

Mr. Steven Nadel, Executive Director

American Council for an Energy-Efficient Economy (ACEEE)

House Energy and Water Development Appropriations Subcommittee

May 3, 2017

ACEEE strongly believes energy efficiency programs under the Department of Energy's Office of Energy Efficiency and Renewable Energy (EERE) are a good use of taxpayer dollars, because they put more dollars back into taxpayers' pockets. With 100% of the saved dollars injected back into the economy, these programs spur economic growth and job creation.ⁱ We support specific funding level requests delineated by Jennifer Schafer on behalf of Energy Efficiency Advocates, which we co-signed. Through innovation, energy efficiency transforms waste into wealth.

EERE Office	Why is it a good use of taxpayer dollars? Here's an example.
Building Technologies	Saves the average American family \$500 a year. Total savings from equipment efficiency of \$80B a year far exceed entire DOE budget. ⁱⁱ
Advanced Manufacturing	Focusing on precommercial R&D, a core function of the federal government, while targeting small business, a center of job creation. ⁱⁱⁱ
Vehicle Technologies	SuperTruck Program technologies are projected to deliver fuel savings of at least \$735 million, over five times the program budget, by 2020. ^{iv}
Federal Energy Management	Attracted more than \$1.1 billion in private investment in 2016, paid back in energy and water savings far exceeding the program budget. ^v
Weatherization & Intergovernmental	Weatherization saves the average low-income household \$4,890 (present value) on its energy bills through job-creating installations. ^{vi}

Energy efficiency is about economic growth, creating jobs, developing new products and services, increasing consumer choice, eliminating waste, and reducing energy bills for citizens and businesses.

Energy efficiency is *not* about fuel preference or mandates, renewable energy, limiting production, pushing out industries, consumer hardship, or taking away consumer options. Energy efficiency *is* about using less energy to provide the same or better energy services. It is

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completely neutral with respect to which fuels or energy sources are used, whether fossil fuel, renewable, “clean,” or “green.” No matter the type of energy supply, eliminating waste through energy efficiency is good for the US economy.

Here is more information on why we think these EERE energy efficiency programs are a good use of taxpayer dollars and some highlights on subprograms within them:

The **Building Technologies Office** develops critical technologies, tools, and solutions that help citizens and businesses achieve peak efficiency performance in homes and commercial buildings.

The programs address market failures and barriers, yielding large savings. Research such as *Building America* on efficient new homes and on *emerging air conditioner technologies* addresses underinvestment in precommercial research and development (R&D). Tools such as *Home Energy Score*, a database platform for local commercial *building energy benchmarking*, and *smart buildings* communications protocols address lack of information and transaction costs.

The *Equipment Standards and Analysis* program (also including assistance on *building energy codes*) addresses split incentives, such as those between a landlord who chooses and purchases equipment and tenants who pay energy bills.

The **Advanced Manufacturing Office** (AMO) conducts R&D for industrial energy efficiency and advanced manufacturing technologies. A recent shift in focus to more precompetitive R&D returns AMO to its core mission.^{vii} AMO is targeting small and medium businesses, which are engines of job creation, including through *Industrial Assessment Centers* that train college students to provide energy reviews for smaller manufacturers and *ISO 50001 Ready*, which provides tools and technical assistance for smaller industrial firms to improve their energy

management and save money. AMO programs make American manufacturing companies internationally competitive and spur economic and employment growth.

The **Vehicle Technologies Office** (VTO) develops advanced efficiency technologies for light- and heavy-duty vehicles and transportation system efficiency. VTO technology development activities have led to fuel savings worth many times the program cost. For example, a study by RTI International estimated that VTO's investment of \$971 million in the development of nickel metal hydride and lithium ion *batteries and other energy storage technology* for cars and light trucks from 1992 through 2012 saved 1.0 billion gallons of gasoline, valued at \$3.3 billion, over that same period. Projected savings of those vehicles through 2022 totaled 2.1 billion gallons, valued at \$7.3 billion. An analysis of the *SuperTruck Program*, a partnership between VTO and truck manufacturers and suppliers, projected that commercialization of technologies developed through the program would lead to cumulative fuel savings, in the least favorable scenario (i.e., most conservative projections), of 7 to 88 million barrels by 2020.^{viii} SuperTruck Program technologies are projected to deliver fuel savings of at least \$735 million by 2020, which is over five times the total program cost. Each dollar saved on fuel is returned to the economy through job creation and other economic growth. Over the longer term, and with more market penetration of high-tech vehicles, fuel savings will be many times greater.^{ix}

The **Federal Energy Management Program** (FEMP) reduces federal energy bills through Energy Savings Performance Contracts (ESPCs) and other mechanisms. FEMP attracted more than \$1.1 billion in private investment in 2016, which will be paid back from energy and water

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savings, yielding building improvements and reduced energy and water bills for taxpayers.^x

Cutting FEMP would increase federal spending.

