

A Climate Policy Challenge: Minimizing Impacts on Low-Income Iowans

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The Iowa Policy Project

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Iowa is taking important strides in responding to climate change. In November 2007, Governor Chet Culver signed the Midwestern Regional Greenhouse Gas Reduction Accord, a historic agreement including plans for the implementation of a regional cap-and-trade system designed to help the Midwestern states meet established emissions reductions targets. The accord builds on other, recent initiatives through which Iowa has demonstrated leadership in responding to climate change.

In 2007, the Iowa Legislature created the first-ever Iowa Office of Energy Independence, along with a \$100 million Iowa Power Fund to invest in renewable energy research and development and the Iowa Climate Change Advisory Council to determine the best strategies for reducing greenhouse gas emissions in the state. The Office of Energy Independence has already released its “Iowa Plan for Energy Independence,” outlining goals and policy reforms that will make Iowa a national leader in energy solutions.¹ It is clear that Iowa has powerful new tools at its disposal to address climate change.

These initiatives are crucial steps for Iowa. Two days after Governor Culver signed the Midwestern governors’ accord, the Intergovernmental Panel on Climate Change (IPCC) released its most recent assessment of the impact of climate change, confirming that quick action is necessary to reduce greenhouse gas emissions.² Research is needed to identify and model specific ways that climate change will affect various sectors of Iowa’s economy and environment, but it is clear, as acknowledged in the Midwestern Regional Greenhouse Gas Reduction Accord, that “the effects of climate change present growing economic, social and environmental risks in the Midwest and the world.”³

The high impact of climate change on low-income Iowans

Risks associated with climate change are particularly high for low-income Iowans, who are disproportionately vulnerable to its economic, environmental and social consequences. The IPCC report stresses that climate change will have a range of significant effects, from an increase in heat waves and extreme high temperatures to changing precipitation patterns, shifts in regional agricultural productivity, new disease vectors and increased mortality from heat waves, floods and droughts.

Evidence is growing that low-income individuals in both developed and developing countries are at greater risk of the negative effects of climate change. For instance, the IPCC points out that warmer and

1 Iowa Office of Energy Independence (2007) *Iowa Plan for Energy Independence*. State of Iowa Office of Energy Independence. Available from: http://www.energy.iowa.gov/OEI/docs/Final_Plan.pdf.

2 Intergovernmental Panel on Climate Change (2007). *Climate Change 2007: Synthesis Report*. Fourth Assessment Report, Intergovernmental Panel on Climate Change. Available from: <http://www.ipcc.ch/>.

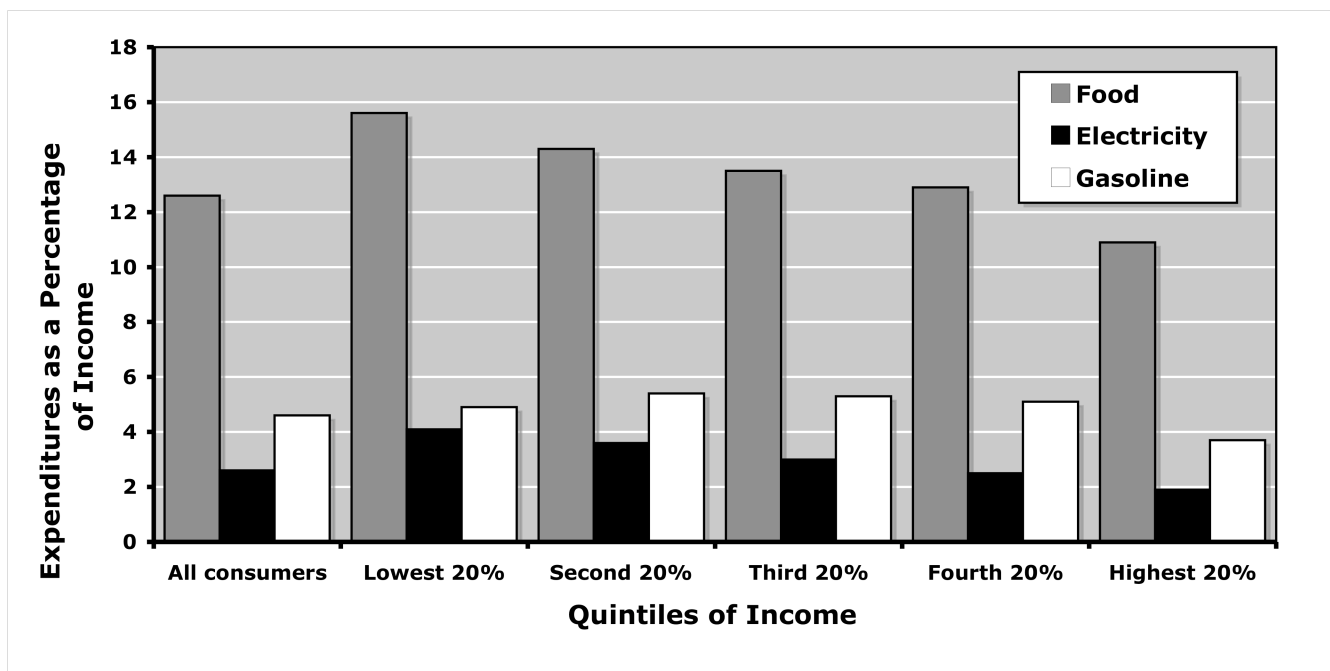
3 Midwestern Governors Association (2007) *Midwestern Regional Greenhouse Gas Reduction Accord*. See: <http://www.midwesterngovernors.org/resolutions/GHGAccord.pdf>.

