



Synapse
Energy Economics, Inc.

Productive and Unproductive Costs of CO₂ Cap-and-Trade

Ezra D. Hausman, Jeremy I. Fisher, Lauri A. Mancinelli, and Bruce E. Biewald

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Study Sponsors...

The National Association of Regulatory Utility Commissioners (NARUC)

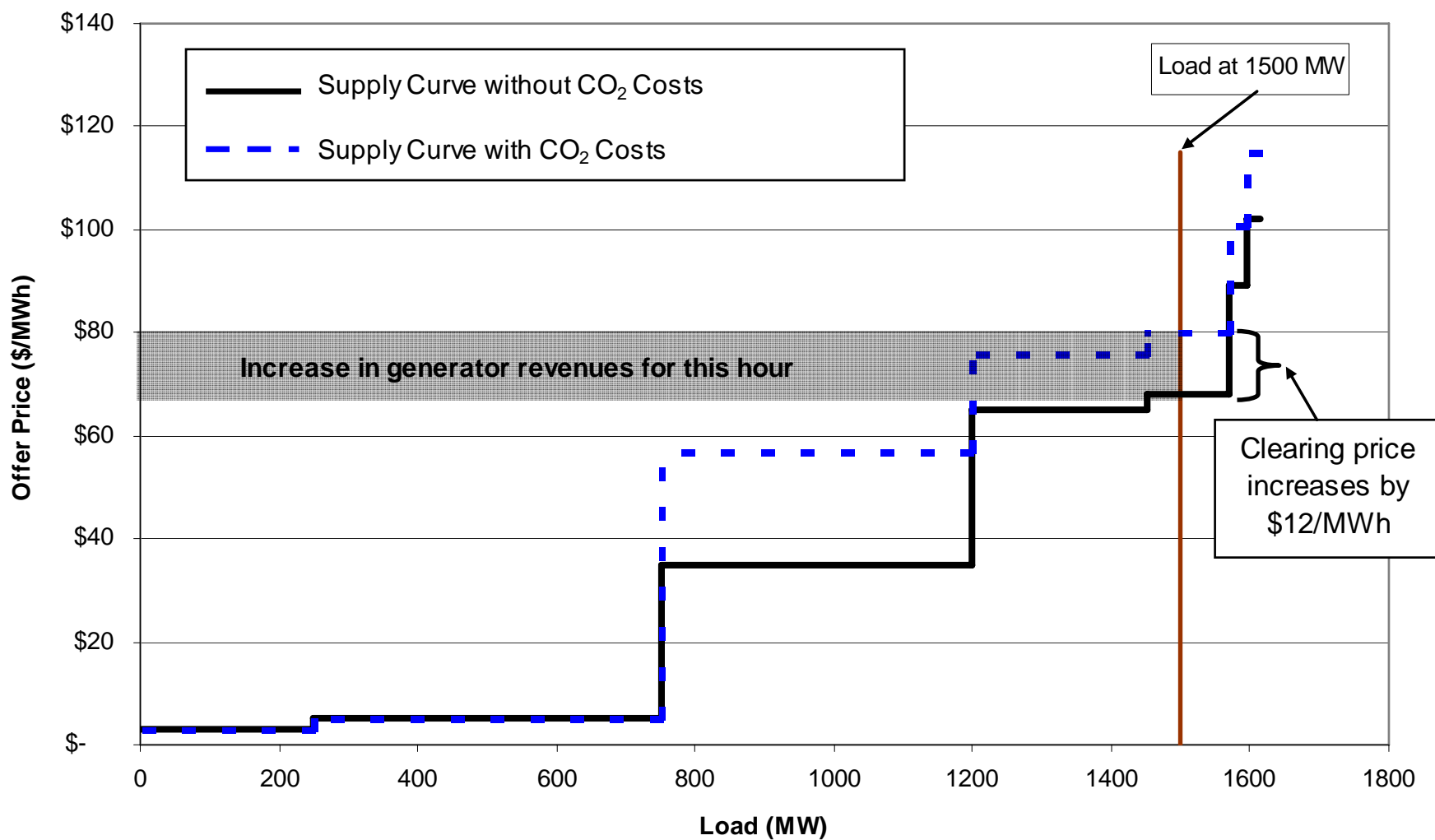
The National Association of State Utility Consumer Advocates (NASUCA)

