



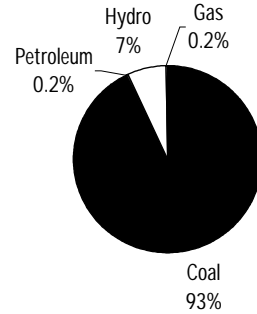
Renewing North Dakota

A National Renewable Energy Standard Will Benefit North Dakota's Economy

America's energy choices affect our national security, our economy, our family budgets, and our environment. UCS examined a national policy to increase the United States' use of renewable energy to 20% of electricity supplies by 2020, called a renewable portfolio standard (RPS). This fact sheet shows that under a national standard of 20%, North Dakota has the potential to meet a significant portion of its electricity needs with renewable energy while generating substantial economic and environmental benefits for the state. See our briefing *Renewing Where We Live* for more information on the benefits of a renewable energy standard for the Plains States.

Current Electricity Mix. North Dakota is heavily reliant on coal and hydroelectric power to generate its electricity. Renewable energy sources such as wind and bioenergy currently provide a negligible amount of the state's electricity. In 2000, North Dakota exported nearly 70% of the electricity generated in the state.

North Dakota's Electricity Mix, 2000^a



^a Numbers may not add to 100% due to rounding.

North Dakota's Renewable Energy Potential

Resource	Generation (billion kWh)	% of 2000 Electricity Sales
Wind	1,571.4	16,203%
Bioenergy	30.1	310%
Total	1,601.5	16,513%

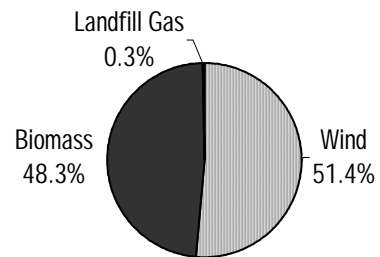
Renewable Energy Potential. North Dakota has the technical potential to generate over 160 times its current electricity needs from renewable energy. The resources with the greatest potential in North Dakota are wind and bioenergy. Landfill gas and emerging renewable technologies such as solar photovoltaics also have the potential to play a smaller but important part in the state's electricity supply. Not all of North Dakota's renewable potential will be developed due to economic, physical, and other limitations.

Renewable Energy Development. The UCS analysis found that under the 20% national standard, North Dakota would produce the equivalent of 39% of its electricity use from renewable energy (not including hydro) in 2010 and 113% in 2020. By 2020, renewable generation in North Dakota would be more than 5 times the national standard. If electricity generation grows at the same rate as electricity use in the state, renewable energy would provide 35% of North Dakota's electricity generation in 2020.

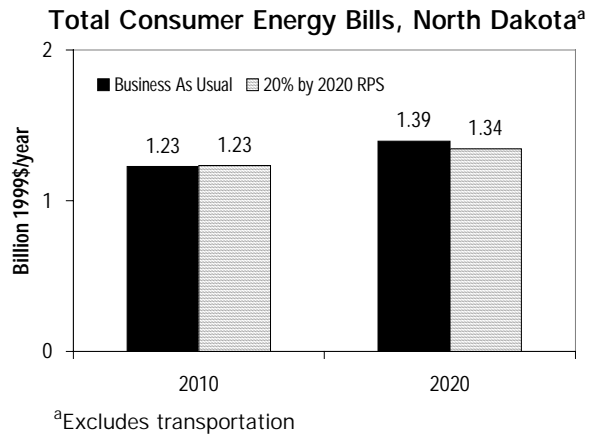
Economic Development. Renewable energy development would bring significant economic benefits to North Dakota. Between 2002 and 2020, a 20% national standard would produce

- \$1.4 billion in new capital investment in North Dakota
- \$86 million in new property tax revenues for local communities
- \$25 million in lease payments to farmers, ranchers, and rural landowners from wind power
- \$1.3 billion in additional revenues from the export of renewable energy credits¹

Renewable Energy Mix in North Dakota under 20% RPS



Consumer Costs and Benefits. A national standard of 20% would slightly reduce energy costs to North Dakota consumers. Total annual consumer energy bills (not including transportation) would be virtually the same as business as usual in 2010, but \$51 million or nearly 4% lower in 2020. The present value of total consumer savings would be \$29 million between 2002 and 2020. Revenues from renewable energy credit exports and a reduction in natural gas prices more than offset any incremental costs of meeting the renewable energy standard in the state.



Environmental Benefits. The increased use of renewable energy in North Dakota would help reduce air pollution in the state and surrounding region. Power plant emissions of carbon dioxide, which is fueling global warming, would be over 28% lower in the Plains States by 2020 than without the renewable energy standard. Other pollutants that harm human health would also be reduced by a national standard of 20% by 2020.

Additional Renewable Energy and Energy Efficiency Policies Increase Benefits

UCS examined the impact of increasing energy efficiency along with a renewable energy standard. The Renewable Energy and Energy Efficiency Act of 2001 (S. 1333) combines a 20% standard, net metering, and a public benefits fund. Combining these policies greatly increases consumer savings, significantly reduces natural gas prices, generates a similar amount of capital investment and environmental benefits, and provides additional diversity benefits compared to the 20% standard alone. Increasing both energy efficiency and renewable energy is the best option for North Dakota.

A 10% Renewable Energy Standard Would Have Fewer Benefits

UCS also looked at what would happen under a renewable energy standard of 10% by 2020, similar to a provision in the Senate’s Energy Policy Act of 2002 (S. 1766), introduced by Senators Daschle (D-SD) and Bingaman (D-NM). Under a 10% standard, North Dakota would realize greater cumulative savings on consumer energy bills, but much less diversity, capital investment, and environmental benefits than under a 20% standard alone. The added diversity, economic development, environmental, and long-run consumer benefits make the 20% renewable energy standard the preferred option for North Dakota.

Impact of National RPS Proposals in North Dakota

In 2020:	20% RPS	Combined Policies of S. 1333 ^a	10% RPS
Cumulative New Capital Investment	\$1.4 billion ^b	\$1.2 billion ^c	\$0.6 billion
Cumulative Consumer Energy Bill Savings ^d	\$29 million	\$363 million	\$82 million
Changes in Annual Consumer Energy Bills ^d	-\$51 million -4%	-\$183 million -13%	-\$30 million -2%
Changes in Annual CO ₂ Emissions from regional power plants	-28%	-28%	-8%

Notes

- a. Includes 20% RPS, 2 c/kWh public benefits fund charge, and net metering.
- b. All dollars presented in 1999\$.
- c. Includes investments in energy efficiency.
- d. Excludes transportation.

The Union of Concerned Scientists is a nonprofit partnership of scientists and citizens combining rigorous scientific analysis, innovative policy development, and effective citizen advocacy to achieve practical environmental solutions. For more information, visit our web site at www.ucsusa.org/energy.

¹ All dollars presented in 1999\$. Cumulative results are in net present value using a 5% real discount rate.