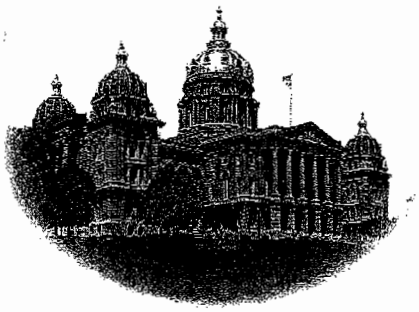

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October 10, 2007

TO: **TEMPORARY CO-CHAIRPERSONS SENATOR ROBERT HOGG AND REPRESENTATIVE NATHAN REICHERT AND MEMBERS OF THE ENERGY EFFICIENCY STUDY COMMITTEE**

FROM: **RICHARD NELSON, SENIOR LEGAL COUNSEL, LEGAL SERVICES DIVISION, LEGISLATIVE SERVICES AGENCY**

RE: **BACKGROUND INFORMATION**

Overview. The purpose of this memorandum is to provide background information to the members of the Energy Efficiency Study Committee. In anticipation of the Committee's first meeting on October 18, 2007, the following documents are attached:

- Committee Charge.
- Committee Member Contact Information.
- Tentative Meeting Agenda for October 18 Meeting.
- Proposed Comrnittee Rules.
- Energy Efficiency Programs Legislative Guide (Summary of current energy-efficiency related Iowa Code provisions).
- Information Relating to Energy Efficiency Programs Under the Purview of the Iowa Utilities Board (Prepared by Joan Conrad, Legislative Liaison, Iowa Utilities Board).
- Copy of Senate Resolution 31 (Resolution passed by Senate requesting authorization of the Committee by the Legislative Council).
- Copy of House File 918 (Legislation establishing the Office of Energy Independence and the Iowa Power Fund).

- State Incentives for Energy Efficiency (NCSL Report summarizing tax incentives, grant programs, and bonding efforts).
- State Green Building Mandates (NCSL Report summarizing state provisions mandating green building construction and renovation standards).
- State Energy Efficiency Indexes (Alliance to Save Energy report relating to state energy efficiency funds and appliance standards).

Additional information received and distributed in connection with all meetings of this Committee will be posted on the Committee's website at: http://www.legis.state.ia.us/aspx/Committees/Committee.aspx?id=217.

3621IC

Energy Efficiency Study Committee

CHARGE: Examine energy efficiency programs under the purview of the Iowa Utilities Board and consider other proposals for improving energy efficiency in the state.

MEETINGS: 2 Meeting Days

MEMBERS: 5 Senate, 5 House

Members

Energy Efficiency Study Committee

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ENERGY EFFICIENCY STUDY COMMITTEE

MEMBERSHIP

Senator Robert M. Hogg, Temporary Co-chairperson	***Representative Nathan Reichert, Temporary Co-chairperson***
Senator Joe Bolkcom	***Representative Bob Kressig***
Senator Hubert Houser	***Representative Brian Quirk***
Senator Mary A. Lundby	***Representative Chuck Soderberg***
Senator Rich Olive	***Representative Ralph Watts***

Tentative Agenda

Thursday, October 18, 2007
Room 103, Supreme Court Chamber, State Capitol

9:00 a.m. Call to Order
Roll Call
Opening Remarks
Adoption of Rules
Election of Co-chairpersons

Iowa Utilities Board Requirements and Oversight/ Utilities' Energy Efficiency Efforts

9:15 a.m. Introduction and Process
Joan Conrad, Legislative Liaison, Iowa Utilities Board
Jack Clark, Vice President, Iowa Utility Association
Jennifer Easler, Attorney, Office of Consumer Advocate
Gordon Dunn, Utilities Specialist, Energy Efficiency Programs, Iowa Utilities Board

10:00 a.m. MidAmerican Energy
Rick Leuthauser, Manager of Energy Efficiency, MidAmerican Energy

10:15 a.m. Alliant Energy/Interstate Power and Light
Sarah Else, Director of Renewable Energy Resources, Alliant Energy

10:30 a.m. Aquila
Matt Daunis, Manager, Energy Efficiency Programs, Aquila

10:45 a.m. Break

11:00 a.m. Iowa Rural Electric Cooperatives
Regi Goodale, Director of Regulatory Affairs, Iowa Association of Electric Cooperatives

11:10 a.m. Iowa Municipal Utilities
Bob Haug, Executive Director, Iowa Association of Municipal utilities

11:20 p.m. Office of Consumer Advocate
John Perkins, Consumer Advocate, Office of Consumer Advocate

11:30 a.m. Iowa Utilities Board
Gordon Dunn, Iowa Utilities Board Utility Specialist, Energy Efficiency Programs, Iowa Utilities Board

11:45 a.m. Lunch

Energy Reduction Technology

12:30 p.m. Iowa Energy Center
Floyd Barwig, Director
Department of Natural Resources
Tommi Makila, Policy Planner, Energy and Waste Bureau

Business and Industry

1:00 p.m. Whirlpool
Brent Kramer, Manager, New Product Development and Facilities, Whirlpool Amana Division

1:10 p.m. Iowa Business Council
Dell Collins, Director of Facilities, Vermeer Manufacturing

1:20 p.m. Association of Business and Industry
Tim Wilkinson, Vice-President, ALCOA Company
Jim Wood, Engineering Manager, ALCOA Company

1:30 p.m. Iowa Retail Federation
Jim Henter, President, Iowa Retail Federation
Federation member -- to be identified

1:40p.m. Break

Energy Efficient Buildings/Construction Concepts and Technology

1:50 p.m. American Institute of Architects (Iowa Chapter)
Kate Schwennsen, Associate Dean, College of Design, Iowa State University

2:10 p.m. Master Builders of Iowa
Chad Kleppe, Public Affairs Director, Master Builders of Iowa
Mike Carroll, The Hansen Company, and Chairman, Master Builders of Iowa

2:20 p.m. American Council of Engineers
Jim Lee, Engineer, Shive-Hattery

2:30 p.m. Control Technology Solutions
Dave Harvey, Director

2:40 p.m. Home Builders Association of Iowa
Craig Schoenfeld, Legislative Counsel
Flora Schmidt, Executive Director, Home Builders Association of Iowa

2:50 p.m. DPO Construction
Don Otto, Owner

Energy Efficiency Financing and Investment

3:00 p.m. Iowa Department of Natural Resources
Tommi Makila, Policy Planner, Energy and Waste Bureau

3:10 p.m. Iowa Energy Center
Floyd Barwig, Director

3:20 p.m. Iowa Bankers Association
Sharon Presnall, Senior Vice-President, Government Relations/Compliance, Iowa Bankers Association
Elizabeth Grob, Attorney, Ahlers & Cooney P.C.

Office of Energy Independence

3:30 p.m. Roya Stanley, Director

PROPOSED RULES

ENERGY EFFICIENCY INTERIM STUDY COMMITTEE

1. A majority of the voting members of each house shall constitute a quorum, but a lesser number of members may adjourn or recess the Committee in the absence of a quorum.

2. A majority vote of those voting members present is necessary to carry any action; however, no recommendations to the Legislative Council or General Assembly may be adopted without the affirmative votes of at least a majority of the members of each house.

3. Whenever Mason's Manual of Legislative Procedure does not conflict with the rules specifically adopted by the Committee, Mason's Manual of Legislative Procedure shall govern the deliberations of the Committee.

4. Meetings shall be set by motion before adjournment, or by call of the Co-chairpersons of the Committee if meetings are necessary before the date set in the motion.

5. Rules shall be adopted by the affirmative votes of at least a majority of the members of each house and may only be changed or suspended by a similar vote of the Committee.

Submitted:

_____

LEGAL SERVICES DIVISION

Legislative Guide

ENERGY EFFICIENCY PROGRAMS

Rick Nelson
Senior Legal Counsel

December 2007

Iowa Legislative Services Agency • State Capitol • Des Moines, IA 50319

The Legal Services Division of the Iowa Legislative Services Agency provides nonpartisan legislative drafting and research services to the committees and members of the Iowa General Assembly.

Legislative Guides provide a general survey of a particular area of the law and are intended for use primarily by members of the Iowa General Assembly and their staffs. Legislative Guides are updated periodically to reflect changes in the law.

LEGISLATIVE GUIDE TO ENERGY EFFICIENCY PROGRAMS

Legislative Services Agency

Note to Reader:

Research is conducted by the Legal Services Division of the Iowa Legislative Services Agency in an objective and nonpartisan manner. Although a Legislative Guide may identify issues for consideration by the General Assembly, nothing contained in a Guide should be interpreted as advocating a particular course of action. The reader is cautioned against using information contained in a Legislative Guide to draw conclusions as to the legality of a particular behavior or set of circumstances.

About the Author:

This Guide was written by Richard Nelson, J.D., Drake University, 1983. Mr. Nelson has been a Legal Counsel for the Legislative Services Agency since 1995. He staffs the Commerce and Government Oversight Committees and drafts legislation in the areas of financial institutions and industries, utilities and energy, state government oversight, and professional licensing.

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December 2007

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I. Introduction.

Rising demand for limited and increasingly expensive sources of energy is generating an unprecedented level of concern and attention internationally, at the federal level, and through various state initiatives. Efforts to enhance or achieve energy efficiency range from identifying and developing new and alternative forms of energy production to refining and enhancing the manner in which existing energy sources are applied and utilized.

While the concept of energy efficiency is generally understood to refer to an action or approach which results in an energy "savings," definitions of the term vary. Some representative examples:

- Energy efficiency refers to the reduction of energy consumption on the basis of technological and economic changes and changes in behavior, through which the same or a higher standard or degree of comfort is assured.
- Energy efficiency can be defined in terms of how much energy it takes to perform a certain amount of work.
- Energy efficiency can be defined as the use of products or systems that use less energy to do the same or better job as conventional products or systems.
- Energy efficiency means doing the same thing but using less energy to do it.
- Energy efficiency means using energy in the most economical way possible and keeping its use to a minimum.
- Energy efficiency means using improved technology to decrease energy demand.

The Code of Iowa does not expressly define energy efficiency, but numerous references to the concept of energy efficiency exist in the form of state agency programs, policies, and directives; building code regulations; project financing options; and requirements imposed upon gas and electric utilities.[1] The objective of this Legislative Guide is to summarize existing Code provisions dealing with energy efficiency, with a focus on energy efficiency programs and requirements as opposed to sources of energy production and requirements and incentives related thereto. References to the Iowa Code are to the 2007 Iowa Code and 2007 Iowa Code Supplement. References to the Iowa Administrative Code are current through September 26, 2007.

II. State Agency Energy Efficiency Requirements.

A. Energy Efficiency Audits and Analyses.

State agencies and political subdivisions of the state are required to complete or perform energy-related reviews or analyses under specified circumstances involving the lease or lease-purchase of energy-related buildings or equipment, construction or renovation of public buildings, execution of competitive bidding or product purchasing procedures, and obtaining specified financing for energy efficiency improvements.

[1] A related concept, "energy conservation measure," is defined in Iowa Code §§ 7D.34(1) and 473.19, as subsequently discussed in this Guide.

Generally, these reviews or analyses involve the performance of one or a combination of three procedures — a comprehensive engineering analysis, a life cycle cost analysis, and the performance of energy audits.

1. State Agency Lease and Lease-purchase Agreements.

A state agency is permitted to enter into a lease or lease-purchase agreement relating to real or personal property or facilities to be used in connection with an energy conservation measure, subject to the approval of the Executive Council.[2] For this purpose, an energy conservation measure is defined as "an installation or modification of an installation in a building which is primarily intended to reduce energy consumption or allow the use of an alternative energy source, which may contain integral control and measurement devices."[3] State agencies to which this provision applies include a board, department, commission, or authority of or acting on behalf of the state having the power to enter into contracts for the acquisition of property in its own name or in the name of the state. However, the General Assembly, the court system, the Governor, and political subdivisions of the state are not included.[4] Under terms of such an agreement, the state agency either pays rental costs from the annual appropriations to the state agency by the General Assembly or from other funds legally available to the agency.[5] Prior to requesting Executive Council approval, an agency seeking to improve the energy efficiency of a building is required to submit the results of a comprehensive engineering analysis performed on the building by an engineering firm approved by the Department of Natural Resources through a competitive selection process.[6] Selection of the engineering firm is also subject to council approval. Prior to approving a lease or lease-purchase in connection with an energy conservation measure, the council, in conjunction with the department, conducts a review of the engineering analysis to determine that leasing or purchasing the properties or facilities will result not only in an energy cost-savings to the state, but also that the amount of the savings will allow for cost-recovery within six years after initial acquisition.[7]

2. Department of Natural Resources Facilitated Financing.

An engineering analysis is also required to be performed, accompanied by an energy audit, by the state, state agencies, political subdivisions of the state, school districts, area education agencies, and community colleges who are receiving financing for energy conservation measures facilitated by the Department of Natural Resources. Financing programs to which this requirement applies will be discussed in Section III. Energy conservation measures subject to such financing are required to be supported through payments from energy savings resulting from implementation of the measure.[8] An engineering analysis will not be required, however, if a school district, community college, area education agency, city, or county can demonstrate to the department that the facility which is the subject of the proposed engineering

[2] Iowa Code § 7D.34.
[3] Iowa Code § 7D.34(1).
[4] Iowa Code § 7D.34(1).
[5] Iowa Code § 7D.34(2).
[6] Iowa Code § 7D.34(2).
[7] Iowa Code § 7D.34(2).
[8] Iowa Code § 473.13A.

analysis is unlikely to be in use or operation at the expiration of a six-year period by the entity currently using or occupying the facility.[9]

3. State Agency Purchases — Public Improvement Projects — Life Cycle Cost Analysis Application.

The concept of "life cycle cost analysis" is utilized in connection with requirements relating to state agency purchases of energy-consuming products, public improvements, and public building construction and renovation efforts.

a. State Agency Product Procurement.

The Department of Administrative Services, institutions under the control of the State Board of Regents, the State Department of Transportation, the Department for the Blind, and other state agencies purchasing energy-consuming products either directly or through competitive bidding procedures are required to develop standards and specifications applicable to such purchases, and to include life cycle cost and energy efficiency in criteria relating to those standards and specifications.[10] A life cycle cost analysis is defined for this purpose as the expected total cost of ownership during the life of a product.[11]

b. Public Improvements and Construction.

Additionally, a contract for a public improvement or construction of a public building, including new construction or renovation of an existing public building, by the state, or an agency of the state, must, prior to being let for bidding, be subject to at least one design proposal reflecting the lowest life cycle cost possible in light of existing commercially available technology.[12] Intent language contained in the applicable Code section discourages construction of public buildings based upon lowest acquisition cost in favor of contracts based upon life cycle costs to reduce, among other factors, energy consumption.[13]

In the case of public buildings or facilities in excess of 20,000 square feet or which exceed a specified energy consumption threshold for heating or cooling constructed or renovated by a state agency, political subdivision of the state, school district, area education agency, or community college, more specific and stringent life cycle cost analysis provisions apply. Code chapter 470 establishes a public policy that energy management is of primary importance in the design of publicly owned facilities, and mandates that a public agency responsible for the construction or renovation of a facility include as a design criterion the requirement that a life cycle cost analysis be conducted with the objective of optimizing energy efficiency at an acceptable life cycle cost.[14] Elements of the analysis are identified to include specification of energy management objectives,

[9] Iowa Code § 473.13A.
[10] Iowa Code § 8A.311(19).
[11] Iowa Code § 8A.301(3).
[12] Iowa Code § 72.5(1).
[13] Iowa Code § 72.5(4).
[14] Iowa Code § 470.2.

identification of the energy needs of the facility and energy system alternatives to meet those needs, and the cost of energy system alternatives.[15]

A completed analysis is required to be submitted to the State Building Code Commissioner, who shall review the analysis in consultation with the Department of Natural Resources.[16] A public agency may request an exemption from aspects of an analysis for specified reasons including the particular purpose of the facility or renovation, preservation of historical architectural features, site considerations, and health and safety concerns.[17] Otherwise, the agency is required to implement the recommendations contained in the analysis. These provisions do not apply to certain buildings used as maximum security detention facilities or to the renovation of property nominated to or entered in the National Register of Historic Places, designated by statute, or included in an established list of historic places compiled by the Historical Division of the Department of Cultural Affairs.[18]

B. State Building Code Energy Efficiency Requirements.

The state building code contained in Code chapter 103A is applicable to all buildings and structures owned by the state or an agency of the state, in a governmental subdivision of the state where the governing body of the political subdivision has enacted an ordinance accepting the application of the code, in a city with a population exceeding 15,000 which has not adopted a local building code substantially in accordance with nationally recognized standards, and to all newly constructed buildings and structures not owned by the state with construction costs paid for in whole or in part with state-appropriated moneys.[19]

1. Residential Construction.

The building code requires new single-family or two-family residential construction to comply with energy conservation requirements to be adopted by the State Building Code Commissioner based upon a nationally recognized standard or code for energy conservation. The requirements shall only apply to single-family or two-family residential construction commenced after the adoption of the requirements, and shall not be construed to prohibit a governmental subdivision from adopting or enacting a minimum energy standard which is substantially in accordance and consistent with energy codes and standards developed by a nationally recognized organization in effect on or after July 1, 2002. In the event that a governmental subdivision does adopt or enact such a minimum code or standard, the subdivision is required to adopt or enact any update or revision applicable thereto.[20]

2. Nonresidential Construction.

The building code also contains energy efficiency-related provisions applicable to larger-scale construction, requiring the specifications for all buildings constructed after July 1, 1977, which exceed a total volume of 100,000 cubic feet of enclosed space that

[15] Iowa Code § 470.3(1).
[16] Iowa Code § 470.7.
[17] Iowa Code § 470.8.
[18] Iowa Code § 470.5.
[19] Iowa Code § 103A.10(2).
[20] Iowa Code § 103A.8A.

are heated or cooled, to be reviewed by a registered architect or licensed engineer for compliance with applicable energy efficiency standards. A statement that a review has been accomplished and that the design is in compliance with energy efficiency standards must be filed with the State Building Code Commissioner prior to commencement of construction. If the specifications relating to energy efficiency for a specific structure have been approved, additional buildings may be constructed from those same plans and specifications without need of further approval if construction begins within a five-year period, and alterations of a structure which has previously been approved will not require another review if the basic structure of the building remains unchanged.[21] It should be noted that the building code also contains provisions establishing thermal efficiency energy conservation standards and lighting efficiency standards applicable to specified new construction projects.[22]

3. Iowa Utilities Board and Office of Consumer Advocate — Housing.

Energy efficiency building construction was also addressed during the 2006 Legislative Session with reference to construction of a new building to house the Iowa Utilities Board and the Consumer Advocate Division of the Department of Justice in the vicinity of the state Capitol complex. The Department of Administrative Services, in consultation with the board and the division, is directed to provide for construction of a model energy-efficient building that may be used as a public example for similar efforts. The building is required to comply with the previously discussed life cycle cost provisions contained in Code section 72.5.[23]

C. Department of Natural Resources and Office of Energy Independence.

Additional energy efficiency-related requirements or specifications concern certain aspects of the operation of the Department of Natural Resources, and related thereto, the scope and responsibilities of a newly created and independently established Office of Energy Independence.

