



A 10 Percent National Renewable Electricity Standard Will Create Jobs and Save Consumers Money

A national renewable electricity standard would require electric utilities to supply a minimum percentage of their electricity from renewable sources such as wind, solar, and bioenergy.¹ The U.S. Senate has passed a 10 percent by 2020 national standard three times since 2002.

The Senate's 10 percent national standard is modeled after standards already enacted in Pennsylvania and 21 other states. This standard would reduce natural gas and electricity prices and provide significant economic and environmental benefits for the Keystone State.

New Jobs and Income

Thanks to its plentiful wind, solar, and bioenergy resources, Pennsylvania actually has the potential to generate at least 35 percent of its current electricity needs from renewable energy. In September 2004, the Union of Concerned Scientists (UCS) examined the costs and benefits of a national 10 percent renewable electricity standard similar to the one passed by the U.S. Senate^{2,3} in 2005 and found that Pennsylvania would increase its total homegrown renewable power to 3,320 megawatts (MW) by 2020—enough to meet the needs of 2.1 million typical homes.⁴ Doing so would provide seven percent of the electricity sales in the state and reduce the use of imported natural gas.

Furthermore, increased renewable energy development would create high-paying jobs and other economic benefits for Pennsylvania. By 2020, the 10 percent standard would generate 4,220 jobs in manufacturing, construction, operations, maintenance, and other industries—2.3 times as many as fossil fuels, representing a net increase of 2,380 jobs.⁵ Renewable energy would also provide Pennsylvania with an additional \$90 million in income and \$80 million in gross state product.

Economic Benefits for Rural Communities

Many of the jobs identified above would be created in rural areas where the renewable energy generating facilities would be located. By 2020, the 10 percent national standard would also provide a boost to Pennsylvania's economy in other ways:

- \$1.1 billion in new capital investment
- \$256 million in payments to rural areas resulting from biomass energy production

Pennsylvania Benefits from a 10 Percent by 2020 National Renewable Electricity Standard

Job Creation

- 4,220 new jobs—more than twice as many as generating electricity from fossil fuels

Economic Development

- \$1.1 billion in new capital investment, \$272 million in income to farmers and rural landowners, and \$60 million in new local tax revenues

Consumer Savings

- \$970 million in lower electricity and natural gas bills

Healthier Environment

- National reductions of global warming pollution equal to taking nearly 25 million cars off the road, plus less haze, smog, acid rain, mercury contamination, and water use

Job Creation in Pennsylvania, Renewable Energy* vs. Fossil Fuels (2020)



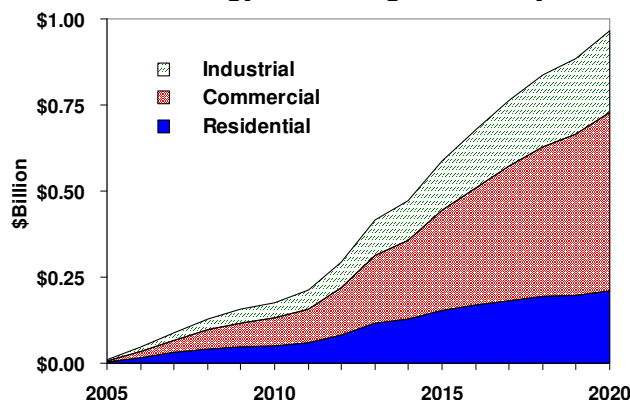
*Under a 10 percent by 2020 renewable electricity standard

- \$60 million in new property tax revenues for local communities
- \$16 million in lease payments to farmers and rural landowners resulting from wind power generation⁶

Consumer Savings

The 10 percent by 2020 standard would also increase competition in the marketplace, reducing long-term energy costs for homes and businesses by gradually bringing natural gas and electricity prices down. By 2020, the savings in Pennsylvania alone would amount to \$970 million. Every sector of the state's economy would benefit, with commercial, industrial, and residential customers saving a total of \$520 million, \$240 million, and \$210 million respectively by 2020.

Cumulative Energy Bill Savings in Pennsylvania*



*By sector, under a 10 percent by 2020 renewable electricity standard. Excluding transportation.

At the national level, the 10 percent standard would save consumers \$28 billion on their electricity and natural gas bills by 2020. A June 2005 U.S. Energy Information Administration (EIA) study—using more pessimistic renewable energy costs and performance assumptions—still found that this standard would save consumers \$22.6 billion by 2025 while lowering electricity and natural gas prices.⁷

Public Health and Environmental Protection

Increased renewable energy use would reduce toxic air pollution from power plants that burn coal, oil, and natural gas. It would also reduce carbon dioxide emissions (which cause global warming by trapping heat in the atmosphere) 166 million metric tons nationally by 2020—a reduction of 5.5 percent below “business as usual” levels, equivalent to taking 24.7 million cars off the road. And by reducing the need to extract, transport, and consume fossil fuels, a national renewable standard would limit the damage done to our water and land and conserve our natural resources for future generations.

A Cleaner, Safer Energy Future

The 10 percent national standard would make Pennsylvania's energy supply—and the energy supply of the entire United States—more reliable and secure. It would use local energy sources to create high-skilled jobs in Pennsylvania, improve the state's rural economies, and put energy dollars back into the pockets of Pennsylvania's consumers. The advantages of renewable energy are so strong, in fact, that analyses by both EIA and UCS show that increasing the national standard from 10 to 20 percent by 2020 would significantly boost all of these benefits. A national standard is a common-sense step away from our dependence on an unstable, dirty fossil fuel supply, and toward a future built on clean, renewable energy.

For additional information, visit the UCS Clean Energy website at www.ucsusa.org/clean_energy.

¹ The renewable electricity standard is also known as a renewable portfolio standard or RPS.

² UCS used a modified version of the U.S. Energy Information Administration's (EIA) National Energy Modeling System to examine the costs and benefits of increasing renewable energy use by way of a national renewable electricity standard of 10 percent by 2020 and renewable energy tax credits (passed by the U.S. Senate in July 2003 as part of the comprehensive energy bill HR 6). For national results, see the September 2004 UCS report *Renewing America's Economy*. More information about this modeling approach can be found in the October 2001 UCS report *Clean Energy Blueprint*, which is available at www.ucsusa.org/clean_energy/renewable_energy/page.cfm?pageID=44.

³ An update to our 2004 analysis is currently underway, and is scheduled for release in Summer 2007.

⁴ Assumes a typical non-electric heating household using 500 kilowatt-hours per month.

⁵ We conservatively assume that only 33 percent of the manufacturing for wind and solar technologies installed in Pennsylvania is produced by businesses located in the state, and we do not include any jobs or economic development that would result from Pennsylvania-based manufacturers exporting equipment to other states or countries. If Pennsylvania is able to attract renewable energy manufacturers that will produce equipment both for use in the state and for export, jobs and income generated by the renewable electricity standard would increase significantly.

⁶ Results are presented in cumulative net present value (NPV) 2002 dollars, using a seven percent real discount rate. Job results are for the year 2020.

⁷ Letter to Senator Bingaman from EIA, June 15, 2005. Results are cumulative NPV 2003 dollars, using a seven percent real discount rate.