more frequent hot weather, heat waves and heavy precipitation events will mean an increased risk of mortality, especially for people without adequate housing or access to air conditioning or transportation. Extreme weather events can cause property damage and increased insurance premiums that many low-income individuals may not be able to afford. Global climate change will also mean reduced air quality in urban environments where many low-income populations live.

Low-income individuals have fewer resources to help them adapt to the effects of climate change, which means they face greater threats to their health and well-being.⁴ For instance, because a disproportionate number of low-income Iowans lack health insurance, they will face increasing health risks without access to affordable care. Likewise, low-income Iowans have fewer resources to cope with a sudden decline in earnings due to unemployment caused by the restructuring of the economy.

Changes in global crop productivity, water supply and energy needs due to climate change will cause higher prices of basic necessities such as food, water and electricity. Low-income households spend a larger share of their income on these necessities than do more affluent households, meaning they will be disproportionately affected by the rising cost of basic commodities. Figure 1 uses 2006 Consumer Expenditure Survey data to show the share of income spent on these necessities by U.S. consumers.

Figure 1. Basic-Needs Spending Takes Greater Share of Lower Incomes



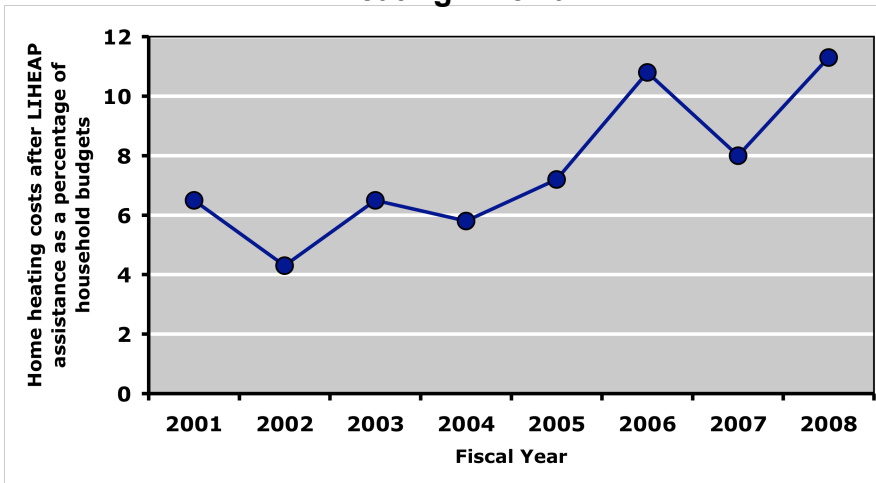
Even with existing programs such as the Low Income Home Energy Assistance Program (LIHEAP), a federal program that provides assistance to low-income households for home energy needs, home heating costs are taking up an increasing share of low-income household budgets in Iowa. As Figure 2 shows (Page 3), the share of Iowa household budgets devoted to home heating costs has increased from 6.5 percent in 2001 to a projected 11.3 percent in 2008.

