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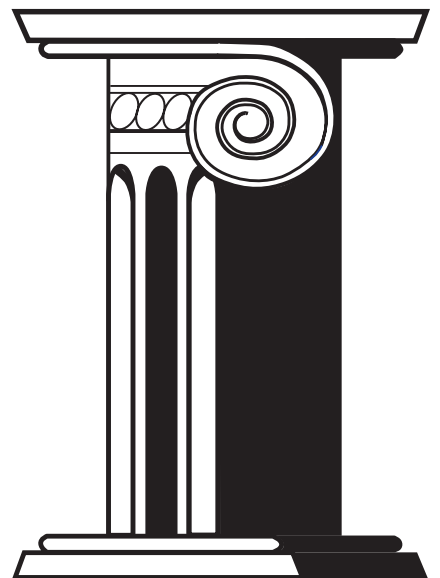
Peer Review  
Iowa Climate  
Change Advisory  
Council Climate  
Action Plan

***POLICY***  
***STUDY***

No. 09-3

Public Interest Institute  
Mount Pleasant, IA

PUBLIC INTEREST



I N S T I T U T E

**POLICY STUDY**

February 2009

No. 09-3

**Public Interest Institute**

**Dr. Don Racheter,  
President**

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# *Peer Review Iowa Climate Change Advisory Council Climate Action Plan*

## **Contents**

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<b>Executive Summary</b>	<b>3</b>
<b>Introduction</b>	<b>4</b>
<b>The ICCAC Plan</b>	<b>4</b>
<b>Problem 1: ICCAC fails to quantify benefits in a way that can be meaningfully compared to costs</b>	<b>5</b>
<b>Problem 2: When estimating economic impacts, ICCAC often misinterprets costs to be benefits</b>	<b>6</b>
<b>Problem 3: The estimates of costs leave out important factors, causing ICCAC to understate the true costs of its recommendations</b>	<b>6</b>
<b>Conclusion</b>	<b>10</b>
<b>Endnotes</b>	<b>11</b>

Governor Chester Culver signed Senate File 485 in 2007 establishing the Iowa Climate Change Advisory Council (ICCAC). In December 2008, the ICCAC submitted its final report to the Governor containing a greenhouse gas (GHG) inventory and forecast for the state and policy recommendations designed to reduce GHG emissions. The ICCAC worked with the Center for Climate Strategies (CCS) to develop these recommendations and to estimate the costs and benefits of reducing GHG emissions.

The Beacon Hill Institute has previously reviewed the cost-benefit methodology employed by CCS in nine other states: Arizona, Florida, South Carolina, Montana, Washington, Colorado, Minnesota, Maryland, and North Carolina. The institute found three serious problems with the CCS cost-benefit analyses:

1. CCS failed to quantify benefits in a way that they can be meaningfully compared to costs;
2. When estimating economic impacts, CCS often misinterpreted costs to be benefits; and
3. The estimates of costs left out important factors, causing CCS to understate the true costs of its recommendations.

Unfortunately for Iowa policy makers, these same three problems plague the ICCAC report, rendering it unsuitable for making any informed policy decisions.

The ICCAC report provides little guidance to policy makers regarding the desirability of policies aimed at reducing GHG emissions. It fails to perform the most basic

task of any cost-benefit analysis – quantifying both the costs and benefits in monetary terms so that they can be directly compared. The analysis mistakes costs for benefits. Astonishingly, the report posits net economic savings from policies intended to reduce GHG emissions *without* counting the value of those reduced emissions.

In this peer review we have briefly examined the cost-benefit assumptions for some of the proposals that project significant net cost savings for the state in the ICCAC report. In each case we have found the analysis to be seriously flawed. We can find no sound scientific basis for the claim that implementation of the recommended policies will impose a net cost of approximately \$4.8 billion (in present value terms). Although many of the proposed policies estimate significant net costs in achieving the goal of reduced GHG emissions, the analysis of other policies that predict net cost savings is seriously flawed. The result of this flawed analysis is that the net costs of full implementation of the recommendations are very likely underestimated by the ICCAC report.