1. Department of Natural Resources — Implementation of Goals.

Code section 473.3 states:

> *The goal of this state is to more efficiently utilize energy resources, especially those that are nonrenewable or that have negative environmental impacts, in order to enhance the economy of the state and to decrease the state's dependence on energy resources from outside the state by reducing the amount of energy used. This goal is to be implemented through the development of programs that promote energy efficiency and energy conservation by all Iowans, through the development and enhancement of an energy efficiency industry, through the development of indigenous energy resources that are economically and environmentally viable, and through the development and implementation of effective public information and education programs.*
>
> *State government shall be a model and testing ground for the use of energy efficiency systems.*

[21] Iowa Code § 103A.19.
[22] Iowa Code § 103A.10(4).
[23] Iowa Code § 476.10B(2).

In furtherance of this goal, the Department of Natural Resources is directed to compile and annually update information relating to the historical use and distribution of energy in Iowa; the growth rate of energy consumption in the state, including rates of growth for each energy source; a projection of Iowa's energy needs at a minimum through the year 2025; the impact of meeting the state's energy needs on the state's economy and environment; and an evaluation of renewable energy sources and their potential.[24] This information is required to be submitted to the Director of the Office of Energy Independence, as discussed below. The Department of Natural Resources is also required to identify a state facility to be used as a showcase demonstrating energy efficiency; to exchange energy information with other states; to develop a central depository for use in forecasting future energy demands; to develop, recommend, and implement energy-related public and professional education and communication programs, and to develop a program to annually give public recognition to innovative methods of energy conservation; and to administer and coordinate federal funds for energy conservation programs providing energy management and conservation assistance to schools, hospitals, health care facilities, communities, and the general public.[25] The department is further directed to administer an Energy Conservation Trust, established to increase energy conservation efforts and save the citizens energy expenditures. Moneys in the trust are to be expended only upon appropriation by the General Assembly and only for programs which will benefit citizens who may have suffered economic penalties resulting from alleged petroleum overcharges in violation of federal petroleum pricing regulations.[26]

2. Office of Energy Independence.

As previously mentioned, legislation enacted during the 2007 Legislative Session established an Office of Energy Independence.[27] Relating specifically to energy efficiency, the director of the office is required to lead outreach and public education efforts concerning energy efficiency; coordinate and monitor all existing state and federal energy efficiency grants, programs, and policy; advise the Governor and General Assembly concerning energy efficiency policy and legislation; establish performance measures for determining the effectiveness of energy efficiency efforts; develop, with the assistance of the Department of Natural Resources and other public and private partners, an energy independence plan; and to prepare and submit an annual report including an assessment of needs and fiscal recommendations relating to energy efficiency efforts.[28] The energy independence plan, again as it relates to energy efficiency as opposed to sources of energy and research related thereto, shall identify cost-effective options and strategies to maximize use of emerging technologies and practices to enhance energy efficiency and conservation; identify strategies to increase affordability of energy for individuals, families, organizations, and businesses,

[24] Iowa Code § 473.7(1).
[25] Iowa Code § 473.7.
[26] Iowa Code § 473.11(1).
[27] 2007 Iowa Acts ch. 168, § 2.
[28] 2007 Iowa Acts ch. 168, §§ 3, 4.

including low-income persons; and develop short-term and long-term recommendations regarding state energy independence efforts.[29] The legislation also provided for the establishment of an Iowa Power Fund, expenditures from which shall be used, among others, to improve energy efficiency and encourage, support, and provide for research, development, commercialization, and the implementation of energy technologies and practices.[30] The legislation additionally requires the Iowa Utilities Board to conduct two studies relating to energy efficiency, one related to the status and effectiveness of energy efficiency plans and programs offered by gas and electric utilities pursuant to Code section 476.6 (discussed subsequently in this Guide) and the other relating to consumer knowledge of energy use, energy efficiency, and methods for increasing such knowledge and reducing consumer energy utilization.[31]

III. Energy Efficiency Programs and Services.

Energy efficiency-related provisions in the Code also take the form of programs or services for which other state agencies, political subdivisions of the state, or citizens may qualify. As described below, these programs or services include energy efficiency recommendations for applicants from the Department of Economic Development, low-income energy assistance and weatherization programs, energy efficiency project financing options, qualification for designation as an energy city, and requirements imposed upon or offered by gas and electric utilities by the Iowa Utilities Board.

A. Department of Economic Development Applicant Referral Assistance.

Applicants receiving funding assistance from the Department of Economic Development in relation to efforts to encourage investment in low-income or other areas of the state to promote economic development receive information from the department regarding the nature and source of other technical assistance available in the state to assist the applicant on design and management matters concerning energy efficiency and waste reduction. The department reviews the extent to which recommendations made to grant recipients are in fact implemented.[32]

B. Low-income Energy and Weatherization Assistance.

The Division of Community Action Agencies of the Department of Human Rights administers programs relating to both the provision of assistance to low-income individuals regarding energy bill payments and weatherization programs to enhance energy efficiency. Legislation enacted during the 2007 Legislative Session established an Energy Utility Assessment and Resolution Program directed at low-income individuals in need of a deferred payment agreement to address home energy utility costs. Pursuant to the program, community action agencies are required to analyze a program participant's financial situation, review the participant's resource and money management options, assist in negotiating a deferred payment agreement with the participant's energy utility, develop a written household energy affordability plan, and provide energy-related training and assistance. The division is required to implement accountability measures relating to the

[29] 2007 Iowa Acts ch. 168, § 4.
[30] 2007 Iowa Acts ch. 168, § 9.
[31] 2007 Iowa Acts ch. 168, § 17.
[32] Iowa Code § 15.109(3).

program.[33] Code section 216A.93 also directs the division, in addition to low-income energy assistance, to provide weatherization programs. As provided by administrative rule, the purpose of the program is "to provide assistance in achieving a healthful dwelling environment and maximum practicable energy conservation in the dwellings of low-income persons, particularly those of elderly and handicapped persons, in order to both aid those persons least able to afford higher utility costs and to conserve needed energy."[34] Assistance in the form of weatherization materials, e.g., insulation, storm windows, caulking, weather stripping, and other related items, and related training and technical assistance is provided to qualifying low-income individuals pursuant to the program.[35] Notice of the existence of assistance programs is required to be provided to customers facing utility disconnection by rate-regulated gas and electric utilities.[36]

C. Energy Efficiency Financing and Investment.

As previously mentioned, the Department of Natural Resources administers programs involving financing options for energy efficiency improvements and upgrades.

1. Energy Bank.

An Energy Bank Program provides several forms of indirect financial assistance to the state, state agencies, political subdivisions of the state, school districts, area education agencies, community colleges, and nonprofit organizations. The energy bank coordinates the financing and conducting of the previously discussed comprehensive engineering analyses and energy audits for state agencies and political subdivisions of the state, and for school districts pursuant to Code section 279.44, which requires energy audits on a five-year basis for buildings owned or leased by a district unless the district documents that its energy consumption falls below a statewide average amount.[37] The energy bank also renders assistance in qualification for loans, leases, and other methods of alternative financing obtained or secured to implement energy conservation measures, serves as a source of technical support for energy conservation management, and provides assistance in obtaining insurance on the energy savings expected to be realized from the implementation of energy conservation measures. For these purposes, an "energy conservation measure" is defined as the "construction, rehabilitation, acquisition, or modification of an installation in a facility or vehicle which is intended to reduce energy consumption, or energy costs, or both, or allow the use of an alternative energy source, which may contain integral control and measurement devices," which is substantially similar to the definition contained in Code section 7D.34 regarding energy-related lease and lease-purchase agreements.[38]

2. Energy Loan Fund.

An Energy Loan Fund is established in Code section 473.20 to provide direct financial assistance to the same entities served by the energy bank previously

[33] 2007 Iowa Acts ch. 218, § 136
[34] Iowa Admin. Code 427-5.1.
[35] Iowa Admin. Code 427-5.3.
[36] Iowa Code § 476.20(2).
[37] Iowa Code § 473.19.
[38] Iowa Code § 473.19.

discussed in implementing cost-effective energy conservation measures identified in a comprehensive engineering analysis. A "loan" for purposes of this fund can refer to loans, leases, or alternative financing arrangements.[39] Qualification for a loan is contingent upon the completion of an energy management plan, including the engineering analysis and an energy audit.[40] Provisions relating to repayment of loan proceeds vary depending upon the nature of the loan recipient.[41] Loans are envisioned to be supported by, but not limited to, payments from energy savings resulting from the energy management improvements.[42] The loans would be funded by the Department of Natural Resources in the form of gifts, federal funds, state appropriations, and other moneys for deposit in the Energy Loan Fund, or through the self-liquidating financing provisions of Code section 470.20A (discussed below). Loan recipients are directed to "design and construct the most energy cost-effective facilities feasible and shall use the financing made available by the department to cover the incremental costs above minimum building code energy efficiency standards of purchasing energy efficient devices and materials unless other lower cost financing is available."[43] It should be noted that a loan recipient is not required to implement a specific energy conservation measure identified in a comprehensive engineering analysis if it can be demonstrated that the facility subject to the energy conservation measure is unlikely to be used or operated for the full period of the measure's expected payback.[44]

3. Self-liquidating Financing.

A related provision authorizes the Department of Natural Resources to enter into financing agreements with the same list of entities to provide the financing to pay the costs of furnishing energy conservation measures, with financing agreements containing provisions including interest, term, and obligations to make payments on the financing agreement beyond the current budget year as agreed upon between the department and the borrower on a self-liquidating basis.[45] While not defined in the Code, the department indicates that for this purpose, "self-liquidating financing" refers to a financing arrangement whereby the terms and duration of the loan correspond directly to the period of time during which resulting energy savings will provide for loan repayment.

4. Private Financing.

While the provisions establishing the Energy Loan Fund and self-liquidating financing provided by the Department of Natural Resources remain in the Code, the department indicates that the Energy Loan Fund has not, in fact, been funded and that all loans for energy efficiency purposes are instead financed through private banks and lending institutions on a self-liquidating basis facilitated with the assistance of the

[39] Iowa Code § 473.20(1) and 473.20(4).
[40] Iowa Code § 473.20(1). The department facilitates short-term financing for required analyses and audits pursuant to Iowa Admin. Code 565-6.6(3).
[41] Iowa Code § 473.20(2).
[42] Iowa Admin. Code 565-6.6(4).
[43] Iowa Code § 473.20(5).
[44] Iowa Code § 473.20(6).
[45] Iowa Code § 473.20A.

department and the energy bank. Such arrangements appear to be authorized in Code section 470.20A by virtue of the statement that "[t]he state, state agencies, political subdivisions of the state, school districts, area education agencies, community colleges, and nonprofit organizations may enter into financing agreements and issue obligations necessary to carry out the provisions of the chapter."[46]

D. Energy City Designation.

Legislation enacted during the 2007 Legislative Session provided for the establishment of an Energy City Designation Program administered by the Department of Natural Resources. The objective of the designation is to encourage cities to develop and implement innovative energy efficiency programs. To qualify for designation as an energy city, a city shall submit an application detailing community-based plans for energy reduction projects, energy-efficient building construction and rehabilitation, efforts to secure local funding for energy efficiency plans, involvement of local schools and community organizations, any existing or proposed ordinances encouraging energy efficiency and conservation, and community recycling efforts. Additionally, an applicant city is required to organize an energy day observance and proclamation with a commemorating event and awards ceremony for leading energy-efficient community businesses, groups, schools, or individuals. The department is directed to award designations to cities of varying populations, to identify and publicize state grant and loan programs relating to energy efficiency, and to develop a procedure for coordinating preferences with other state agencies for the awarding of grants or making of loans to energy city-designated applicants.[47]

E. Iowa Utilities Board.

Energy efficiency programs are required to be developed and offered to customers of rate-regulated gas and electric utilities, under the purview of the Iowa Utilities Board as provided in Code chapter 476. The programs can be offered either directly by the utility or by a third party or agent contracted with the utility. The programs are contained within energy efficiency plans which are filed with the board, and subject to board approval. Energy efficiency plans are, in general, required to be cost-effective, other than programs for qualified low-income persons and relating to tree planting, education, and assessments of consumers' needs for information to make effective choices regarding energy use and energy efficiency.[48] The plans are required to include a range of programs offering energy efficiency opportunities tailored to the needs of all customer classes, including residential, commercial, and industrial customers.[49] Programs relating to low-income energy assistance can take the form of a cooperative countywide or communitywide program with one or more community action agencies within a utility's service area. Iowa agencies and contractors are to be utilized to the maximum extent that is cost-effective in implementing programs contained within the plans.[50]

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[46] Iowa Code § 473.20A(3).
[47] 2007 Iowa Acts ch. 157, § 1.
[48] Iowa Code § 476.6(14). See 2007 Iowa Acts ch. 168, § 16.
[49] Iowa Code § 476.6(16).
[50] Iowa Code § 476.6(16).

Additionally, rate-regulated gas and electric utilities are required to submit an assessment to the board determining potential energy and capacity savings available from actual and projected customer usage through the application of commercially available technology and improved operating practices to energy-using equipment and buildings. Based on the assessments, and in consultation with the Department of Natural Resources, the board develops specific capacity and energy savings performance standards for incorporation into a utility's energy efficiency plan. The board may approve, reject, or modify submitted plans, and conduct contested case proceedings in relation thereto.[51]

Energy efficiency plans are also required to be filed by nonrate-regulated gas and electric utilities, but are not subject to board approval. Electric public utilities having fewer than 10,000 customers and electric cooperative corporations and associations, municipally owned utilities furnishing gas or electricity, and gas public utilities having fewer than 2,000 customers, must submit plans which are, on the whole, cost effective. Plans may be submitted individually or in combination with other similarly classified utilities, and may be waived by the board in whole or in part if a utility can demonstrate superior results with existing energy efficiency efforts.[52]

IV. Miscellaneous Provisions.

In addition to the provisions discussed in the previous three categories, several other references to energy efficiency programs or requirements exist throughout the Code.

A. State Vehicle Fleet.

The Director of the Department of Administrative Services is required to consider energy efficiency in assigning motor vehicles for use directly by the department or through the department for other specified state agencies. Standards applicable to such assignments are required to be developed by the director to assure assignment of the most energy-efficient vehicle or combination of vehicles available for a trip. Special work vehicles and law enforcement vehicles are exempt from the standards.[53]

B. School District Physical Plant and Equipment Levy.

One of the authorized uses for property tax revenue derived from the physical plant and equipment levy imposed by school districts for school finance-related purposes is for energy conservation.[54]

C. State Transportation Commission.

Among the duties listed for the State Transportation Commission is consideration of energy and environmental issues in transportation development, and promoting the efforts of political subdivisions in developing energy-efficient public transit systems, including bus and rail systems.[55]

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[51] Iowa Code § 476.6(16).
[52] Iowa Code §§ 476.1A, 476.1B, and 476.1C.
[53] Iowa Code § 8A.362(4).
[54] Iowa Code § 298.3(7).
[55] Iowa Code § 307.10(5) and (7).