This increase is driven both by increases in energy prices and decreases in LIHEAP payments. For instance, heating and cooling costs for households that heat with natural gas, which make up a larger

⁴ *Stern Review Report on the Economics of Climate Change* (2007). "Part II: Impacts of climate change on growth and development, Chapter 5: Costs of climate change in developed countries," p. 10. Available from: http://www.hm-treasury.gov.uk/media/9/1/Chapter_5_Costs_Of_Climate_Change_In_Developed_Countries.pdf.

percentage of low-income households in the Midwest than in any other region of the country,⁶ increased 7 percent between FY2007 and 2008 and are now 70 percent higher than in 2001.⁷ Heating and cooling costs have increased at a greater rate than have the incomes of households in the lowest income quintile. At the same time, average LIHEAP payments have declined 43 percent over the past six years.

Figure 2. Increasing Out-of-Pocket Expenses for Home Heating in Iowa⁵



Funding for low-income assistance programs such as LIHEAP is further endangered by climate change, which can strain government budgets by damaging public infrastructure. The IPCC identifies damage to urban and rural infrastructure as a major climate change impact, suggesting the need for substantial investments on the part of state and federal governments. For example, increases in heavy precipitation events and extreme weather could necessitate state investment in

levee systems or water sanitation facilities. Over the long term, changes in warming and drainage patterns can cause the need to redesign road systems. These changes and investments mean increased public costs associated with the impacts of climate change, which could put pressure on Iowa’s state budget and endanger the funding of important services to low-income Iowans.

The disproportionate impact of climate change on low-income groups and the high costs associated with these impacts makes it clear that we need solutions that address climate change while taking into account the specific vulnerabilities of low-income Iowans. Any analysis of the effects of climate change in Iowa should include an examination of the particular form these effects will take for low-income segments of the population. Most importantly, low-income advocates and low-income Iowans themselves should be engaged in discussions related to addressing the impacts of climate change.

Cap-and-trade policies must be designed to work for low-income Iowans

One major policy response to climate change included in the Midwestern Regional Greenhouse Gas Reduction Accord is the adoption of a regional cap-and-trade system. (See box, Page 4.) Like climate change itself, cap-and-trade policies to address climate change will have a disproportionate impact on low-income Iowans. A cap-and-trade system is an essential policy response to climate change; however, as Iowa policymakers work to design this system, they must take into account the likely impacts of these policies on low-income Iowans.

5 Iowa Community Action Association (2007). “Energy Agenda.”

6 U.S. Department of Health and Human Services (2005) *LIHEAP Home Energy Notebook for Fiscal Year 2003*, Table A-3. Available from: <http://liheap.ncat.org/pub.htm>.

7 Economic Opportunity Studies (2007) “The Outlook for the FY 2008 Energy Bills of Low-Income Consumers.” Available from: http://www.opportunitystudies.org/repository/File/weatherization/Outlook_FY2008_Energy_Bills.pdf.

How does cap-and-trade work?

A cap-and-trade system lowers emissions of greenhouse gases by mandating a maximum level of emissions (usually expressed in tons of carbon dioxide) and also making emission more expensive. The government decides on a “cap” level of total emissions that is below current emissions levels and then slices the cap up into individual permits that allow the holder of the permit to emit a unit of carbon dioxide. Since the goal of the cap-and-trade system is to reduce emissions over a period of time, these emission permits are scarce and therefore valuable. Permit holders can either use up their permits by emitting greenhouse gases, or they can choose to sell (hence the “trade” portion of a cap-and-trade system) their permits to others who will use them to emit greenhouse gases.

So, for instance, an energy company that relies on coal-fired power plants to generate electricity would have to possess enough permits to cover the total units of greenhouse gases produced by their power plants. A company emitting greenhouse gases without sufficient permits would face penalties for non-compliance. These penalties would be set at levels above the expected cost of purchasing emissions permits. If the energy company reduces its use of fossil fuels and starts producing more of its electricity with renewable technologies, it could sell some of the emissions permits that it no longer needs to companies that are emitting higher levels of greenhouse gases.

In essence, a cap-and-trade system means that the emission of greenhouse gases now has an up-front cost for the emitter. Firms pass this increase in their production costs on to consumers of energy. Individuals, state and local governments, and other firms are all consumers of energy, which means all these groups will bear the cost of pricing and reducing greenhouse gas emissions.

