Global Warming and MISSOURI

From the heartland of Kansas City to the wild and scenic rivers of the Ozark Mountains, Missouri is a state rich in natural resources. However, global warming looms large on the state's horizon, as warmer average temperatures are projected to cause problems ranging from a reduced water supply for the state's irrigated croplands to an increase in the lifespan of mosquitoes carrying diseases like St. Louis encephalitis. The Intergovernmental Panel on Climate Change estimates average temperatures in Missouri could rise about 6.75 degrees Fahrenheit by 2100 if global warming continues unabated, changing the character of the state's natural landscape and the people and wildlife that depend on it. We can solve global warming and revitalize our economy by rebuilding America with clean energy.

Global warming effects on Missouri wildlife

Missouri is home to an incredible diversity of native wildlife species, including 311 birds, 72 mammals, 200 fish, 67 reptiles and 42 amphibians. Rising temperatures in the state will likely change the makeup of entire ecosystems, forcing wildlife to shift their ranges or adapt.

- Global warming is expected to alter the composition of the state's forests, with southern pines replacing oak and hickory currently prevalent in southern Missouri and the Ozarks. While many of the forests recovered from massive deforestation a century ago, global warming could challenge these ecosystems in many new ways.
- Warmer water temperatures could reduce fish habitat in Missouri, harming popular recreational fish such as smallmouth bass and wild Ozark rainbow trout.
- By the 2080s, a warmer, drier climate could reduce up to 91 percent of the wetlands in the Prairie Pothole Region, an area in the northern Great Plains on both sides of the U.S./Canadian border that is one of the most important waterfowl breeding grounds in North America. This could lead to a 9-69 percent decline in the number of ducks breeding in the region, significantly affecting the Mississippi and Central Flyway populations of mallards, gadwall, blue-winged teal and northern pintails.

Global Warming Pollution

Burning coal, gas and oil produces carbon dioxide, which is a greenhouse gas that warms the planet as it builds up in the atmosphere. Some of the carbon dioxide 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, causing global temperatures to rise by about 1° Fahrenheit in the last century. Earth has not experienced such a rapid change in temperature in thousands of years.

A Global Solution

The U.S. must lead the world by passing global warming legislation at home and working with other nations at the Copenhagen climate summit at the end of 2009 to sign a new climate treaty that keeps further warming below 2° Fahrenheit. With a global solution, we can avoid the worst impacts of global warming.

What's at stake for Missourians?

Global warming will affect the lives of many Missourians, from farmers who will be faced with more inconsistent crop yields to businesses that depend on wildlife tourism to exist.

- One study in St. Louis estimated that by 2050, heat-related deaths during a typical summer could increase 170 percent, from about 80 to more than 200 per summer.
- Global warming is projected to contribute to more weather extremes and fluctuations in precipitation, resulting in increased droughts and flooding. These problems can lead to property and agricultural damage.
- Warmer average temperatures could increase concentrations of ground-level ozone, which is known to aggravate respiratory problems such as asthma.
- Loss of wildlife and habitat could mean a loss of tourism dollars. In 2006, more than 3.9 million people spent more than $3 billion on hunting, fishing and wildlife viewing in Missouri. The industry in turn supported 57,051 jobs in the state.* *(Jobs are an average of 2001 and 2006 data.)*

"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

GLOBAL WARMING NATIONAL POLICY SOLUTION:

A federal legislative solution can drive American ingenuity, create millions of green jobs, and restore America's global leadership on global warming. Legislation should:

* Include ambitious targets to reduce America's global warming pollution as swiftly and deeply as possible. Scientists say that developed countries as a whole need to reduce their global warming pollution by at least 80% from 1990 levels by 2050 to avoid the worst impacts of global warming.

* Move America toward a 100% clean electricity future by maximizing energy efficiency, modernizing the electric power grid, expanding power generation from renewable energy resources, and investing in clean transportation infrastructure.

* Invest in natural resources. Forests, coasts, wetlands, clean air and clean water are already being impacted by global warming. Funding is needed to safeguard the natural resources that are critical to wildlife populations and human health.

* Lead a worldwide effort to finance clean energy technology, forest conservation, and adaptation to unavoidable impacts of global warming.

For more information, visit: **www.nwf.org/globalwarming.**

Warren Gretz (NREL)

Missouri's solutions to global warming

As is the case for the nation as a whole, the primary source of Missouri's global warming pollution is the burning of fossil fuels. However, reducing greenhouse gas emissions and carbon dioxide levels is not hopeless.

- A project at Pattonville High School near St. Louis captures methane from a neighboring landfill and burns it to fuel the school's boilers, significantly reducing methane emissions and avoiding more than 2,000 tons of carbon pollution annually. The school saves $40,000 on energy costs each year.
- Missouri has an enormous potential to meet and exceed its electricity needs with renewable energy, mostly through well-sited wind farms and by using renewable biomass sources, an energy process that converts organic material into electricity.

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 to block the wind in winter and sun in summer 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. That's the same as taking 1.2 million cars off the road for an entire year.
- **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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