D. Energy Efficiency Lighting.

All exterior floodlighting owned by a city, including but not limited to street and security lighting, must be replaced when worn out with high-pressure sodium lighting or lighting with equivalent or better energy efficiency as established by the Iowa Utilities Board by administrative rule. This requirement does not apply to period lighting, which has a minimum efficiency rating of 58 lumens per watt, or to stadium or ballpark lighting, but in the latter case worn out lighting must be replaced with the most energy-efficient lighting available at the time of replacement.[56] A similar provision applies to public utility-owned exterior floodlighting.[57]

E. Iowa Energy Center.

Code section 266.39C establishes an Iowa Energy Center at Iowa State University, with several specified objectives:

- Striving to increase energy efficiency in all areas of Iowa energy use.
- Serving as a model for state efforts to decrease dependence on imported fuels and to decrease reliance on energy production from nonrenewable, resource-depleting fuels.
- Conducting research on energy efficiency and conservation that will improve the environmental, social, and economic well-being of Iowans, minimize the environmental impact of existing energy production and consumption, and reduce the need to add new power plants.
- Assisting Iowans in assessing technology related to energy efficiency and alternative energy production systems and supporting educational and demonstration programs that encourage their implementation.
- Conducting and sponsoring research to develop alternative energy systems that are based upon renewable sources and that will reduce the negative environmental and economic impact of energy production systems.
- Developing a program to provide assistance to rural residents for energy efficiency efforts.
- Cooperating with the State Board of Education in developing a curriculum which promotes energy efficiency and conservation.[58]

The center is advised by a council, and the director and staff are comprised of employees of Iowa State University. Maximum funding allocation limitations apply regarding amounts to be expended annually on salaries and benefits out of state funds appropriated to the center, with remaining amounts used to sponsor research grants and projects submitted on a competitive basis by Iowa colleges and universities and private nonprofit agencies and foundations. The center is also authorized to solicit grants and

[56] Iowa Code § 364.23.
[57] Iowa Code § 476.62.
[58] Iowa Code § 266.39C(1),(5), and (6).

funding from public and private nonprofit agencies and foundations.[59] An additional source of funding for the center, along with a Center for Global and Regional Environmental Research established by the State Board of Regents, consists of remittances to the Treasurer of State by regulated and nonregulated gas and electric utilities of one-tenth of 1 percent of total gross operating revenues during a calendar year derived from their intrastate public utility operations. A schedule of remittances is established by the Iowa Utilities Board by administrative rule. Eighty-five percent of the remittances are allocated to the Iowa Energy Center, with the remaining 15 percent allocated to the Center for Global and Regional Environmental Research.[60]

F. Midwest Energy Compact.

Provisions relating to the establishment of a Midwest Energy Compact were enacted during the 1991 Legislative Session which envisioned Iowa joining with contiguous states in a compact to promote the economic and general welfare of citizens of the joining states by increasing energy efficiency and energy independence. The compact was to be governed by a commission made up of representatives from member states, which would conduct studies and investigations of energy efficiency measures and their effect on the citizens and economies of the member states, and make recommendations in relation thereto, including proposed state or federal legislation.[61] The Department of Natural Resources indicates that to date no implementation activity in relation to this compact has occurred.

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[59] Iowa Code § 266.39C(2-4).
[60] Iowa Code § 476.10A(1).
[61] Iowa Code § 473A.1.

IOWA UTILITIES BOARD
ENERGY EFFICIENCY BRIEFING MATERIALS

1. **IUB Jurisdiction Relating to Energy Efficiency**

2. **Energy Efficiency Overview – IUB Web site**

3. **IUB History of Energy Efficiency Initiatives**

4. **Definitions of Energy Terms**

5. **Administrative Rules – Chapter 35: Energy Efficiency Planning and Cost Review for Investor-Owned Utilities**

6. **Administrative Rules – Chapter 36: Energy Efficiency Planning and Reporting for Non-Rate-Regulated Gas and Electric Utilities**

7. **Energy Efficiency Presentation by John Norris, Chairman, IUB, to the Governor's Energy Policy Forum, January 4, 2007**

8. **Overview of IUB Inquiry into the Status of Energy Efficiency Programs in Iowa, Docket No. NOI-07-2, as required by HF 918, 2007 Legislative Session**

9. **Order Initiating Inquiry into the Status of Energy Efficiency Programs in Iowa, Docket No. NOI-07-2**

10. **Overview of IUB's Iowa Weatherization Challenge – IUB Web site**

11. **National Action Plan for Energy Efficiency – Overview and List of Public Statements and Commitments in Support of the Action Plan**
    - **American Council for an Energy Efficient Economy (ACEEE)**
    - **American Public Power Association (Municipal Utilities)**
    - **Iowa Utility Association**
    - **Iowa Governor Thomas Vilsack and Iowa Utilities Board**
    - **MidAmerican Energy Company**
    - **National Rural Electric Cooperative Association**

For more information:
http://www.epa.gov/cleanenergy/actionplan/leadership.htm

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515.281.4874

Iowa Utilities Board Jurisdiction Relating to Energy Efficiency

Rural Electric Cooperatives

476.1A Applicability of authority – certain electric utilities.

Electric public utilities having fewer than ten thousand customers and electric cooperative corporations and associations are not subject to the rate regulation authority of the board. Such utilities are subject to all other regulation and enforcement activities of the board, including:

7. Filing energy efficiency plans and energy efficiency results with the board. The energy efficiency plans as a whole shall be cost-effective. The board may permit these utilities to file joint plans.

The board may waive all or part of the energy efficiency filing and review requirements for electric cooperative corporations and associations and electric public utilities which demonstrate superior results with existing energy efficiency efforts.

Municipal Utilities

476.1B Applicability of authority – municipally-owned utilities.

1. Unless otherwise specifically provided by statute, a municipally-owned utility furnishing gas or electricity is not subject to regulation by the board under this chapter, except for regulatory action pertaining to:

l. Filing energy efficiency plans and energy efficiency results with the board. The energy efficiency plans as a whole shall be cost-effective. The board may permit these utilities to file joint plans.

2. The board may waive all or part of the energy efficiency filing and review requirements for municipally-owned utilities which demonstrate superior results with existing energy efficiency efforts.

Small Gas Utilities

476.1C Applicability of authority – certain gas utilities.

1. Gas public utilities having fewer than two thousand customers are not subject to the regulation authority of the utilities board under this chapter unless otherwise specifically provided. Sections 476.10 , 476.20 , 476.21 , and 476.51 apply to such gas utilities.

Gas public utilities having fewer than two thousand customers shall be subject to the assessment of fees for the support of the Iowa energy center created in section 266.39C and the center for global and regional environmental research created by the state board of regents and shall file energy efficiency plans and energy efficiency results with the board. The energy efficiency plans as a whole shall be cost-effective. The board may waive all or part of the energy efficiency filing requirements if the gas utility demonstrates superior results with existing energy efficiency efforts.

Rate-regulated Gas and Electric Utilities

476.6(14) ***Energy efficiency plans.*** Electric and gas public utilities shall offer energy efficiency programs to their customers through energy

efficiency plans. An energy efficiency plan as a whole shall be cost-effective. In determining the cost-effectiveness of an energy efficiency plan, the board shall apply the societal test, utility cost test, rate-payer impact test, and participant test. Energy efficiency programs for qualified low-income persons and for tree planting programs need not be cost-effective and shall not be considered in determining cost-effectiveness of plans as a whole. The energy efficiency programs in the plans may be provided by the utility or by a contractor or agent of the utility.

476.6(16) ***Energy efficiency implementation, cost review, and cost recovery.***

a. Gas and electric utilities required to be rate-regulated under this chapter shall file energy efficiency plans with the board. An energy efficiency plan and budget shall include a range of programs, tailored to the needs of all customer classes, including residential, commercial, and industrial customers, for energy efficiency opportunities. The plans shall include programs for qualified low-income persons including a cooperative program with any community action agency within the utility's service area to implement countywide or communitywide energy efficiency programs for qualified low-income persons. Rate-regulated gas and electric utilities shall utilize Iowa agencies and Iowa contractors to the maximum extent cost-effective in their energy efficiency plans filed with the board.

b. A gas and electric utility required to be rate-regulated under this chapter shall assess potential energy and capacity savings available from actual and projected customer usage by applying commercially-available technology and improved operating practices to energy-using equipment and buildings. The utility shall submit the assessment to the board. Upon receipt of the assessment, the board shall consult with the department of natural resources to develop specific capacity and energy savings performance standards for each utility. The utility shall submit an energy efficiency plan which shall include economically-achievable programs designed to attain these energy and capacity performance standards.

c. The board shall conduct contested case proceedings for review of energy efficiency plans and budgets filed by gas and electric utilities required to be rate-regulated under this chapter. The board may approve, reject, or modify the plans and budgets. Notwithstanding the provisions of section 17A.19 , subsection 5, in an application for judicial review of the board's decision concerning a utility's energy efficiency plan or budget, the reviewing court shall not order a stay. Whenever a request to modify an approved plan or budget is filed subsequently by the office of consumer advocate or a gas or electric utility required to be rate-regulated under this chapter, the board shall promptly initiate a formal proceeding if the board determines that any reasonable ground exists for investigating the request. The formal proceeding may be initiated at any time by the board on its own motion. Implementation of board-approved plans or budgets shall be considered continuous in nature and shall be subject to

investigation at any time by the board or the office of the consumer advocate.

d. Notice to customers of a contested case proceeding for review of energy efficiency plans and budgets shall be in a manner prescribed by the board.

e. A gas or electric utility required to be rate-regulated under this chapter may recover, through an automatic adjustment mechanism filed pursuant to subsection 8, over a period not to exceed the term of the plan, the costs of an energy efficiency plan approved by the board, including amounts for a plan approved prior to July 1, 1996, in a contested case proceeding conducted pursuant to paragraph *"c."* The board shall periodically conduct a contested case proceeding to evaluate the reasonableness and prudence of the utility's implementation of an approved energy efficiency plan and budget. If a utility is not taking all reasonable actions to cost-effectively implement an approved energy efficiency plan, the board shall not allow the utility to recover from customers costs in excess of those costs that would be incurred under reasonable and prudent implementation and shall not allow the utility to recover future costs at a level other than what the board determines to be reasonable and prudent. If the result of a contested case proceeding is a judgment against a utility, that utility's future level of cost recovery shall be reduced by the amount by which the programs were found to be imprudently conducted. The utility shall not represent energy efficiency in customer billings as a separate cost or expense unless the board otherwise approves.

f. A rate-regulated utility required to submit an energy efficiency plan under this subsection shall, upon the request of a state agency or political subdivision to which it provides service, provide advice and assistance regarding measures which the state agency or political subdivision might take in achieving improved energy efficiency results. The cooperation shall include assistance in accessing financial assistance for energy efficiency measures.

18. ***Energy efficiency program financing.*** The board may require each rate-regulated gas or electric public utility to offer qualified customers the opportunity to enter into an agreement for the amount of moneys reasonably necessary to finance cost-effective energy efficiency improvements to the qualified customers' residential dwellings or businesses.

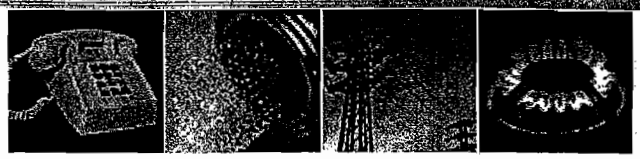
All Electric Utilities

476.62 Energy efficient lighting required.

All public utility-owned exterior flood lighting, including but not limited to street and security lighting, shall be replaced when worn-out exclusively with high pressure sodium lighting or lighting with equivalent or better energy efficiency as approved in rules adopted by the board.

89 Acts, ch 297, §12

IUB Website Information



Overview of Energy Efficiency Plans and Programs in Iowa

The Iowa Utilities Board (IUB) is charged with responsibility for energy efficiency programs and energy efficiency plans by Iowa utilities. Investor-owned utilities conduct energy efficiency programs under plans which are reviewed and approved by the IUB. Consumer-owned utilities (municipal utilities and electric cooperatives) operate voluntary plans and programs, but must provide reports on their plans to the IUB. Energy efficiency plans in Iowa address both electric and natural gas use through a variety of programs which attempt to give all customers opportunities to participate.

Energy Efficiency Programs - Investor-owned Utilities (IOUs)

Key features of all plans and programs approved for IOUs include:

- Plans must be cost-effective, with four benefit-cost tests used to determine cost-effectiveness from the perspectives of the participating customers, the utility, the combination of the utility and customers, and the impact on utility rates.
- Plans must include programs for all types of customers.
- Plans must include an analysis of potential for energy efficiency, and must include performance standards in terms of energy and capacity savings.
- IOUs recover costs through an automatic rate pass-through, reconciled annually to prevent over-recovery or under-recovery.
- The IUB is authorized to conduct prudence reviews of IOU energy efficiency, with authority to disallow imprudent costs.

Investor-owned utilities currently (as of September 2005) are offering many energy efficiency programs under plans approved in 2003. The IOUs' current plans continue some programs based on proven strategies, while other programs are pilot testing new methods of assisting customers. Programs typically target customer classes or subgroups of customers, and often provide rebates or loans for energy efficient equipment or building components. To find out which programs are currently underway for various types of customers, and what customer incentives may be available, go to the websites of the IOUs as follows:

Aquila Networks
Alliant Energy-Interstate Power and Light Company
MidAmerican Energy Company

For more information about development of utility programs, contact Jack Clark, Iowa Utility Association, at 515-282-2115.

Energy Efficiency Update

On January 4, 2007, Chairman Norris gave a presentation at Governor-elect Culver's Policy Forum.

Chairman Norris reviewed the progress to date for Iowa utilities, including the substantial efforts by investor-owned utilities which led to Iowa's current status as the number one state in energy efficiency investment, on a per capita basis. The following are some of the key results:

- Capability to reduce peak electricity use by 1,400 megawatts (MW); equals about 11 peaking plants similar to the River Hills plant in downtown Des Moines.
- Reduced growth in annual electricity use by 2 million megawatt-hours (MWh); enough to power 200,000 average homes for 1 year.
- Reduced growth in annual natural gas use by 7 billion cubic feet; enough to heat 85,000 average homes for 1 year.
- Actual spending in 2005 for energy efficiency, load management and other programs; $99 million by IOUs and $11 million by Munis and RECs.
- Benefits – IOUs/customers get back $2 on every $1 invested; NET societal benefits of more than $200 million per year.
- Benefits – Dollars spent on energy efficient equipment and saved by customers tend to remain in Iowa.

Energy Efficiency Programs - Consumer-owned Utilities (COUs)

Consumer-owned utilities must file energy efficiency plans with the IUB by July 1 of even-numbered years. The IUB does not review or approve these plans, nor does it verify the information filed. The IUB simply compiles the results of the plans. The goals and implementation of plans by COUs are not the responsibility of the IUB. However, IUB rules [199 IAC Chapter 36] specify the data COUs should provide in their plans.

The IUB typically sends each consumer-owned utility a reminder in the spring of the year plans are due, including a form which utilities may use to compile and report the data for their plans.

Consumer-owned utilities in Iowa are allowed to file their plans jointly with other utilities. For the past 14 years and continuing in 2006, the Iowa Association of Municipal Utilities (IAMU) and the Iowa Association of Electric Cooperatives (IAEC) have filed joint plans for many of their member utilities. For more information, contact:

IAMU: Anne Kimber 515-289-1999	akimber@iamu.org
IAEC: Regi Goodale 515-727-8949	rgoodale@iowarec.org

IUB Reporting Form

Consumer-owned utilities must file biennial energy efficiency plans with IUB on or before July 1, 2006. Utilities which do not intend to file jointly through their associations must provide an original and one copy of their energy efficiency plans to the IUB. In previous years the IUB has sent a reminder to consumer-owned utilities, including a form to use in reporting their energy efficiency plans.

The staff of the IUB has worked with the IAMU and IAEC to simplify the reporting form. This form is an option for utilities which do not file jointly through the IAMU or IAEC. The form is intended to help utilities provide plan data in a consistent way, which will reduce the effort and cost to assemble utilities' data into a complete snapshot of COUs' accomplishments.

The form may be downloaded from this site and used by any consumer-owned utility to report its energy efficiency plan. This form is provided as a Microsoft Excel spreadsheet. If you do not have Microsoft Excel installed on your computer, you may download the free Excel viewer from the Microsoft web site.

The IUB encourages utilities which use the form to provide an electronic copy to the IUB by e-mail to: gordon.dunn@iub.state.ia.us.

Regardless of the form used, an original and one copy of the report must be filed in hardcopy with the Iowa Utilities Board, 350 Maple Street, Des Moines, Iowa 50319-0069, by July 1, 2006. A copy of the report should also be filed with the Office of Consumer Advocate, Iowa Department of Justice, 310 Maple Street, Des Moines, Iowa 50319-0063.

If you have any questions about the form, or about energy efficiency in general, contact Gordon Dunn at 515-281-7051.

Links to Information about Energy Efficiency

- Getting the Most for your Energy Dollar - A brochure from the Iowa Utilities Board. Save energy and money by utilizing consumer tips and resources for residential and business energy efficiency.
- MidAmerican Energy Company - Information on programs and rebates for residential energy efficiency.
- Alliant Energy-Interstate Power and Light Company - Information on programs and rebates for residential energy efficiency.
- Aquila Networks - Energy saving tips.
- Iowa Association of Municipal Utilities (IAMU) - General Information.
- Iowa Association of Electric Cooperatives (IAEC) - General environmental information.
- Iowa Energy Center - Energy efficiency information, including the "Home Series" residential booklets.
- American Council for an Energy Efficient Economy - Consumer Guide to the Most Energy Efficient Appliances.
- Lawrence Berkeley National Laboratory - Home Energy Saver, on-line energy audit.
- Energy Star - U.S. Department of Energy program for rating and labeling efficient appliances and buildings.
- Energy Savers - U.S. Department of Energy tips for saving energy and money at home.
- Iowa Dept. of Natural Resources, Energy Bureau - Energy efficiency programs.
- Alliance to Save Energy - General Information.
- Oak Ridge National Laboratories - Energy Programs.
- Midwest Energy Efficiency Alliance - Programs for energy efficiency in the Midwest

Iowa Utilities Board
History of Energy Efficiency Initiatives

1980-1984: The Iowa Commerce Commission (renamed the Iowa Utilities Board in 1988) required investor-owned utilities to provide energy audits. Utilities or subcontractors, by 1989, provided energy audits to about 10% of customers, but energy savings impacts were not identifiable.

1985-1986: The Iowa legislature mandated conservation pilot programs by investor-owned utilities. Programs were focused on loans for high-efficiency natural gas furnaces. Utilities recovered costs for the programs charge identified on customers' bills. The legislature repealed the law in 1986, because of a large number of customer complaints regarding the charge.

1987-1988: Utilities began planning new power plants to meet increased demand, and the Commission started a general inquiry into utility energy efficiency. The Commission also ordered Iowa Power (a predecessor of MidAmerican Energy) to increase energy conservation activities, as a condition for approval of a power plant.

1989-1990: The Board and a consultant, Morgan Systems Corporation, conducted an intensive study of utility planning and energy conservation in Iowa. Morgan System's report was the basis for legislation passed in 1990 (Senate File 2403). The legislation mandated spending on energy efficiency by investor-owned utilities, at a level of about 2% of revenues for electric programs and 1.5 % of revenues for gas programs. Programs by consumer-owned utilities were to be voluntary, with mandatory reporting of results.

