



CHANGE THE FORECAST FOR WILDLIFE

SOLUTIONS TO GLOBAL WARMING

Global Warming and VERMONT

Despite a 2001 commitment by New England governors and Canadian provincial leaders to cut global warming pollution in the Northeast, emissions of carbon dioxide and other global warming gases in the region are on the rise. According to an analysis by the New England Climate Action Network, fuel consumption for cars and trucks is increasing, as is coal, oil and gas consumption for home and commercial heating—all contributing to increasing emissions. This is not good news for Vermont, considering that global warming is projected to make the state's climate unsuitable for sugar maple forests and less reliable for ski seasons. Across the region, average winter temperatures increased 2.2 degrees Fahrenheit in the last century. The Environmental Protection Agency estimates average temperatures in Vermont could rise another 4-5 degrees Fahrenheit by 2100 if global warming continues unabated, affecting the entire state from the shores of Lake Champlain to the peaks of the Green Mountains and beyond.



David Parsons (NREL)

Global warming effects on Vermont wildlife

Vermont is home to an incredible diversity of native wildlife species, including 240 birds, 59 mammals, 81 fish, 18 reptiles and 21 amphibians. Rising temperatures in the state will likely change the makeup of entire ecosystems, forcing wildlife to shift their ranges or adapt.

- New England's coniferous and mixed deciduous/coniferous forests are expected to gradually change to a temperate deciduous forest similar to that found today in southeastern Pennsylvania and northern Virginia. Some forest species, such as the sugar maple, are projected to disappear entirely from the U.S. over the next century.
- The breeding range of many species of songbirds—including several different flycatchers, swallows and

warblers—may be pushed out of Vermont. These birds are important to the state not only for their beautiful sounds, but for their appetite for gypsy moths, tent caterpillars and other invasive pests that harm vegetation.

- Higher average temperatures due to global warming are projected to significantly reduce viable habitat for cold-water fish such as brook trout and rainbow trout.



What is Global Warming?

When coal, gas and oil are burned, they produce carbon dioxide that builds up in the atmosphere and traps the sun's heat. Much of this greenhouse gas released today remains in the atmosphere after even 100 years, trapping more and more heat.

Since the mid-1800s, emissions of carbon dioxide have skyrocketed, and subsequently global temperatures have risen by about 1 degree Fahrenheit in the last century. Earth has not experienced such a rapid change in temperature in thousands of years.

Unless we reduce the pollution that causes global warming, temperatures could climb between 2-10 degrees Fahrenheit this century. Such a rapid rise in temperature would fundamentally reshape the planet's climate, forever changing the landscape and water resources people and wildlife depend upon.



What's at stake for Vermonters?

Global warming poses a real threat to the future of Vermont's economy, as it could impact the state's tourism, agriculture and forestry industries, all of which are dependent on a healthy environment to thrive.

- Vermont and New Hampshire have the most ski-dependent economies in New England, attracting about 6 million skiers annually. In the last 12 years, Vermont's 19 ski areas have increased the area covered by snowmaking by more than 15 percent. As global warming continues, this cost will likely increase for Vermont's ski-dependent economy.
- The disappearance of sugar maples in New England would put more than 2,000 Vermont maple producers out of business. In 2000, Vermont producers made an estimated 460,000 gallons of maple syrup, with a value of approximately \$13.3 million. In 2002, Vermont led the nation in maple production, accounting for 37 percent of the U.S. supply.
- Loss of wildlife and habitat could mean a loss of tourism dollars. In 2001, more than 569,000 people spent nearly \$386 million on hunting, fishing and wildlife viewing in Vermont, which in turn supported 9,833 jobs in the state.

“Global warming poses an overriding challenge to our responsibility to protect wildlife for our children's future. We must advance balanced solutions that work for people, wildlife and the economy to overcome this challenge.”—

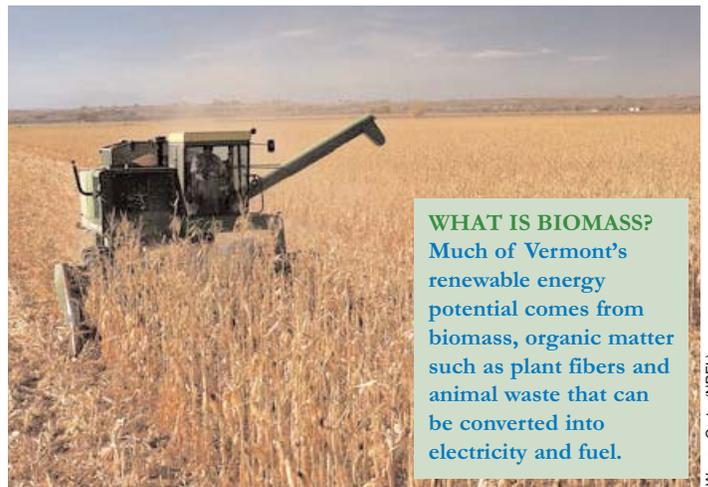
Larry Schweiger
President, CEO
National Wildlife Federation

THE REGIONAL GREENHOUSE GAS INITIATIVE:

The Regional Greenhouse Gas Initiative, or RGGI, is a cooperative effort by Northeastern and Mid-Atlantic states to reduce carbon dioxide emissions. In December 2005, Vermont was one of seven states which agreed to institute a mandatory cap and trade system for global warming pollution emitted from power plants. In May 2006, Vermont was the first state to formally pass legislation committing the state to the RGGI effort. The Regional Greenhouse Gas Initiative requires carbon dioxide emissions to be stabilized by 2015, with a 10% reduction by 2019, and eventually achieve sharp reductions in all greenhouse gases.

Current states under the program are Connecticut, Delaware, Maine, New Hampshire, New Jersey, New York, and Vermont. Legislation was passed in April 2006 that required Maryland to join the RGGI cooperative by June 2007. Pennsylvania, Massachusetts, and Rhode Island are observing the process and are likely to join in the future.

Visit www.nwf.org/globalwarming or www.rggi.org for more information.



WHAT IS BIOMASS?
Much of Vermont's renewable energy potential comes from biomass, organic matter such as plant fibers and animal waste that can be converted into electricity and fuel.

Warren Greiz (NREL)

Vermont's solutions to global warming

Vermont signed a 2001 compact between New England governors and Canadian provincial leaders requiring the reduction of collective global warming pollution in the region. To reach the goals of this compact, the state encourages the use of renewable sources of energy through a number of incentives and tax breaks.

- Vermont homeowners can apply for special loans to improve energy efficiency by upgrading heating and cooling appliances.
- The state also allows residents to “net-meter” their home electricity using solar, wind and methane. Any surplus energy is sent back to the power grid. As of January, 2005, 158 net-metered systems were running in the state with a capacity of 659 kilowatt-hours.
- Vermont has the potential to meet all of its electricity needs with renewable energy, with more to spare. More than 84 percent of its renewable energy potential comes from wind, with the rest from biomass and landfill gas.

Following some simple guidelines, you can cut your global warming pollution, become more energy efficient and give something back to nature.

- **Plant shade trees:** The Department of Energy says planting three trees strategically around your home can reduce your annual heating and cooling costs by an average of 40 percent.
- **Convert to compact fluorescent bulbs:** If every household in America replaced its next burned out light bulb with a compact fluorescent, we would prevent more than 13 billion pounds of carbon dioxide from being emitted.
- **Become a Green Tag subscriber:** Many states now offer options for homeowners to buy electricity from clean, renewable sources such as wind, solar and biomass that produce little or no global warming pollution. Green energy can also be purchased through the National Wildlife Federation by visiting www.nwf.org/energy.

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