

TRUMP’S \$2 TRILLION MISTAKE, THE “WAR ON ENERGY EFFICIENCY:”

The “command-but-not-control” approach of energy efficiency performance standards delivers consumer pocketbook savings, grows the economy and protects public health

Executive Summary

This document presents a comprehensive analysis of one of the most important consumer pocketbook/economic issues that policymakers deal with, although they do not always see it that way. It shows that the Trump administration is making a \$2 trillion mistake by turning its back on four decades of remarkably successful energy efficiency performance standards.

Because the cost of energy saving technology is much lower than the amount of money saved to lower operating costs, energy efficiency standards increase the amount of money consumers have to spend on other things (pocketbook savings). This “responding” increases economic growth as the other goods and services they buy have higher multipliers (macroeconomic gains). Reduced pollution yielding (public health) benefits that are also substantial.

This projection of a \$2 trillion mistake is based on a comprehensive analysis of the performance of energy efficiency standards in the past 40 years. We use the same methodology to look forward as others have used to look back. In fact, we apply the rigorous benefit-cost analysis that is required by the laws that govern standards setting for vehicles and appliances **and** the regulatory guidance offered by the Reagan, Clinton, Bush and Obama administrations. The “look back” demonstrates the massive benefits – over \$5 trillion in net benefits – of past standards.

Part I: The Legal and Analytic Framework for Regulating Energy Efficiency and Emissions

The analysis starts in **Section II** with the laws that set the goals and considerations that agencies must take into account in setting efficiency standards and protecting public health and the environment. The Section includes a discussion of executive branch guidance on the conduct of rulemakings, with a particular emphasis on benefit cost analysis. **Appendix A** provides a side-by-side analysis of the executive orders on regulation and standards issued by the Reagan, Clinton, Bush and Obama administrations. In **Section III**, we discuss the justification for policy actions and the analytic framework drawn from the economic literature that supports the legal mandates and executive branch guidance. This Section presents a broad review of the conceptual literature on the “efficiency gap,” **Appendix B** presents detailed citations for the analytic frameworks that define the terrain of analysis.

Part II: Performance Standards: Effective “Command-But-Not-Control” Policy Tools

Section IV describes the structure of effective performance standards, addressing the two key pillars on which its success stands. It begins by briefly identifying the empirical evidence that support the first pillar of an effective standard, market imperfections. It shows the link between market failure, benefit cost analysis and the selection of performance standards as highly effective policy tools to address the underlying problem of market imperfections. **Appendix C** gives citations to the empirical literature of the past decade which provides substantial empirical support for the framework. **Section V** reviews the literature that evaluates the relative effectiveness of policy instruments, showing that performance standards are deemed to perform extremely well compared to alternative policies.

Part III: Public Opinion about and Support for Energy Efficiency Standards,

Section VI discusses ten years of surveys conducted by the Consumer Federation of America dealing with fuel economy standards, showing not only a high level, but also remarkably consistent, bipartisan support for standards. It also briefly reviews our findings on consumer attitudes toward regulation of the fuel use of heavy and medium duty trucks (work trucks). **Section VII** discusses the different opinions about fuel economy held by the public, which supports standards, and the automakers who are seeking to roll back the standards. It also shows that consumers are not as enamored of gasoline-powered muscle cars as automakers claim. **Section VIII** presents our survey evidence on attitudes about appliance efficiency standards. It also notes the survey results in the broader literature. We find similar levels of public support for appliance standards as we found for fuel economy standards.

Part IV: Benefit Cost Methodology and Issues

Section IX presents a discussion of discount rates and a critique of willingness to pay as an outcome measure. There are a large number of biases that standards overcome. **Appendix D** presents a list of the behavioral biases and major behavioral economic themes that contradict the market fundamentalist assumptions used to criticize standards as public policy. **Section X** discusses the persistent overestimation of costs by regulators and industry. The pattern of cost declines strongly supports the conclusion that product manufacturers are able to comply with standards and that standards do not undermine the ability of the industry to meet the standards. **Section XI** examines the question of economic multiplier effects of the “responding” of pocketbook savings, showing that macroeconomic benefits equal net pocketbook savings.

Part V: Medium and Heavy-Duty (Work) Trucks

In **Section XII** we show that the fuel consumption of work trucks is a significant consumer pocketbook issue. It shows that for every dollar a household spends on directly on gasoline, it spends about \$0.50 indirectly on work truck fuel costs (overwhelmingly diesel).

Section XIII discusses the technological potential for the fuel savings and the market imperfections afflicting investment in energy efficiency in the work truck sector. The analysis shows that the potential is very large because the fuel consumption of these vehicles has not been significantly regulated in the past.

Section XIV evaluates the work truck rule through the lens of the characteristics of effective performance standards developed earlier.

