Draft Policy Option

CRE-1 Education

Policy Description

Explicitly articulated education and outreach can support GHG emissions reduction efforts at all levels in the context of emissions reduction programs, policies, or goals. Education and outreach can foster a broad awareness of climate change issues and effects related to Energy Supply (including co-benefits, such as clean air and public health). Such awareness engages citizens both in direct actions to reduce GHG emissions and in support of actions by government, industry or civil society. Education and outreach efforts should integrate with and build upon existing outreach efforts involving climate change and related issues in the state.

Policy Design

Goals: TBD

Timing: TBD

Parties Involved: TBD

Other: TBD

Implementation Mechanisms

TBD

Related Policies/Programs in Place

TBD

Type(s) of GHG Reductions

Estimated GHG Reductions and Costs (or Cost Savings)

TBD

Data Sources: TBD

Quantification Methods: TBD

Key Assumptions: TBD

Key Uncertainties

TBD

Additional Benefits and Costs

TBD

Feasibility Issues

TBD

Status of Group Approval

TBD

Level of Group Support

TBD

Barriers to Consensus

TBD

Draft Policy Option
CRE-2 Technology Initiatives, including Renewables

Policy Description

States can undertake initiatives focused on developing, promoting, and/or implementing one or more specific technologies that show promise for reducing GHG emissions. Technologies could include, among others, fuel cells (to increase efficiency, create markets for hydrogen, etc.), energy storage such as compressed air systems (to enable greater penetration of intermittent renewable technologies such as wind), or biomass co-firing. Biomass co-firing can be a low-cost, near-term means of converting biomass to electricity and displacing coal use by adding up to 15% biomass in high-efficiency coal boilers.

A standard interconnection rule will ensure that distributed power products meet minimum requirements for performance, safety, and maintenance and will significantly advance the commercialization of these new technologies. Standardized interconnection rules, which are generally developed and administered by a state's public utility commission, establish clear and uniform processes and technical requirements for connecting DG systems to the electric utility grid. Interconnection standards will reduce barriers to connection of DG systems to the grid identified by policy options 2.3, 2.5, and 2.6. Connecting to the grid enables the facility to: a) purchase power from the grid to supply supplemental power as needed, for example, during periods of planned system maintenance, b) sell excess power to the utility, c) maintain grid frequency and voltage stability, as well as utility worker safety. This topic is of particular interest as the Energy Policy Act of 2005 (EPAct 2005) directs states to consider upgrading their standards for interconnecting small generators within one year of enactment. (http://www.epa.gov/chp/pdf/interconnection_factsheet.pdf)

Policy Design

Goals: TBD

Timing: TBD

Parties Involved: TBD

Other: TBD

Implementation Mechanisms

TBD

Related Policies/Programs in Place

TBD

Type(s) of GHG Reductions

Estimated GHG Reductions and Costs (or Cost Savings)

TBD

Data Sources: TBD

Quantification Methods: TBD

Key Assumptions: TBD

Key Uncertainties

TBD

Additional Benefits and Costs

TBD

Feasibility Issues

TBD

Status of Group Approval

TBD

Level of Group Support

TBD

Barriers to Consensus

TBD

Draft Policy Option

CRE-3 Cap and Trade, Including Offsets to Promote Renewable Energy

Policy Description

A cap-and-trade system is a constructed market-based compliance mechanism in which greenhouse gas emissions are limited to a specified amount (i.e. the cap), and entities subject to the cap can buy and sell (i.e. trade) emissions allowances. In theory, a properly designed cap-and-trade system of sufficient market size can lower the cost of compliance of meeting the emissions cap to all entities involved. This is possible because participants with a lower cost of compliance can reduce emissions below their allocation and sell their additional allowances to a participant with a cost of compliance that is otherwise higher than the market allowance price.

Many variables can be incorporated into a cap-and-trade system, including the greenhouse gasses covered, the sectors covered, up-stream or down-stream coverage, banking, safety valve prices, tie-ins with regional or international trading systems, offsets, early action credits, technology incentives, auctioning, triggers for on and off ramps, and the glide path of the cap. Each factor can have a significant influence on the market price of allowances, and thus the cost of compliance and impacts to ratepayers.

