

Comments on:
**Reducing U.S. Greenhouse
Gas Emissions:
How Much at What Cost?**

by

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The views expressed in this paper are those of the author and should not be interpreted as those of the Congressional Budget Office.

Paper's Major Contributions

- **Overview of baseline emissions**
 - Factors driving emissions
- **Description of potential technologies**
 - Careful look at wide range of technologies across various sectors and regions
- **General policy conclusion**

“Achieving these reductions at the lowest cost to the economy, however, will require strong, coordinated, economy-wide action that begins in the near future.”

Questions and Comments on Study's Findings

- **Are “zero” or “negative” cost options really zero or negative?**
 - Maybe not
- **Would supplemental policies (in addition to economy-wide tax or cap) lower the cost of meeting emissions cap?**
 - Depends on whether they address actual market failures

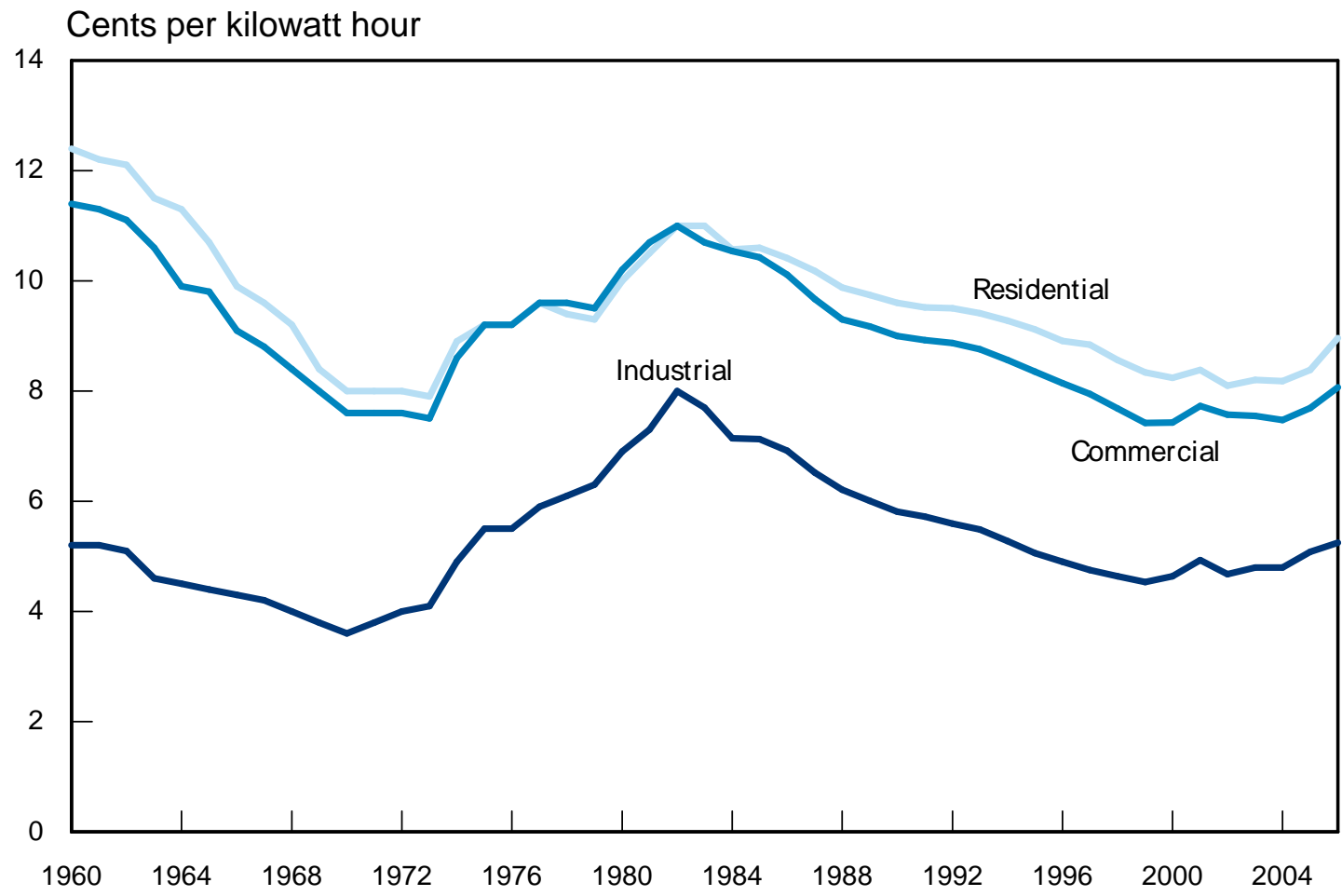
Zero or Negative Cost Options

- **Study finds that “40–45 percent of potential abatement options below \$50 per ton CO₂ have zero or negative marginal costs”**
- **Does cost calculation include all factors relevant to consumers?**
 - Average new car mpg constant 1986-2000 (at CAFE level) while hp increased 35%
 - Would consumer utility have been the same if all efficiency gains had been required to increase mpg (holding size, hp, etc. constant)?

