

Chapter 7

Cross-Cutting Issues

Overview of Cross-Cutting Issues

Some issues relating to climate policy cut across multiple sectors. The Iowa Climate Change Advisory Council (ICCAC) addressed such issues explicitly in a separate Cross-Cutting Issues (CC) Subcommittee (SC). Cross-cutting options typically encourage, enable, or otherwise support emission mitigation activities and/or other climate actions. The types of policies considered for this sector are not readily quantifiable in terms of greenhouse gas (GHG) reductions and costs or cost savings. Nonetheless, if successfully implemented, they help build a foundation for other options and will contribute to GHG emission reductions and implementation of the ICCAC's policy options described in Chapters 3–6 of this report.

The CC SC developed options for eight policies (see Table 7-1) that were then reviewed, revised, and ultimately adopted by the ICCAC members present and voting. Seven of the options are focused on enabling GHG emission reductions and mitigation activities, while one (CC-7-Adaptation and Vulnerability) addresses adaptation to the changes expected from the effects of GHGs that will remain in the atmosphere for decades.

Key Challenges and Opportunities

The ICCAC was charged with identifying a baseline case and GHG reduction scenarios with at least one of those scenarios aimed at achieving a 50% reduction of GHGs below a baseline year by 2050. In addition, the ICCAC chose to look at a second scenario aimed at achieving a 90% reduction of GHGs below the baseline by 2050. ICCAC established 2005 as the baseline year and identified a short-term target of reducing the 2005 GHG baseline by 1% by 2012 and a mid-term target of 11% by 2020 on the way to a 50% reduction by 2050. In the second scenario ICCAC identified a short-term target of reducing the 2005 GHG baseline by 3% by 2012 and a mid-term target of 22% by 2020 on the way to a 90% reduction by 2050.

The ICCAC based its options on its review of the potential overall emission reduction estimates (as compared to the GHG emissions inventory and forecast for business as usual) for 37 of 54 policy options for which emission reductions were quantified. It also considered the goals and scenarios adopted by several other states in its deliberations. While 17 other ICCAC policy options were not readily quantifiable, some of them would most likely achieve additional reductions, including several of the Cross-Cutting policy options.

The ICCAC just completed its first year of operation and has at least two more years to function under the original legislation. One of the first challenges it has is to develop its ongoing role and the priority areas it should focus on first following completion of this report. It will need to develop more detailed implementation plans and strategies to carry out many of the initiatives

proposed herein. A key challenge will be to identify resources that can be used to facilitate development of such implementation plans and strategies. A closely related challenge for the state will be to identify available resources needed to implement many of the initiatives outlined in this report. ICCAC will need to work closely with the Iowa Department of Natural Resources (DNR), the Iowa Power Fund and the Iowa Energy Center to examine these opportunities.

Table 7-1. Cross- Cutting Issues Policy Options

Policy No.	Policy Option	GHG Reductions (MMtCO ₂ e)			Net Present Value 2009–2020 (Million \$)	Cost-Effectiveness (\$/tCO ₂ e)	Status of Option
		2012	2020	Total 2009–2020			
CC-1	GHG Inventories, Forecasting, Reporting, and Registry	<i>Not Quantified</i>					Unanimous
CC-2	Statewide GHG Reduction Scenarios	<i>Not Quantified</i>					Majority (4 Objections)
CC-3	State and Local Government GHG Emissions (Lead by Example)	<i>Not Quantified</i>					Unanimous
CC-4	Public Education and Outreach	<i>Not Quantified</i>					Unanimous
CC-5	Tax and Cap Policies—Lead Transferred to the CRE SC	<i>Not Quantified</i>					Transferred
CC-6	Seek Funding for Implementation of ICCAC options	<i>Not Quantified</i>					Unanimous
CC-7	Adaptation and Vulnerability	<i>Not Quantified</i>					Unanimous
CC-8	Participate in Regional and Multi-state GHG Reduction Efforts	<i>Not Quantified</i>					Unanimous
CC-9	Encourage the Creation of a Business-Oriented Organization To Facilitate Investment in Climate-Related Business Opportunities and To Share Information and Strategies, Recognize Successes, and Support Aggressive GHG Reduction Goals	<i>Not Quantified</i>					Unanimous

GHG = greenhouse gas; MMtCO₂e = million metric tons of carbon dioxide equivalent; \$/tCO₂e = dollars per metric ton of carbon dioxide equivalent; ICCAC = Iowa Climate Change Advisory Council; CRE = Clean and Renewable Energy; SC = ICCAC.