Policy Design

Goals: The goals of this policy are:

a) To identify the likely reasonable cost cap-and-trade system regulatory structures for compliance with the scenarios modeled.
b) To identify the likely policy components of a cap-and-trade system that would provide further incentives for renewable energy development in Iowa.
c) To analyze the costs and benefits of cap-and-trade systems scenarios to reach the 50% and 90% reductions from 2005 emissions levels.

Timing: This policy would require adoption of a federal or regional cap-and-trade system by the Iowa Legislature and implementation by appropriate federal and state government agencies.

Parties Involved: Potentially any entity, public or private, with a significant quantity of greenhouse gas emissions or emissions offsets.

Other: Governor Culver has announced his policy intention of incorporating Iowa into a regional cap-and-trade system proposed by the Midwest Governors Association.

Implementation Mechanisms

TBD

Related Policies/Programs in Place

TBD

Type(s) of GHG Reductions

Estimated GHG Reductions and Costs (or Cost Savings)

TBD

Data Sources: TBD

Quantification Methods: TBD

Key Assumptions: TBD

Key Uncertainties

TBD

Additional Benefits and Costs

TBD

Feasibility Issues

TBD

Status of Group Approval

TBD

Level of Group Support

TBD

Barriers to Consensus

TBD

Draft Policy Option
CRE-4 Carbon Tax

Policy Description

A carbon tax is a tax on greenhouse gas emissions. It is often called a "carbon tax" because when multiple greenhouse gases are covered, the global warming potentials of the covered gasses are normalized into carbon dioxide equivalents prior to assessment of the tax. Thus, carbon tax proposals usually provide an annual tax rate on each ton of carbon dioxide or carbon dioxide equivalent.

The theory of a carbon tax is to provide a market signal to consumers to reduce emissions. Given this, a carbon tax can have many variables, including the greenhouse gasses covered, the sectors covered, up-stream or down-stream coverage, offsets, early action credits, technology incentives, triggers for on and off ramps, and changes to the tax rate over time. Each factor can have a significant influence on the cost of compliance and thus the impact on ratepayers.

Furthermore, the revenue generation potential of a tax on each ton of greenhouse gas emissions can be significant. Given this, the monies derived from a carbon tax can provide a strong incentive toward greenhouse gas emission reductions if focused on the challenge at hand. Thus, the most effective carbon tax designs include both the front-end variables (i.e. the covered greenhouse gases, amount taxed per ton of emissions) and the back-end variables (i.e. where revenue is housed, how revenue is utilized).

Policy Design

Goals: The goals of this policy are:

d) To identify the likely reasonable cost carbon tax regulatory structures for compliance with the scenarios modeled.
e) To identify the likely policy components of a carbon tax system that would provide significant incentives for low and no-carbon energy development in Iowa.
f) To analyze the costs and benefits of carbon tax scenarios to reach the 50% and 90% reductions from 2005 emissions levels.

Timing: This policy would require adoption of a carbon tax by the Iowa Legislature and implementation by appropriate state government agencies.

Parties Involved: The Iowa Legislature, Iowa Utilities Board, and potentially any entity, public or private, with a significant quantity of greenhouse gas emissions or emissions offsets.

Other: Carbon taxes have been utilized by countries in the European Union and Canada.

Implementation Mechanisms

TBD

Related Policies/Programs in Place

TBD

Type(s) of GHG Reductions

Estimated GHG Reductions and Costs (or Cost Savings)

TBD

Data Sources: TBD

Quantification Methods: TBD

Key Assumptions: TBD

Key Uncertainties

TBD

Additional Benefits and Costs

TBD

Feasibility Issues

TBD

Status of Group Approval

TBD

Level of Group Support

TBD

Barriers to Consensus

TBD

Draft Policy Option
CRE-5 Performance Standards

Policy Description

A generation performance standard is an emissions rate hurdle that must be met for compliance. Typically, a generation performance standard is expressed in pounds of carbon dioxide per megawatt hour. Generation performance standards can be applied to new generation or include the system wide emissions rate of an entity's generating fleet.

In either scenario, the theory of a generation performance standard is to lower the emissions rate over time to obtain a desired end-point. Given this, a generation performance standard can have many variables, including coverage of generating units or load serving entities, offsets, the inclusion of energy efficiency programs, technology incentives, trading of renewable energy credits, penalty rates for non-compliance, emissions from purchased power, triggers for on and off ramps, and the rate of change to the emissions standard. Each factor can have a significant influence on the cost of compliance and thus the impact on ratepayers.

