Union of Concerned Scientists

# Successful Strategies:
## Renewable Electricity Standards

FACT SHEET

CLIMATE SOLUTIONS

In order to ensure healthy air and a stable climate for our children and grandchildren, we must make responsible decisions about our energy sources. Existing technologies and forward-thinking policies offer practical and affordable solutions to reduce our dependence on the fossil fuels that currently dominate America's electricity system. This system threatens the health of our communities by polluting the air and contributing to global warming. If left unchecked, heat-trapping emissions, such as carbon dioxide ($CO_2$), are expected to cause irreversible damage to communities throughout the United States and around the world. This damage will likely include increased urban air pollution and emerging infectious diseases such as West Nile Virus;[i] sea-level rise causing flooding and erosion in coastal communities; extreme weather including more intense droughts and hurricanes; reduced productivity of some agricultural regions; and loss of many treasured landscapes and species—from coral reefs to polar bears.[ii]

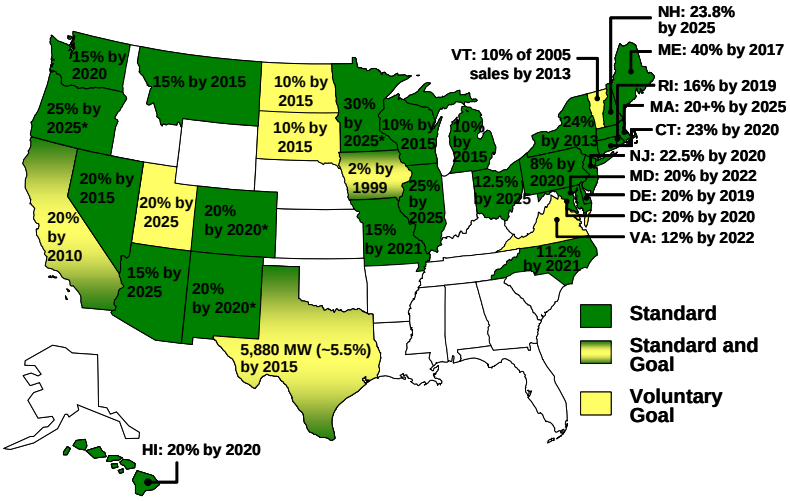
Practical solutions do exist. For example, more than half of U.S. states have adopted a renewable electricity standard—a policy that requires electricity suppliers to gradually increase their use of renewable energy such as wind, solar, geothermal, and bioenergy. These states are demonstrating that renewable standards are an affordable solution to reduce $CO_2$ and other unhealthy air emissions, while alleviating the harmful impact that fossil fuel extraction, transport, and use have on land and water resources.

## States Demonstrate Potential

Renewable electricity standards have been enacted in 28 states and the District of Columbia. UCS research has found that these standards will result in the development of 76,750 megawatts (MW) of new renewable energy capacity by 2025—an increase of more than 570 percent over total U.S. levels (excluding hydro) in 1997.

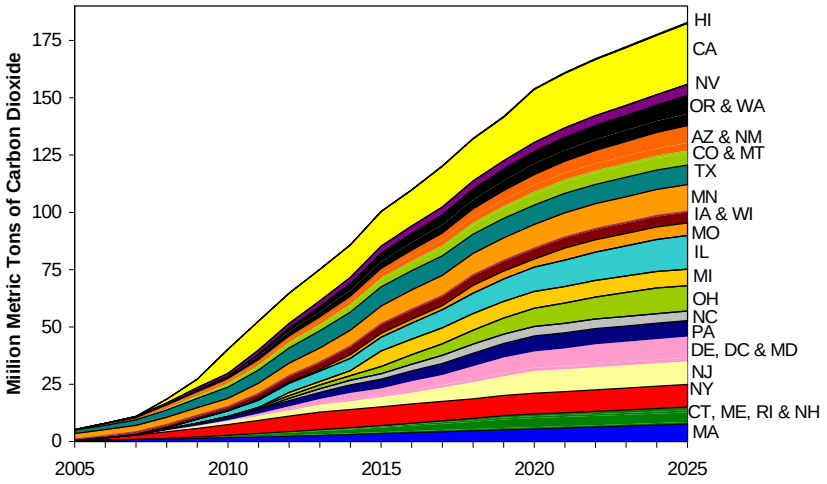
This commitment to increasing renewable energy at the state level will have a significant impact on reducing $CO_2$ emissions. By 2025,

**States with Renewable Electricity Standards**




* MN has a 30% by 2020 standard for Xcel Energy, and a 25% by 2025 standard for all other electricity providers. CO and NM have a 20% by 2020 standard for investor-owned utilities, and a 10% by 2020 standard for other utilities. OR has a 25% by 2025 standard for large utilities, and a 5% or 10% by 2025 standard for smaller utilities, depending on their size.