For policymakers, the ICCAC report offers very little worthwhile guidance. The report fails to quantify the monetary benefits of reduced GHG emissions and its cost savings estimates are implausible if not downright unbelievable. The faulty analysis contained in the ICCAC report leaves policymakers with a skewed basis on which to judge the merits of the ICCAC report's recommendations for action on the mitigation of GHG emissions.

## *Executive Summary*

*“The institute found three serious problems with the CCS cost-benefit analyses:*

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# Peer Review

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## Introduction

Governor Chester Culver signed Senate File 485 in 2007 establishing the Iowa Climate Change Advisory Council (ICCAC). In December 2008, the ICCAC submitted its final report to the Governor containing a greenhouse gas (GHG) inventory and forecast for the state and policy recommendations designed to reduce GHG emissions. The ICCAC worked with the Center for Climate Strategies (CCS) to develop these recommendations and to estimate the costs and benefits of reducing GHG emissions.

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lems plague the ICCAC report, rendering it unsuitable for making any informed policy decisions.

In this brief document, we first summarize the main findings of the ICCAC study. We then briefly review problems 1 and 2, before providing a more detailed analysis of the third problem, where we examine the individual cost and benefit assumptions made in the programs proposed in the ICCAC report that project the greatest net cost savings.

## The ICCAC Plan

The ICCAC report contains 56 recommended policy actions to reduce GHG emissions. These policy options are classified as falling into five areas:

- 1) Energy Efficiency and Conservation;
- 2) Clean and Renewable Energy;
- 3) Transportation and Land Use;
- 4) Agriculture, Forestry, and Waste Management;
- 5) Cross-Cutting Issues (policies that impact more than one of the above sectors).

In addition to planning the activities of the commission, CCS facilitated and provided technical assistance in the development of the policy recommendations. The ICCAC report quantifies forecasted emissions reductions for 38 of the 56 recommended policies. The ICCAC developed two separate GHG reduction

scenarios. Both GHG reduction scenarios use 2005 as the baseline year. The scenarios set goals of 50% and 90% GHG reductions below 2005 levels by the year 2050. The report sets the years 2012 and 2020 as short-term and mid-term intervals to use as benchmarks to judge progress in achieving the reduction goals. They estimate that, if these policies were fully implemented, Iowa's GHG emissions would be 1% lower by 2012 and 11% lower by 2020 for the 50% reduction scenario than they would be if the policies were not implemented. With full implementation, the 90% reduction scenario would produce GHG levels that are 3% lower than the baseline by 2012 and 22% lower by 2020.

The ICCAC report quantifies costs for 37 of the 56 recommended options; of these, it is claimed that 19 would generate net cost savings per ton GHG reduced. If all options were implemented, the ICCAC estimates that the net cost would be approximately \$4.8 billion (in present value terms) between now and 2020.

The ICCAC report's net cost estimate of \$4.8 billion diverges from previous GHG mitigation plans in other states that have projected substantial net cost savings. However, because this analysis suffers from the same problems that BHI has cited in previous reviews of CCS cost-benefit analyses even this \$4.8 billion cost is underestimated.

### **Problem 1: ICCAC fails to quantify benefits in a way that can be meaningfully compared to costs**

A scientifically sound cost-benefit analysis should clearly spell out all of its assumptions, estimate the physical impacts that a particular policy change will have over time, and then estimate the present value, in dollars, of both the benefits and the costs of the physical impacts. On this basis, a study should be able to conclude whether a given policy change is expected to provide benefits in excess of its costs.

The ICCAC report does not discuss the details of the methodology employed in the net cost (savings) projections of the policy recommendations. In previous state reports where CCS provided technical assistance, the main intended benefit of implementation of climate change mitigation options was reduced GHG emissions. Similar to the other reports, the ICCAC report fails to estimate the dollar value of the main intended benefit. The authors of the climate action plan for the state of Colorado were explicit about this:

Regarding GHG benefits, market prices (monetized benefits) are normally taken as good proxies of societal costs and benefits in standard analysis unless there are market imperfections or subsidies that create distortionary

# *Iowa Climate Change Advisory Council Climate Action Plan*

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# Peer Review

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effects. Because accurate information on the dollar value of GHG reductions benefits is typically not available, physical benefits are used instead, measured as MMTCO<sub>2</sub>e (p. D2).<sup>1</sup>

However, without this information, the ICCAC report is unable to conduct a cost-benefit analysis at all. The goal, reduced GHG emissions, is measured in purely physical terms instead of dollars, which precludes a comparison of the value of reduced GHG emissions to the costs associated with reducing the emissions. CCS estimates a \$4.8 billion cost (incorrectly), but does not provide any estimate of the value of the benefit, reduced GHG emissions, to weigh the cost against.