The biggest decision faced by policymakers with regard to the design of a cap-and-trade system is whether to auction off emissions allowances or give them away. Emissions permits remain valuable, regardless of whether they are auctioned off or given away. This is because the “cap” component of the cap-and-trade system restricts the overall supply of energy produced from fossil fuels and drives the price of this energy up until the quantity demanded drops equal to supply. This means that energy companies can sell their products for higher prices, regardless of whether they had to purchase their emissions permit or not. Consumers pay a higher price for energy no matter what, but if energy companies haven’t had to buy their emissions permits, they can reap what the director of the Congressional Budget Office has described as “windfall profits” from the sale of more expensive energy.⁸

On the other hand, if the government auctions the emissions permits, it will generate substantial amounts of revenue that can be used to offset the effects of increased prices on energy consumers. Recognizing that the implementation of a cap-and-trade system will also have some costs for producers of energy, the revenue from the auctioning of emissions permits could also be used to help firms and producers. The question of whether emissions permits are auctioned off or given away is particularly important from the perspective of low-income households. Giving away emissions permits and failing to fund measures to offset the disproportionate impacts of price increases on low-income households is a choice that can be avoided.

⁸ Statement of Peter R. Orszag, Director, Congressional Budget Office. “Approaches to Reducing Carbon Dioxide Emissions,” before the Committee on the Budget, U.S. House of Representatives, November 1, 2007.

Energy, climate policies disproportionately affect low-income households

Low-income households will be more heavily affected than more affluent households by increases in the cost of energy due to climate change. However, policies that address climate change by restricting emissions also raise the price of energy and disproportionately impact low-income households. The Center on Budget and Policy Priorities estimates that even a modest, 15 percent reduction in emissions would come with an average annual increase of \$750-\$950 in energy-related costs for the poorest one-fifth of the population.⁹ As Figure 3 indicates, emissions reductions alone have a regressive economic impact in that low-income households bear a larger share of cost increases associated with emissions reductions than do upper-income households.

While some cost increases will show up on home-energy bills, it's important to remember that increased prices for energy will affect the prices of all goods that rely on energy for their production or transportation. In fact, as shown in

Figure 4, only 45 percent of energy-related cost increases experienced by low-income households would be due to home-energy cost increases, with gasoline costs and costs related to other forms of consumption making up the remaining 55 percent.

Figure 3. Disproportionate Cost to Low-Income Households to Reduce Emissions¹⁰

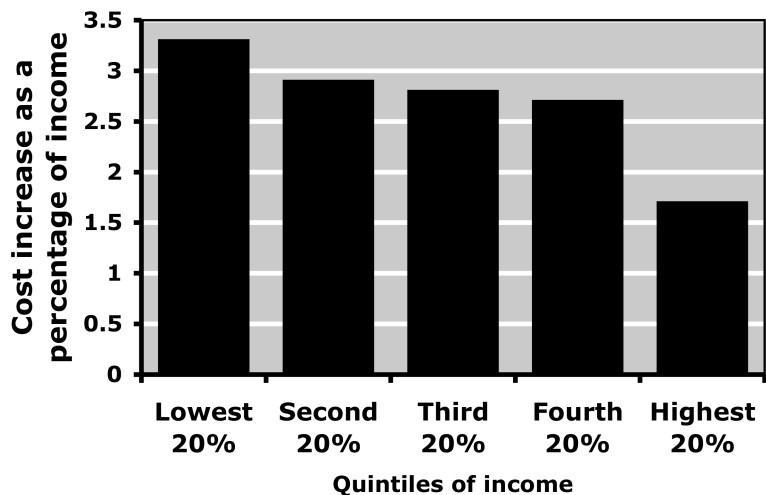
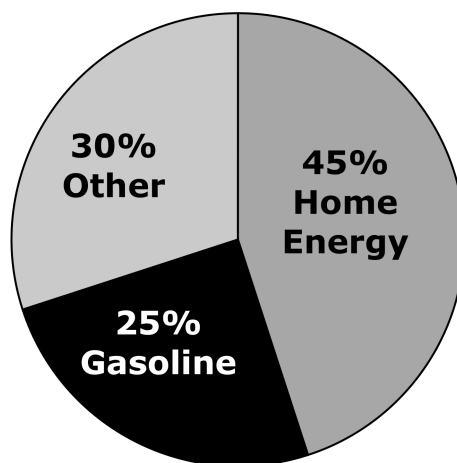


Figure 4. Impact on Low-Income Budgets* Goes Well Beyond Home Energy



** Shares of cost increase for poorest 20 percent of population by product category.*

Source: Center on Budget and Policy Priorities; calculations based on Consumer Expenditure Survey data and Congressional Budget Office methodology.

9 Greenstein, Robert, Sharon Parrott and Arloc Sherman, (2007) "Designing Climate-Change Legislation That Shields Low-Income Households From Increased Poverty and Hardship." Center on Budget and Policy Priorities, Revised November 8, 2007. Available from: <http://www.cbpp.org/10-25-07climate.htm>. CBPP figures refer to impacts on low-income households of a national, rather than regional, cap-and-trade system.

