



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, geothermal, 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 Arizona and 21 other states. This standard would reduce natural gas and electricity prices and provide significant economic and environmental benefits for the Grand Canyon State.

New Jobs and Income

Thanks to its plentiful wind and solar resources, Arizona actually has the potential to generate more than twice 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 Arizona would increase its total homegrown renewable power to nearly 1,400 megawatts (MW) by 2020—enough to meet the needs of 870,000 typical homes.⁴ Doing so would provide more than six percent of the electricity sales in the state that are covered by the standard⁵ and reduce the use of imported fossil fuels.

Furthermore, increased renewable energy development would create high-paying jobs and other economic benefits for Arizona. By 2020, the 10 percent standard would generate more than 2,900 jobs in manufacturing, construction, operations, maintenance, and other industries—2.8 times as many as fossil fuels, representing a net increase of nearly 1,900 jobs.⁶ Renewable energy would also provide Arizona with an additional \$80 million in income and \$50 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 Arizona's economy in other ways:

- \$835 million in new capital investment⁷
- \$69 million in new property tax revenues for local communities

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

Job Creation

- 2,910 new jobs—2.8 times as many as generating electricity from fossil fuels

Economic Development

- \$835 million in new capital investment, \$33 million in income to ranchers and rural landowners, and \$69 million in new local tax revenues

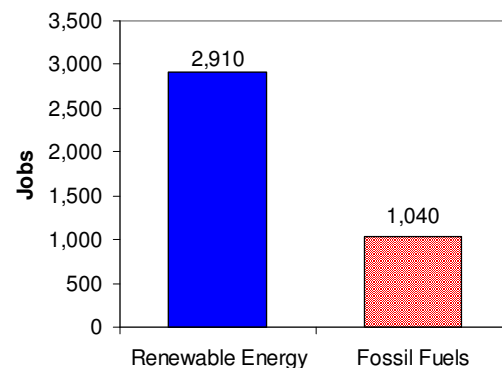
Consumer Savings

- \$670 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 Arizona, Renewable Energy* vs. Fossil Fuels (2020)



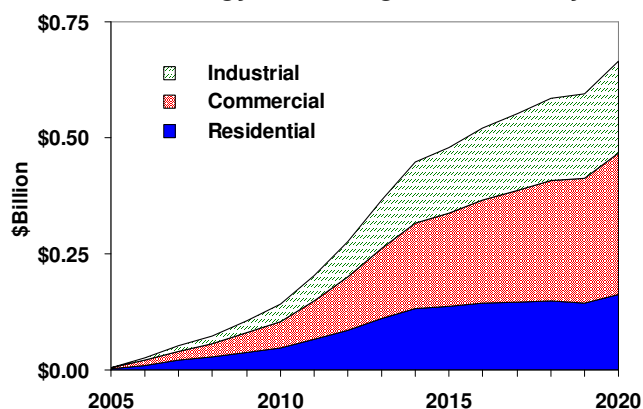
*Under a 10 percent by 2020 renewable electricity standard

- \$20 million in payments to rural areas resulting from biomass energy production
- \$13 million in lease payments to ranchers and rural landowners resulting from wind power generation

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 Arizona alone would amount to \$670 million. Every sector of the state's economy would benefit, with commercial, industrial, and residential customers saving a total of \$300 million, \$200 million, and \$170 million respectively by 2020.

Cumulative Energy Bill Savings in Arizona 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.⁸

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 Arizona'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 Arizona, improve the state's rural economies, and put energy dollars back into the pockets of Arizona'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 Electricity sales from small utilities and hydroelectric facilities are exempt from the U.S. Senate renewable electricity standard.

⁶ We conservatively assume that only 33 percent of the manufacturing for wind and solar technologies installed in Arizona is produced by businesses located in the state, and we do not include any jobs or economic development that would result from Arizona-based manufacturers exporting equipment to other states or countries. If Arizona 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.

⁷ 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.

⁸ Letter to Senator Bingaman from EIA, June 15, 2005. Results are cumulative NPV 2003 dollars, using a seven percent real discount rate.