

## RESEARCH SUMMARY

## Overriding Consumer Preferences with Energy Regulations

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One prominent economic rationale for government regulation is that it is needed to remedy market failures that cause externalities, or unintended effects on parties other than the participants in a particular market transaction. Environmental effects such as pollution are examples of negative externalities. Society as a whole may be better off with less pollution, but the market on its own may not be able to produce this result. This perceived market failure is a possible justification for the recent energy-efficiency regulations initiated by the US Department of Energy (DOE), the Environmental Protection Agency (EPA), and the Department of Transportation (DOT).

In “[Overriding Consumer Preferences with Energy Regulations](#),” economists Ted Gayer and W. Kip Viscusi examine several recent US energy regulations. They evaluate the economic justification for four regulations: corporate average fuel economy (CAFE) standards for passenger cars and light trucks, CAFE standards for heavy-duty vehicles, conservation standards for clothes dryers and room air conditioners, and energy-efficiency standards for general-service incandescent lamps. These energy regulations have a negligible effect on greenhouse gases. The benefits of these regulations, as estimated by regulators, instead stem from private gains to consumers. However, these estimates are based on the presumption that consumers are irrational, whereas evidence suggests otherwise.

### BENEFIT-COST ANALYSIS

Government agencies justify their initiatives by using benefit-cost analyses: if the sum of the estimated benefits of a policy outweighs the estimated costs, the policy will increase social welfare and should be implemented. In the cases of the recently initiated energy-efficiency regulations, the estimated benefits include both the environmental benefits and the savings to consumers from using more energy-efficient products, which save them money in the long run. This estimation of benefits is a problem because while the environmental benefits address the externality problem, the estimated benefits from consumer savings stem from the assumption that consumers are irrational. That is, consumers choose products that will make them worse off than an alternative product, and so they require the government to create regulations that force them to choose what will make them best off.

### THE ENERGY-EFFICIENCY GAP

The energy-efficiency gap is the empirical finding that consumers undervalue the future savings from choosing an energy-efficient product compared with future amounts in other market savings. In other words, consumers tend not to choose energy-efficient products when it seems like they rationally should. This tendency could theoretically be a systematic behavioral error, calling for government intervention to save consumers from themselves. However, it is more likely that the energy-efficiency gap actually represents rational behavior, for the following reasons:

- Consumers choose the less efficient product, which has a lower initial price but higher future cost to use, because they are planning to move or simply cannot afford the higher price of the energy-efficient product.

- Characteristics of the rival products other than energy efficiency affect the purchase decision.
- Consumers take into account the evidence that suggests some estimates of energy savings are faulty, so they expect fewer savings than advertised.
- Other market failures exist, such as renters' incomplete information about the energy efficiency of their apartment buildings.

There is not strong evidence to suggest that the energy-efficiency gap is caused by the irrationality of consumers. Consumer savings should therefore not be included within the estimated benefits in the benefit-cost analyses of energy-efficiency regulations.

## CASE STUDIES

### **Corporate Average Fuel Economy (CAFE) Standards for Passenger Cars and Light Trucks**

According to the National Highway Traffic Safety Administration, estimated benefits total \$521 billion, of which \$440 billion (85 percent) is from consumer savings and \$46 billion (9 percent) is from environmental benefits. Estimated costs total \$177 billion. EPA estimates \$613 billion in total benefits, of which \$535 billion (87 percent) is from consumer savings and \$46 billion (8 percent) is from environmental benefits. EPA's estimated costs total \$192 billion.

### **CAFE Standards for Heavy-Duty Vehicles**

Agencies estimate total benefits of \$58.9 billion, of which \$50.5 billion (86 percent) is from consumer savings and \$5.7 billion (less than 10 percent) is from environmental benefits. Estimated costs total \$9.6 billion.

### **Energy-Efficiency Standards for Clothes Dryers and Room Air Conditioners**

For clothes dryers, DOE estimates consumer savings benefits of \$1.08–\$3.01 billion and benefits from CO<sub>2</sub> reduction of \$0.093–\$1.49 billion. Estimated costs total \$0.645–\$0.806 billion. For room air conditioners, consumer savings benefits total \$0.57–\$1.47 billion, and benefits from CO<sub>2</sub> reduction total \$0.077–\$1.164 billion. Estimated costs total \$0.111–\$0.178 billion.

### **Energy-Efficiency Standards for General-Service Incandescent Lamps**

The DOE estimated consumer benefits savings of \$27.5–\$64.2 billion and benefits from CO<sub>2</sub> reduction of \$0–\$16.34 billion.

Without the presumption of consumer irrationality, the benefit-cost analyses for each of these case studies indicate that the costs exceed the benefits, implying that the policies should not be implemented.

## CONCLUSION

The benefit-cost analyses for the energy-efficiency initiatives rely on the inclusion of consumer savings in the sums of estimated benefits despite evidence that consumer savings should not be included. These faulty analyses may be caused by regulators' own biases. Regulators act toward their main concern (for example, decreasing greenhouse gas emissions) at the expense of other concerns. In reality, the energy-efficiency initiatives have negligible effects on climate change. Regulators should instead search for policy options that have greater potential to reduce greenhouse gas emissions.