**Problem 2: When estimating economic impacts, ICCAC often misinterprets costs to be benefits.**

The ICCAC report routinely mistakes costs for benefits. Jobs in particular are erroneously viewed as benefits. In the media release accompanying the report, ICCAC Chairman Gerald Schnoor states, “Some options have upfront costs, but yield savings in the long run. Overall, the options create jobs and support a prospering Iowa economy, as well as reduce greenhouse gases.”<sup>2</sup> Reasonable people can disagree as to whether job creation in clean energy industries constitutes a net economic benefit for the state of Iowa. Unfortunately, the

ICCAC report does not clearly explain how the benefits from job creation in clean energy industries will outweigh the costs associated with job displacement in the industries that will suffer from the implementation of the panel’s recommendations.

Additionally, jobs themselves are *not* a benefit; if they were, workers would be paying their employers for the privilege of working, rather than vice versa! It is the value created by performing those jobs that is the benefit, while doing the job is the cost an individual must pay to obtain a benefit. As mentioned above, CCS never quantifies the value of the benefit these jobs would provide.

**Problem 3: The estimates of costs leave out important factors, causing ICCAC to understate the true costs of its recommendations**

Although the ICCAC report does not estimate the monetary value of benefits (reduced GHG emissions), it does attempt to quantify the monetary costs of 37 of their policy recommendations. As indicated above, the report estimates that there would be net costs of approximately \$4.8 billion if its recommendations are implemented. However, the majority of the estimated net cost of implementation is associated with a small number of the recommendations. About half of the recommendations for which costs were quantified are projected to provide net cost savings for the state.

# Iowa Climate Change Advisory Council Climate Action Plan

*“This claim raises a fundamental problem: if the private benefits are really so large, why are people not taking advantage of them already?”*

This finding – that mitigating GHG emissions amounts to a free lunch for many of the policies – does not hold up under scrutiny, and is an artifact of the ICCAC report’s unrealistic assumptions and incomplete listing of costs. To highlight these shortcomings, we now examine in more detail some of the policies that, according to the ICCAC report, would generate the greatest net cost savings while also reducing GHG emissions. The five policies are listed in Table 1, next to the net cost savings that ICCAC claims would result if Iowa implements the policies.

### *EEC-14 More Stringent Appliance Efficiency Standards*

The proposal advocates implementing state energy efficiency standards for appliances that are not covered by federal standards. The goal of the policy is a 5% reduction in energy consumption from residential, commercial, and industrial consumers. Whether in tandem with other states or unilaterally, the report

urges policymakers to impose 80% minimum efficiency standards for appliances not covered by federal standards and the requirement of Energy Star® appliances in purchases made with state funds. The ICCAC report estimates a net cost savings of slightly over \$708 million by mandating greater energy efficiency for such appliances.

The entirety of the net savings stems from money saved from reduced energy consumption in excess of the greater cost of making more energy efficient appliances. This claim raises a fundamental problem: if the private benefits are really so large, why are people not taking advantage of them already? Either the program matters, in which case it imposes costs; or it is irrelevant because the changes would have been made anyway, in which case the policy generates no benefits. In either case, the \$708 million in cost savings identified by the ICCAC will not be realized because of this policy.