- Investor-owned utility (IOU) energy efficiency plans were reviewed in contested cases conducted by the Iowa Utilities Board (IUB).
- Targeted levels of spending by IOUs were designated: 2% of revenues for electric programs and 1.5% of revenues for natural gas programs.
- Certain programs were mandated for IOUs: water heater blankets, commercial lighting, rebates for lighting, tree planting and low-income programs (in cooperation with Community Action weatherization agencies.
- Cost recovery by IOUs could only occur after contested cases before the IUB, with a lag of several years between spending and cost recovery.
- Various additional incentives to utilities were authorized, including rewards, penalties and returns on all IOU expenditures.
- Research, demonstration and education on energy efficiency, renewables and climate change was to be conducted by the Iowa Energy Center and the Center for Global and Regional Environmental Research, funded by all energy utilities at a rate of 0.1% of revenues.

- Investor-owned utilities were required to purchase electricity from renewable electricity producers, up to a specified level of 105 MW or about 2% of total capacity.
- Consumer-owned utilities were required to file biennial voluntary energy efficiency plans and to report on results.

1991-1992: The Iowa Utilities Board (Board) established rules for utility energy efficiency programs. The Board then held contested case hearings to review and approve energy efficiency plans. Many operating principles were established by rules or in the contested reviews, such as benefit/cost methods, determination of avoided costs and treatment of environmental impacts. Utilities began implementing energy efficiency programs.

1993-1995: Utilities continued to implement their first energy efficiency plans, with occasional changes to plans. Cost recovery hearings were conducted by the Board to review results of programs and allow utilities to begin recovering past expenses.

1996-1997: Various parties pressed for changes in energy efficiency legislation. The Board proposed legislation resulting in the passage of Senate File 2370. Utilities began recovering a large amount of accumulated energy efficiency costs, plus costs for ongoing programs.

- Investor-owned utility (IOU) energy efficiency plans continue to be reviewed in contested cases conducted by the Iowa Utilities Board (IUB).
- Utilities' energy efficiency plans must be cost-effective, with four benefit-cost tests to be used to determine cost-effectiveness.
- Plan must include programs for all types of customers, and should use Iowa contractors if cost-effective.
- Goals are not expressed as spending targets. Low-income weatherization programs are the only mandate, but no spending targets are specified.
- IOU energy efficiency plans must include an analysis of potential for energy efficiency, and plans must be designed to attain performance standards.
- IOU cost recovery is through an automatic rate "rider" or pass-through, reconciled annually to prevent over-recovery or under-recovery.
- The IUB is authorized to conduct prudence reviews of IOU energy efficiency, with authority to disallow imprudent costs.

1998: A proposal was made by a utility to unbundle energy efficiency and renewable energy costs, which would call attention to these costs on customers' bills. The Board found the information program explaining the new billing system to be inadequate, and the billing proposal was abandoned. The Board also adopted new energy efficiency planning rules.

1999-2000: The debate about electric restructuring produced various proposals for funding public benefits. The Board reviewed the implementation of energy

efficiency by two utilities, and rejected one utility's proposal to reduce its energy efficiency budget.

2001-2003: Legislators rejected electric industry restructuring but passed House File 577 which was intended to encourage the expansion of electric generation. Harsh winter weather in 2000 contributed to a short but dramatic spike in natural gas prices. The Board instructed investor-owned utilities to develop new energy efficiency plans.

2003-2004: The Board delivered a report to the General Assembly on utility rates, which addressed certain topics relating to energy efficiency that were suggested by participants. The Board found that allowing large customer to exempt themselves from energy efficiency programs would undermine cost-effectiveness of programs.

2003-2005: All investor-owned utilities filed new energy efficiency plans, which were reviewed in contested case proceedings. All issues for the plans of MidAmerican Energy, Aquila and Atmos were resolved by settlement among the parties to the proceedings. Most issues regarding the Alliant Energy plans were also settled, but issues relating to the interruptible load management program of Alliant continued to be disputed, until settlements were reached in 2005.

2004-2007: Investor-owned utilities began implementing new plans, with some new or enhanced programs including: residential appliance recycling, performance contracting, agriculture energy efficiency, bidding for efficiency rebates by large customers and specialized technical assistance to nonresidential customers.

2004-2007: The Board on its own initiative directed the investor-owned utilities to double funding for low-income energy efficiency programs, and authorized the utilities to undertake pilot projects for low-income efficiency education and multi-family low-income energy efficiency.

2005-2007: Customer response to new programs and rising prices of natural gas significantly increased results and spending by investor-owned utility energy efficiency programs.

Iowa Utilities Board

Definitions of Energy Terms

Below are key terms and concepts used in the discussion of energy issues.

Capacity – Capacity means the amount of energy provided at a particular time. A utility electrical system cannot store electricity, but must generate electricity to instantly match its customers' use or **demand**. Electrical capacity is usually measured in kilowatts (kW) or megawatts (MW) generated at a particular time. **Peak demand** refers to the highest level of use in a specified area of use or by a group of customers in a particular time period, such as on a hot summer day. Electrical **peak capacity** describes the amount of generation available to provide electricity at the time of peak demand, and excess capacity or reserve capacity describes the amount of unused but available electrical generation at the time of peak demand. Electrical demand is also called electric **load**, and peak demand is called **peak load**.

Natural gas systems also experience certain high points in use, typically a very cold day in winter. This high point in gas use is called the **peak day demand**, and the measure of the availability of gas at this time is called **peak day availability**. Natural gas capacity is usually measured in peak day therms (**Pk Day Therms**).

Energy -- The term energy, as applied to utility systems, is similar to but slightly different than the definition in physics. In an electrical system, **"energy"** means the amount of electricity used by a specific part of the system during a period of time. The units used to describe electrical energy are kilowatt-hours (kWH), megawatt-hours (MWh) or gigawatt-hours (GWh). For example, 50 kilowatt-hours used for 2 hours equals 100 kilowatt-hours.

In a natural gas system, the units of energy are measured in therms (**Th**), dekatherms (**DTh**), cubic feet (**cf**), hundred cubic feet (**Ccf**) or thousand cubic feet (**Mcf**).

Energy Efficiency – Energy efficiency means making changes, which provide more work, in the form of light, heat, cooling or motor power, for the same amount of energy. **Energy efficiency programs** save energy by providing incentives for utility customers to buy more efficient equipment or improve buildings. For example, efficient air conditioners might yield 13 or 15 units of cooling for the same energy used by an inefficient unit to produce 9 units of cooling. Or, a utility customer who builds an efficient home rnight use only 70% of the natural gas needed to heat an inefficient home to the same temperature. Energy efficiency programs may also reduce **peak demand** because the efficient equipment or buildings will tend to use less energy on peak, but this result is usually not the primary focus of energy efficiency.

Load Management – Load management refers to deliberate changes in electrical peak load or demand, intended to reduce the use of electricity at times of peak use. Load management programs usually provide incentives to turn off energy-using equipment at certain times, which helps a utility avoid high levels of **peak demand**. Load management programs may save some overall energy use, but this result is not the focus of the programs.

Investor Owned Utilities

CHAPTER 35
ENERGY EFFICIENCY PLANNING AND COST REVIEW

199—35.1(476) Policy and purpose. The board deems the implementation of effective energy efficiency plans by utilities and the opportunity of the utilities' customers to participate in and benefit from the energy efficiency plans to be of the highest priority.

These rules are intended to implement Iowa Code sections 476.1, 476.6(17, 19-21), and 476.10A, for gas and electric utilities required by statute to be rate-regulated and to provide the board the necessary information to review each utility's assessment of potential, to develop specific capacity and energy savings performance standards for each utility and to evaluate the appropriateness of each utility's energy efficiency plan.

199—35.2(476) Definitions. The following words and terms, when used in this chapter, shall have the meanings shown below:

"After-tax discount rate" means the utility's weighted cost of capital reduced by the utility's composite federal and state income tax rate multiplied by the utility's weighted cost of debt.

"Assessment of potential" means development of energy and capacity savings available from actual and projected customer usage by cost-effectively applying commercially available technology and improved operating practices to energy-using equipment and buildings and considering market factors including, but not limited to, the effects of rate impacts, the need to capture lost opportunities, the non-energy benefits of measures, uncertainty associated with industry restructuring, the strategic value of energy efficiency to the utility, and other market factors.

"Avoided cost" means the cost the utility would have to pay to provide energy and capacity from alternative sources of supply available to utilities as calculated pursuant to the formulas in subrules 35.9(7) and 35.10(4).

"Benefit/cost ratio" means the ratio of the present value of benefits to the present value of costs.

"Benefit/cost tests" means one of the four acceptable economic tests used to compare the present value of applicable benefits to the present value of applicable costs of an energy efficiency program or plan. The tests are the participant test, the ratepayer impact test, the societal test, and the utility cost test. A program or plan passes a benefit/cost test if the benefit/cost ratio is equal to or greater than one.

"Capacity purchase" or *"sale commitment"* means electric generating capacity which a utility has committed to purchase or sell by means of contracts or other enforceable agreements.

"Contract deliverability" means the maximum firm capacity which a utility has under contract with its suppliers.

"Customer incentive" means an amount or amounts provided to or on behalf of customers for the purpose of having customers participate in energy efficiency programs. Incentives include, but are not limited to, rebates, loan subsidies, payments to dealers, rate credits, bill credits, the cost of energy audits, the cost of equipment given to customers, and the cost of installing such equipment. Customer incentives do not include the cost of information provided by the utility, nor do they include customers' bill reductions associated with reduced energy usage due to the implementation of energy efficiency programs. For the purposes of energy efficiency pricing strategies, incentive means the difference between a customer's bill on an energy efficiency customized rate and the customer's bill on a traditional rate considering factors such as the elasticity of demand.

"Customer persistence" means a customer's consistent use of energy efficient equipment or operating practices over time. For example, a nonpersistent customer may initially adopt the use of compact fluorescent lights, but replace efficient lights with incandescent lights when the former wear out. By contrast, a persistent customer will replace burned out efficient lamps with energy saving lamps after the initial trial.

"Customer's side of the meter" means point of delivery. For reference, the utility's side of the meter refers to activities from and including generation or energy supply up to the point where the customer takes delivery, which may be the customer's billing meter or an unmetered fixture.

"Economic potential" means the energy and capacity savings that result in future years when measures are adopted or applied by customers at the time it is economical to do so. For purposes of this chapter, economic potential may be determined by comparing the utility's avoided cost savings to the incremental cost of the measure.

"Energy efficiency measures" means activities on the customers' side of the meter which reduce customers' energy use or demand including, but not limited to, end-use efficiency improvements; load control or load management; thermal energy storage; or pricing strategies.

"Energy savings performance standards" means those standards which shall be cost-effectively achieved, with the exception of low-income weatherization and tree planting programs, and includes the annual capacity savings stated in either kW or dth/day or Mcf/day and the annual energy savings stated in either kWh or dth or Mcf.

"Firm throughput" means firm sales of gas and gas transported over the utility's distribution facilities under firm transportation arrangements.

"Fixed operations and maintenance costs" means operations and maintenance costs which do not vary with changes in energy generation or supply.

"Free riders" means those program participants who would have done what an energy efficiency program intends to promote even without the program.

"Gross operating revenues" means all revenues from intrastate operations includable in the operating revenue accounts of the prescribed uniform system of accounts except:

1. Provisions for uncollectible revenues;
2. Amounts included in the accounts for interdepartmental sales and rents;
3. Wholesale revenue;
4. Revenues from the sale of natural gas used as a feedstock by customers; and
5. Revenues from the sale of transportation service.

"Incremental cost" means the difference in the customer's cost between a less energy efficient measure and a more energy efficient measure.

"Marginal energy cost" for a gas utility means the cost associated with supplying the next thousand cubic feet (Mcf) or dekatherm (dth) of gas.

"Marginal energy cost" for an electric utility means the energy or fuel cost associated with generating or purchasing the next kWh of electricity.

"Market barrier" means a real or perceived impediment to the adoption of energy efficient technologies or energy efficient behavior by consumers.

"Net societal benefits" means the present value of benefits less the present value of costs as defined in the societal test.

"Off-peak period" means the days and weeks not included in the gas utility's peak period.

"Participant test" means an economic test used to compare the present value of benefits to the present value of costs over the useful life of an energy efficiency measure or program from the participant's perspective. Present values are calculated using a discount rate appropriate to the class of customers to which the energy efficiency measure or program is targeted. Benefits are the sum of the present values of the customers' bill reductions, tax credits, and customer incentives for each year of the useful life of an energy efficient measure or program. Costs are the sum of present values of the customer participation costs (including initial capital costs, ongoing operations and maintenance costs, removal costs less a salvage value of existing equipment, and the value of the customer's time in arranging installation, if significant) and any resulting bill increases for each year of the useful life of the measure or program. The calculation of bill increases and decreases must account for any time-differentiated rates to the customer or class of customers being analyzed.

"Peak day demand" means the amount of natural gas required to meet firm customers' maximum daily consumption.

"Peak period" for a gas utility means the days and weeks when the gas utility's highest firm throughput is likely to occur.

"Phase-in technical potential" means the technical potential for energy and capacity savings from the adoption of commercially available technology and operating practices when existing equipment is replaced or new equipment is installed. For example, if an energy-using unit of equipment has a ten-year lifetime, the phase-in technical potential in any one year might be one-tenth of the total number of such units in existence plus units projected to be installed.

"Process-oriented industrial assessment" means an analysis which promotes the adoption of energy efficiency measures by examining the facilities, operations and equipment of an industrial customer in which energy efficiency opportunities may be embedded and which includes:

1. The identification of opportunities which may provide increased energy efficiency in an industrial customer's production process from the introduction of materials to the final packaging of the product for shipping by:
   - Directly improving the efficiency or scheduling of energy use;
   - Reducing environmental waste; and
   - Technological improvements designed to increase competitiveness and to achieve cost-effective product quality enhancement;
2. The identification of opportunities for an industrial customer to improve the energy efficiency of lighting, heating, ventilation, air conditioning, and the associated building envelope;
3. The identification of cost-effective opportunities for using renewable energy technology in "1" and "2" above.

"Program delivery and support mechanisms" means methods used by the utility to promote the adoption of energy efficiency options by customers. Program delivery and support mechanisms may include but are not limited to informational, educational, or demonstration techniques, technical assistance, or energy audits. Program delivery and support mechanisms may target specific options and markets, or address a variety of options across any number of energy efficiency programs.

"Purchased gas adjustment (PGA) year" means the 12-month period beginning September 1 and ending August 31.

"Ratepayer impact measure test" means an economic test used to compare the present value of the benefits to the present value of the costs over the useful life of an energy efficiency measure or program from a rate level or utility bill perspective. Present values are calculated using the utility's discount rate. Benefits are the sum of the present values of utility avoided capacity and energy costs (excluding the externality factor) and any revenue gains due to the energy efficiency measures for each year of the useful life of the measure or program. Costs are the sum of the present values of utility increased supply costs, revenue losses due to the energy efficiency measures, utility program costs, and customer incentives for each year of the useful life of the measure or program. The calculation of utility avoided capacity and energy, increased utility supply costs, and revenue gains and losses must use the utility costing periods.

"Revenue requirement per net kW per year" for an electric utility means an annual cost amount calculated by the economic carrying charge for each year of the supply option's life such that when each annual amount is discounted by the utility's after-tax discount rate the sum of the discounted amounts equals the supply option's capital cost inclusive of income taxes on the return.

"Saturation" or *"market saturation"* means a comparison (using fractions or percentages) of the number of units of a particular type of equipment or building component to the total number of units in use which perform the particular function under study.

"Seasonal peak demand" for an electric utility means the maximum hourly demand that occurred during that season.

"Sensitivity analysis" means a set of evaluation methods or procedures which provides an estimation of the sensitivity of final results to changes in particular input data or assumptions.

"Societal test" means an economic test used to compare the present value of the benefits to the present value of the costs over the useful life of an energy efficiency measure or program from a societal perspective. Present values are calculated using a 12-month average of the 10-year and 30-year Treasury Bond rate as the discount rate. The average shall be calculated using the most recent 12 months at the time the utility calculates its benefit/cost tests for its energy efficiency plan in subrule 35.8(6). Benefits are the sum of the present values of the utility avoided supply and energy costs including the effects of externalities. Costs are the sum of the present values of utility program costs (excluding customer incentives), participant costs, and any increased utility supply costs for each year of the useful life of the measure or program. The calculation of utility avoided capacity and energy and increased utility supply costs must use the utility costing periods.

"System energy losses" for an electric utility means net energy which is generated, purchased, or interchanged by a utility but which is not delivered either to ultimate customers or used for interdepartmental
sales expressed as a percentage of net energy.

"Take-back effect" means a tendency to increase energy use in a facility, or for an appliance, as a result of increased efficiency of energy use. For example, a customer's installation of high efficiency light bulbs and then operating the lights longer, constitutes "taking-back" some of the energy otherwise saved by the efficient lighting.

"Target market" means a group of energy users who are the intended participants in an energy efficiency
program.

"Technical potential" means the demand and energy savings which could occur if every existing piece of equipment or operating practice were changed to a technically feasible level of energy efficiency.

"Technically viable" means that a measure is appropriate for customers' equipment and buildings and Iowa's climatic conditions.

"Total throughput" means all volumes of natural gas flowing through the utility's distribution system.

"Transportation volume" means the volume of natural gas flowing through the utility's distribution system which is not owned or sold by the utility.

"Useful life" means the number of years an energy efficiency measure will produce benefits.

"Utility cost test" means an economic test used to compare the present value of the benefits to the present value of the costs over the useful life of an energy efficiency measure or program from the utility revenue requirement perspective. Present values are calculated using the utility's discount rate. Benefits are the sum of the present values of each year's utility avoided capacity and energy costs (excluding the externality factor) over the useful life of the measure or program. Costs are the sum of the present values of the utility's program costs, customer incentives, and any increased utility supply costs for each year of the useful life of the measure or program. The calculation of utility avoided capacity and energy and increased utility supply costs must use the utility costing periods.

