Union of Concerned Scientists
Citizens and Scientists for Environmental Solutions

Executive Summary

The Washington Clean Energy Initiative: Effects of I-937 on Consumers, Jobs and the Economy

In November 2006, the citizens of Washington will have an opportunity to vote on Initiative 937 (I-937), which would establish a renewable energy standard requiring the state's largest electric utilities to supply 15 percent of their electricity sales from eligible renewable resources by 2020. It would also require those electric utilities to pursue all low-cost energy conservation opportunities with their customers and in their communities.

Twenty states and the District of Columbia have enacted standards that require electric utilities to increase their use of renewable energy sources. Eight states have enacted energy efficiency resource standards, which promote more efficient generation and use of electricity and natural gas.

The Union of Concerned Scientists analyzed the costs and benefits of the renewable energy and energy efficiency provisions of I-937. Under our expected case, which primarily utilizes cost and performance projections from industry experts, the U.S. Department of Energy and the Northwest Power and Conservation Council, we found that by 2025, I-937 would result in the following economic benefits for Washington:

- 2.9 percent, or $1.13 billion, in savings on consumer electricity bills
- 2,000 new jobs in manufacturing, construction, operation, maintenance, and other industries
- $138 million in additional income and a $148 million increase in gross state product
- $2.9 billion in new capital investment
- $30 million in income to rural landowners from wind power land leases
- $167 million in new property tax revenues or payment in lieu of taxes for local communities[1]

Energy Demand

I-937 would create a stable market for new renewable energy and energy efficiency in Washington. The renewable energy standard would support nearly 1,300 average megawatts (aMW) of renewable resources by 2025, including wind, landfill gas, bioenergy, and efficiency upgrades at existing hydroelectric facilities. This level of development would produce enough electricity to meet the needs of more than 930,000 average homes.[2] I-937's conservation requirements would support the acquisition of more than 1,000 aMW of cost-effective energy efficiency from 2010 to 2025—freeing up electricity from existing sources that is equivalent to meeting the needs of about 720,000 average homes.

Consumer Energy Bills

Energy costs are on the rise in Washington as regional utilities pursue new higher cost conventional resources to meet growing power demand. I-937 would reduce energy demand, provide price stability by diversifying the power mix, and deliver long-term savings to energy consumers.

By definition, investments in cost-effective conservation will reduce the total cost of meeting power supply needs over time. During the next decade, new renewable resources are projected to be cost competitive with new conventional resources such as coal and natural gas. By 2017, the investments in renewable energy begin to deliver demonstrable savings compared with conventional energy sources.

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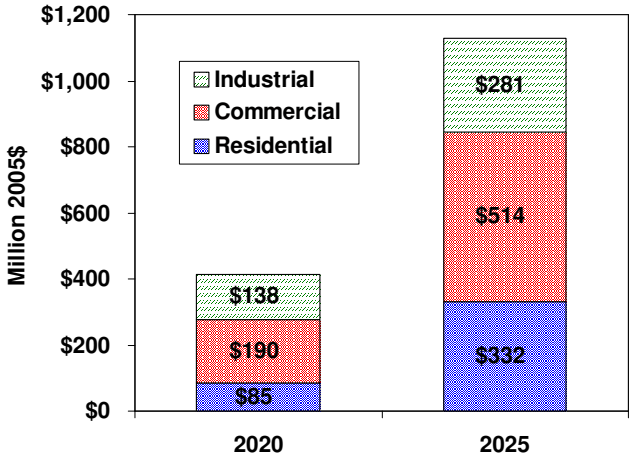
[1] Results are in cumulative net present value 2005 dollars using a four percent real discount rate. Job results are for the year 2025.

[2] Assumes average monthly residential consumption of 1,017 kilowatt-hours based on 2004 data (EIA, 2005).

With the efficiency and renewable energy investments combined, consumers would see *annual* savings on electric bills under I-937 beginning in 2014, with savings reaching 7.2 percent, or $362 million. Accumulated electricity savings from the efficiency measures will offset the upfront costs of consumer equipment purchases in just a few years. From 2008 to 2025, c*umulative* savings across all consumer sectors—residential, commercial, and industrial—would total 2.9 percent, or $1.13 billion (Figure ES1).

During this period, a typical Washington household would save an average of nearly $1.50 on its monthly electricity bill. By 2025, monthly savings would reach nearly $4.00.

Figure ES1. Cumulative Consumer Electricity Bill Savings, by Sector



Job Creation

By 2025, 2,000 new jobs in manufacturing, construction, operation, maintenance, and other industries would result from I-937. In fact, the amount of additional renewable energy and energy efficiency required would create 2.6 times more jobs than fossil fuels—a net increase of 1,230 jobs by 2025. It would also generate $138 million in additional income, and $148 million in gross state product in Washington's economy.

Environmental Benefits

Increasing energy efficiency and renewable energy use will protect the health of Washington's citizens and environment by reducing global warming pollution from coal- and natural gas-fired power plants. By 2025, I-937 would keep about 4.6 million metric tons of heat-trapping carbon dioxide (CO_2) emissions from entering the atmosphere each year—equivalent to taking 750,000 cars off the road. It will also reduce harmful air, water, and land impacts from extracting, transporting, and using fossil fuels, as well as preserve ecological resources for future generations.

Sensitivity Analysis

We examined several sensitivities to determine the effects of I-937 on consumers under more pessimistic conditions. Our first three sensitivities examine each of the following respectively: higher wind power costs through 2025, expiration of the current federal renewable energy production tax credit in 2007, and no federal CO_2 emissions limits. Our final sensitivity features an unlikely combination of all the adverse assumptions from our first three sensitivities. Additional sensitivities that reflect plausible, but more optimistic conditions for the development of clean energy resources—such as renewable energy technology costs that decline more quickly—are also possible, but not considered here.

Even with higher wind costs, no PTC extension, or no federal CO_2 emissions limits, I-937 would yield long-term electricity bill savings to consumers. When the adverse conditions of sensitivities 1, 2, and 3 are combined, consumers would pay slightly more, but not as much as they would pay for meeting growing energy needs with higher-priced conventional energy sources. In this case, the minimal costs associated with this most pessimistic sensitivity would be more than offset by the savings from using less fossil fuels. Under all sensitivities, I-937 would still provide other important benefits—such as jobs, new capital investment, property tax revenues, land lease payments for wind power, and CO_2 emission reductions.