



CHANGE THE FORECAST FOR WILDLIFE SOLUTIONS TO GLOBAL WARMING

Global Warming and KENTUCKY

Kentucky's diverse forest and river ecosystems face a serious threat from global warming. The Intergovernmental Panel on Climate Change estimates that average temperatures in the state could rise about 6.75 degrees Fahrenheit by 2100 if global warming continues unabated. Precipitation patterns are also likely to change, with the potential for more extreme events such as floods and droughts. These conditions could have a significant impact on the state's diverse forest, wetland and river ecosystems as well as the people and wildlife that depend on them. We can solve global warming and revitalize our economy by rebuilding America with clean energy.



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Global warming effects on Kentucky wildlife

Kentucky is home to an incredible diversity of native wildlife species, including 284 birds, 70 mammals, 230 fish, 52 reptiles and 53 amphibians. Rising temperatures in the state will likely change the makeup of entire ecosystems, forcing wildlife to shift their ranges or adapt.

- Global warming could lead to a significant reduction in the abundance and habitat range of trout in the Appalachian region, including a 61 percent decrease in abundance and 90 percent loss of habitat for brook trout in headwater streams.
- Western Kentucky's Gulf Coastal Plain is home to some of the last bald cypress-tupelo swamps in the Mississippi Delta, which provide habitat for a variety of threatened and endangered species as well as wintering waterfowl. Global warming is expected to bring more invasive species, more flooding, more droughts and different migration patterns for species like the wood duck.



- A study of 35 North American warbler species concluded that 20 percent of the species have shifted northward an average of 65 miles in the past 24 years. Ten species found in Kentucky, including the Kentucky warbler, may not breed in the state in the future.

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 Kentuckians?

Those who have lived in Kentucky for any amount of time may think they know how to handle the heat, but global warming is something that cannot be ignored. The changes that come are expected to affect everything from air and water quality to tourism and recreation.

- Kentucky's timber industry could see a decline as valuable eastern hardwoods are replaced by scrub oaks and other trees that carry less commercial value but are better adapted to warmer temperatures.
- With more running water than any state but Alaska, many of Kentucky's ecosystems and economic activities dependent on reliable water resources. If global warming leads to drier conditions in the region, it could affect irrigation, urban water supplies and habitat for fish and wildlife.
- Loss of wildlife and habitat could mean a loss of tourism dollars. In 2006, more than 2.4 million people spent more than \$1.8 billion on wildlife viewing, hunting and fishing, which in turn supported 41,765 jobs in Kentucky.* (*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.



Kentucky's solutions to global warming

Though Kentucky has yet to take legislative action to reduce carbon dioxide emissions in the state, renewable and alternative energy solutions are slowly working their way into the power grid.

- The Kentucky Clean Fuels Coalition has secured more than \$5 million over the past decade for alternative fuel projects across the state. According to their estimates, 4,000 automobiles operated on Kentucky's roads run on compressed natural gas, propane, ethanol, electricity or biodiesel fuels.
- Green Power is now being offered by 14 utilities and two municipalities in Kentucky, giving consumers the option to purchase \$2-4 blocks of electricity generated by renewable sources like wind, solar, landfill gas, micro-hydro or biomass.
- Kentucky has the potential to generate nearly 20 percent of the state's electricity needs from renewable sources, mostly from biomass, organic matter such as plant fibers and animal waste which can be converted into electricity and fuel.

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. That's the same as taking 1.2 million cars off the road for an entire year.
- **Act locally:** Contact your mayor and ask that (s)he sign the U.S. Mayors Climate Protection Agreement, committing your city or town to meet or beat the global warming pollution reductions outlined in the Kyoto Protocol.

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