



## Tax Credits for Energy-Efficient Technologies: Spurring Adoption of Cost-Effective Innovation

*One of a Series of ACEE Fact Sheets*

### Context

Many new energy efficiency and renewable energy technologies have been commercialized in recent years or are nearing commercialization. However, these technologies may never be produced or adopted on a significant scale due to their initial high cost, market uncertainty, lack of consumer awareness, and other barriers.

### Why Tax Credits?

Tax credits provide incentives for manufacturers to initiate mass production and marketing for innovative energy efficiency technologies. Tax credits also help buyers offset the relatively high first cost premium for the new technologies, thereby helping to build sales and market share. Once the new technologies become widely available and are produced on a significant scale, costs decline and the tax credits can be phased out.

### What Are the Criteria?

Tax credits are best applied where they will influence the choices made by consumers and producers, and where highly efficient products are eligible. However, if eligibility levels are set too low, then credits will go to those “free riders” who would have made the same choice without the incentive. Tax credits are properly sized if they influence decisions and the value of the incentive is not significantly greater than the cost to produce the technology.

### Recommended Energy Efficiency Tax Incentives

- **Appliances:** a \$50–100 tax credit for manufacturers of highly efficient clothes washers and refrigerators (with a cap on the total credit per manufacturer). This credit will lead to the next generation of super-efficient appliances, thereby saving energy and water.
- **Building equipment:** a 20 percent investment tax credit, with caps, for innovative building technologies. Included would be high-efficiency furnaces, stationary fuel cell power systems, electric heat pump water heaters, high-efficiency distribution transformers, and gas-fired heat pumps.
- **Combined heat and power (CHP):** either a 10 percent investment tax credit, or seven-year depreciation period, for CHP systems with an overall efficiency of at least 60–70 percent, depending on system size.

- **Commercial buildings:** a tax deduction of \$2.25 per square foot for investments in commercial buildings and multifamily residences that achieve a 50 percent or greater reduction in heating and cooling costs compared to buildings meeting current model energy codes.
- **Hybrid electric, battery electric, and fuel cell vehicles:** tax credits of up to \$5,000 for hybrid electric vehicles, \$6,000 for battery electric vehicles, and \$8,000 for fuel cell vehicles. These would help jump-start introduction and purchase of these innovative, fuel-efficient vehicle technologies. Credits should be based primarily on energy performance and require both fuel savings and lower emissions.
- **New homes:** a two-tiered tax credit, with \$750–1,000 for new homes exceeding current model energy codes by at least 30 percent and \$2,000–2,500 for improvements exceeding 50%. These would stimulate efficiency and help lower housing costs for American families. Such a credit should provide for certification of savings by independent experts.

### **What Are the Benefits?**

Tax credits for energy-efficient technologies have the potential to:

- save consumers and businesses money—a new ACEEE study estimates energy bill savings of approximately \$200 billion over the next 20 years;
- reduce the costs and risks that U.S. manufacturers confront when considering the introduction of innovative energy technologies;
- reduce the likelihood of supply interruptions and demand for imported fuels;
- reduce demand for new power plants and improve electric system reliability; and
- improve air quality, lower U.S. greenhouse gas emissions, and slow the rate of global warming by reducing the burning of fossil fuels.

### **What Are the Estimated Revenue Reductions Resulting from these Credits?**

The U.S. Treasury Department and Energy Information Administration have estimated that credits for specific energy-efficient technologies would reduce revenues to the Treasury by approximately \$7 billion over 10 years. Congress's Joint Tax Committee has estimated revenue reductions of approximately \$5 billion over 10 years due to credits included in the House-passed energy bill and those included in Senator Bingaman's S.B. 597. We estimate that our full set of recommendations would cost the Treasury approximately \$10 billion over 10 years, because our recommendations draw on aspects of each of the other proposals. For this \$10 billion federal investment, approximately \$200 billion in energy savings would result (including both direct and indirect impacts of the tax incentives). This investment would be relatively modest, considering the scope and seriousness of the energy challenges facing the United States.