The National Rural Electric Cooperative Association (NRECA)

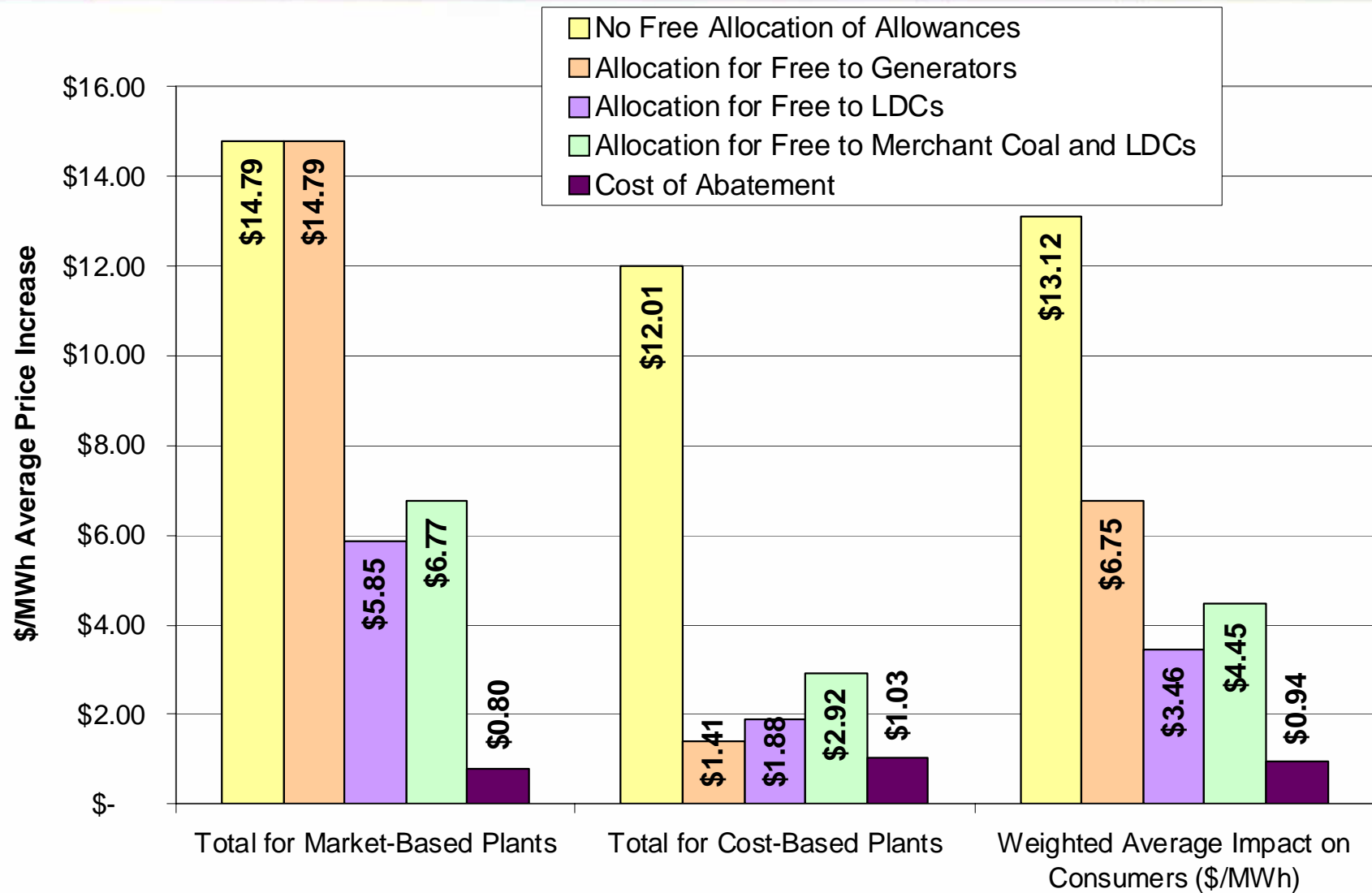
The American Public Power Association (APPA)