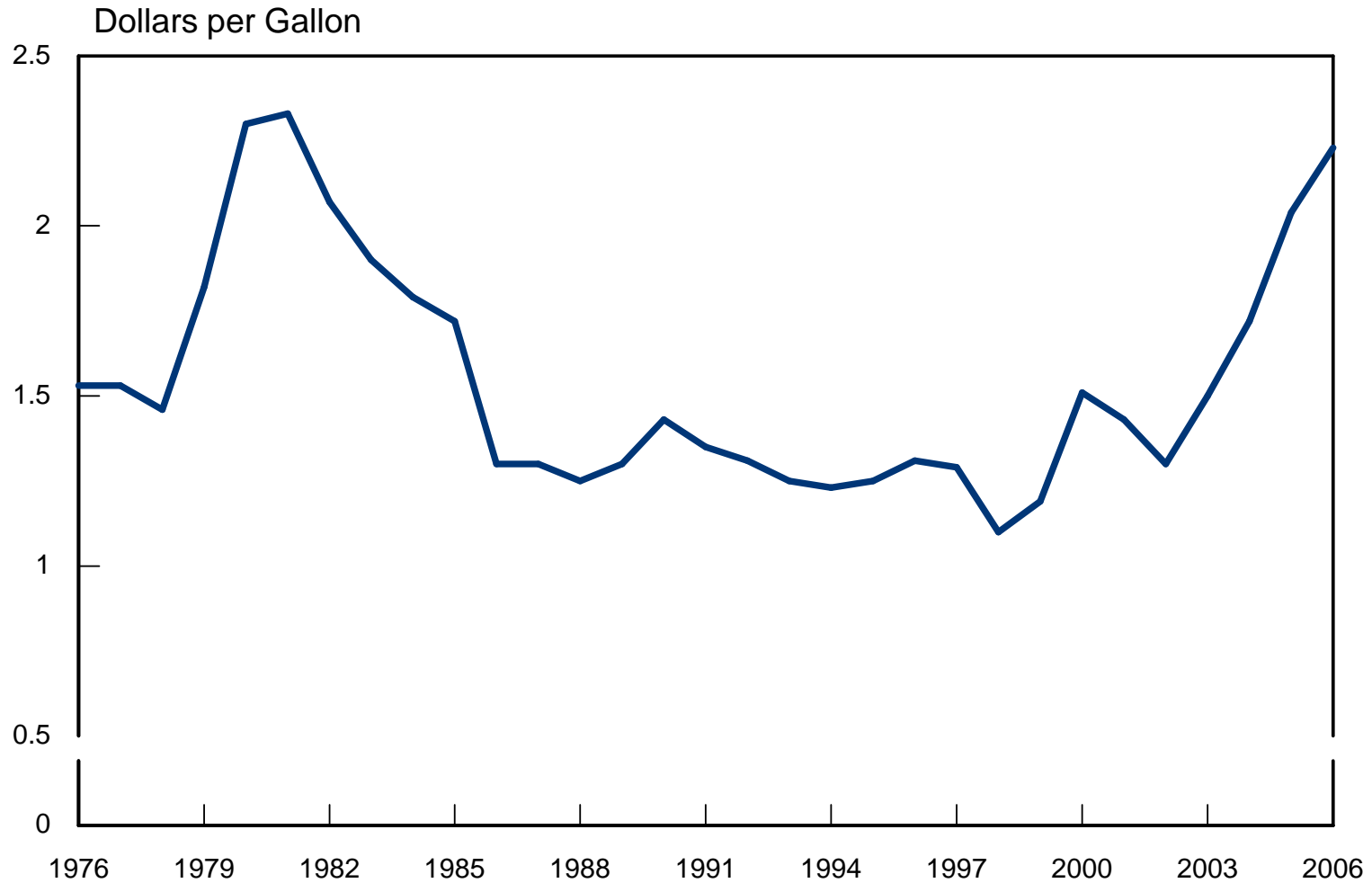
Long-Standing Debate: Why “Negative Cost” Efficiency Measures Aren’t Undertaken

- Legitimate market failures could result in fewer energy-saving investments than would be efficient
- *But*, consistently low energy prices are at least part of the story

Trend in Real Electric Prices



Trend in Real Gasoline Prices



What Is and What Is Not a Market Failure?

- **Genuine market failures can lead to inefficiently high energy consumption: E.g.,**
 - Lack of information on efficiency of alternative investments
 - Absence of peak-load pricing
 - Spillover benefits from basic R&D
- **Other factors affecting choices may not be market failures: E.g.,**
 - Overriding consumer preferences on product characteristics entails a cost
 - Forcing consumers to bear up-front capital costs to realize long-term savings entails a cost (e.g., some may need to defer purchases or rely on credit)

Comprehensive Policy Most Efficient

- **Economy-wide policy (carbon cap or tax)**
 - Provides uniform incentive to reduce emissions at lowest possible costs
 - Encourages R&D for all carbon-reducing technologies

- **Additional incentives**
 - Can lower total policy costs if they correct actual market failures
 - Can increase total costs if they do *not* correct a market failure. E.g., a tax credit (or production subsidy) for solar investments would *not* reduce emissions below the cap and could:
 - Cause more use than private market outcome—but at higher cost (including private cost + subsidy)
 - Displace other lower-cost, carbon-reducing options
 - Increase the total cost of meeting the cap