

CLEAN ENERGY

Clean, renewable energy and energy efficiency support domestic jobs and stable growth while reducing the nation's dependence on fossil fuels that produce dangerous pollution.

Energy efficiency—accomplishing the same tasks with less energy—is the cheapest, easiest way to reduce U.S. use of polluting fossil fuels, and efficiency also frees up money for other, more productive investments. The U.S. can also reduce the health and environmental impacts of its energy use and create jobs by increasing the use of renewable sources of energy, such as solar and wind energy. A variety of federal policies have long been used to promote energy efficiency and clean energy because market barriers can slow the adoption of new processes and technologies—even those that save consumers or companies money. Federal policies have significantly helped to increase efficiency in homes, offices and industrial plants and to increase the use of clean energy while reducing its cost, but much more needs to be done to take full advantage of the potential market for clean energy at home and abroad.

I. PRIMARY FEDERAL STATUTES AND PROGRAMS

The most recent energy laws include the Energy Policy Act of 2005 (EPACT 2005), the Energy Independence and Security Act of 2007 (EISA), and the 2008 Energy Improvement and Extension Act (EIEA). Also, the 2009 economic stimulus package (the American Reinvestment and Recovery Act, or ARRA) and the 2012 fiscal cliff package (the American Taxpayer Relief Act) contained major energy provisions.

In addition to authorizing programs that fund energy research at federal labs, companies and universities, those statutes and earlier measures have put in place these key programs:

■ EFFICIENCY STANDARDS AND LABELING

Under the authority originally granted by the Energy Policy and Conservation Act in 1975, the Department of Energy (DOE) sets energy efficiency standards for a wide variety of appliances and equipment and updates them periodically. This same law led to the establishment of the ENERGY STAR program in 1992, which through product labeling and other means educates consumers about the energy efficiency of products, helping to push efficiency beyond the levels required by the standards.

■ ENERGY EFFICIENCY TAX INCENTIVES

Beginning with EPACT 2005, tax incentives have been available for meeting certain efficiency standards in the construction or renovation of commercial and residential buildings, for appliances and for industrial processes.

■ CLEAN ENERGY TAX INCENTIVES

Federal tax policy continues to play a critical role in developing technologies like wind, solar, geothermal and tidal power. Tax incentives reduce the costs of adopting new technologies, leveraging private investment. Clean energy tax credits include the Production Tax Credit, the Investment Tax Credit and Modified Accelerated Cost Recovery System (Accelerated Depreciation), all of which provide tax benefits for producing clean energy.

■ LOAN GUARANTEES

DOE has authority to provide loan guarantees to help new technologies get private financial backing. Loan guarantees have helped support a variety of projects, including advanced vehicle manufacturing, renewables manufacturing, and renewable power installation.

■ PROCUREMENT

The Department of Defense has been particularly interested in promoting the use of clean energy in its facilities to reduce the military exposure from fossil fuel use. Various executive orders are designed to reduce the use of fossil fuels in offices the federal government either owns or rents.

II. MAJOR POSITIVE EFFECTS

■ POLLUTION SAVINGS

Renewable energy and energy efficiency reduce dangerous pollution by displacing dirtier fuels. For example, wind energy alone prevents the release of 65 million tons of carbon dioxide, 75,000 metric tons of sulfur dioxide emissions and 50,000 metric tons of nitrogen oxide emissions annually.



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Existing and potential appliance efficiency standards will reduce CO₂ emissions in 2035 by close to 670 million metric tons, equivalent to the emissions of 167 coal-fired power plants.

■ RENEWABLE INSTALLATION GROWTH

- We've seen a doubling of wind power in three years and quintupling of solar power in the last four years, and the weatherization of over 1 million homes.
- The U.S. wind industry employs 75,000 Americans, while the solar industry creates jobs for over 110,000 workers.
- 29 states have Renewable Portfolio Standards that require at least a set amount of energy in the state to be generated from renewable sources.

■ LOWER PRICES

- The typical solar system has dropped 30% in cost since 2010, while wind power installation costs have fallen between 20%-33% since 2008.

