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SOLUTIONS TO GLOBAL WARMING

Global Warming and OKLAHOMA

Oklahoma's diverse ecosystems—from the tall and short-grass prairies to the southeastern forests of the Mississippi River floodplain to the Arkansas, White and Red River basins—have been significantly degraded from agriculture, development and other man-made changes. They are also among the state's ecosystems most vulnerable to global warming. By 2100, the Environmental Protection Agency estimates average temperatures in Oklahoma could rise about 3 degrees Fahrenheit. This could trigger more fluctuations in precipitation, causing more extreme weather events such as droughts and floods and hurting the state's grasslands, forests and water resources. Hotter, drier conditions could increase the need for irrigation for agriculture, and the need for more water for growing communities.



Global warming effects on Oklahoma wildlife

Oklahoma is home to an incredible diversity of native wildlife species, including 346 birds, 104 mammals, 171 fish, 80 reptiles and 51 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 make conditions more favorable for invasive species such as the red imported fire ant, which has increasingly become a problem in Oklahoma. Wildlife at particular risk to ant attacks include newly-born fawns as well as hatchling quail and ground-nesting waterfowl chicks.
- The American redstart and grasshopper sparrow are among 30 songbird species whose breeding ranges may shift out of Oklahoma if global warming continues.



Jim Occi (BugPics)

- Higher average temperatures could lead to greater evaporation rates and reduced water availability in the Playa Lakes region, an important stopover site for ducks and other migrating waterfowl.

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 Oklahomans?

The changes from global warming threaten not only to degrade the natural forest and aquatic ecosystems of Oklahoma but also the health and economy of the state.

- Global warming could reduce wheat yields by as much as 27-37 percent as temperature rises above the crop's climate threshold. In addition, drier conditions could result in less soil moisture and cause farmers to rely more on irrigation, increasing the competition for water in the state.
- Models project increases in Oklahoma's average summer heat index and more heat waves, where temperatures climb above 90 degrees Fahrenheit for three days in a row or more. This could cause more cases of heat stress for both people and livestock.
- Loss of wildlife and habitat could mean a loss of tourism dollars. In 2001, more than 1.5 million people spent nearly \$1 billion on wildlife viewing, hunting and fishing in Oklahoma, which in turn supported 24,299 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 CLIMATE STEWARDSHIP ACT:

The Climate Stewardship Act is a bipartisan plan of action in Congress that sets achievable goals for reducing global warming pollution in the United States. The bill requires power plants, oil companies and other major sources to collectively reduce emissions of carbon dioxide and other greenhouse gases to what they emitted in the year 2000. The bill also allows businesses to implement their own solutions, using a flexible emissions trading system that has successfully reduced air pollution under the Clean Air Act at a fraction of the anticipated costs. The Act will:

- Create more than 5,400 new energy technology jobs in Oklahoma by the year 2020.
- Provide Oklahoma with at least \$7.4 million each year in additional wildlife conservation funding to help protect the state's wildlife from the impacts of global warming.
- Provide new income to Oklahoma's farmers by rewarding environmentally friendly farming and forestry practices.

Visit www.nwf.org/globalwarming or www.climatenetwork.org/csa for more information.



Oklahoma's solutions to global warming

A number of private-sector initiatives to reduce carbon pollution have been started in Oklahoma, inspiring the use of renewable and alternative forms of energy.

- In 2001, the state passed the Oklahoma Carbon Sequestration Enhancement Act, a voluntary program allowing agriculture and industry to join forces in reducing harmful carbon pollution by restoring vegetation that absorbs carbon dioxide in the soil.
- Oklahoma ranks eighth in the nation in terms of its potential to produce wind energy, with the ability to provide 17 times the state's entire annual electricity consumption through well-sited wind farms.

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 sun in summer and wind in winter 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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