- Productive vs. Unproductive Costs
- Cap-and-trade in deregulated electricity markets
- Allowance allocation schemes considered
- Impact on Consumers (regional)
- Impact on Generators (by state)

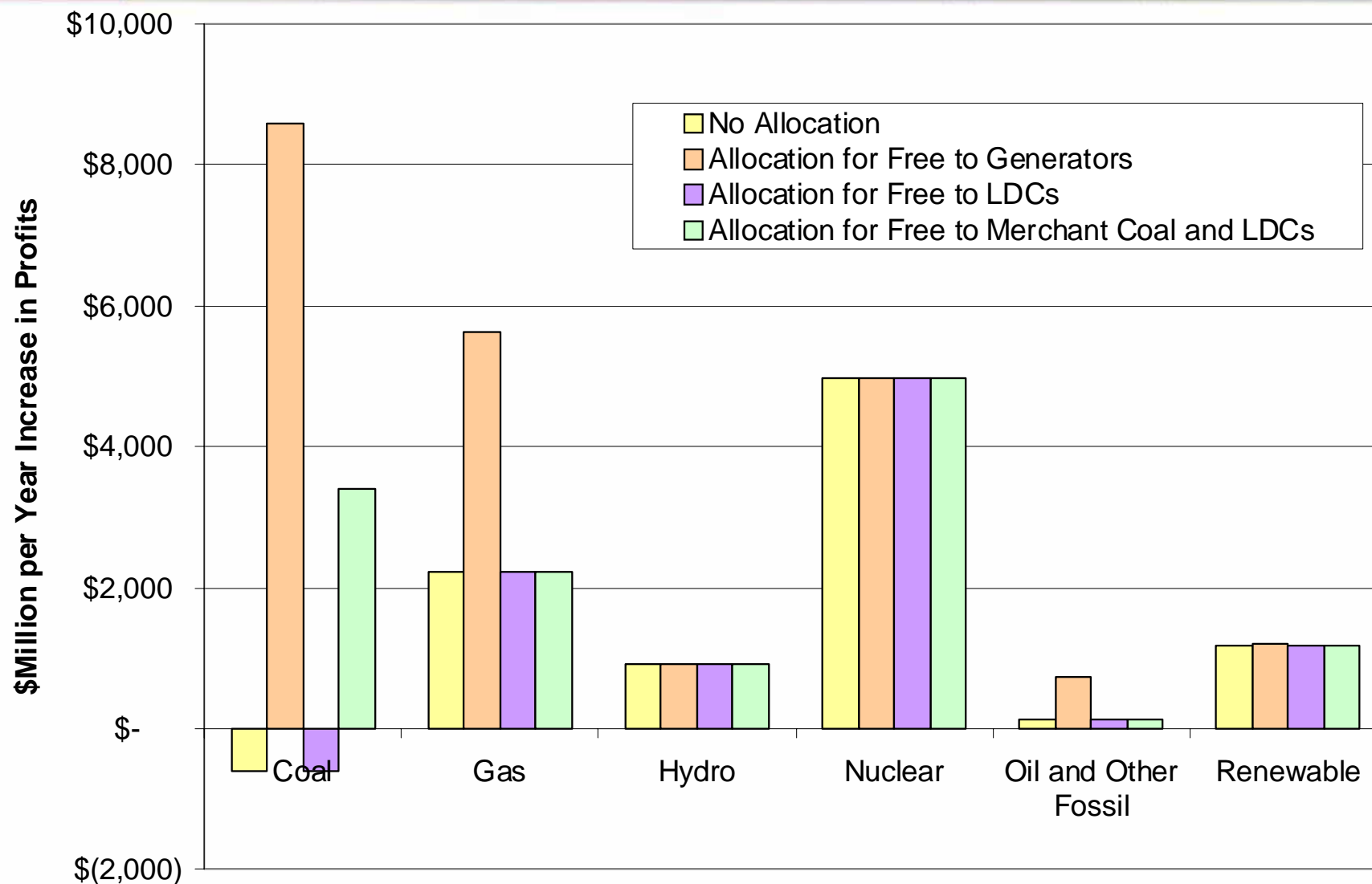
Emissions Costs in a Deregulated Market



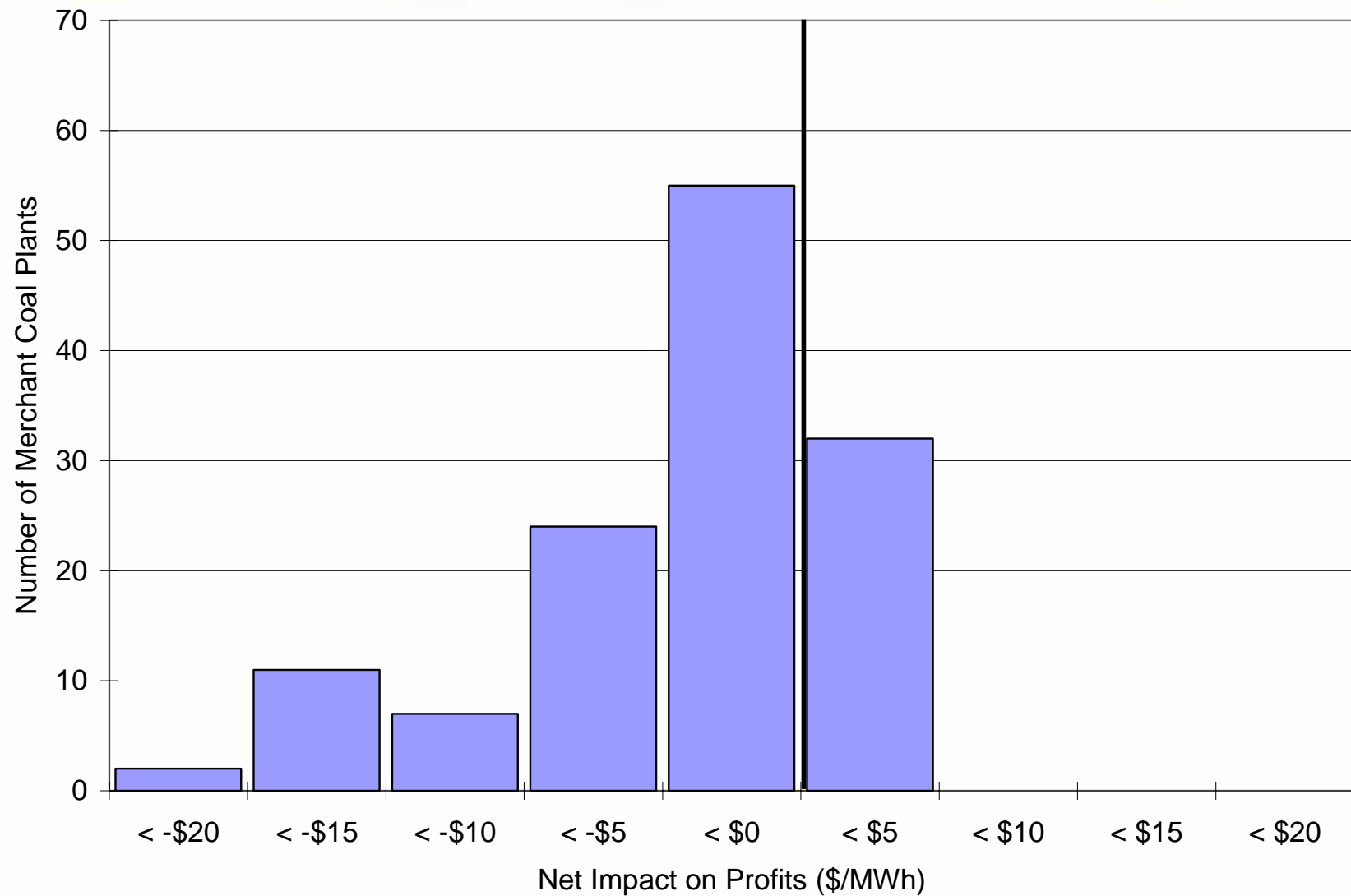
Impact of Allocation Approach