10 Congressional Budget Office (2007) *Trade-Offs in Allocating Allowances for CO₂ Emissions*. Economic and Budget Issue Brief, April 25, 2007. Available from: http://www.cbo.gov/ftpdocs/80xx/doc8027/04-25-Cap_Trade.pdf.

Making sure climate-change and energy policies work for all Iowans

Climate-change and energy policies can and should work for all Iowans. The December 2007 *Iowa Plan for Energy Independence* recognizes the importance of developing energy solutions that consider the needs and concerns of all Iowans. One of the plan's five articulated goals is to ensure that energy is affordable, especially for Iowa's low-income, disabled and elderly populations. Low-income Iowans and low-income advocates must be partners in crafting solid policy solutions addressing climate change.

The Center on Budget and Policy Priorities has suggested six principles to encourage the design of climate-change policy that takes into account the needs of low-income households. These principles can provide an important framework for Iowa to lead on state and regional responses to climate change.

Climate-change policy will be less effective if the concerns of low-income Iowans are left out of the policymaking process. Low-income Iowans are energy consumers, too. If low-income individuals are prevented from changing their energy consumption due to the high up-front cost of investing in energy-saving automobiles, appliances, furnaces, storm windows and the like, not only do they pay a high price for being unable to take advantage of energy efficiency technologies but they also prevent the state as a whole from reducing its carbon footprint.

Low-Income-Friendly Principles for Climate-Change Policy

Center on Budget and Policy Priorities

- Higher energy costs should be fully offset for people in the lowest income quintile and meaningful relief should be provided to those in the second quintile
- Assistance should reach as close to 100 percent of low-income households as possible
- Larger households should get more assistance than smaller ones
- Help should not be targeted on energy bills alone
- Delivery mechanisms should be highly efficient
- Assistance should get bigger as emissions controls get stronger

State governments need resources in order to take advantage of these significant economic opportunities and ensure energy consumers — particularly low-income households — aren't negatively affected by the implementation of good climate-change policy. Since energy-related cost increases will affect government budgets in the same way they will affect the budgets of Iowa families, governments need to design climate-change policies that generate enough revenue to offset these costs and provide resources for energy and economic initiatives.

State policymakers should likewise focus on ways to combine low-income assistance with energy efficiency measures so that energy assistance payments don't indirectly perpetuate inefficient energy use. And, importantly, policies must be designed that recognize that a majority of the costs associated with increasing energy prices will affect household budgets in ways other than the home energy bill; low-income households in Iowa will need programs that go beyond home heating payment assistance.

Low-income Americans constitute a substantial portion of the nation's energy consumers. For instance, households eligible for federal assistance account for 26 percent of the nation's total electricity consumption.¹¹ Energy efficiency should not be a luxury good available only to households in upper-

11 Energy Information Administration (2001) *Residential Energy Consumption Survey*. Table CE1-3c. "Total Energy Consumption in U.S. Households by Household Income, 2001."

income brackets. State programs that fund or subsidize the purchase of energy-efficient appliances and weatherization improvements can make energy efficiency an option for all Iowans.

Increased state funding for LIHEAP (Low Income Home Energy Assistance Program) benefits would help low-income consumers cope with increased home energy bills, especially if LIHEAP's weatherization assistance component could be expanded. Iowa's Weatherization Assistance Program, which aims to make the homes of low-income clients more energy-efficient, has produced an annual savings per home of \$435 and reduced the state's energy consumption by 2,776,170 kWh per year.¹² However, an additional 166,971 low-income homes in Iowa could benefit from the Weatherization Assistance Program but have not been reached under the program's current funding levels.

The 2007 plan of the Iowa Office of Energy Independence recommends the implementation and enforcement of energy-efficient building codes and also calls for Iowa's state government to lead by example by conducting energy audits on all state buildings and implementing energy efficiency retrofits. Minimum standards for home rental properties and public housing units should also be developed and enforced so that low-income renters can benefit from energy efficiency and taxpayers aren't subsidizing substandard conditions through the LIHEAP program. Because many low-income families rent their homes or apartments, they must rely on landlords to make efficiency improvements. The most substantial energy savings result from major improvements to homes and buildings, such as installing a high-efficiency furnace or wall insulation. Landlords serving low-income Iowans should be required to retrofit their properties and should receive at least partial assistance in making these improvements.

