>x</sub>**  
**\$1.7 Billion**

Earth



**SO<sub>2</sub>**  
**\$2.7 Billion**

Jupiter



**Carbon 34%  
Reduction (Kyoto)  
Economy Wide  
\$450 Billion**

Neptune



**Carbon 6%  
Reduction  
in Electricity  
\$15-\$24 Billion**