

EFFECTS OF GLOBAL WARMING ON THE STATE OF NEBRASKA

GLOBAL WARMING WILL HURT NEBRASKA

The vast majority of the world's leading scientists now agree that human activities may lead to substantial impacts on the global climate. Consensus estimates warn of an average increase in temperatures of between 2 and 10 degrees over the next century, leading to more severe drought, rising sea levels, shifting seasons, and increased disease.

In Nebraska, this could lead to a number of problems. Projections show temperature increases of 3-4 degrees year-round. These higher temperatures and more frequent heat waves could increase heat-related deaths and illnesses from insect-borne diseases such as malaria and West Nile virus. Nebraska had the 3rd most reported human cases of West Nile last year, with almost 2,500 cases. Increased temperatures would make the state more habitable for mosquitoes that carry the virus, likely leading to increased infections. With substantial agricultural resources, Nebraska is particularly sensitive to changes in climate. Increased heat could push temperatures above the tolerance level for crops like corn, causing a decline in yields in excess of 10%. Strained water systems could also pose a significant problem for state agriculture. Most runoff in Nebraska comes from snowmelts in Colorado and Wyoming that could decline with higher temperatures. The state's substantial groundwater resources could also be impacted by reduced spring and summer recharge. Weather variability would also likely increase, with an increase in crop-damaging droughts. Nebraska is also home to a substantial portion of the insurance industry, which directly employs over 3% of the state's workers. Increased extreme weather events could have a significant negative impact on insurance companies, with increased claims both within the state and elsewhere.

IMPACTS ON NEBRASKA

- More frequent heat waves
- Increased illness from insect-borne diseases
- Reduced water supplies
- Economic impacts on insurance industry

THE "CLIMATE STEWARDSHIP ACT"

The Climate Stewardship Act, introduced by Senators McCain and Lieberman is based on a similar and highly successful program implemented in the Clean Air Act which has led to large reductions in acid-rain causing pollution with a minimum of economic costs. The Act would create a market-based cap-and-trade system to reduce emissions of carbon dioxide and other heat-trapping gases from electricity generators and other large industrial and commercial sources.

Under a cap and trade system, a fixed number of emissions allowances are distributed to emitters. One permit allows the holder to emit one metric ton of carbon dioxide or an equivalent amount of other gases. Companies that can run

their business without using all their allowances can sell their surplus to companies whose actual emissions exceed their allowances. Under such a system, emissions are reduced by those who can do it at the lowest cost, thus minimizing economic impacts. Cap-and-trade systems, such as the one proposed by McCain and Lieberman, make reducing pollution a potential source of profit for companies, giving them an incentive to devise new and even cheaper ways to cut their emissions.

Beginning in 2010 and going forward, the Act would cap emissions at their 2000 levels. However, emissions could increase up to 15% beyond the cap if companies purchase "offsets" from other sources, such as "sequestration" credits from farms which increase carbon storage in soils and vegetation.

ECONOMIC IMPACTS

Estimates show that the benefits of the Act outweigh its costs by a ratio approaching 2:1. While the Act's provisions would impose about \$150 billion in emissions reduction costs, it would generate \$250 billion worth of benefits nation-wide in the form of increased energy efficiency, reduced energy expenditures and economic growth through 2025 (net present value). Nationwide, we estimate that the Act would create over 100,000 jobs by 2015. Our analysis is based on research at the Tellus Institute—a non-profit research and consulting organization (<http://www.tellus.org>)—which studied the impact of the Act's cap-and-trade program as well as energy efficiency programs that would be funded by the Act.

Like the nation as a whole, a preliminary analysis shows that the impacts for Nebraska are also largely positive. While the utility sector would suffer losses of about 100 jobs statewide, these would be more than offset elsewhere, leading to a net

CLIMATE STEWARDSHIP ACT

- Cap and Trade
- Similar program reduced acid rain by 50% at 1/10 the estimated cost
- Lowest cost solution
- Protects Rural Electric Co-ops

COST-EFFECTIVE FOR THE UNITED STATES

- \$250 billion benefits at cost of \$150 billion
- 100,000 new jobs by 2015

increase in employment of about 700 jobs. The gains would be spread throughout the economy, though the construction industry would particularly benefit. In addition to these benefits, Nebraska stands to gain in a number of ways. For example, by changing its tilling and other practices, the state could increase carbon sequestration by about 600,000 metric tons of carbon equivalent, which by 2015 would create about \$9 million annually in emissions credits that Nebraska farmers could sell to covered entities. Due to the incentives for renewable energy created by the CSA, Nebraska also stands to gain from the increased use of ethanol made both from corn and, in the long run, from agricultural and forest wastes.