Policy Design

Goals: The goals of this policy are:

g) To identify the likely reasonable cost regulatory structures for a generation performance standard to comply with the scenarios modeled.
h) To analyze the costs and benefits of generation performance standard scenarios to reach the 50% and 90% reductions from 2005 emissions levels.

Timing: This policy would require adoption of a generation performance standard by the Iowa Legislature and implementation by the Iowa Utilities Board.

Parties Involved: The Iowa Legislature, the Iowa Utilities Board, and entities covered by the performance standard.

Other: Various forms of generation performance standards have been utilized by many states and countries to encourage zero and low emitting generation while providing regulatory flexibility in the compliance pathway.

Implementation Mechanisms

TBD

Related Policies/Programs in Place

TBD

Type(s) of GHG Reductions

Estimated GHG Reductions and Costs (or Cost Savings)

TBD

Data Sources: TBD

Quantification Methods: TBD

Key Assumptions: TBD

Key Uncertainties

TBD

Additional Benefits and Costs

TBD

Feasibility Issues

TBD

Status of Group Approval

TBD

Level of Group Support

TBD

Barriers to Consensus

TBD

Draft Policy Option
CRE-6 Voluntary GHG Commitments

Policy Description

Numerous U.S. companies and organizations, including many utilities, have taken on voluntary GHG reduction commitments. Some of these are organized through the U.S. EPA's Climate Leaders program. Others include participation in Power Partners and the EIA 1605(b) Voluntary GHG Emission Reduction Program. Forty two companies, including some of the world's largest; GE, Dupont, IBM and Duke Energy; have joined together as the Business Environmental Leadership Council (BELC) of the Pew Center on Global Climate Change. These companies are voluntarily addressing global climate change through proactive and innovative measures including: setting targets for GHG emissions reductions; implementing innovative energy supply and demand solutions; improving waste management practices; participating in emissions trading; and investing in carbon sequestration opportunities and research. Thirty-seven of these BELC companies have established greenhouse gas (GHG) reduction targets. Some of these companies have achieved their targets and are currently evaluating new goals, while other companies are considering first-time targets.

These commitments can be based on total GHG emissions in a given year, specific voluntary projects or can be defined on an intensity basis (tCO2e per MWh generated or delivered.) Some entities with voluntary commitments also transact through the Chicago Climate Exchange (CCX), a pilot program for reducing and trading GHG emissions in North America.

Policy Design

Goals: The goals for a Iowa Voluntary GHG program include:

1. Encouraging Iowa business and citizens to voluntarily begin reducing GHG emissions immediately, without waiting for mandatory Iowa or national GHG reduction program measures.

2. Provide a means for Iowa voluntary GHG emission reductions to be quantified and recognized by applying Iowa approved GHG quantification methods.

3. Allow rate-regulated utilities assurance of cost recovery for voluntary GHG reduction measures that are previewed and approved by the IUB.

4. Provide documentation that supports voluntary measures receiving full credit under a future Iowa or national mandatory or voluntary GHG reduction program (e.g. credit for early action).

5. Enable Iowa voluntary GHG emission reduction measures to receive credit as certifiable CO2 offsets for use within and outside of the United States.

Timing: Upon promulgation

Parties Involved: All sectors and sources that wish to provide for voluntary GHG reductions or offsets, including: government, utilities, industry, business, commercial building owners and homeowners.

Other: TBD

Implementation Mechanisms

TBD

Related Policies/Programs in Place

TBD

Type(s) of GHG Reductions

Estimated GHG Reductions and Costs (or Cost Savings)

TBD

Data Sources: TBD

Quantification Methods: TBD

Key Assumptions: TBD

Key Uncertainties

TBD

Additional Benefits and Costs

TBD

Feasibility Issues

TBD

Status of Group Approval

TBD

Level of Group Support

TBD

Barriers to Consensus

TBD

Draft Policy Option

CRE-7 Policies Related to Nuclear Power

Policy Description

Nuclear power has potential as an alternative source of electricity for meeting greenhouse gas reduction goals. During operation, nuclear plants generate no greenhouse gases (GHGs), although, as with any new structure, there are GHG emissions associated with the construction of the facility. Nuclear power generation is classified as base load generation and designed to operate at high capacity factors. It is also the largest single source of non-carbon emitting electric generation. As a result, it is a potential energy supply alternative, in large scale, to meet Iowa's growing electric needs and for possible long-term replacement of base load coal-fired generation.