■ INCREASED EFFICIENCY

- Existing federal efficiency standards have reduced electricity use in the US significantly with use 7 percent lower due to existing standards and this number should grow to 14 percent by 2035, largely due to standards set in the past 3 years.
- Annual natural gas savings from existing standards will be 950 TBtu in 2035, roughly enough to heat a third of all gas heated homes in the US.
- Existing standards will have saved consumers a net \$1.1 trillion cumulatively by 2035.

PUBLIC OPINION

In a 2011 poll conducted by Harris Interactive:

- 92 percent of Americans say the president and the Congress should make developing sources of clean energy a priority (Yale Project on Climate Change).¹
- 73 percent say they support funding more research into renewable energy sources.²
- Across party lines, Democrats (83%), Independents (85%), and Republicans (71%) say the U.S. should use more renewable energy sources (solar, wind, and geothermal) than we do today.³
- More than 75 percent of Americans say that the benefits outweigh the risks for wind and solar energy; only 36 percent said they believe the benefits of coal outweigh the risks.⁴

1 Sept 2012: <http://environment.yale.edu/climate/publications/Policy-Support-September-2012/>.

2 Yale Project on Climate Change, Sept 2012: <http://environment.yale.edu/climate/publications/Policy-Support-September-2012/>.

3 Yale/George Mason polling (Sept. 2012): <http://climatechangecommunication.org/sites/default/files/reports/Policy-Support-September-2012.pdf>.

4 Harris Poll, March 2011: <http://www.harrisinteractive.com/NewsRoom/HarrisPolls/tabid/447/mid/1508/articleId/727/ctl/ReadCustom%20Default/Default.aspx>.

III. MAJOR CONCERNS

■ Despite the growth of renewables, as of 2011, 87% of U.S. electricity was still produced from fossil fuels and nuclear energy. Pollution from fossil sources is linked to an array of health issues including cancer, heart attacks, asthma, developmental disorders, and even death. Burning fossil fuels is also the main driver of climate change. In the United States alone, the public health cost of fossil fuels exceeds \$120 billion a year, according to the National Academy of Sciences. And the effects of climate change, including extreme weather, declining food production, rising sea levels, and diseases, cost hundreds of billions of dollars annually.

■ INCONSISTENT POLICY SUPPORT

- Congress has repeatedly renewed tax credits for renewable energy on only a temporary basis. As a result, periodically, the lapsing of the credits, or the threat of them lapsing, reduces investment. Large-scale renewables projects require significant lead time to develop and are capital intensive. Uncertainty regarding the stability of Federal funding and tax policy creates an uncertain investment atmosphere.

■ FOSSIL FUEL SUBSIDIES

- Continuing federal subsidies for coal, oil and gas make it even harder for newer, cleaner sources of energy to compete with entrenched, incumbent fuel suppliers. These subsidies waste money and harm public health by prioritizing dirty energy sources.

IV. UPCOMING ISSUES

■ LIGHT BULB RIDER

The 2012 Continuing Resolution contained a legislative rider that blocks funding to implement energy efficiency standards for light bulbs. The standards were signed into law by President George W. Bush after passing Congress with bipartisan support. The standards do not ban incandescent bulbs and would save each American household \$100 to \$200 plus per year in the form of lower electric bills, reduce U.S. energy bills overall by more than \$10 billion per year, and avoid approximately the equivalent carbon pollution of more than 17 million cars.

■ TAX INCENTIVES

At the end of 2012, Congress extended the tax credits for renewable energy and efficiency but only until the end of 2013. Congress will need to reconsider the issue this year. In addition to extending and/or reforming existing incentives, Congress should create new ways to promote renewable energy and efficiency, such as allowing renewable projects to take advantage of Master Limited Partnerships and Real Estate Investment Trusts and establishing a Federal Infrastructure Bank.

■ DOE APPLIANCE STANDARDS

The White House has said it will accelerate work on delayed appliance standards that are required by statute, while some in Congress have tried to block new standards.