**$CO_2$ Reduction from State Renewable Electricity Standards***




*Projected reductions assuming states achieve annual renewable energy targets.

state standards will reduce total annual $CO_2$ emissions by more than 183 million metric tons (MMT)—the equivalent of taking 30 million cars off the road or planting a forest large enough to cover the entire state of Washington.

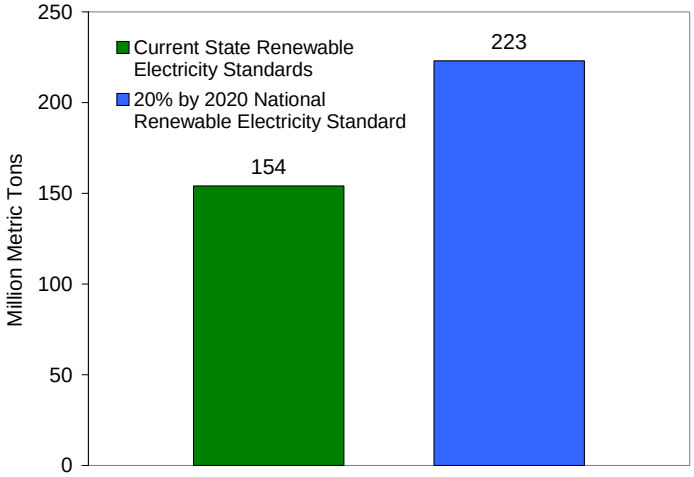
In addition to realizing significant reduction of harmful emissions, the states have also found that renewable standards are an effective means to help meet critical fuel diversity, energy security, and economic goals. In fact, this approach has been so successful that 18 states—including Minnesota, Wisconsin, Pennsylvania, and most recently Illinois—have revisited and significantly increased or accelerated their annual requirements.

## A National Standard Significantly Increases Climate Benefits

While many states are making important strides in reducing $CO_2$ emissions with renewable electricity standards, greater benefits could be achieved if Congress adopted a national standard. A 2007 UCS analysis examined the costs and benefits of a 20 percent by 2020 renewable standard, and found that America would increase its total renewable power to 117,000 MW in 2020—nearly 6 times the capacity levels in 2005 (about 20,000 MW).[iii]

The 20 percent national standard would reduce the projected growth in power plant $CO_2$ emissions under a business-as-usual scenario by 63 percent, or 223 MMT per year by 2020. This level of reductions is equivalent to taking 36.4 million cars off the road. Studies by the U.S. Department of Energy's Energy Information Administration have shown similar even greater annual $CO_2$ emission reductions.

**Comparison of Annual Power Plant $CO_2$ Reduction from State and National Renewable Electricity Standards, 2020**




Source: UCS

## Renewable Electricity Standards are a Smart Climate Solution

With only five percent of the world population, the United States produces nearly 25 percent of annual global heat-trapping emissions.[iv] Electricity generation accounts for fully one-third of these emissions.[v] We have a responsibility and a compelling interest to significantly reduce these harmful emissions. Renewable electricity standards offer a smart, affordable climate solution with a proven track record.

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[i] Epstein, Paul R and Christine Rodgers. *Inside the Greenhouse: The Impacts of $CO_2$ and Climate Change on Public Health in the Inner City*. Report from the Center for Health and the Global Environment Harvard Medical School. April 2004.
[ii] Intergovernmental Panel on Climate Change. *Third Assessment Report. Climate Change 2001: Impacts, Adaptation, and Vulnerability*. 2001.
[iii] Union of Concerned Scientists. *Cashing In on Clean Energy*. July 2007. Available online at http://www.ucsusa.org/clean_energy/solutions/renewable_energy_solutions/cashing-in-on-clean-energy-a.html
[iv] United Nations Framework Convention on Climate Change. Annex 1: Greenhouse Gas Inventory Database.
[v] U.S. Environmental Protection Agency. *Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2002*. April, 2004.



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