As of the end of the last year, there were 104 commercial nuclear generating units licensed by the U.S. Nuclear Regulatory Commission (NRC) with an electric capability of 97,400 MW. The most recent reactor came on line in 2007. The current administration has been supportive of nuclear expansion, emphasizing its importance in maintaining a diverse energy supply and its potential for producing electricity with negligible greenhouse gas emissions operation.

Other means of incorporating nuclear generation include relicensing and uprating of existing plants. Nuclear relicensing allows a nuclear power plant to extend the life of the facility for twenty years past its original 40-year license term. The NRC considers the relicensing program one of its major cornerstones of current regulatory activity. A nuclear power plant uprating is a technical review process whereby a licensee may receive approval from the NRC to operate a plant at a higher power level than the level authorized in the original license. Relicensing and power uprates typically require some capital investment for upgrades and rebuilding of plant subsystems.

Iowa's only nuclear plant is the Duane Arnold Energy Center, which is owned by the FPL Group, through its subsidiary FPL Energy (70 percent ownership), Central Iowa Power Cooperative (20 percent ownership) and Corn Belt Power Cooperative (10 percent ownership). Duane Arnold received approval for a power uprate in 2001, and currently has a license from the NRC to operate until 2014. In acquiring its ownership share in 2005, FPL committed to relicensing the plant for an additional 20 years, until 2034. MidAmerican Energy Company is a 25% owner of the Quad Cities Nuclear Power Station near Cordova, Illinois, which also completed a power uprate, and has received relicensing approval from the NRC to operate until 2032.

It is currently estimated that it would take approximately 10 to 12 years to design, permit, and construct a new nuclear power plant. Therefore, steps should be taken today if Iowa chooses to

employ nuclear power as part of a balanced and diversified energy portfolio[1] that achieves Iowa's long-term carbon emission reduction goals.

The focus of this particular policy is to determine the economic feasibility of nuclear power in a carbon-constrained environment and to define specific state legislative and regulatory actions to facilitate licensing, financing, and construction of new nuclear power plants in Iowa.

Policy Design

Goals: The goals of this policy are:

i) To quantify the costs and identify the benefits (including avoidance of greenhouse gas emissions) associated with building new nuclear power plants in Iowa;

j) To identify the specific legislative and regulatory actions that would be needed to support the construction of new nuclear plants in Iowa; and

k) To identify what specific actions can be taken to support FPL in its efforts to relicense Duane Arnold Energy Center with the NRC.

Timing: This policy would become effective with action by the Iowa Legislature and implementation by the Iowa Utilities Board, Iowa Department of Natural Resources and other state agencies.

Parties Involved: Iowa Utilities Board, Investor-owned utilities, generation and transmission electric cooperatives, municipalities, Iowa Department of Natural Resources, Iowa Department of Public Health, environmental advocacy groups, state legislators, county government and economic development leaders, business advocacy groups, Office of Energy Independence and the Office of Consumer Advocate.

Other: TBD

Implementation Mechanisms

TBD

Related Policies/Programs in Place

TBD

Type(s) of GHG Reductions

Estimated GHG Reductions and Costs (or Cost Savings)

TBD

[1] Including, among others, renewable energy, conservation and energy efficiency measures

Data Sources: TBD

Quantification Methods: TBD

Key Assumptions: TBD

Key Uncertainties

TBD

Additional Benefits and Costs

TBD

Feasibility Issues

TBD

Status of Group Approval

TBD

Level of Group Support

TBD

Barriers to Consensus

TBD

Draft Policy Option

CRE-8 Support for grid-based renewable energy and development

Policy Description

This policy option reflects financial incentives to encourage investment in renewable energy resources by businesses and individuals that sell power commercially.

Policies can be developed to help overcome financial barriers and increase incentives for renewable energy development. Barriers such as low market prices, the inability of the market to assign values to the public benefits of renewables and the social costs of fossil fuel technologies, high transaction costs relative to smaller project sizes, high financing costs because of lender unfamiliarity and perceived risk, and other institutional barriers, can be overcome through a suite of financial and regulatory incentives for renewable energy development.