Part VI: Appliance Efficiency Standards

Section XV reviews broad evidence from major national research institutions that show potential reductions in energy consumption of 20%-30% over the next couple of decades. The cost of energy savings is less than half of the cost of energy consumption. The economics of standards for gas furnaces, which were intensively analyzed in several rounds of rulemaking and put forward as a consensus standard, are reviewed. The section also reviews the long and successful track record of appliance standards for major household appliances, like air conditioners, refrigerators, etc. **Section XVI** discusses energy efficiency standards for

computers and monitors adopted by the California Energy Commission (CEC). California's role in the light duty vehicle space has been very prominent because the California Air Resources Board (CARB), utilizing California's special authority under the Clean Air Act, has set more aggressive standards than those at the federal level. But, California also plays a leadership role in adopting appliance standards. Since it can only act when federal regulators have not acted, its action may be even more important in this space. Digital devices are the fastest growing category of household energy expenditures, so it is no surprise that California has played a leadership role.

Part VII: Four Decades of Successful Energy Efficiency Performance Standards

Section XVII shows the results for past standards covering two of the major categories addressed in this analysis, light duty vehicles and appliances. This analysis shows that over the past forty years, fuel economy standards have delivered \$1.8 trillion in consumer net pocketbook savings, another \$1.8 trillion in growth for the economy, and \$0.8 trillion of environmental benefits. Adding the benefits of appliance efficiency standards pushes the total pocketbook and economic benefits over \$5.5 trillion and the public health/environmental benefits close to \$1 trillion. With the cost of achieving these benefits less than \$1 trillion, the total benefit is over \$6.5 trillion and the benefit cost ratio is about 7 to 1.

Section XVIII examines the impact of the freeze and rollback of standards targeted by the Trump administration as well as the attack on future setting of standards. The threat of freeze and rollback of near term standards shows about \$1.2 trillion in pocketbook and over \$800 billion in macroeconomic costs. Here, as elsewhere, the public health/environmental benefits are likely to more than offset the costs, so the net savings are likely to be well over \$ 2 trillion.

Section XIX reviews the impact of standards on low income households, which is frequently highlighted by opponents of standards. Using recent analyses of light duty vehicles and gas furnaces, we show why standards do not harm low income households. In fact, low income households actually benefit more than the overall population, based on the obvious fact that, operating costs, which are lowered by standards, are much more important in the low-income segment. They also suffer greater exposure and are more susceptible to the harms of pollution.

Part VIII: Automakers Meeting the Standards Set by the National Program

Section XX discusses the reasonableness of the standards in historical and cross-national perspective. **Section XXI** discusses auto industry compliance with the National Program standards. **Section XXII** examines the rapid development of electric vehicles, including surveys of consumer attitudes.

The Challenge and Our Response

Various aspects of over a dozen standards are examined in detail throughout this analysis to make and reinforce the general findings and conclusions. The agencies have reviewed mountains of evidence, conducted their own independent research, written extensive evaluations of the broader research literature, taken the factors identified in the laws into account and reached a conclusion.

With a new administration that is much friendlier to the industry point of view, several industries sought to overturn the balance that the agencies had struck, since the passage of EISA. The administration's bias in favor of industry contradicts the underlying statutes and disturbs the "objective" balance the executive orders sought to achieve. Because the underlying statutes and executive guidance are still in place, the challenge for the agencies will be to build hearing records that support a new direction. Throughout this analysis we show that they are very unlikely to be able to make a convincing case. We directly address the tired old industry arguments, which we are likely to be offered anew. In a sense, much of this analysis can be read as rebuttal of those arguments.

The cost of compliance is invariably much less than anticipated; see Section X on vehicles, Section XV on appliances, Section XVI on computers.

Cost is closely linked to the feasibility of standards, a topic explicitly addressed in several Sections, including all of Part VIII, covering current fuel economy standards, Section VIII addressing past fuel economy standards, Section XIII on heavy-duty trucks and Section XVI covering computers.

Consumer desires and abilities, frequently cited as evidence against standards are shown to be the opposite on both counts, they want more efficiency than the manufacturers admit (Sections VII and VIII), and have less ability to implement their desires than the manufacturers claim (Section IX)

The claim that weakening standards helps low income households is shown to be incorrect on all three measures of the impact of standards in Section XIX, which reviews consumer pocketbook, public health, and macroeconomic stimulation.

Claims that standards slow the economy, reduce sales and cost jobs are shown to be false (Section XI and XIX).

The legal/analytical framework, historical record and contemporary evaluation all demonstrate the clear benefit of hundreds of standards developed under the general approach of "command-but-not-control" regulation that the U.S. implemented for energy efficiency over the past four decades. Abandoning this approach, as the Trump administration has proposed, will impose a huge, \$2 trillion loss on consumers and the economy.