Innovative policy can also be implemented to help low-income households purchase energy-efficient appliances. A shared savings program or a zero-interest loan program administered through utilities would give low-income households the resources necessary to make an up-front purchase of an energy-efficient appliance and then make loan repayments through their energy bill. The cost of energy saved with the installation of the new appliance would be applied to repaying the loan, and when repayment was complete, the household's bill would drop to a level that reflected its reduced energy consumption.

However, high household energy bills account for a minority of the total, energy-related increase that will be experienced by low-income consumers in Iowa as a result of implementing effective climate and energy policy. Even if LIHEAP funds are increased to account for higher home-energy costs, low-income Iowans will be left trying to cope with higher costs of gasoline and groceries. The establishment of a refundable "climate change tax credit" targeted at low-income Iowans and the delivery of a rebate through the state Electronic Benefit Transfer (EBT) system that is currently used to deliver food stamp benefits are ways to off-set energy-related cost increases that won't show up on a home energy bill. These policies deliver targeted assistance in a way that gives households the flexibility to cope with the impact of higher energy prices on all aspects of their budgets.

Policy decisions related to the implementation of the Midwestern Regional Greenhouse Gas Reduction Accord must recognize the importance of auctioning emissions permits to generate revenue, rather than giving these permits away to polluters. Other states taking part in regional greenhouse gas reduction schemes have already realized the importance of this policy choice. For instance, Northeastern and Mid-Atlantic states that are members of the Regional Greenhouse Gas Initiative formed in 2003 have all chosen to auction off almost all of their emissions permits. A sufficient portion of the proceeds from the auctioning of emissions permits should be statutorily directed towards addressing the negative distributional effects of climate change policies in ways that go beyond simply increasing funding to

12 Dalhoff Associates (2007) *Report on the Impacts and Costs of the Iowa Low-Income Weatherization Assistance Program—Calendar Year 2006*, p. 2. Available from: <http://waptac.com/si.asp?id=1143>.

energy efficiency or energy assistance programs. Iowa policymakers can advocate for adopting these principles in federal climate policy, in addition to committing to them at the state level.

Innovative Policy Solutions for Low-Income Iowans

As illustrated above, public policy choices have a role in helping low-income Iowans cope with responses to climate change. Some innovative options:

- Expand Iowa's Weatherization Assistance Program to make the homes of low-income Iowans more energy-efficient.
- Develop minimum efficiency standards for rental properties.
- Provide funding for the retrofitting of rental properties with energy-efficient appliances, insulation, and high efficiency furnaces.
- Establish a shared savings or zero-interest loan program to make energy-efficient appliances affordable for everyone.
- Design policies that offset energy-related costs that won't show up on home energy bills.
- Auction any emissions allowances made available in a regional cap-and-trade system.

Conclusion

Building strong partnerships with low-income Iowans on climate change policy is crucial to ensuring that low-income advocates and environmentalists don't end up on opposite sides of the debate over what constitutes effective climate change policy. The shift to sustainable energy solutions can produce significant economic opportunities for Iowa, but these opportunities may not be realized if the impact of cost increases on low-income households is used as a justification for shying away from state leadership on climate-change issues.

Low-income Iowans can take advantage of the economic opportunities offered by state and regional responses to climate change, but only if Iowa continues to take bold steps in adopting a progressive energy agenda. The Blue-Green Alliance estimates that over 9,500 new manufacturing jobs could be created in Iowa as a result of a national commitment to renewable energy technologies.¹³ In addition, Iowa is the 10th-windiest state in the nation and the country's third-largest producer of wind power.¹⁴ The manufacturing of solar and wind power components is a natural economic opportunity for Iowa, given our renewable resource base and early establishment as a base for renewable energy component manufacturing. Iowa's working families can prosper through the creation of quality jobs that make Iowa a national leader in a new, green economy.

Iowa families deserve a bold public response on issues of climate change and energy choices. Policy choices must emphasize sustainability without forgetting that all Iowans must be able to afford to take advantage of sustainable energy sources. Upholding these principles will require innovative policy approaches and a strong commitment on the part of state lawmakers. Leadership already demonstrated on energy and climate-change issues indicates that Iowa will not shy away from the challenge of ensuring that all Iowans share in new energy opportunities.

13 Blue-Green Alliance (2007) *Iowa's Road to Energy Independence*.

14 Iowa Department of Natural Resources (2002), Elliot and Schwartz (1993). See also the Iowa Policy Project's 2003 report, *Wind Power and the Iowa Economy*. See: http://iowapolicyproject.org/Environment_Energy.html.