These policies and incentives can include:

- Direct subsidies for buying or selling renewable generation equipment.
- Tax credits or exemptions for buying or selling renewable generation equipment; such as:
    - The property tax exemption for methane gas conversion available under Iowa Code § 427.1(29);
    - The property tax exemption for renewable energy facilities available under Iowa Code § 441.21;
    - The local option special assessment for wind generation facilities available under Iowa Code § 427B.26;
    - The replacement generation tax exemption for renewable energy facilities available under Iowa Code § 437A.6; and
    - The sales tax exemption for wind and solar generation equipment available under Iowa Code §§ 423.3(54) and 423.3(90).
- Government-sponsored or facilitated loan programs for buying renewable generation equipment, such as:
    - The alternate energy revolving loan program under Iowa Code § 476.46, and
    - The Iowa Energy Bank loan program under Iowa Code § 473.19.

- Tax credits or direct subsidies for each kWh generated or sold from renewable generation facilities, such as:

    - The wind and renewable energy tax credits available under Iowa Code chapters 476B and 476C.

- Government-sponsored or facilitated loan programs supporting the manufacture of renewable generation equipment.

- Direct subsidies supporting the manufacture of renewable generation equipment.

- Tax credits or exemptions supporting the manufacture of renewable generation equipment.

- Regulatory policies that provide incentives and/or assurance of cost recovery for utilities that invest in renewable energy systems, such as:

    - The advance ratemaking principles available for utility-owned renewable generation under Iowa Code § 476.53, which are determined in advance of plant construction and before the utility's next rate case.

- Regulatory policies that streamline certification requirements for renewable generation plant, such as:

    - The Iowa Utilities Board (IUB) chapter 24 rules for "Location and Construction of Electric Power Generating Facilities" (199 IAC 24), and the "25 MW per gathering line" exemption for wind generating facilities described in IUB Docket No. DRU-03-2.

- Iowa regulatory support for federal transmission cost allocation policies that are equitable and promote the cost-efficient siting of renewable generation resources.

Policy Design

Goals: Wherever possible, quantify the potential cost of each policy and incentive, quantify the potential greenhouse gas (GHG) reduction benefits, and adopt the most cost-effective policies and incentives for reducing GHG.

Timing: Financial incentives are adopted by the Iowa General Assembly and implemented by the appropriate state agencies. State regulatory policies are established by the Iowa General Assembly and implemented by the Iowa Utilities Board. Federal regulatory policies are implemented by the Federal Energy Regulatory Commission (FERC) with input from state regulators, utilities, and other interested parties.

Parties Involved: Iowa General Assembly, Governor's Office, Office of Energy Independence, Iowa Utilities Board, Office of Consumer Advocate, Iowa Department of Natural Resources, Iowa Department of Revenue, renewable energy developers, renewable energy advocacy groups, environmental advocacy groups, investor-owned utilities, consumer-owned utilities (i.e., cooperatives and municipal utilities).

Implementation Mechanisms

TBD

Related Policies/Programs in Place

TBD

Type(s) of GHG Reductions

Estimated GHG Reductions and Costs (or Cost Savings)

TBD

Data Sources: TBD

Quantification Methods: TBD

Key Assumptions: TBD

Key Uncertainties

TBD

Additional Benefits and Costs

TBD

Feasibility Issues

TBD

Status of Group Approval

TBD

Level of Group Support

TBD

Barriers to Consensus

TBD

Draft Policy Option
CRE-9 Transmission System Upgrading

Policy Description

Developing policies to address the long-term demand for electricity requires not only consideration for enhancing the generating portfolio mix and demand-side and energy efficiency programs, but also measures to improve both the regional transmission system and local distribution system in order to diminish bottlenecks, enhance throughput and reduce line losses.

Opportunity exists to significantly increasing transmission line carrying through the implementation of new construction methods and retrofit activities on the transmission grid including incorporating advanced composite conductor technologies, reactive compensation technologies, and grid management software. Siting new transmission lines can be a difficult process given their cost and perceived impact on health, the environment, and the use, enjoyment, and value of property. Future development of renewable energy facilities will require the addition of new or the upgrade of currently existing transmission lines which must be integrated into the regional transmission grid. Policy measures in support of this option could provide incentives to utilities and transmission owners to upgrade transmission systems and reduce barriers to siting of new transmission lines. This option could also include reductions in the use and leakage of SF6 from electrical equipment, plus use of efficient transformers and other advanced materials and equipment. Given the long lead time (between 4 and 7 years) for large transmission line planning, permitting and construction, current distribution line capacity should be evaluated immediately as a "quick start" measure to get carbon free distributed generation on the grid.

