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SOLUTIONS TO GLOBAL WARMING

## Global Warming and DELAWARE

**F**rom the estuaries and rivers to the Atlantic beaches that attract visitors year-round, water is one of Delaware's most valued natural resources. Global warming looms large on the state's horizon, as sea level rise threatens the state's 381 miles of shoreline. The Environmental Protection Agency estimates average temperatures in Delaware could rise about 3-4 degrees Fahrenheit by 2100 if global warming continues unabated, threatening coastal wetlands along Delaware Bay, a major spawning ground for horseshoe crabs and a place that boasts the second largest concentration of migratory shorebirds in the Western Hemisphere.



### Global warming effects on Delaware wildlife

**D**elaware is home to an incredible diversity of native wildlife species, including 295 birds, 54 mammals, 62 fish, 37 reptiles and 27 amphibians. Loss of wetlands from sea level rise could be costly for a state whose waterways are a stopping-off point for migrating birds and home to 70-90 percent of the state's commercial fish and shellfish species.

- At Lewes, Del., sea level has already risen by 12 inches in the last century, and it is likely to rise another 23 inches by 2100. A 20-inch rise in sea level would inundate about 50 percent of the wetlands in Delaware Bay, affecting key habitat for migratory shorebirds and horseshoe crabs.
- Historically, the Delaware Bay has been an important waterfowl wintering ground, but sea level rise within the bay is changing the makeup of salt marshes, making them less attractive to many ducks and geese. Projections for the region suggest sea level rise will further reduce shallow water waterfowl habitat.

- The breeding ranges of many species of songbirds may be pushed out of Delaware, including several flycatchers, swallows and warblers. Some of 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.



### 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 Delawareans?

The effects of global warming on Delaware's prized coastal resources could have significant impacts on the state's economy, resonating through the tourism, agriculture and wildlife recreation industries.

- Shoreline erosion already plagues many of Delaware's inland bays, and continued sea level rise will likely exacerbate this problem. Sand replenishment to protect the state from a 20-inch sea level rise by 2100 is estimated at \$34-\$143 million.
- Sea level rise could also increase the salinity level of the Delaware estuary, significantly damaging the state's lucrative oyster fishery.
- Loss of wildlife and habitat could mean a loss of tourism dollars. In 2001, more than 407,000 people spent more than \$130 million on hunting, fishing and wildlife viewing in Delaware, which in turn supported 2,255 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 2,000 new energy technology jobs in Delaware by the year 2020.
- Provide Delaware with at least \$4.8 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 Delaware's farmers by rewarding environmentally friendly farming and forestry practices.

Visit [www.nwf.org/globalwarming](http://www.nwf.org/globalwarming) or [www.climatenetwork.org/csa](http://www.climatenetwork.org/csa) for more information.



Robb Williamson (NREL)

## Delaware's solutions to global warming

Delaware has the potential to become a leader in renewable energy technology and is beginning to take actions to address global warming.

- In 2000, the Delaware Climate Change Consortium, comprised of representatives of state government, business, labor, environment and community groups, adopted a state climate action plan that calls for reducing the state's global warming pollution by 7 percent below Delaware's 1990 emissions by 2010.
- Delaware has the potential to meet nearly 95 percent of its electricity needs with renewable energy, mainly from wind and solar. The University of Delaware is on the cutting edge of photovoltaic solar energy technology research.

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.
- **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](http://www.nwf.org/energy).

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