Executive Summary

The Energy Independence and Security Act of 2007 (EISA) was remarkable in its genesis and its impacts. This ambitious bill was passed by bipartisan majorities in a Democratic-led Congress and signed by a Republican president. It sought to reduce our nation's dependence on oil and address climate change in large part through energy efficiency, including vehicle fuel economy standards, equipment efficiency standards, major new efficiency programs, and federal energy management.

These measures have helped change the trajectory of energy use in the United States. We now estimate that by 2030 EISA will reduce total annual energy use by 8 quadrillion Btu (roughly 8% of projected energy use), reduce oil use by almost 3 million barrels a day (15%), and cut annual carbon dioxide emissions by 550 million tons (10%). The law will save money as well. We estimate total net savings over $2 trillion (net present value of savings after investments for the lifetime of measures through 2040).

Projected Impacts of EISA Energy Efficiency Provisions

- Save consumers over $2 trillion
- Reduce oil use by almost 3 million barrels a day in 2030
- Reduce total energy use by 8 quads (8%) in 2030
- Cut cumulative CO_2 emissions by 17 billion metric tons

The implementation of the bill has been marked by the Great Recession, the election of President Obama in 2008, and subsequent stimulus legislation and political backlash. Key outcomes include the following:

- *Vehicle standards.* EISA required the first major increase in and expansion of vehicle fuel economy standards since they were created three decades earlier. For cars and light trucks it directed an increase from about 25 miles per gallon (mpg) to 35 mpg in 2020. But the administration leveraged authority in EISA with federal support for the automakers in crisis to go well beyond, to 45 mpg in 2025. (Note that on-road mpg figures are about 20% lower than these numbers, which are used for standards.)
- *Equipment standards.* Even though the political opposition has suspended federal enforcement of it, the light bulb standard continues to promote new technology options that are saving consumers billions of dollars a year. And the Department of Energy is implementing and updating a broad array of other standards.
- *Efficiency programs.* The Recovery Act and other stimulus legislation poured billions of dollars into programs authorized by EISA for state and local governments, the auto industry, utilities, and others. Other programs and standards have yet to save energy because, seven years out, they have not yet been funded or implemented.

Here are some of the findings for specific provisions in the bill.

Cars and light trucks. The Obama administration has set standards that will almost double fuel economy by 2025, well beyond what was required in EISA. Federal assistance, including loan guarantees under EISA, has helped with the transformation.

Heavy-duty vehicles. The administration set the first standards for these vehicles in 2011 with broad support, and has proposed stronger standards this year.

Light bulbs. Although halogen incandescent bulb sales have grown fastest during implementation of the standard, LED bulbs are expected to win over time, providing consumers with light they like and large savings. Neither technology was widely available in 2007. A ban on funding to implement the standard has only made it slightly harder for manufacturers to comply.

Other appliances. The Department of Energy has ramped up to set an unprecedented wave of standards and test procedures with major energy savings. However there have been some controversy and delays, most notably on furnaces.

Housing. While energy codes have been updated to achieve large energy savings, long delays have slowed their application to manufactured housing and new homes with federally assisted mortgages.

Cities and counties. The Recovery Act included $3 billion in new funding to thousands of local governments through the Energy Efficiency and Conservation Block Grants. This resulted in many cities engaging in energy efficiency initiatives for the first time, but the impacts are still unclear. An additional $5 billion went to local programs for low-income weatherization and $3 billion to states for clean energy.

Other programs. Promising programs not funded in the Recovery Act were never funded or implemented, including grants and loans for institutions and, to a large extent, the Zero-Net-Energy Commercial Buildings Initiative. However funding for other commercial buildings programs did increase.

Figure ES1 shows the growth in energy savings over time from the provisions.

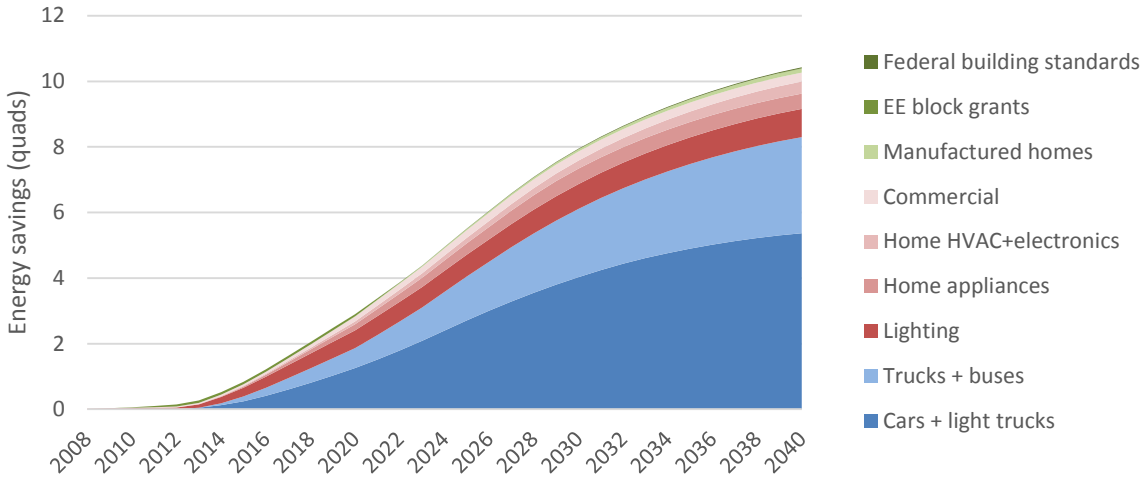

Figure ES1. Growth in energy savings each year from key policies in EISA

Even though implementation of EISA provisions has shown the difficulty of interpreting broad legislation, the pitfalls of political shifts, the slow pace of agency deliberative process, and other barriers, it also has shown that bipartisan legislation, a committed administration, and stakeholder support can make a real difference. They have saved consumers billions of dollars, reduced our dependence on oil, and improved the environment.