There are several energy efficiency measures that can be implemented to reduce the transmission and distribution line losses of electricity. Utilities use a variety of components throughout the transmission and distribution system to reduce losses. Increasing the efficiency of these components can further reduce losses. Vermont, for example, offers a rebate to encourage users to install energy efficient transformers. Regulations, incentives, and/or support programs can be applied to achieve greater efficiency of transmission and distribution system components.

Policy Design

The goals of this policy are:

- To quantify the costs and identify the benefits and implementation timeframes for alternatives that increase transmission and distribution system capabilities. The analysis should take into account reductions in GHG emissions that would result from energy saved due to lower line losses.

- To research how implementing modern grid technologies would enable a more efficient and intelligent transmission system.

- To identify specific legislative and regulatory actions that would be needed to support long-term, cost effective alternatives that increase transmission system capabilities.

- To commission a study that would identify areas in Iowa's transmission system where upgrading and/or expanding transmission would enable our state's wind resources to be developed for use for Iowa users and for potential exports to other states. The study would focus on both identifying areas where large expansions are necessary to catapult Iowa's wind production as well as areas where smaller upgrades would enable wind installations for local area purposes.

Timing: This policy would become effective with action by the Iowa Legislature and implementation by the Iowa Utilities Board and other state agencies.

Parties Involved: Iowa Utilities Board, Investor-owned utilities, generation and transmission electric cooperatives, municipalities, representatives of environmental and economic development organizations and the Office of Consumer Advocate, the FERC, Midwest ISO and transmission owners (such as ITC).

Related Policies/Programs in Place

TBD

Type(s) of GHG Reductions

Estimated GHG Reductions and Costs (or Cost Savings)

TBD

Data Sources: TBD

Quantification Methods: TBD

Key Assumptions: TBD

Key Uncertainties

TBD

Additional Benefits and Costs

TBD

Feasibility Issues

TBD

Status of Group Approval

TBD

Level of Group Support

TBD

Barriers to Consensus

TBD

Draft Policy Option

CRE-10 R&D for Emerging Technologies and Corresponding Incentives

Policy Description

Research and development (R&D) of emerging technologies to develop demonstration projects and eventual commercialization of reasonable cost generation technologies with low or zero greenhouse gas emissions is critical to solving the global climate change challenge. Technology areas often cited as requiring such reasonable cost developments are carbon capture and storage (e.g. in deep saline aquifers or coal seams) for fossil fuel facilities, and large-scale base-load renewable energy or technologies that can transform intermittent renewables into base load generation (e.g. batteries, compressed air storage).

Given the magnitude of the task, an Apollo-like research program to create and field-test such technologies that are commercially viable is needed. Presently, such funding is not a significant portion of a rate-regulated utilities budget or the budgets of federal and state government agencies. Nonetheless, even a small fee per kilowatt-hour of electricity could generate significant funding. However, funding is only one-half of the equation, and strategies to use such funds to implement a focused program to commercialize generation technologies with low or zero greenhouse gas emissions must also be developed.

Policy Design

Goals: The goals of this policy are:

l) To identify the likely funding mechanisms and policy tools that would provide further stimulus for the development of new, reasonable cost, low and zero greenhouse gas emitting electricity generation in Iowa.
m) To analyze the costs and benefits of a research and development program scenarios to help reach the 50% and 90% reductions from 2005 emissions levels.

Timing: This policy may require the adoption of incentives by the Iowa Legislature, Iowa Utilities Board, and potentially other appropriate state government entities.

Parties Involved: Iowa Legislature, Iowa Utilities Board, electric utilities, and potentially other appropriate state government entities such as the Office of Energy Independence, Iowa Power Fund, Iowa Department of Economic Development and State Regents Institutions.

Other: The Iowa Power Fund is an example of a new state government board designed to help stimulate the research, development, and commercialization of new clean energy sources in Iowa.