Overview of Policy Options and Estimated Impacts

Cross-cutting issues include policies that apply across the board to all sectors and activities. Cross-cutting options typically encourage, enable, or otherwise support emission mitigation activities and/or other climate actions. The ICCAC developed eight such policy options for implementation in Iowa. All are enabling policy options that are not quantified in terms of tons of GHG reduction or costs.

Detailed descriptions of the individual Cross-Cutting policy options as presented to and approved by the ICCAC can be found in Appendix J of this report. Following are highlights of some of the options approved by ICCAC:

The state needs to enhance its capacity to conduct inventory, forecasting, reporting and registry functions. It should have the capacity to inventory and forecast all statewide anthropogenic sources and sinks annually with projections out twenty years. It needs to develop a mandatory GHG emission reporting system for sources over de minimis levels and will need to formulate consistent protocols to use in doing so.

ICCAC is presenting two GHG reduction scenarios to the Governor and Legislature to meet a 50% and a 90% reduction level, respectively, below 2005 levels by 2050. It is anticipated that the Legislature will take up the issue of goals and scenarios in the 2009 session and may provide more specific direction regarding selection of short, mid and long-term reduction goals and scenarios. If so the ICCAC may be called on to assist in prioritizing and designing more detailed implementation strategies. The state should also develop a tracking system to measure progress over time in achieving GHG reductions against the above goals and scenarios.

The state has already embarked on numerous initiatives to reduce GHG emissions and will need to continue to do so. ICCAC suggests that the Governor should consider establishing a Governors Challenge to the state agencies and people of Iowa to find more reductions. The state should also assist local governments in their efforts to join the state in “leading by example” to find more reductions. The state and local governments should find additional energy efficiencies and GHG reductions in their procurements for buildings, vehicle fleets and office equipment.

A key to building a broad base of awareness and support for the policy options included in this report will require a public education and outreach effort. The ICCAC has identified numerous strategies over the next three years to do so in conjunction with academic, business, local government and other partners in this process.

Given Iowa’s vulnerability to impacts of climate change the state should develop a Climate Change Adaptation Plan to identify plan for and manage these impacts.

The state is a participant in the Midwestern Governors Climate Accord and Energy Security and Climate Stewardship Platform. The state should continue this proactive engagement with other states in the region in developing cost-effective multi-state reduction strategies.

Finally, it has been demonstrated that there are numerous economic and employment opportunities associated with implementation of many of the GHG reduction policy options being recommended by ICCAC. The Council encourages the creation of a business oriented entity to capitalize on these opportunities to create green jobs in Iowa and to promote new business ventures in this arena.

Cross-Cutting Issues Policy Descriptions

CC-1. Inventories, Forecasting, Reporting and Registry

Policy Description

Greenhouse gas (GHG) emission inventories and forecasts are essential for understanding the magnitude of all emission sources and sinks (both man made [anthropogenic] and natural), the relative contribution of various types of emission sources and sinks to total emissions, and the factors that affect trends over time. Inventories and forecasts help to inform state leaders and the public on statewide trends and mitigation opportunities and in verifying GHG reductions associated with implementation of action plan initiatives.

GHG reporting supports tracking and management of emissions. It can help sources identify emission reduction opportunities, reduce risks associated with possible future GHG mandates through early participation, and construct periodic state GHG inventories. GHG reporting is a precursor for sources to participate in GHG reduction programs, and/or a GHG emission registry, as well as to secure “baseline protection” (i.e., credit for early reductions).

A GHG registry enables recording of GHG emissions in a central repository with “transaction ledger” capacity to support tracking, reductions management, and “ownership” of documented *emission* reductions; it offers recognition opportunities; and/or provides a mechanism for regional, multi-state, and cross-border cooperation. Properly designed registry structures also provide a foundation for possible future trading programs.

CC-2. Statewide GHG Reduction Scenarios

Policy Description

To date, Iowa has not adopted any mandatory statewide GHG reduction goals. Iowa Code Reference 455B.152(3)(a) and (b) and 455B.152(4), which the Iowa legislature passed in 2007, requires the IDNR to establish a GHG inventory and a voluntary GHG gas registry for tracking, managing, and crediting entities in the state that reduce their generation of GHGs. Under the same legislation, the ICCAC is required to recommend a baseline year from which to calculate future GHG reductions, and to develop multiple scenarios to reduce GHG emissions in Iowa by 2050, including interim years with targeted goals. A 50% reduction scenario by 2050 was specified in the legislation, and the ICCAC in its January 1, 2008, interim report recommended an additional scenario of 90% reduction by 2050, with subsequent scenarios to be determined for interim years of 2012 and 2020. The baseline year for Iowa is recommended in the Interim Report to be 2005.