"Variable operations and maintenance costs" means operations and maintenance costs which vary with the amount of energy generated or supplied.

199—35.3(476) Applicability. Each gas or electric utility required by statute to be rate-regulated shall file an assessment of potential energy and capacity savings and an energy efficiency plan which shall include economically achievable programs designed to attain the performance standards developed by the board. Combination electric and gas utilities may file combined assessments of potential and energy efficiency plans. Combined plans shall specify which energy efficiency programs are attributable to the electric operation, which are attributable to the natural gas operation, and which are attributable to both. If a combination utility files separate plans, the board may consolidate the plans for purposes of review and hearing. The board will conduct a contested case proceeding for the purpose of (1) developing specific capacity and energy savings performance standards for each utility and (2) reviewing energy efficiency plans and budgets designed to achieve those savings.

199—35.4(476) Schedule of filings.

35.4(1) The board will schedule each utility's filing of an assessment of potential and energy efficiency
plan and each utility's prudence review proceeding by order.

35.4(2) Initial cost recovery proceedings. Rescinded IAB 4/28/93, effective 6/2/93.

35.4(3) Subsequent biennial filings. Rescinded IAB 4/28/93, effective 6/2/93.

35.4(4) Written notice of assessment of potential and energy efficiency plan. No more than 62 days prior to and prior to filing its assessment of potential and energy efficiency plan, a utility shall mail or deliver a written notice of its filing to all affected customers. The notice shall be submitted to the board for approval not less than 30 days prior to proposed notification of customers. The notice shall, at a minimum, include the following elements:

a. A statement that the utility will be filing an assessment of potential and energy efficiency plan with the board;

b. A brief identification of the proposed energy efficiency programs and the estimated annual cost of the proposed energy efficiency programs during the five-year budget time frame;

c. The estimated annual rate and bills impacts of the proposed energy efficiency programs on each class of customer; and the estimated annual jurisdictional rate impact for each major customer grouping in dollars and as a percent, with the proposed actual increases to be filed at the time of notice to customers;

d. A statement that the board will be conducting a contested case proceeding to review the application and that a customer may file a written objection and request a consumer comment hearing; and

e. The telephone numbers and addresses of utility personnel, the board and the consumer advo-cate, for the customer to contact with questions.

199—35.5(476) Required programs. Rescinded IAB 1/13/99, effective 2/17/99.

199—35.6(476) Procedures. The following procedures shall govern the board's determination of performance standards and review of energy efficiency plans:

35.6(1) *Collaboration.* A utility shall offer interested persons the opportunity to participate in the development of its energy efficiency plan. At a minimum, a utility shall provide the opportunity to offer suggestions for programs and for the assessment of potential and to review and comment on a draft of the assessment of potential and energy efficiency plan proposed to be submitted by the utility. The utility may analyze proposals from participants to help determine the effects of the proposals on its plan. A participant shall have the responsibility to provide sufficient data to enable the utility to analyze the participant's proposal. The opportunity to participate shall commence at least 180 days prior to the date the utility submits its assessment of potential and plan to the board.

35.6(2) *Contested case proceeding.* Within 30 days after filing, each application for approval of an assessment of potential and accompanying energy efficiency plan which meets the requirements of this chapter shall be docketed as a contested case proceeding. All testimony, exhibits, and work papers shall be filed with each application for approval of an assessment of potential and energy efficiency plan. The energy bureau of the division of energy and geological resources of the Iowa department of natural resources shall be considered a party to the proceeding. Any portion of any plan, application, testimony, exhibit, or work paper which is based upon or derived from a computer program shall include as a filing requirement the name and description of the computer program, and a disk and a hard copy of all reasonably necessary data inputs and all reasonably necessary program outputs associated with each such portion. One copy of the computer information will be filed with the board, one copy of this information will be provided to the energy bureau of the division of energy and geological resources of the Iowa department of natural resources, and one copy of this information will be provided to the consumer advocate. Further copies shall be provided by the utility upon request by the board or the consumer advocate. The proceeding shall follow the applicable provisions of 199 IAC Chapter 7.

35.6(3) *Review of proposals offered by third parties.* The consumer advocate or a third-party intervenor may propose approval, modification, or rejection of a utility's assessment of potential and accompanying energy efficiency plan. All testimony, exhibits, and work papers shall be filed with any proposal. The testimony, exhibits, and work papers of the consumer advocate or a third-party intervenor shall include, if applicable:

a. An analysis showing why rejection of the proposed utility assessment of potential and plan is appropriate;

b. A statement of any proposed modification or alternate plan and why approval is appropriate;

c. An estimated implementation schedule for any modification or alternate plan; and

d. A statement of the projected costs and benefits and benefit/cost test results as a result of any modification or alternate plan and the amount of difference from the utility's projected costs and benefits.

35.6(4) *Modification after implementation.* An approved energy efficiency plan and budget may be modified during implementation if the modification is approved by the board. The consumer advocate or the utility may file either a separate or joint application for modification. The board, on its own motion, may consider modification of the energy efficiency plan and budget.

a. The utility shall file an application to modify if any one of the following conditions occurs or is projected to occur during the current or subsequent calendar year of implementation of its plan:

(1) The total annual plan budget has changed or will change by a factor of at least plus or minus 5 percent;

(2) The budget per customer class or grouping has changed or will change by a factor of at least plus or minus 10 percent;

(3) An approved program is eliminated or a new program is added.

b. All applications to modify shall be filed in the same docket in which the energy efficiency plan was approved. All parties to the docket in which the energy efficiency plan was approved shall be served copies of the application to modify and shall have 14 days to file their objection or agreement. Failure to file timely objection shall be deemed agreement.

c. Each application to modify an approved energy efficiency plan shall include:

(1) A statement of the proposed modification and the party's interest in the modification;

(2) An analysis supporting the requested modification;

(3) An estimated implementation schedule for the modification; and

(4) A statement of the effect of the modification on attainment of the utility's performance standards and on projected results of the utility's implementation of its plan.

d. If the board finds that reasonable grounds exist to investigate the proposed modification, a procedural schedule shall be set within 30 days after the application is filed.

e. If an application to modify is filed and the board finds that there is no reason to investigate, then the board shall issue an order stating the reasons for the board's decision relating to the application.

f. If the board rejects or modifies a utility's plan, the board may require the utility to file a modified plan and may specify the minimum acceptable contents of the modified plan.

199—35.7(476) Waivers. Upon request and for good cause shown, the board may waive any energy efficiency plan requirement. If the waiver request is granted, a copy of the board order shall be filed with the energy efficiency plan.

199—35.8(476) Assessment of potential and energy efficiency plan requirements. A utility's plan shall include a range of programs which address all customer classes across its Iowa jurisdictional territory. At a minimum, the plan shall include a program for qualified lower-income residential customers, including a cooperative program with any community action agency within the utility's service area. The utility shall consider including in its plan a program for tree planting. Advertising which is part of an approved energy efficiency program is deemed to be advertising required by the board for purposes of Iowa Code section 476.18(3). The utility's assessment of potential and energy efficiency plan shall include a summary not to exceed five pages in length written in a nontechnical style for the benefit of the general public. Each utility's assessment of potential and accompanying energy efficiency plan shall include the following:

35.8(1) *Assessment of potential and determination of performance standards.* The utility shall file with the board an assessment of the potential for energy and capacity savings available from actual and projected customer usage by applying commercially available technology and improved operating practices to energy-using equipment and buildings. The utility's assessment shall address the potential energy and capacity savings in each of ten years subsequent to the year the assessment is filed. Economic and impact analyses of measures shall address benefits and costs over the entire estimated lives of energy efficiency measures. At a minimum, each utility's assessment of potential shall include data and analyses as follows:

a. A base case survey projecting annual peak demand and energy use of customers' existing and estimated new energy-using buildings and equipment. The base case survey shall identify the annual peak demand and energy savings projected to occur from customers' adoption of measures in the absence of new or continued demand-side management programs by the utility.

b. A survey to identify and describe all commercially available energy efficiency measures and their attributes needed to perform an assessment of potential energy and capacity savings, including but not limited to all relevant costs of the measures, utility bill savings, utility avoided cost savings, peak demand and energy savings, measures' lifetimes, current market saturation of the measures, market availability of the measures, and non-energy-related features, costs and benefits.

c. A description of the methods and results for any screening or selection process used to identify technically viable energy efficiency measures. The utility shall explain its elimination of measures from further consideration. The utility shall provide an assessment of either annual economic potential or annual phase-in technical potential for peak demand and energy savings from projected adoption of technically viable measures, describing its methods and assumptions.

d. An assessment of the annual potential for utility implementation of the following special programs:

(1) Peak demand and energy savings from programs targeted at qualified low-income customers, including cooperative programs with community action agencies;

(2) Implementation of tree-planting programs; and

(3) Peak demand and energy savings from cost-effective assistance to homebuilders and homebuyers in meeting the requirements of the Iowa model energy code.

e. An identification of the utility's proposed performance goals for peak demand and energy savings from utility implementation of cost-effective energy efficiency programs and special programs. The utility shall identify annual goals, by energy efficiency program and total plan, for five years subsequent to the year of the filing. The utility may constrain or accelerate projected utility implementation of programs from estimates of economic or phase-in potential, based on its assessment of market potential. The utility may consider market factors including, but not limited to, market barriers to implementation of programs, the effects of rate impacts, lost opportunities which decrease future implementation of measures or programs, the nonenergy benefits and detriments of programs, uncertainty associated with industry restructuring, the strategic value of energy efficiency to the utility and other market factors it deems relevant. The utility shall fully describe its data and assumptions. In lieu of the data required in (1) through (5) below, the utility may reference relevant data and analyses filed in its energy efficiency plan, pursuant to subrule 35.8(2). The utility shall describe its analyses and results for factors relevant to the development of performance goals, including:

(1) Cost-effectiveness tests. The utility shall analyze for cost-effectiveness proposed programs, using the societal, utility, ratepayer impact and participant tests. The utility's analyses shall use inputs or factors realistically expected to influence cost-effective implementation of programs, including the avoided costs filed pursuant to rules 35.9(476) and 35.10(476) or avoided costs determined by the utility's alternative method. If the utility uses a test other than the societal test as the criterion for determining the cost-effectiveness of utility implementation of energy efficiency programs and plans, the utility shall describe and justify its use of the alternative test or combination of tests and compare the resulting impacts with the impacts resulting from the societal test.

(2) Cost-effectiveness threshold(s). The utility shall describe and justify the level or levels of cost-effectiveness, if greater or less than a benefit/cost ratio of 1.0, to be used as a threshold for cost-effective utility implementation of programs. The utility's threshold of cost-effectiveness for its plan as a whole shall be a benefit/cost ratio of 1.0 or greater.

(3) A description of the proposed programs to be implemented, proposed utility implementation techniques, the number of eligible participants and proposed rates of participation per year, and the estimated annual peak demand and energy savings.

(4) The budgets or levels of spending for utility implementation of programs, including proposed special programs addressing low-income, tree-planting and home-building assistance measures.

(5) The rate impacts and average bill impacts, by customer class, resulting from utility implementation of programs.

f. An optional sensitivity analysis. If the utility's proposed standards differ from the level of energy and capacity savings resulting from the utility's current plan by more than 25 percent, the utility shall provide a sensitivity analysis identifying key variables, including levels of spending, and showing their impact on cost-effectiveness, energy savings, and capacity savings. The purpose of the sensitivity analysis shall be to explore the range of potential for utility implementation of programs.

35.8(2) *Proposed energy efficiency plan, programs, and budget and cost allocation.* The utility shall file with the board an energy efficiency plan listing all proposed new, modified, and existing energy efficiency programs. The following information shall be provided:

a. The analyses and results of cost-effectiveness tests for the plan as a whole and for each program. Low-income and tree-planting programs shall not be tested for cost-effectiveness, unless the utility wishes to present the results of cost-effectiveness tests for informational purposes. The utility shall analyze proposed programs and the plan as a whole for cost-effectiveness, using the societal, utility, ratepayer impact and participant tests. If the utility uses a test other than the societal test as the criterion for determining the cost-effectiveness of utility implementation of energy efficiency measures, the utility shall describe and justify its use of the alternative test or combination of tests and compare the resulting impacts with the impacts resulting from the societal test. The utility shall describe and justify the level or levels of cost-effectiveness, if greater or less than a benefit/cost ratio of 1.0, to be used as a threshold for determining cost-effectiveness of programs. The utility's threshold of cost-effectiveness for its plan as a whole shall be a benefit/cost ratio of 1.0 or greater.

The utility shall provide an explanation of its sensitivity analysis identifying key variables showing the impact on cost-effectiveness. If appropriate and calculable, the utility shall adjust the energy and demand savings for the interactive effects of various measures contained within each program and shall adjust energy and demand savings of the plan as a whole for the interactive effects of programs. For the plan as a whole and for each program, the utility shall provide:

(1) Cost escalation rates for each cost component of the benefit/cost test that reflect changes over the lives of the options in the potential program and benefit escalation rates for benefit components that reflect changes over the lives of the options;

(2) Societal, utility cost, ratepayer impact measure, and participant test benefit/cost ratios; and

(3) Net societal benefits.

b. Descriptions of each program. If a proposed program is identical to an existing program, the utility may reference the program description currently in effect. A description of each proposed program shall include:

(1) The name of each program;

(2) The customers each program targets;

(3) The energy efficiency measures promoted by each program;

(4) The proposed utility promotional techniques, including the rebates or incentives offered through each program; and

(5) The proposed rates of program participation or implementation of measures, including both eligible and estimated actual participants.

c. The estimated annual energy and demand savings for the plan and each program for each year the measures promoted by the plan and program will produce benefits. The utility shall estimate gross and net capacity and energy savings, accounting for free riders, take-back effects, and measure degradation.

d. The budget for the plan and for each program for each year of implementation or for each of the next five years of implementation, whichever is less, itemized by proposed costs. The budget shall be consistent with the accounting plan required pursuant to subrule 35.12(1). The budget may include the amount of the remittance to the Iowa energy center and the center for global and regional environmental research and the alternative energy revolving loan fund. The plan and program budgets shall be categorized into:

(1) Planning and design costs;
(2) Administrative costs;
(3) Advertising and promotional costs;
(4) Customer incentive costs;
(5) Equipment costs;
(6) Installation costs;
(7) Monitoring and evaluation costs; and
(8) Miscellaneous costs.

Cost categories shall be further described by the following subcategories:

Classifications of persons to be working on energy efficiency programs, full-time equivalents, dollar amounts of labor costs, and purpose of work;

Type and use of equipment and other assets, including types of assets required and use of asset; and the name of outside firm(s) employed and a description of service(s) to be provided.

e. The rate impacts and average bill impacts, by customer class, resulting from the plan and each program.

f. A monitoring and evaluation plan. The utility shall describe in complete detail how it proposes to monitor and evaluate the implementation of its proposed programs and plan and shall show how it will accumulate and validate the information needed to measure the plan's performance against the standards. The utility shall propose a format for monitoring reports and describe how annual results will be reported to the board on a detailed, accurate and timely basis.

35.8(3) to **35.8(8)** Rescinded IAB 1/13/99, effective 2/17/99.

35.8(9) *Coordination with other utilities and participation in plan preparation.* The utility shall provide the following reports:

a. A report which explains the results of attempts to coordinate energy efficiency programs with other gas or electric utilities sharing its service territory within the boundaries of incorporated municipalities having a population of 1000 or more individuals.

b. A report on the participation of interested persons in the preparation of the assessment of potential and energy efficiency plan pursuant to subrules 35.8(1) and 35.8(2). The report shall identify the persons with whom the utility consulted, the date and type of meetings held or other contacts made, and the results of the meetings and contacts.

35.8(10) *Pilot projects.* Pilot projects may be included as a program, if justified by the utility. Pilot projects shall explore areas of innovative or unproven approaches, as provided in Iowa Code section 476.1. The proposed evaluation procedures for the pilot project shall be included.

35.8(11) to **35.8(13)** Rescinded IAB 1/13/99, effective 2/17/99.

199—35.9(476) Additional requirements for electric utilities. In addition to the requirements in rule 35.8(476), a plan for an electric utility shall include the following information:

35.9(1) *Load forecast.* Information specifying forecasted demand and energy use on a calendar year basis which shall include:

a. A statement, in numerical terms, of the utility's current 20-year forecasts including reserve margin for summer and winter peak demand and for annual energy requirements. The forecast shall not include the effects of the proposed programs in subrule 35.8(8), but shall include the effects to date of current ongoing utility energy efficiency programs.

b. The date and amount of the utility's highest peak demand within the past five years, stated on both an actual and weather-normalized basis. The utility shall include an explanation of the weather-normalization procedure.

c. A comparison of the forecasts made for each of the previous five years to the actual and weather-normalized demand in each of the previous five years.

d. An explanation of all significant methods and data used, as well as assumptions made, in the current 20-year forecast. The utility shall file all forecasts of variables used in its demand and energy forecasts and shall separately identify all sources of variables used, such as implicit price deflator, electricity prices by customer class, gross domestic product, sales by customer class, number of customers by class, fuel price forecasts for each fuel type, and other inputs.

e. A statement of the margins of error for each assumption or forecast.

f. An explanation of the results of sensitivity analyses performed, including a specific statement of the degree of sensitivity of estimated need for capacity to potential errors in assumptions, forecasts and data. The utility may present the results and an explanation of other methods of assessing forecast uncertainty.