**Table 1. ICCAC Estimates of New Savings Due to Implementation of Selected Greenhouse Gas Emission Mitigation Measures**

	Program title	Net Cost Savings to IA by 2020 (\$ millions)
EEC-14	More Stringent Appliance Efficiency Standards	708.15
EEC-2	Demand Side Management Programs (DSM)/Energy Efficiency Programs for Natural Gas	191.77
EEC-12	Demand Side Management Programs (DSM)/Energy Efficiency Programs for Electricity	444.81
CRE-12	Combined Heat and Power	564.3
TLU-7a	Fuel Efficient Operations for Light-Duty Vehicles: Fuel Efficient Replacement Tires Program	306.9

*Source: ICCAC report*

# Peer Review

*EEC-2 Demand Side Management (DSM)/Energy Efficiency Programs for Natural Gas*

*EEC-12 Demand Side Management (DSM)/Energy Efficiency Programs for Electricity*

These proposals focus on achieving the goals of reduced overall energy consumption and a reduction in peak load demand for energy through increased investment in electricity and natural gas demand side management (DSM) programs. The proposal would require investor owned utilities to invest 1.0% of both retail electricity and natural gas sales per year within 3 years; 1.5% per year within 5 years; and 2.0% per year within 7 years in DSM programs. The ICCAC report estimates that the two policies together will create more than \$635 million in net savings for the Iowa economy. The net savings originate from energy efficiency programs funded with a mandated percentage of utility revenues from Investor Owned Utilities (IOUs).<sup>3</sup>

Listed as a “key uncertainty,” the ICCAC claims that the investments will “most likely not lead to reductions in utility rates, but typically result in reduced energy expenditures (customer bills) over the life of the investment” (p. F13). One wonders why they never consider that their DSM policies will raise rates. Mandating that revenues be devoted to DSM policies lowers revenues to firms. Thus the policy will act like a tax on energy and gas

producers. Taxes raise prices and lower quantities consumed. Even if the eventual energy savings are realized, in the mean time high rates would discourage energy consumption and consumers would miss the benefits this consumption provides. Thus these policies confront two problems unrecognized by the ICCAC.

First, this policy encounters the same problem described for option EEC-14. If the DSM programs provide net savings then there is no need to mandate the diversion of electricity and natural gas revenues to fund them. These same energy efficiency improvements would have been implemented voluntarily in order to enjoy the suggested net benefits.

Second, the ICCAC analysis fails to quantify the value of what would have been produced or consumed with the increased energy use that the DSM programs will discourage with higher prices. The sacrificed value resulting from the increased energy prices constitutes a major cost that the ICCAC analysis completely ignores. When energy uses create benefits in excess of its cost the energy should be used. By increasing the prices, this policy drives a wedge between the true cost of the energy and the price the buyer has to pay which leads to inefficient use (i.e. net costs).

To illustrate, if electricity can be produced for \$200 and a consumer values what that

*“The sacrificed value resulting from the increased energy prices constitutes a major cost that the ICCAC analysis completely ignores.”*

# *Iowa Climate Change Advisory Council Climate Action Plan*

electricity will provide at \$250, there is a net gain of \$50 for the Iowa economy if the person consumes the electricity. If this policy raises the price to \$260 because mandate acts as a tax on producers, while the cost of generation remains at \$200, the person will choose not to consume it and Iowa will be \$50 poorer as a result. The ICCAC report completely ignores these losses.

The ICCAC report fails to count dollars not spent on a valuable service as a cost. At a minimum, at least during the implementation phase, these costs would be born because the energy efficiency improvements would not have yet been made but rates would be higher. There are obvious costs to consuming less electricity, but the ICCAC model does not account for any of these costs. If, at the end of the program, the energy investments do save consumers the money in excess of the cost of the upgrades, then these programs, like the ones above, are not needed. The efficiency improvements would have been made anyway.

In any case, the claimed \$635 million, grossly overstates cost savings.

## *CRE-12 Combined Heat and Power*

This policy proposes that the state establish incentives for the creation and implementation of Combined Heat and Power (CHP) systems near baseload generating stations. CHP sys-

tems are designed to recover waste heat from energy production for productive use. The process aims to maximize energy use from the consumption of fossil fuels at baseload generating stations and avoids additional GHG emissions from commercial and industrial entities near the generating station.

The proposal encourages the use of incentives such as tax credits, grants, favorable zoning and offset credits for avoided emissions to attract commercial and industrial end users that will develop the infrastructure necessary to capture and utilize the waste heat.