The **Weatherization and Intergovernmental Programs Office** helps low-income families, seniors, and individuals with disabilities make lasting energy efficiency improvements to their homes through the *Weatherization Assistance Program* (WAP). WAP targets vulnerable households for whom the upfront costs of property improvements are disproportionately burdensome,^{xi} rendering unrealistic what would otherwise be sound, long-term economic choices. WAP also lowers informational transaction costs for these families. The *State Energy Program* (SEP) gives states the flexibility to administer program funds according to their priorities within the broad scope of energy reliability and emergency planning as well as energy efficiency and renewable energy. It does not restrict discretion of state officials or try to control states. SEP is an exemplary program for cooperative federalism.

The full benefits of these programs are hard to quantify. Research and development is designed to yield benefits over the long term, with benefits that are dispersed throughout the entire economy and difficult to track. Even without accounting for the full economic impacts, the advantages to taxpayers described above far outweigh the programs' costs. The savings from just a few programs more than justify the budgets for EERE. ACEEE strongly supports these energy efficiency programs that transform waste into wealth.

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The American Council for an Energy-Efficient Economy (ACEEE), a nonprofit, 501(c)(3) organization, acts as a catalyst to advance energy efficiency policies, programs, technologies, investments, and behaviors.

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ⁱ ACEEE. 2017. Factsheet entitled “Energy Efficiency—Jobs and Investments,” Washington, D.C., <http://aceee.org/sites/default/files/ee-jobs-money-web.pdf>.

ⁱⁱ A. deLaski and J. Mauer. 2017. *Energy-Saving States of America: How Every State Benefits from National Appliance Standards*, Washington, D.C.: ACEEE, <http://aceee.org/white-paper/energy-saving-states-america>.

ⁱⁱⁱ See U.S. DOE Advanced Manufacturing Office (AMO), Multi-Year Program Plan for Fiscal Years 2017 through 2021, <https://energy.gov/eere/amo/downloads/advanced-manufacturing-office-amo-multi-year-program-plan-fiscal-years-2017>.

^{iv} Using diesel fuel price of \$2.50 per gallon and most conservative scenario in: U.S. DOE. *DOE SuperTruck Program Benefits Analysis*. Prepared by TA Engineering. December 2012. <https://anl.app.box.com/s/3dfq5bvqrjni0veon68by33im7gsgchn>

^v U.S. DOE, Tim Unruh, “What’s Next for the Federal Customer?” Presentation on Nov. 17, 2016.

^{vi} Oak Ridge National Laboratory. 2014. *Weatherization Works - Summary of Findings from the Retrospective Evaluation of the U.S. Department of Energy’s Weatherization Assistance Program*, ORNL/TM-2014/338, pg. 30. http://weatherization.ornl.gov/evaluation_nr.shtml.

^{vii} U.S. DOE AMO, Op. Cit.

^{viii} U.S. DOE. December 2013. *Benefit-Cost Evaluation of U.S. DOE Investment in Energy Storage Technologies for Hybrid and Electric Cars and Trucks*. https://www1.eere.energy.gov/analysis/pdfs/2013_bca_vto_edvs.pdf.

^{ix} U.S. DOE. DOE SuperTruck Program Benefits Analysis. Prepared by TA Engineering. December 2012. <https://anl.app.box.com/s/3dfq5bvqrjni0veon68by33im7gsgchn>.

^x U.S. DOE, Tim Unruh, Op. Cit.

^{xi} U.S. DOE, Joel F. Eisenberg, Oak Ridge National Laboratory. April 2014. *Weatherization Assistance Program Technical Memorandum Background Data and Statistics On Low-Income Energy Use and Burdens*, ORNL/TM-2014/133, pp. 10-11. http://weatherization.ornl.gov/pdfs/ORNLTM2014_133.pdf.