IMPACTS ON NEBRASKA

- 800 new jobs in construction & other sectors (but 100 jobs lost in utility sector)
- Increased demand for agricultural and forestry products and waste
- Fostering local production of wind power components

Nationally, not all sectors of the economy would benefit. Reducing carbon dioxide and other emissions would require reduced use of fossil fuels, leading to economic contraction in those sectors. Increasing energy efficiency, while providing substantial benefits to both residential and commercial energy consumers, leads to reduced demand for electricity, posing some costs on that sector as well. Overall, however, these costs are more than offset by gains in other sectors, like construction, which would see a substantial increase in demand for new projects spurred by the increased implementation of energy efficient technologies. The manufacturing sector would also see increased employment with increased demand for energy efficient machinery and renewable energy components like wind turbines.

Nebraska consumers stand to benefit from the Act as well. The energy efficiency provisions included in the Act will generate substantial savings in the form of reduced energy expenditures. While energy prices will increase moderately as a result of the pollution reduction requirements in the Act, these costs will be offset by reduced consumption and rebates of revenue raised by allowance sales. Energy savings for households and businesses free up substantial resources that can be reinvested in state and local economies.

In addition, Nebraska ranks 6th in the nation in wind energy resources. While wind energy production in the state is grow-

OTHER BENEFITS

- Consumers save through energy efficiency improvements
- Wind energy could produce 870 billion kilowatt hours/year

ing, with 14 megawatts of capacity currently installed, only a tiny fraction of the state's potential is being utilized. Estimates put the state potential at about 870 billion kilowatt hours per year, or more than 30 times state electricity consumption in 2000. An increased focus on wind energy as an alternative to fossil fuels could create substantial benefits for the state. Tapping even a modest fraction of that capacity could generate substantial economic benefits, not only in the energy sector but also to farmers who stand to gain by leasing parts of their land to wind generators. A 2000 acre farm or ranch in Nebraska could earn over \$100,000 in lease payments from wind energy producers, while losing access to only about 20 acres. Given Nebraska's considerable wind energy potential, the state could also see an upsurge in the manufacturing sector to supply the necessary machinery and other components not only within the state but also for export to other states, as the CSA would spur additional demand for wind power equipment nationwide.

DON'T UNDERESTIMATE ENTREPRENEURIAL INNOVATION

As the Climate Stewardship Act is debated, a handful of naysayers will undoubtedly claim that doing anything to reduce global warming pollution will be economically disastrous. Some are already making the rounds with their dire predictions. A close look at these predictions will reveal that they have little merit. For example, one such prediction is based on a 6 year-old study of the Kyoto Protocol, a substantially different and more stringent proposal than the Climate Stewardship Act. The study was written by the same "hired guns" that produced the roundly discredited report claiming to show enormous economic benefits from opening the Arctic National Wildlife Refuge (ANWR) to oil drilling. Not surprisingly, both these studies were funded by the oil industry.

Studies predicting economic disaster from environmental protection invariably underestimate the ability of American businesses to innovate to solve new problems. We do this every day in reaction to global and local business conditions. Our ability to innovate is what makes the American economy the strongest in the world. When the Clean Air Act Amendments were debated in 1990, industry lobbyists predicted that the law would turn America into a third rate economic power. Not only have businesses survived the Clean Air Act, but we have thrived, finding new ways to address old problems. Climate change is a problem that needs to be addressed. Our leaders need to have confidence in our ability to innovate rather than trying to hide from problems. We have done it before, and we will do it again, but only if clear standards and appropriate incentives are established by legislation such as the Climate Stewardship Act.

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