While there may be advantages to the utilization of CHP systems in terms of reduced GHG emissions from less fossil fuel consumption, the ICCAC report fails to explain why commercial and industrial entities do not already exploit such supposed advantages by locating near baseload generating stations. The report estimates over \$564 million in net cost savings from reduced fossil fuel consumption in excess of the cost of enticing commercial and industrial entities to develop and implement CHP systems. The analysis from the ICCAC report again begs the question: if the benefits are really so large, why are private individuals not already taking advantage of these gains? The answer must be that the estimate of \$564 million in net cost savings is an overestimate and that this policy would actually impose net costs.

*“The analysis from the ICCAC report again begs the question: if the benefits are really so large, why are private individuals not already taking advantage of these gains?”*

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## *TLU-7a Fuel Efficient Operations for Light-Duty Vehicles: Fuel Efficient Replacement Tires Program*

This proposal aims to improve fuel economy for light-duty vehicles in the long run by mandating minimum energy efficiency standards for replacement tires. The ICCAC report notes that many automobile manufacturers use low-rolling resistance (LRR) tires for some of their new vehicles in an effort to meet federal CAFÉ standards. However, LRR tires are not widely available as replacement tires and tire manufacturers are not required to provide information about the fuel efficiency of replacement tires.

The proposal attempts to remedy this situation by setting minimum efficiency and labeling standards for replacement tires that will provide greater fuel efficiency and disseminate information to consumers about the energy efficiency of replacement tires. The ICCAC report estimates that the implementation of this program will provide more than \$306 million in net cost savings by the year 2020.

The program suffers from the same problems as the other policies discussed above: if the benefits from the implementation of this program are so large, why are private individuals and entrepreneurs not already taking advantage of the supposed benefits? Either it is the case that LRR replacement tires do not provide the suggested increases

in fuel economy or that the tires do, in fact, provide such benefits but at a cost higher than the report cites. Allowing that the replacement tires do improve fuel economy, it must be the case that the policy will impose net costs instead of the more than \$300 million in net cost savings.

## **Conclusion**

The ICCAC report provides little guidance to policy makers regarding the desirability of policies aimed at reducing GHG emissions. It fails to perform the most basic task of any cost-benefit analysis – quantifying both the costs and benefits in monetary terms so that they can be directly compared. The analysis mistakes costs for benefits. Astonishingly, the report posits net economic savings from policies intended to reduce GHG emissions *without* counting the value of those reduced emissions.

In this peer review we have briefly examined the cost-benefit assumptions for some of the proposals that project significant net cost savings for the state in the ICCAC report. In each case we have found the analysis to be seriously flawed. We can find no sound scientific basis for the claim that implementation of the recommended policies will impose a net cost of approximately \$4.8 billion (in present value terms). Although many of the proposed policies estimate significant net costs in achieving the goal of reduced GHG emissions, the analysis of other policies

that predict net cost savings is seriously flawed. The result of this flawed analysis is that the net costs of full implementation of the recommendations are very likely underestimated by the ICCAC report.

For policymakers, the ICCAC report offers very little worthwhile guidance. The report fails to quantify the monetary benefits of reduced GHG emissions and its cost savings estimates are implausible if not downright unbelievable. The faulty analysis contained in the ICCAC report leaves policymakers with a skewed basis on which to judge the merits of the ICCAC report's recommendations for action on the mitigation of GHG emissions.

### Endnotes

<sup>1</sup> "Colorado Climate Project's Climate Action Panel Cost-Benefit Analysis," <http://www.coloradoclimate.org/ewebeditpro/items/O14F13852.pdf> [accessed January 19, 2009]. See D2.

<sup>2</sup> "Final Report on Greenhouse Gas Cutbacks Submitted to Governor and Iowa General Assembly," <http://www.iaclimatechange.us/ewebeditpro/items/O90F20724.pdf> [accessed January 21, 2009].

<sup>3</sup> <http://www.iaclimatechange.us/ewebeditpro/items/O90F20688.pdf> [accessed January 21, 2009]. See p. F-10 and F-49.

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