Governor Culver issued the Green Government Executive Order (Executive Order 6) on February 21, 2008, which sets the goal of reducing “the use of electricity, natural gas, fuel oil and water in all state office buildings by at least 15% overall in the next 5 years, taking into

account growth in the state workforce and/or changes in building operations.” This follows Governor Vilsack’s Executive Order 41 to reduce electricity and natural gas by 15% by 2010 from the year 2000 baseline. These executive orders are establishing policy goals of greater than 1.5% per year reductions in the use of fossil fuels for state building operations in the near term, and presumably they will result in similar GHG reductions for state buildings if fully implemented.

Legislation in 2007 also produced the Iowa Office of Energy Independence (OEI) and the Iowa Plan for Energy Independence. The plan “shall provide cost effective options and strategies for reducing the state’s consumption of energy, dependence on foreign sources of energy, use of fossil fuels, and GHG emissions. The options and strategies developed in the plan shall provide for achieving energy independence from foreign sources of energy by the year 2025.” In addition, the Midwestern Governors Association adopted the Energy Security and Climate Stewardship Platform for the Midwest, which specifies an energy efficiency goal of at least 2% per year reduction in natural gas and electricity use to be achieved by 2015.

Transitioning from the fossil fuel age to a new mix of energy sources like energy conservation, efficiency, cellulosic biofuels, and wind power is already creating “green collar” jobs and invigorating the economy in Iowa. Early action alternatives have much greater effect in mitigating future climate change and its impacts compared to later reductions. Reductions for developed countries in the range of 25%–40% by 2020 and 80%–95% by 2050 were discussed in the initial Bali round of the Framework Convention on Climate Change in December 2007. It is recognized that “substantial deviation from baseline” will also be necessary for developing economies in Latin America, the Middle East, East Asia, and centrally planned Asia.

CC-3. State and Local Government GHG Emissions (Lead by Example)

Policy Description

State of Iowa property belongs to all Iowans, and its expansion and upkeep is funded by Iowans’ tax dollars. The same is true for each Iowan’s public school and city or county government. The majority of Iowans believe strong action is required to reduce GHG emissions. Government buildings, office equipment, and vehicles are present in every Iowa community and are among the biggest energy consumers in the state. As such, they represent a very significant opportunity for changing the course of Iowa’s energy use.

State and local governments should be at the forefront of energy efficiency and renewable energy. By installing the most efficient technology and tapping local power sources, governments can reduce their own GHG emissions, create a significant opportunity for businesses to create and install efficient and/or renewable technologies, create a tested pool of Iowa-specific best practices, build communities’ sense of pride in their governments (perhaps boosted by tax decreases and economic benefit), and spur residents and businesses to pursue energy efficiency and renewable energy.

Policy Description

The goal of climate change education extends well beyond the goal of conventional education, because it seeks not only to impart cognitive knowledge, but also to translate knowledge into positive action. Failure to appreciate this distinction has led to stagnation and lack of successful approaches in creating a public that is literate about issues relevant to climate change. According to the seminal work of Hungerford and Volk (1990),¹ there are three levels of environmental awareness:

- *Simple Awareness*—Knowing about the existence and importance of an environmental issue, but being unfamiliar with its complexities and having little relationship to personal change or action.
- *Personal Conduct Knowledge*—Understanding an environmental issue that lends itself to changes in personal conduct, but does not require detailed comprehension.
- *Environmental Literacy*—The outcome of a sound program of environmental education in which the learner progresses to deeper knowledge, and can apply it to address complex environmental issues and make wiser decisions.

Public education and outreach programs should address the public’s responsibility to maintain clean air, pure water, and fertile soil for their children and future generations. Adding to the challenge is that environmental information absorbed by the public stems from a diverse and unconnected smattering of sources that includes television, radio, print media, environmental groups, government publications, the Internet, the classroom, personal readings, chatting with friends, and other experiences. In general there is no quality control for the information. In the end, those seeking to learn about environmental issues are often left with little more than a collection of factoids, numerous and often conflicting opinions, and very little understanding—not enough to get beyond the “simple awareness” level cited above. Undoubtedly, excellent resources are available for public environmental education, but they may be lost in the background noise emanating from the cacophony of messages from disparate other sources.