35.9(2) *Class load data.* Load data for each class of customer that is served under a separate rate schedule or is identified as a separate customer class and accounts for 10 percent or more of the utility's demand in kilowatts at the time of the monthly system peak for every month in the year. If those figures are not available, the data shall be provided for each class of customer that accounts for 10 percent of the utility's electric sales in kilowatt hours for any month in the reporting period. The data shall be based on a sample metering of customers designed to achieve a statistically expected accuracy of plus or minus 10 percent at the 90 percent confidence level for loads during the yearly system peak hour(s). These data must appear in the 1992 and all subsequent filings, except as provided for in paragraph 35.9(2)*"c."*

a. The following information shall be provided for each month of the previous year:

(1) Total system class maximum demand (in kilowatts), number of customers in the class, and system class sales (in kilowatt-hours);

(2) Jurisdictional class contribution (in kilowatts) to the monthly maximum system coincident demand as allocated to jurisdiction;

(3) Total class contribution (in kilowatts) to the monthly maximum system coincident demand, if not previously reported;

(4) Total system class maximum demand (in kilowatts) allocated to jurisdiction, if not previously reported; and

(5) Hourly total system class loads for a typical weekday, a typical weekend day, the day of the class maximum demand, and the day of the system peak.

b. The company shall file an explanation, with all supporting work papers and source documents, as to how class maximum demand and class contribution to the maximum system coincident demand were allocated to jurisdiction.

c. The load data for each class of customer described above may be gathered by a multijurisdictional utility on a uniform integrated system basis rather than on a jurisdictional basis. Adjustments for substantive and unique jurisdictional characteristics, if any, may be proposed. The load data for each class of customer shall be collected continuously and filed annually, except for the period associated with necessary interruptions during any year to modify existing or implement new data collection methods. Data filed for the period of interruption shall be estimated. An explanation of the estimation technique shall be filed with the data. To the extent consistent with sound sampling and the required accuracy standards, an electric public utility is not required to annually change the customers being sampled.

35.9(3) *Existing capacity and firm commitments.* Information specifying the existing generating capacity and firm commitments to provide service. The utility shall include in its filing a copy of its most recent Load and Capability Report submitted to the Mid-continent Area Power Pool (MAPP).

a. For each generating unit owned or leased by the utility, in whole or in part, the plan shall include the following information:

(1) Both summer and winter net generating capability ratings as reported to the National Electric Reliability Council (NERC).

(2) The estimated remaining time before the unit will be retired or require life extension.

b. For each commitment to own or lease future generating firm capacity, the plan shall include the following information:

(1) The type of generating capacity.

(2) The anticipated in-service year of the capacity.

(3) The anticipated life of the generating capacity.

(4) Both summer and winter net generating capability ratings as reported to the NERC.

c. For each capacity purchase commitment which is for a period of six months or longer the plan shall include the following information:

(1) The entity with whom commitments have been made and the time periods for each commitment.

(2) The capacity levels in each year for the commitment.

d. For each capacity sale commitment which is for a period of six months or longer the following information:

(1) The entity with whom a commitment has been made and the time periods for the commitment.

(2) The capacity levels in each year.

(3) The capacity payments to be received per kW per year in each year.

(4) The energy payments to be received per kWh per year.

(5) Any other payments the utility receives in each year.

35.9(4) *Capacity surpluses and shortfalls.* Information identifying projected capacity surpluses and shortfalls over the 20-year planning horizon which shall include:

a. A numerical and graphical representation of the utility's 20-year planning horizon comparing forecasted demand in each year from subrule 35.9(1) to committed capacity in each year from paragraphs 35.9(3)*"a"* to 35.9(3)*"d."* Forecasted peak demand shall include reserve requirements.

b. For each year of the 20-year planning horizon, the plan shall list in MW the amount that committed capacity either exceeds or falls below the forecasted demand.

35.9(5) *Capacity outside the utility's system.* Information about capacity outside of the utility's system that could meet its future needs including, but not limited to, cogeneration and independent power producers, expected to be available to the utility during each of the 20 years in the planning horizon. The utility shall include in its filing a copy of its most recent Load and Capability Report submitted to the Mid-continent Area Power Pool (MAPP).

35.9(6) *Future supply options and costs.* Information about the new supply options and their costs identified by the utility as the most effective means of satisfying all projected capacity shortfalls in the 20-year planning horizon in subrule 35.9(4) which shall include:

a. The following information which describes each future supply option as applicable:

(1) The anticipated year the supply option would be needed.

(2) The anticipated type of supply option, by fuel.

(3) The anticipated net capacity of the supply option.

b. The utility shall use the actual capacity cost of any capacity purchase identified in paragraph 35.9(6)*"a"* and shall provide the anticipated annual cost per net kW per year.

c. The utility shall use the installed cost of a combustion turbine as a proxy for the capacity cost of any power plant identified in paragraph 35.9(6)*"a."* For the first power plant option specified in paragraph 35.9(6)*"a,"* the following information shall be provided:

(1) The anticipated life.

(2) The anticipated total capital costs per net kW, including AFUDC if applicable.

(3) The anticipated revenue requirement of the capital costs per net kW per year.

(4) The anticipated revenue requirement of the annual fixed operations and maintenance costs, including property taxes, per net kW for each year of the planning horizon.

(5) The anticipated net present value of the revenue requirements per net kW.

(6) The anticipated revenue requirement per net kW per year calculated by utilization of an economic carrying charge.

(7) The after tax discount rate used to calculate the revenue requirement per net kW per year over the life of the supply option.

(8) Adjustment rates (for example, inflation or escalation rates) used to derive each future cost in paragraph 35.9(6)*"c."*

d. The capacity costs of the new supply options allocated to costing periods. The utility shall describe its method of allocating capacity costs to costing periods. The utility shall specify the hours, days, and weeks which constitute its costing periods. For each supply option identified in paragraph 35.9(6)*"a,"* the plan shall include:

(1) The anticipated annual cost per net kW per year of capacity purchases from subparagraph 35.9(6)*"b"*(6) allocated to each costing period if it is the highest cost supply option in that year.

(2) The anticipated total revenue requirement per net kW per year from subparagraph 35.9(6)*"c"*(6) allocated to each costing period if it is the highest cost supply option in that year.

35.9(7) *Avoided capacity and energy costs.* Avoided capacity costs shall be based on the future supply option with the highest value for each year in the 20-year planning horizon identified in subrule 35.9(6). Avoided energy costs shall be based on the marginal costs of the utility's generating units or purchases. The utility shall use the same costing periods identified in 35.9(6)*"b"* when calculating avoided capacity and energy costs. A party may submit, and the board shall consider, alternative avoided capacity and energy costs derived by an alternative method. A party submitting alternative avoided costs shall also submit an explanation of the alternative method.

a. Avoided capacity costs. Calculations of avoided capacity costs in each costing period shall be based on the following formula:

AVOIDED CAPACITY COST = C x (1 + RM) x (1 + DLF) x (1 + EF)

C (capacity) is the greater of NC or RC.

NC (new capacity) is the value of future capacity purchase costs or future capacity costs expressed in dollars per net kW per year of the utility's new supply options from paragraphs 35.9(6)*"b"* and *"c"* in each costing period.

RC (resalable capacity) is the value of existing capacity expressed in dollars per net kW per year that could be sold to other parties in each costing period.

RM (reserve margin) is the generation reserve margin criterion adopted by the utility.

DLF (demand loss factor) is the system demand loss factor, expressed as a fraction of the net power generated, purchased, or interchanged in each costing period. For example, the peak system demand loss factor would be equal to peak system power loss (MW) divided by the net system peak load (MW) for each costing period.

EF (externality factor) is a 10 percent factor applied to avoided capacity costs in each costing period to account for societal costs of supplying energy. In addition, the utility may propose a different externality factor, but must document its accuracy.

b. Avoided energy costs. Calculations of avoided energy costs in each costing period shall be based on the following formula:

AVOIDED ENERGY COSTS = MEC x (1 + ELF) x (1 + EF)

MEC (marginal energy cost) is the marginal energy cost expressed in dollars per kWh, inclusive of variable operations and maintenance costs, for electricity in each costing period.

ELF (system energy loss factor) is the system energy loss factor, expressed as a fraction of net energy generated, purchased, or interchanged in each costing period.

EF (externality factor) is a 10 percent factor applied to avoided energy costs in each costing period to account for societal costs of supplying energy. In addition, the utility may propose a different externality factor, but must submit documentation of its accuracy.

199—35.10(476) Additional requirements for gas utilities. In addition to the requirements of rule 35.8(476), a plan for a gas utility shall include the following information:

35.10(1) *Forecast of demand and transportation volumes.* Information specifying its demand and transportation volume forecasts which includes:

a. A statement in numerical terms of the utility's current 12-month and 5-year forecasts of total annual throughput and peak day demand, including reserve margin, based on the PGA year by customer class. The forecasts shall not include the effects of the proposed energy efficiency programs in subrule 35.8(8), but shall include the effects to date of current ongoing utility energy efficiency programs.

b. A statement in numerical terms of the utility's highest peak day demand and annual throughput for the past five years by customer class.

c. A comparison of the forecasts made for the preceding five years to the actual and weather-normalized peak day demand and annual throughput by customer class including an explanation of the weather-normalization procedure.

d. A forecast of the utility's demand for transportation volume for both peak day demand and annual throughput for each of the next five years.

e. The existing contract deliverability by supplier, contract and rate schedule for the length of each contract.

f. An explanation of all significant methods and data used, as well as assumptions made, in the current five-year forecast(s). The utility shall file all forecasts of variables used in its demand and energy forecasts. If variables are not forecasted, the utility shall indicate all sources of variable inputs.

g. A statement of the margins of error for each assumption or forecast.

h. An explanation of the results of the sensitivity analysis performed by the utility, including a specific statement of the degree of sensitivity of estimated need for capacity to potential errors in assumptions, forecasts, and data.

35.10(2) *Capacity surpluses and shortfalls.* Information identifying projected capacity surpluses and shortfalls over the five-year planning horizon which includes a numerical and graphical representation of the utility's five-year planning horizon comparing forecasted peak day demand in each year from paragraph 35.10(1)*"a,"* to the total of existing contract deliverability, from paragraph 35.10(1)*"e."* The comparison shall list in dth or Mcf any amount for any year that contract deliverability falls below the forecast of peak day demand. Forecasted peak day demand shall include reserve margin.

35.10(3) *Supply options.* Information about new supply options identified by the utility as the most effective means of satisfying all projected capacity shortfall in the 12-month and 5-year planning horizons in subrule 35.10(2). For each supply option identified, the plan shall include:

a. The year the option would be needed.

b. The type of option.

c. The net peak day capacity.

d. The estimated future capacity costs per dth or Mcf of peak day demand of the options.

e. The estimated future energy costs per dth or Mcf of each option in current dollars.

f. A description of the method used to estimate future costs.

35.10(4) *Avoided capacity and energy costs.* Information regarding avoided costs, specifying the days and weeks which constitute the utility's peak and off-peak periods. Avoided costs shall be calculated for the peak and off-peak periods and adjusted for inflation to derive an annual avoided cost over a 20-year period. In addition, all parties may submit information specifying the hours, days, and weeks which constitute alternative costing periods. A party may submit, and the board shall consider, alternative avoided capacity and energy costs derived by an alternative method. A party submitting alternative avoided costs shall also submit an explanation of the alternative method.

a. Avoided capacity costs. Calculations of avoided capacity costs in the peak and off-peak periods shall be based on the following formula:

AVOIDED CAPACITY COSTS = [(D + OC) x (1 + RM)] x (1 + EF)

D (demand) is the greater of CD or FD.

CD (current demand cost) is the utility's average demand cost expressed in dollars per dth or Mcf during peak and off-peak periods.

FD (future demand costs) is the utility's average future demand cost over the 20-year period expressed in dollars per dth or Mcf when supplying gas during peak and off-peak periods.

RM (reserve margin) is the reserve margin adopted by the utility.

OC (other cost) is the value of any other costs per dth or Mcf related to the acquisition of gas supply or transportation by the utility over the 20-year period in the peak and off-peak periods.

EF (externality factor) is a 7.5 percent factor applied to avoided capacity costs in the peak and off-peak periods to account for societal costs of supplying energy. In addition, the utility may propose a different externality factor, but must submit documentation of its accuracy.

b. Avoided energy costs. Calculations of avoided energy costs in the peak and off-peak periods on a seasonal basis shall be based on the following formula:

AVOIDED ENERGY COSTS = (E + VOM) x (1 + EF)

E (energy costs) is the greater of ME or FE.

ME (current marginal energy costs) is the utility's current marginal energy costs expressed in dollars per dth or Mcf during peak and off-peak periods.

FE (future energy costs) is the utility's average future energy costs over the 20-year period expressed in dollars per dth or Mcf during peak and off-peak periods.

VOM (variable operations and maintenance costs) is the utility's average variable operations and maintenance costs over the 20-year period expressed in dollars per dth or Mcf during peak and off-peak periods.

EF (externality factor) is a 7.5 percent factor applied to avoided energy costs in the peak and off-peak periods to account for societal costs of supplying energy. In addition, the utility may propose a different externality factor, but must submit documentation of its accuracy.

199—35.11(476) Additional filing requirements. In those years an electric utility does not file an energy efficiency plan, the utility shall file by May 15 the information required in subrules 35.9(1) and 35.9(2). If there has been no change in the utility's forecast procedure in regard to information required in paragraphs 35.9(1)*"d"* through *"f,"* the utility may state "no change from previous forecast" for each paragraph. In those years a gas utility does not file an energy efficiency plan, the utility shall file by November 1 the information required in subrule 35.10(1). If there has been no change in the information required in paragraphs 35.10(1)*"f"* through *"h,"* the utility shall identify the portions of the previous docket where the information is located.

199—35.12(476) Energy efficiency cost recovery. A utility shall be allowed to recover the previously approved costs, deferred past costs, and estimated contemporaneous expenditures of its approved energy efficiency plans through an automatic adjustment mechanism. The utility may propose to recover the portion of the costs of process-oriented industrial assessments related to energy efficiency. Only unrecovered costs may be recovered through the automatic adjustment mechanism, and costs may be recovered only once.

For purposes of this rule, "previously approved costs" are defined as expenditures and related costs approved for recovery in previous energy efficiency cost recovery contested cases.

"Deferred past costs" are defined as funds actually spent by the utility on energy efficiency programs in its approved plan including the carrying charges associated with the deferred recovery of those costs, as defined in paragraph 35.12(1)*"b."* Deferred past costs shall be amortized and recovered over a period not to exceed the term of the plan.

"Estimated contemporaneous expenditures" are defined as costs to be incurred during the current 12-month recovery period pursuant to an approved energy efficiency plan.

35.12(1) *Accounting for costs.* Each utility shall maintain accounting plans and procedures to account
for all energy efficiency costs incurred on or after July 1, 1990.

a. Deferred past costs incurred on or after July 1, 1990, up to a date terminating the accumulation of deferred costs set by a board order, shall be charged to account 186, "Miscellaneous Deferred Debits,"
as defined in the uniform system of accounts for utilities as provided in 199 IAC 16.

b. A carrying charge determined using the current monthly AFUDC rate from the formula prescribed
in the uniform system of accounts for utilities, as provided in 199 IAC 16, shall accrue on costs in the account described in paragraph 35.12(1)*"a."* A utility shall continue to accrue a carrying charge on the account's costs, compounded semiannually, until the date terminating accumulation of deferred costs set by a board order.

c. Estimated contemporaneous expenditures proposed for concurrent recovery through an auto-matic adjustment mechanism shall be charged, after the date set by a board order, to the current ac-counts prescribed by the uniform system of accounts, as provided in 199 IAC 16, and shall be further identified using the accounts described in paragraph 35.12(1)*"d."*

d. Each utility shall maintain a subaccount system, a work order system, or an accounting system which identifies individual costs by each program. Examples of individual items include, but are not limited to, the costs for planning and design, labor, advertising and promotion, rebates, customer incentives,
equipment, installation, funding of the Iowa energy center and the center for global and re-gional environmental research, funding of the alternate energy revolving loan program, and consultant fees. Each utility shall maintain accurate employee, equipment, materials, and other records which identify all amounts related to each individual energy efficiency program.

35.12(2) *Automatic adjustment mechanism.* Each utility required to be rate-regulated shall file by March 1 of each year, subject to the board's approval, energy efficiency costs proposed to be recovered in rates for the 12-month recovery period beginning at the start of the first utility billing month at least 30 days following board approval. Each utility may elect to file its first energy efficiency automatic adjustment up to 120 days after the effective date of these rules.

35.12(3) *Energy efficiency cost recovery (ECR) factors.* The utility shall calculate ECR factors separately for each customer classification or grouping previously approved by the board. For all plans current at the time this rule becomes effective and for all future plans, if a utility desires to use customer classifications or allocations of indirect or other related costs other than those previously approved, such customer classifications or allocations of indirect or other related costs must be approved as part of a plan filing or of a modification thereof. ECR factors shall use the same unit of measurement as the utility's tariffed rates. ECR factors shall be calculated according to the following formula:

$$\text{ECR factor} = \frac{(\text{PAC}) + (\text{ADPC} \times 12) + (\text{ECE}) + \text{A}}{\text{ASU}}$$

ECR factor is the energy efficiency recovery amount per unit of sales over the 12-month recovery period.

PAC is the annual amount of previously approved costs from earlier ECR proceedings, until the previously approved costs are fully extinguished.

ADPC is amortized deferred past cost. It is calculated as the levelized monthly payment needed to provide a return of and a return on the utility's deferred past costs (DPC). ADPC is calculated as:

$$\text{ADPC} = \text{DPC}\ [r(1+r)n\ ] / [(1+r)n - 1]$$

DPC is deferred past costs including carrying charges which have not previously been approved for recovery, until the deferred past costs are fully recovered.

n is the length of the utility's plan in months.

r is the applicable monthly rate of return calculated as:

$$r = (1+R)1/12 - 1 \text{ or}$$
$$r = R \mid 12 \text{ if previously approved}$$

R is the pretax overall rate of return the board held just and reasonable in the utility's most recent general rate case involving the same type of utility service. If the board has not rendered a decision in an applicable rate case for a utility, the average of the weighted average cost rates for each of the capital structure components allowed in general rate cases within the preceding 24 months for Iowa utilities providing the same type of utility service will be used to determine the applicable pretax overall rate of return.