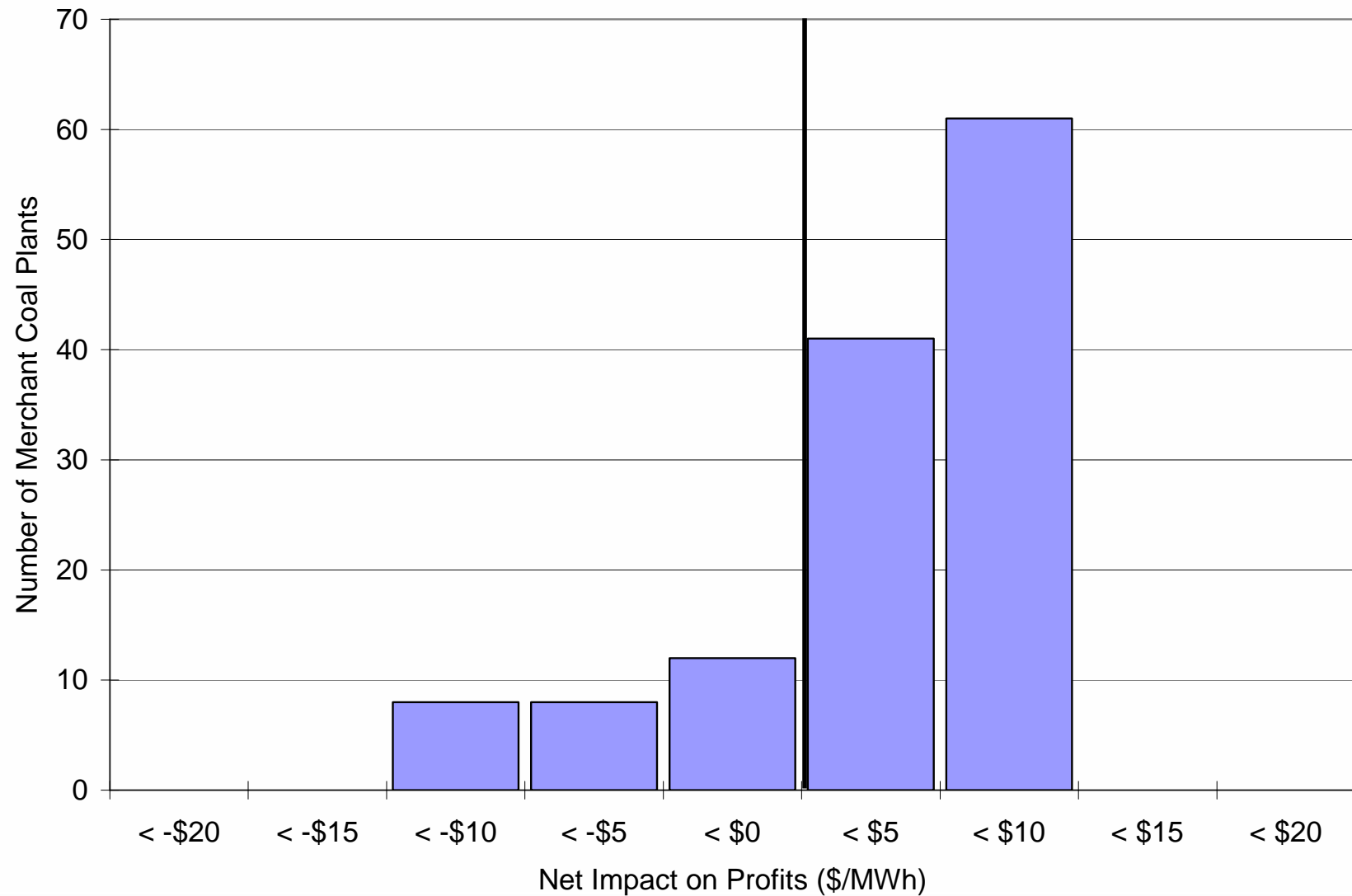
Impact on Merchant Generator Profits



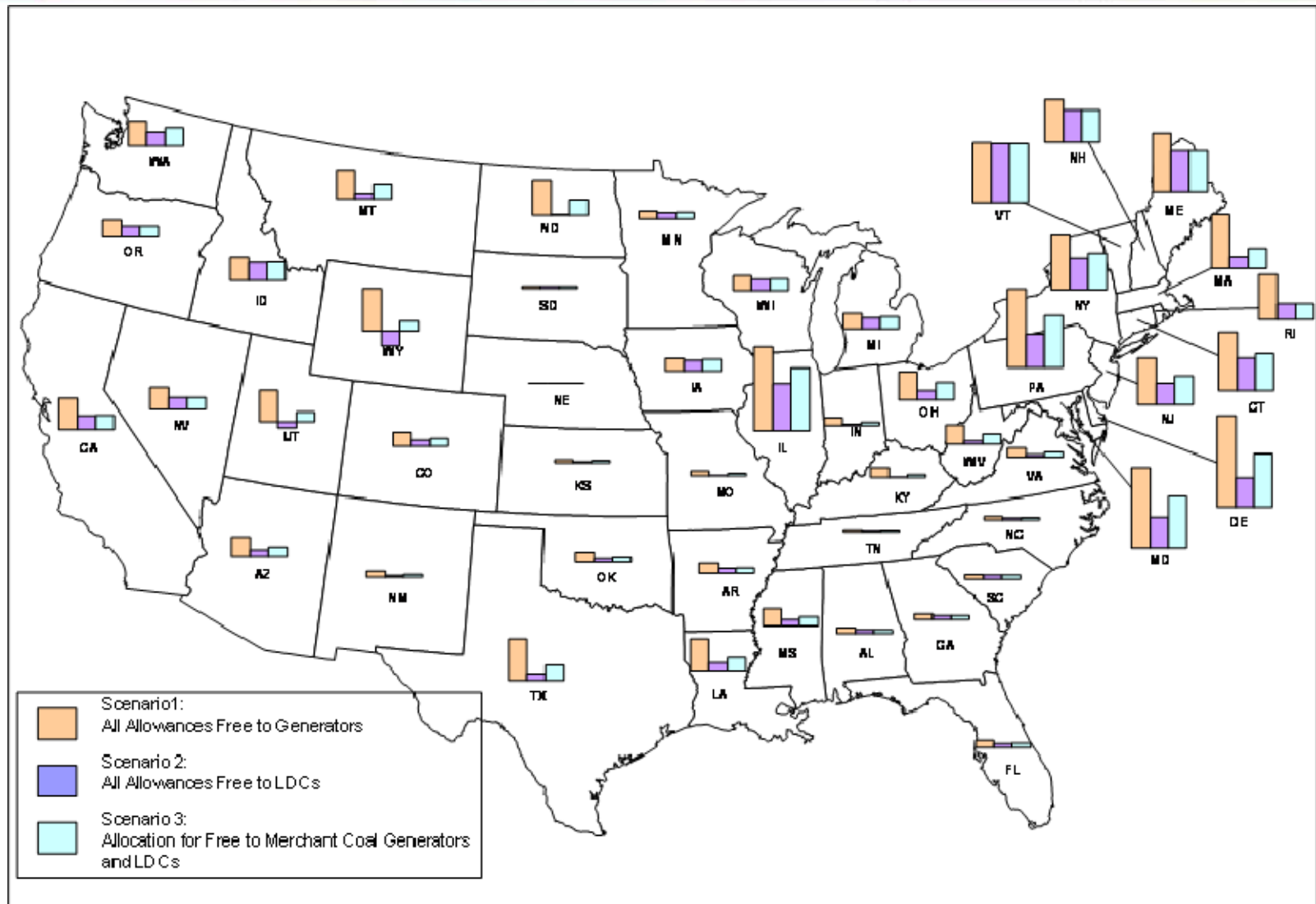
Impact on Merchant Generator Profits (No Free Allocation)



Impact on Merchant Generator Profits (With H.R. 2454 Free Allocation)



Weighted Average Change in Generator Profit (\$/MWh)



Study Limitations...

- Based on 2005 operational and emissions data
- No explicit change in generation stock or energy use
- Key assumptions: Allowance price (\$20/ton) and abatement cost (\$10/ton)
- No cost benefits from efficiency, renewables, etc.

Take-Home Messages...

- Cap-and-trade + deregulated markets = high unproductive costs
- Allocating allowances for free to merchant generators increases unproductive costs
- Free allocations to merchant generators not necessary—they will be doing just fine
- Actions to reduce emissions (EE, RE) will help to mitigate cost
- Congress should be interested in unproductive costs to consumers, even if they are not “net costs to society”