There is not much detailed information about the level of climate change awareness in Iowa. The available evidence, however, suggests that it may not extend much past “simple awareness,” because there doesn’t appear to be significant change in personal conduct with respect to steps that would mitigate climate change. For example, optimizing energy efficiency is a major strategy for reducing GHG emissions, but a recent comprehensive study commissioned by the Iowa Utility Association shows enormous untapped potential in realizing that goal for Iowa.

¹ Hungerford, H.R. and T.L. Volk (1990). Changing learner behavior through environmental education. *Journal of Environmental Education* Spring; 21(3):8–21. Available at: http://eric.ed.gov:80/ERICWebPortal/custom/portlets/recordDetails/detailmini.jsp?_nfpb=true&_ERICExtSearch_SearchValue_0=EJ413973&ERICExtSearch_SearchType_0=no&accno=EJ413973.

There is an urgent need for a comprehensive, objective, and authoritative climate change education campaign for Iowa that will improve the knowledge base and motivate individuals, communities, and organizations to take action to will reduce their GHG emissions.

CC-5. Tax and Cap Policies

Policy Description

The lead for developing this policy option was transferred by the ICCAC to the Clean and Renewable Energy Subcommittee. (See Chapter 4.)

CC-6. Seek Funding and Financing for Implementation of ICCAC Options

Policy Description

Funding must be obtained to implement some ICCAC options. In Iowa there are two organizations that fund projects related to the ICCAC goals: the Iowa Power Fund and the Iowa Energy Center. (See Appendix J for a description of these organizations.) Out-of-state and federal funding sources should also be considered. For all sources of funding, success would be enhanced through partnerships with other organizations and agencies.

CC-7. Adaptation and Vulnerability

Policy Description

Because of the existing buildup of GHGs in the atmosphere from past and current emissions, Iowa will experience effects of climate change for years to come, even if immediate action is taken to reduce its future GHG emissions. While Iowa may be less dramatically affected than coastal or arid regions of the country, the state will need to adapt to different sets of vulnerabilities, which may include impacts such as increased public health risks, urban infrastructure demands, and refugee movement. Thus, it is essential that the state develop a plan to manage the projected impacts of global climate change affecting Iowa, while broader mitigation efforts to lower atmospheric concentrations worldwide are being developed and implemented. Part of our adaptation must include strategies for mitigating and addressing human suffering, so that no one segment of the population or any of Iowa's natural resources or natural heritage sites suffers catastrophically.

CC-8. Participate in Regional and Multi-State GHG Reduction Efforts

Policy Description

Regional approaches undertaken in collaboration with partner states or other organizations can offer broader and more economically efficient opportunities to reduce GHG emissions across Iowa's economy. Iowa has already joined several organizations, including the Midwestern Greenhouse Gas Accord, the Midwestern Governors Energy Security and Climate Stewardship Platform, and multistate Climate Registry initiatives. These developments should be continued and should form the basis for Iowa's own programs. To the extent that Iowa's needs may not be

fully met by these initiatives, Iowa should consider developing supplemental or ancillary registry capacity or opportunity. (See CC-1.)

CC-9. Encourage the Creation of a Business-Oriented Organization to Facilitate Investment in Climate-Related Business Opportunities and to Share Information and Strategies, Recognize Successes, and Support Aggressive GHG Reduction Goals

Policy Description

Numerous economic and business opportunities can arise from implementing a comprehensive GHG reduction strategy for Iowa. A variety of job creation possibilities are implicit in new approaches to transportation, land use, green construction, recycling and reuse, and energy-efficient products and services. The state should work with public and private entities to identify, promote, and finance these opportunities for economic development and job creation. Iowa should also work to keep existing green jobs in Iowa and prevent them from moving out of state.

The growth of the “green industry” has the potential to benefit low- to mid-skill workers who can no longer depend on traditional manufacturing jobs. Since green jobs require applied technical skills, they generally pay decent wages. Unlike blue-collar jobs, many green-collar jobs require local employees and cannot be outsourced.

Another component of economic development is the promotion of buying locally-produced foods, goods, and products. Consumer support for the local economy helps sustain Iowa businesses, jobs, and tax base, while reducing the consumption of fuel (and CO₂ emissions) in the transportation of foods and products over great distances.