ECE is the estimated contemporaneous expenditures to be incurred during the 12-month recovery period.

A is the adjustment factor equal to overcollections or undercollections determined in the annual reconciliation
and for adjustments ordered by the board in prudence reviews.

ASU is the annual sales units estimated for the 12-month recovery period.

35.12(4) *Filing requirements.* Each utility proposing automatic recovery for its energy efficiency costs shall provide the following information:

a. The filing shall restate the derivation of each ECR factor previously approved by the board.

b. The filing shall include new ECR factors based on allocation methods and customer classifications and groupings approved by the board in previous proceedings.

c. The filing shall include all worksheets and detailed supporting data used to determine new ECR factors. Information already on file with the board may be incorporated by reference in the filing.

d. The filing shall include a reconciliation comparing the amounts actually collected by the previous ECR factors to the amounts expended. Overcollections or undercollections shall be used to compute adjustment factors.

e. If in a prudence review, the board has determined that previously recovered energy efficiency costs were imprudently incurred, adjustment factors shall include reductions for these amounts.

35.12(5) *Tariff sheets.* Upon approval of the new ECR factors, the utility shall file separate tariff sheets for board approval to implement the ECR factors in its rates.

199—35.13(476) Prudence review. The board shall periodically conduct a contested case to evaluate the reasonableness and prudence of the utility's implementation of energy efficiency plans and budgets. The burden shall be on the utility to prove it has taken all reasonable actions to cost-effectively implement an energy efficiency plan as it was approved.

35.13(1) *Information to be filed.* The parties to the prudence review shall provide the following information:

a. The utility shall file prepared direct testimony and exhibits in support of its past implementation results including information regarding: implementation issues; monitoring and evaluation issues; program costs; program benefits; energy and demand savings; and participation rates.

b. The Consumer Advocate Division of the Department of Justice and other intervenors to the contested case shall be allowed at least seven weeks to file rebuttal testimony and exhibits to the utility's direct testimony.

35.13(2) *Disallowance of past costs.* If the board finds the utility did not take all reasonable and prudent actions to cost-effectively implement its energy efficiency programs, the board shall deter-mine the amount in excess of those costs that would have been incurred under reasonable and prudent implementation. That amount shall be deducted from the next ECR factors calculated pursuant to 199 IAC 35.12(3) until satisfied.

These rules are intended to implement Iowa Code sections 476.2(7), 476.6(19-21) and 476.10A.

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Municipal Utilities
Rural Electric Cooperatives

CHAPTER 36
ENERGY EFFICIENCY PLANNING AND REPORTING FOR NON-RATE-REGULATED GAS AND ELECTRIC UTILITIES

199—36.1(476) Non-rate-regulated utilities. Each non-rate-regulated gas and electric utility shall file energy efficiency plans as provided in this chapter.

199—36.2(476) Definitions. The following words and terms, when used in this chapter, shall have the following meanings:

"Annual" means during each calendar year.

"Demand savings" means the change in the rate of energy usage measured over a period, which period shall be specified.

"Dollar savings" means the reduction in the dollars spent on natural gas or electricity service by customers and by the utility system as the result of the energy efficiency programs.

"Energy efficiency programs" means activities conducted by a utility intended to enable or encourage customers to increase the amount of heat, light, cooling, motive power, or other forms of work performed per unit of energy used. Energy efficiency programs also means activities which lessen the amount of heating, cooling, or other forms of work which must be performed, or activities which decrease the cost of providing energy. Examples include, but are not limited to: energy studies or audits, general information, financial assistance, direct rebates to customers or vendors of energy-efficient products, research projects, direct installation by the utility of energy-efficient equipment, direct or indirect load control, and time-of-use rates, tree planting programs, and hot water insulation distribution programs.

"Energy savings" means the amount of energy not used because of an energy efficiency program, measured in kilowatt-hours (kWh) of electricity, thousands of cubic feet (Mcf) of natural gas, or dekatherms (dth) of natural gas.

"Filing year" means the calendar year during which an energy efficiency plan is filed.

"Peak demand savings" means the change in the rate of energy use at the time of the utility's highest annual use, measured in kilowatts (kW), thousands of cubic feet per day (Mcf/day) of natural gas, or dekatherms per day (dth/day) of natural gas.

"Year" means calendar year.

199—36.3(476) Schedule of filings. On or before July 1, 1992, each non-rate-regulated utility shall file its initial biennial energy efficiency plan with the board for the period January 1, 1992, through December 31, 1993. Each non-rate-regulated utility shall file subsequent biennial energy efficiency plans on or before July 1, 1994, and succeeding even-numbered years.

199—36.4(476) Joint filing of plans. A utility may file its plan jointly with other non-rate-regulated utilities or their agents. A joint plan shall contain the information required by rules 36.5(476) and 36.6(476) for each utility participating in the joint plan, whether jointly filed or individually filed. This information for each utility shall be separately identified, if a plan is filed jointly for several utilities by person(s) acting as an agent for the utilities. Those person(s) shall state to the board their authority to act on behalf of the utilities. The description of a utility's programs as required in paragraph *"a"* of subrules 36.5(1) and 36.5(2) may be provided by reference to an attached document or a section of a joint plan.

199—36.5(476) Energy efficiency plan requirements. Each utility's energy efficiency plan shall include the following:

36.5(1) A report on the results of all energy efficiency programs the utility has implemented and completed during each of the two calendar years immediately preceding the filing year. Summary information for energy efficiency programs implemented in earlier years and completed prior to the filing year may also be included in the original plan. For each program implemented during the past two calendar years and completed, the following information shall be provided:

a. A description of the program, including the purpose or goal of the program, and the energy-using facilities, equipment, or customer behavior that the program was designed to change;

b. Annual energy and peak demand savings, annual dollar savings, and, if available, nonpeak demand savings from the program;

c. A description of the method(s) for determining the annual energy savings, peak demand savings, nonpeak demand savings, and annual dollar savings, whether engineering estimates, surveys, metering, or other methods;

d. Annual number of program participants;

e. Annual and total costs of the program;

f. Date the program was initiated, terminated, and the reason for termination; and

g. Other relevant information.

36.5(2) A report on the results and projected results of all energy efficiency programs the utility is continuing or commencing in the filing year or the year following. For those programs continuing, the report shall describe the program results from the two calendar years immediately preceding the filing year and projected results for the filing year and the year following. Summary information for energy efficiency programs implemented in earlier years but still underway may also be included in the original plan. For those programs commencing in the filing year or the year following, the report shall describe projected implementation and results of programs for each of the two years, as well as an optional description of program results beyond the two years. For each program under this subrule, the following information shall be provided:

a. A description of the program, including the purpose or goal of the program and the energy-using facilities, equipment, or customer behavior that the program is designed to change;

b. Annual energy and peak demand savings, annual dollar savings, and, if available, nonpeak demand savings from the program;

c. Projected annual energy and peak demand savings, annual dollar savings, and, if available, nonpeak demand savings from the program;

d. A description of the method(s) for determining the annual energy savings, peak demand savings, nonpeak demand savings, and annual dollar savings, whether engineering estimates, surveys, metering, or other methods;

e. A description of the method(s) for projecting the annual energy savings, peak demand savings, nonpeak demand savings, annual dollar savings, whether engineering estimates, surveys, metering, or other methods;

f. Annual number of program participants and annual estimated number of program participants;

g. Annual and total costs of the program;

h. Estimated annual and total cost of program;

i. Date the program was initiated and planned termination dates; and

j. Other relevant information.

199—36.6(476) Program selection criteria. Each utility's plan shall include a description of the procedures or criteria used to continue current and to select future energy efficiency programs for implementation.

199—36.7(476) New Structure energy conservation standards. A utility providing gas or electric service shall not provide such service to any structure completed after April 1, 1984, unless the owner or builder of the structure has certified to the utility that the building conforms to the energy conservation requirements adopted under 661—16.801(103A) and 661—16.802(103A). If this compliance is already being certified to a state or local agency, a copy of that certification shall be provided to the utility. If no state or local agency is monitoring compliance with these energy conservation standards, the owner or builder shall certify that the structure complies with the standards by signing a form provided by the utility. No certification will be required for structures that are not heated or cooled by electric service, or are not intended primarily for human occupancy.

199—36.8(476) Exterior flood lighting.

36.8(1) *Newly installed lighting.* All newly installed public utility-owned exterior flood lighting shall be high-pressure sodium lighting or lighting with equivalent or better energy efficiency.

36.8(2) *In-service lighting replacement schedule.* In-service lighting shall be replaced with high-pressure sodium lighting or lighting with equivalent or better energy efficiency when worn out due to ballast or fixture failure for any other reason, such as vandalism or storm damage. Each utility shall file with the board as part of its annual report required in 199—Chapter 23 a report stating progress to date in converting to high-pressure sodium lighting or lighting with equivalent or higher energy efficiency.

36.8(3) *Efficiency standards.* The standard for lighting efficiency shall be expressed in "lumens per watt." A schedule of lumens per watt, correlated to bulb size, shall be used to reflect the inherent increase in efficiency as bulb size increases. The table of values for lighting efficacy extracted from the Standard Handbook for Electrical Engineers, Donald G. Fink and H. Wayne Beaty, Eds., Twelfth Edition, Table 26-14, shall be the standard for high-pressure sodium street and security lighting, within a 10 percent range below the stated values.

These rules are intended to implement Iowa Code sections 476.1A(6), 476.1B(1)*"l,"* and 476.2(5) to 476.2(7).

[Filed 1/29/92, Notice 10/30/91—published 2/19/92, effective 3/25/92]
[Filed 10/24/03, Notices 2/5/03, 4/2/03—published 11/12/03, effective 12/17/03]

Energy Efficiency and Iowa Utilities

Presentation to the Energy Policy Advisory Forum, convened by Governor-Elect Chet Culver

January 4, 2007

Presented by:

John Norris, Chairman

Iowa Utilities Board

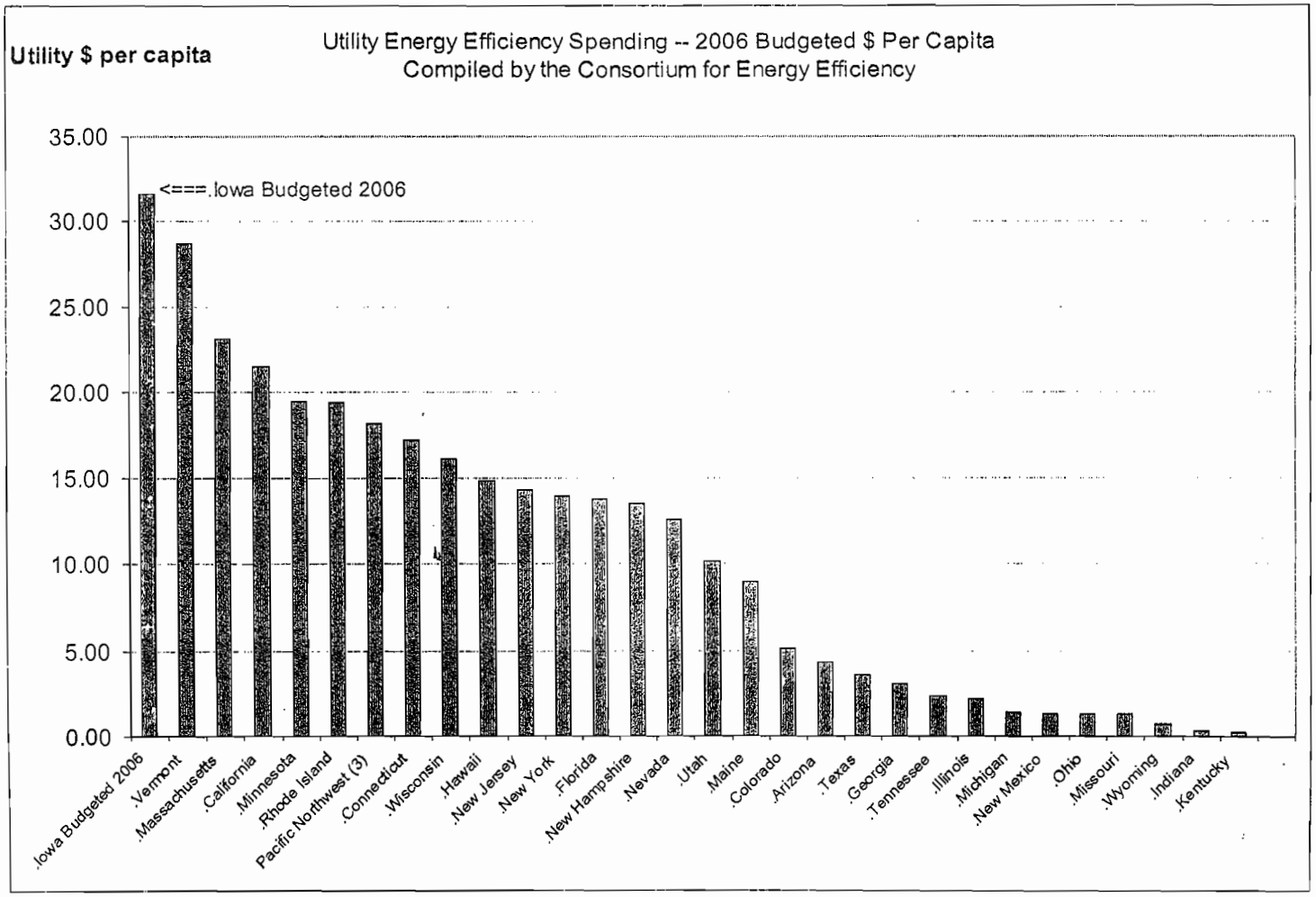
Iowa has a long history of supporting and developing energy efficiency

- In 1990s, legislation established energy efficiency plans
  - Mandatory plans for investor-owned utilities (IOUs), with Iowa Utilities Board (IUB) procedures
  - Voluntary plans for municipal utilities (Munis) and electric cooperatives (RECs), with local control
- OCA, DNR, utilities, and others participated in IOU plans.
  - Initial plans used best info from the few states already active
  - Utilities developed and implemented energy efficiency plans
  - OCA performs independent review of plans and results

Iowa Utility Energy Efficiency Leadership

- Iowa is a leader in energy efficiency expenditures
  - On a per capita basis
  - Source - Consortium for Energy Efficiency
  - Actual spending; $99 million for IOUs and $11 million for Munis and RECs, equals or exceeds early 1990s
- Iowa utilities are getting good results
  - Helping customers implement energy efficiency
  - Improving homes, farms, and businesses

Energy Efficiency $ – Iowa a National Leader



Goals changed – from % of spending to saving MW, MWh and Mcf

- New IOU goals based on economic potential
- IOUs and other Iowa utilities have been very successful
- Capability to reduce peak electricity use by 1,400 megawatts
  - Equals about 11 peaking plants

Goals and results for energy savings

- Electricity Savings
  - Reduced growth in annual use by 2 million megawatt-hours
  - Enough to power 200,000 average homes for 1 year
- Natural Gas Savings
  - Reduced growth in annual use by 7 billion cubic feet
  - Enough to heat 85,000 average homes for 1 year

Economic Benefits of Energy Efficiency

- Societal Test for IOUs shows benefits exceed costs
  - IOUs/customers get back $2 on every $1 invested
  - NET benefits of more than $200 million per year.
- Direct savings for participating customers of IOUs
  - $100 million in retail electric costs
  - $80 million in retail gas costs
- Dollars saved by energy efficiency remain in Iowa

How are utilities obtaining results?

- Markets/programs for IOU energy efficiency:
  - New Construction
    - Goal -- minimize "lost opportunities."
    - Technical assistance to architects and developers
    - Incentives to builders and owners
  - Building Renovation
    - Energy audits to identify opportunities
    - Technical assistance, incentives for customers to
      - Insulate, install windows,
      - replace major HVAC equipment
      - Install lights, appliances, other equipment

Utility Programs - Continued

- Industrial Renovation
  - Assistance and incentives for factory-wide projects
  - Targeted incentives for motors, compressed air efficiency, lighting
  - One program allows large customers to bid for incentives.
- Demand Response or Load Management
  - Incentives for interrupting peak energy use
  - Credits for allowing air conditioners to be "cycled" as needed
- Special programs
  - Recycling old refrigerators
  - Weatherizing low-income homes
  - Training vendors and "trade allies"
  - Planting trees

Innovations and Initiatives

- IUB initiated the Iowa Weatherization Challenge (2005)
  - Educate public on benefits of simple steps
  - Demonstrate opportunities to take personal action.
- IUB directed IOUs to increase funding for various Low-Income Weatherization programs (2003)
- IUB, OCA, and utilities worked with the Iowa Finance Authority to develop a program for renovation of multi-family low-income properties (2003 - 2006)
- IUB obtained approval to explore construction of a new office building, as a demonstration of high-efficiency new construction (2006)

Future challenges and opportunities

- Gas prices in 2005 caused an overload of requests for energy audits. IOUs efforts to meet the demand highlight problems Iowa may face when larger states realize the need for energy efficiency.
- New national energy standards are being implemented for Energy Star homes, air conditioners, and other appliances, changing baselines and incentives.
- New Iowa building code energy requirements should help prevent many "lost opportunities," but may be a challenge to builders, developers and building code officials.