Implementation Mechanisms

TBD

Related Policies/Programs in Place

TBD

Type(s) of GHG Reductions

Estimated GHG Reductions and Costs (or Cost Savings)

TBD

Data Sources: TBD

Quantification Methods: TBD

Key Assumptions: TBD

Key Uncertainties

TBD

Additional Benefits and Costs

TBD

Feasibility Issues

TBD

Status of Group Approval

TBD

Level of Group Support

TBD

Barriers to Consensus

TBD

Draft Policy Option
CRE-11 Distributed Generation/Co-generation

Policy Description

Distributed generation can be encouraged by ensuring access to the grid under uniform technical and contractual terms and charges for interconnection, including mandatory insurance coverage and amounts, that are based on economic costs so that owners know in advance the requirements for parallel interconnection and manufacturers can design standard packages to meet technical requirements. Changes that generally facilitate the integration of customer-owned distributed generation with the grid could encourage the adoption of specific renewable energy and high-efficiency technologies, including solar photo-voltaic systems, fuel cells, and microturbines. In addition, prices should be established that owners of distributed generators both pay and receive for electricity at levels consistent with utilities' costs. Uniform requirements for emissions, land use, and building codes should be established that are based on the technology of electricity generation so that manufacturers can design suitable units and owners of distributed generators are not restricted in their siting and operating decisions relative to other new sources of generation.

Policy Design

Goals: The goal of this policy is to encourage investment in small-scale distributed generation via incentives and/or the prevention of barriers.

Timing: Analysis and review of technologies, financial incentives and size of a project to begin immediately.

Parties Involved: All utilities serving customers in Iowa; state agencies with jurisdiction; other interested stakeholders.

Other: A source to cover any financial incentive would need to be determined. The level of credit or funding should be consistent for all utilities (IOUs, municipals and cooperatives). The cost of the incentive should be shared among all end users so that no one is overly burdened.

Implementation Mechanisms

TBD

Related Policies/Programs in Place

TBD

Type(s) of GHG Reductions

Estimated GHG Reductions and Costs (or Cost Savings)

TBD

Data Sources: TBD

Quantification Methods: TBD

Key Assumptions: TBD

Key Uncertainties

TBD

Additional Benefits and Costs

TBD

Feasibility Issues

TBD

Status of Group Approval

TBD

Level of Group Support

TBD

Barriers to Consensus

TBD

Draft Policy Options
CRE 12 – Combined Heat & Power

Policy Description

Combined heat and power is a term used to describe scenarios in which waste heat from energy production is recovered for productive use. Combined heat and power scenarios most commonly occur at base load generating stations so that a reliable source of thermal energy can be provided to the users of the reclaimed thermal energy. The reclaimed thermal energy, while sometimes not of significant energy value for the base load generating station, can potentially be used by other nearby entities (e.g. within an industrial park or district steam loop) for productive purposes.

The theory of combined heat and power is to maximize the energy use from fuel consumed and to avoid additional greenhouse gas emissions from entities near a base load generating station via additional fossil fuel combustion. The key to implementing combined heat and power systems is to provide adequate incentives for the development of infrastructure to capture and utilize the waste heat. Such incentives could come in many forms, such as recruiting suitable end users to the area, tax credits, grants, zoning, and offset credits for avoided emissions.

Policy Design

Goals: The goals of this policy are:

n) To identify the likely policy tools that would provide significant stimulus for combined heat and power developments in Iowa.
o) To analyze the costs and benefits of combined heat and power scenarios to help reach the 50% and 90% reductions from 2005 emissions levels.

Timing: This policy may require the adoption of incentives by the Iowa Legislature and appropriate state and local government agencies.

Parties Involved: Iowa Legislature, Iowa Department of Economic Development, electric generating stations, city and county governments, and other agencies as appropriate.

Other:

Implementation Mechanisms

TBD

Related Policies/Programs in Place

TBD

Type(s) of GHG Reductions

Estimated GHG Reductions and Costs (or Cost Savings)

TBD

Data Sources: TBD

Quantification Methods: TBD

Key Assumptions: TBD

Key Uncertainties

TBD

Additional Benefits and Costs

TBD

Feasibility Issues

TBD

Status of Group Approval

TBD

Level of Group Support

TBD

Barriers to Consensus

TBD

Draft Policy Options
CRE 13 – Pricing strategies to promote renewable energy and/or CHP

Policy Description

Policy Design

Goals:

Timing:

Parties Involved:

Other:

Implementation Mechanisms

TBD

Related Policies/Programs in Place

TBD

Type(s) of GHG Reductions

Estimated GHG Reductions and Costs (or Cost Savings)

TBD

Data Sources: TBD

Quantification Methods: TBD

Key Assumptions: TBD

Key Uncertainties

TBD

Additional Benefits and Costs

TBD

Feasibility Issues

TBD

Status of Group Approval

TBD

Level of Group Support

TBD

Barriers to Consensus

TBD