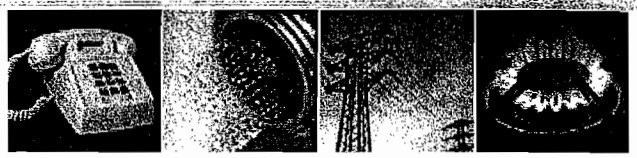
Challenges - Continued

- Slowdown in building activity challenges utilities to maintain the high impacts of programs for new construction

- IOUs will need to file new or updated energy efficiency plans in early 2008, for implementation in 2009

Summary – Iowa Utility Energy Efficiency

- IUB is nationally recognized for EE leadership
- IUB & Iowa utilities have long record of EE success
- Utility programs are producing substantial benefits for utilities and customers. $$$ saved stay in Iowa.
- Utilities are preparing new plans to meet new challenges.
- New IUB and utility initiatives include efforts to
  - educate and motivate customers about weatherization
  - develop programs for markets such as low-income customers.



NOI-07-2: Inquiry into the Status of Energy Efficiency Programs in Iowa

Utility energy efficiency plans and results have become the subject of great interest to many policy makers. House File (HF) 918, passed during the 2007 Iowa Legislative Session, directed the Board to conduct an Energy Efficiency Study, as follows:

> The Iowa utilities board, in conjunction with other interested parties, shall conduct a study of the energy efficiency plans and programs offered by all gas and electric utilities pursuant to section 476.6 to determine the status and effectiveness of energy efficiency programs in the state, using the most accurate and up-to-date information available to the board during the time period prescribed for the study. The board shall report the results of the study, with recommendations for best practices to increase energy efficiency and reduce energy consumption, to the members of the general assembly by January 1, 2008.

Inquiry and Data Request on the Status of Energy Efficiency Programs in Iowa

The Board initiated the inquiry by order issued June 19, 2007, seeking information about the energy efficiency plans and programs of all gas and electric utilities in Iowa. The Board seeks information on the status and effectiveness of utility energy efficiency programs in Iowa using the most accurate and up-to-date information available during the time period prescribed for the study. The Board interprets this time period to be the most recent calendar year (2006). Utilities provided information on the energy efficiency program activities and results for that time period. The Board will interpret the data provided by utilities as best estimates of actual activity and results.

Request for Responses to a Demand Response Survey, order issued on August 8, 2007

In addition to its study of energy efficiency, the Board has a strong interest in details of the demand response programs of electric utilities. Demand response programs, also known as load management or interruptible programs, can help utilities manage system costs. The Board is working cooperatively with the Organization of MISO States (OMS) and Lawrence Berkeley National Laboratory (LBNL) to develop and obtain responses to a "Retail Demand Response Program Survey" (Demand Response Survey).

The Board has issued an order in Docket No. NOI-07-2 requesting that all electric utilities that operate demand response programs file responses to the Demand Response Survey. The Board will collect the responses and forward copies to LBNL for compilation and analysis. The information in the responses may also be used in the Board's Energy Efficiency Study, because electric utility demand response programs in Iowa are a major focus of efforts to manage customers' peak electricity use.

Energy Efficiency Study, ongoing communications

All other communications regarding this inquiry are to be directed to the inquiry manager:

Gordon Dunn
Iowa Utilities Board
350 Maple Street
Des Moines, IA 50319-0069
Phone: 515-281-7051
Facsimile: (515) 281-5329
Email: gordon.dunn@iub.state.ia.us

After receipt and review of the forms, the Board will determine what additional procedures are necessary to complete the inquiry. Work sessions may be scheduled or additional comments on specific questions may be solicited. An oral presentation to solicit additional comments and argument may also be scheduled. Participants will be notified of any subsequent procedures established.

STATE OF IOWA

DEPARTMENT OF COMMERCE

UTILITIES BOARD

IN RE: INQUIRY INTO THE STATUS OF ENERGY EFFICIENCY PROGRAMS IN IOWA	DOCKET NO. NOI-07-2

ORDER INITIATING INQUIRY

(Issued June 19, 2007)

I. INTRODUCTION

House File (HF) 918, passed during the 2007 Iowa Legislative Session, included a directive to the Utilities Board (Board), which read:

> The Iowa utilities board, in conjunction with other interested parties, shall conduct a study of the energy efficiency plans and programs offered by all gas and electric utilities pursuant to section 476.6 to determine the status and effectiveness of energy efficiency programs in the state, using the most accurate and up-to-date information available to the board during the time period prescribed for the study. The board shall report the results of the study, with recommendations for best practices to increase energy efficiency and reduce energy consumption, to the members of the general assembly by January 1, 2008.

The Board is initiating this inquiry to meet these statutory requirements. The Board has the responsibility of maintaining information on energy efficiency programs and energy efficiency plans by Iowa utilities. Investor-owned utilities conduct energy efficiency programs under plans which are reviewed and approved by the Board pursuant to Iowa Code § 476.6. Chapters 199 IAC 35 and 36 give further detail

regarding the implementation of energy efficiency plans in Iowa. Consumer-owned utilities file their energy efficiency plans and results with the Board, but the Board does not approve or otherwise regulate these plans. Energy efficiency plans address both electric and natural gas usage through a variety of programs which attempt to give all customers opportunities to participate.

II. ENERGY EFFICIENCY STUDY – INITIATING INQUIRY

On May 8, 2007, the Board held a meeting of interested stakeholders to receive input on the energy efficiency study.

On May 24, 2007, Board staff sent draft data requests to various interested persons to seek comment.

On June 1, 2007, staff received comments on the draft data requests from Aquila, Inc. (Aquila), the Iowa Association of Electric Cooperatives (IAEC), the Iowa Association of Municipal Utilities (IAMU), Interstate Power and Light Company (IPL), MidAmerican Energy Company (MEC), Atmos Energy (Atmos), and the Consumer Advocate Division of the Department of Justice (Consumer Advocate). A summary of those comments will be posted on the Board's Web site at http://www.state.ia.us/iub.

The Board will open this inquiry formally, seeking information to complete the study as required by the Iowa Legislature in HF 918. In this order, the Board is setting out a number of data requests for utility response. The Board will send letters to stakeholders, including Consumer Advocate, and utility associations notifying them of the issuance of this order. The Board will also notify each utility by letter and include a list of the data requirements and forms for data responses. Each utility will

be required to provide responses by electronic mail and by paper filing, on or before July 27, 2007.

A. ENERGY EFFICIENCY STUDY DATA REQUIREMENTS FOR ALL UTILITIES

The purpose of this request is to fulfill the requirements of HF 918. Therefore, the Board seeks information about the energy efficiency plans and programs of all electric and natural gas utilities in Iowa. The data will become the basis of an electronic database. An appendix of utility profiles will be a part of the energy efficiency study that the Board will submit to the Iowa General Assembly.

The Board, consistent with the goal expressed in HF 918, seeks information on the status and effectiveness of utility energy efficiency programs in Iowa using the most accurate and up-to-date information available during the time period prescribed for the study. The Board interprets this time period to be the most recent calendar year (2006). Utilities should provide information on the energy efficiency program activities and results for that time period. The Board will interpret the data provided by utilities as best estimates of actual activity and results.

In addition to the data requirements, the Board is providing a method, published by the U.S. Department of Energy, Energy Information Administration, for calculating greenhouse gas reductions that result from a utility's energy efficiency plan. The greenhouse gas reduction calculation methods are included in the reporting forms for the convenience of the utilities. The Board has also provided an example of a spreadsheet for benefit-cost calculations. If an investor-owned utility prefers to calculate benefits and costs using a different method, the utility may use its

preferred method, as long as it provides an explanation and detailed inputs and outputs for the method sufficient to permit Board staff to study, understand, and evaluate the utility's method.

The tables and worksheets in the reporting forms may be separated, expanded, or extended to accommodate each utility's needs. Utilities should maintain the labeling of the data sections to minimize issues resulting from mis-matched comparisons.

The data requested is set forth in Section III of this order under "Energy Efficiency Study-Data Requirement." However, this listing of the data requested is provided for informational purposes only. Utilities must provide the data requested by using the Board-approved form found at www.state.ia.us/iub. After completing the form, each utility must file an original and five paper copies with the Executive Secretary, Iowa Utilities Board, 350 Maple Street, Des Moines, Iowa 50319-0069, on or before July 27, 2007.

An electronic copy of the response to the data requests (on CD or DVD) must accompany the filing sent to the Executive Secretary. In addition, a copy of the response must be sent by e-mail to Leigharn LaRocca at leighann.larocca@iub.state.ia.us. Consumer Advocate must also be served with copies pursuant to the Board's rules.

B. DATA REQUIREMENTS FOR CONSUMER-OWNED UTILITIES

The Board is aware of the efforts of the IAMU and the IAEC to provide energy efficiency information and services for their members and recognizes the efforts of

these associations to compile and submit joint energy efficiency plans and reports. The Board believes similar efforts may be useful in developing and filing responses to the data requested for the energy efficiency study, as long as the individual data associated with each member utility is preserved and filed as part of any joint filing. In other words, the Board would welcome joint filings by consumer-owned utilities, but they must be accompanied by individual utility responses. The Board will have additional questions for the utilities regarding electric demand response and/or load management programs. These questions will be issued in a subsequent order at a later date.

III. ENERGY EFFICIENCY STUDY – DATA REQUIREMENTS

A. DATA REQUIREMENTS FOR INVESTOR-OWNED UTILITIES

The tables and worksheets in the reporting forms may be separated, expanded, or extended to accommodate each utility's needs. Utilities shall maintain the labeling of the data sections.

Section 1. Utility name, contact person, address, phone, e-mail.

Section 2. Year 2006 utility energy profile.

This data should allow viewers and users of the data to understand the utility's Iowa-only operations and size, in terms of number of customers, sales in units of energy, and revenues.

Provide the following:

For Iowa electrical service in 2006, separately for residential customers and nonresidential customers:

- Number of customers or accounts.

- Sales to final consumers, in Megawatt-hours (MWh).
- Revenues from sales to final consumers.

For all Iowa electrical service in 2006, total MWh sales and system peak megawatts (MW), as reported to the Energy Information Administration on Form 861.

For Iowa natural gas service, separately for residential customers and nonresidential customers:

- Number of customers or accounts, for residential customers, nonresidential customers, and transportation customers.
- Gas throughput to firm residential, firm nonresidential, and transportation customers, in MCf.
- Revenues from customers for residential, nonresidential, and transportation customers.
- Peak day system throughput, in MCf.

Section 3. Utility comparative data for 2006.

- Energy efficiency MW savings versus electric peak MW demand.
- Load management MW savings versus electric peak MW demand.
- Energy efficiency MWh savings versus electric MWh retail sales if the utility's energy efficiency program was not in place.
- Energy efficiency MCf savings versus natural gas MCf retail throughput, as above.
- Energy efficiency and Load Management total spending versus retail customer revenues.

Sections 4A, 4B, and 4C. - Utility energy efficiency and load management summary impact data for 2006.

For each program, separately for electric energy efficiency programs and natural gas programs, including projected numbers or goals and actual results, list the following:

- Electric energy efficiency – number of participants, peak kW demand savings, non-peak kW savings, annual energy kWh savings.
- Electric load management – number of participants, peak kW demand savings, annual kWh savings (if any). List both cumulative kW and kWh and incremental annual kW and kWh.
- Natural gas energy efficiency – number of participants, peak day MCf savings, annual MCf savings.

Section 5. Summary of utility program cost information.

Provide in this section an Excel table showing the 2006 actual expenditures for each program, by fuel type. Use the categories from 199 IAC chapter 35, including: planning & design, administration, advertising and promotion, customer incentives, monitoring and evaluation, equipment, installation, and miscellaneous.

Section 6. Summary of energy efficiency measures.

Provide in this section an Excel table showing each general type of energy efficiency measure, including, but not limited to, any of the following:

Residential measures including features such as:

Furnaces
Boilers
Cooling
Geothermal
Home audits
Insulation
Lighting fixture/ceiling fan
CFL bulbs
Programmable thermostats
Refrigerators/freezers
Replacement windows/doors
Washers
Water heaters
Water heating measures, such as pipe insulation
Lowflow showerhead and faucets
Window air conditioners

New home comprehensive sets of measures.

Non-residential measures such as:

Boilers
CFLs
Cooling
Geothermal
Heating
Insulation
Lighting
Lighting disposal
Lighting fixture/ceiling fan

Motors, variable frequency drives
Programmable thermostats
Refrigerator/freezers
Replacement windows and doors
Water heaters
Window air conditioners

Nonresidential new construction sets of measures.

Custom nonresidential retrofits and other custom measures.

Agricultural measures.

Section 7. Environmental benefits – by total utility.

Provide a summary of avoided emissions environmental benefits for each program, listing for each program the metric tons of CO2 equivalent savings from the program. At its discretion, a utility may list other environmental benefits from demand-side management programs, such as reductions in other power plant emissions that may be harmful to air or water quality.

See the description of the Energy Information Administration calculation method for Voluntary Reporting of Greenhouse Gas Emissions in the Instructions.

Section 8. Cost-effectiveness summary.

This section should be a summary of the detailed information from section 11.F.

Provide in this section a summary of the benefits and costs for each program, separately for electric and natural gas services and in combination (electric and natural gas combined, if applicable).

Provide an Excel table which shows the benefit components, cost components, net benefits, and benefit/cost ratios for each of the programs in the utility's plan, for the Participant Test, Utility Test, Ratepayer Impact Test, Total Resource Cost Test, and Societal Test.

Provide a description and the underlying calculation tables for the utility's benefit-cost process, either as an Excel spreadsheet or as the inputs and outputs for DSManager analyses.

For each program and test, separately for electric and natural gas service, provide the levelized cost of saved energy and saved capacity. Describe the inputs

for the levelized cost, including average measure lifetime for each program, allocation of costs between energy and capacity, and utility avoided costs for energy and capacity, to be compared with the levelized cost of saved energy and capacity.

Section 9. Narrative descriptions.

Provide an overall narrative description of the utility's energy efficiency plan, including:

- Plan docket number.
- Date filed with the IUB.
- Date of IUB approval for implementation.
- Dates of approval for formal modifications to plan.

Address any pilot or special efforts for projects or programs, including but not limited to:

- Special programs for low-income customers.
- Community-based promotion and education.
- Educational programs or efforts promoting customer-based energy efficiency, load management, or similar end-use programs.
- Case studies for particular customers with results worthy of consideration, assuming the customer(s) are willing to share their story.
- Case studies for particular programs worthy of consideration.
- Special circumstances which may limit the utility's programs, such as utility transportation of natural gas for customers, rather than direct sales of natural gas to customers.
- Opportunities to leverage or augment energy efficiency programs in cooperation with other government or private entities.

Section 10. Provide utility notes, analyst notes, description of residual uncertainties, and caveats.

This may include descriptions or instructions on how to use Excel tables or Access databases to locate or verify the data provided.

Section 11. Program data sheets.

Program data must address calendar year 2006 for each individual energy efficiency and load management program. Include program names and numbers as the heading for each individual program, as follows: Section 11.1 – "program name," Section 11.2 – "program name," Section 11.3 – "program name," and so on, for each program.

Note: If the utility provides more than one type of a program (e.g., on-site energy audits and on-line energy audits), consider listing each effort as a separate program.

Program description.

(Attach or substitute available written information as needed). Describe the program target markets, including:

- Residential, nonresidential, or other.
- New construction or retrofit.
- Targeted at energy efficiency or peak load management.
- Additional descriptive information to allow full understanding of the program.

B. List the energy efficiency measures or operating practices targeted for replacement or improvement. For each measure, provide:

Name of measure, type of measure, measure lifetime, estimated measure savings (kW, kWh, peak Ccf, annual Ccf), and customer incremental costs.

C. Describe methods for promoting the program and encouraging participation, including strategies for increasing customer awareness and communicating and coordinating with vendors and trade allies.

D. Describe the method for estimating or determining results.

E. Provide impact data for 2006 for the program, separately for electric and natural gas impacts, as follows:

Electric:

- Number of participants for electric measures.
- Electric impacts: peak kW, non-peak kW, annual kWh.
- Electric implementation costs: Utility administrative and incentive costs, total customer incremental costs.

Natural Gas:

- Number of participants for natural gas measures.
- Natural gas impacts: peak day Ccf, annual Ccf.
- Natural gas implementation costs: Utility administrative and incentive costs, total customer incremental costs.

F. Provide program benefit-cost information for 2006.

The benefit-cost results should be performed by the same method used in the utility's most recent Energy Efficiency Annual Report, augmented to address results or information not provided in the report. At a minimum, each investor-owned utility should provide:

- An Excel table summary of the benefits and costs for each program, separately for electric and natural gas benefits and costs, and in combination (electricity plus natural gas benefits and costs).
- The Excel table should show the benefit components, cost components, net benefits, and benefit/cost ratios for each of the programs in the utility's plan, for the Participant Test, Utility Test, Ratepayer Impact Test, Total Resource Cost Test, and Societal Test.
- A description and the underlying calculation tables for the utility's benefit-cost process, in the form of either an Excel spreadsheet or the inputs and outputs for DSManager analyses.
- For each program and test, separately for electric and natural gas, provide the levelized cost of saved energy and saved capacity. Describe the inputs for the levelized cost, including average measure lifetime for each program, and any allocation of costs between energy and capacity. Provide comparable avoided costs for energy and capacity, to be compared with the levelized cost of saved energy and capacity.

B. IOWA UTILITIES BOARD ENERGY EFFICIENCY STUDY DATA REQUIREMENTS FOR CONSUMER-OWNED UTILITIES

(This section is similar, but not identical, to the preceding section. It has been modified to reflect the data available from consumer-owned utilities.)

The tables and worksheets in the reporting forms may be separated, expanded, or extended to accommodate each utility's needs. Utilities shall maintain the labeling of the data sections.

Section 1. Utility name, contact person, address, phone, e-mail.

Section 2. Year 2006 utility energy profile.

This data should allow viewers and users of the data to understand the utility's Iowa-only operations and size, in terms of number of customers, sales in units of energy, and revenues.

Provide the following:

For Iowa electrical service in 2006, separately for residential customers and nonresidential customers:

- Number of customers or accounts.
- Sales to final consumers, in Megawatt-hours (MWh).
- Revenues from sales to final consumers.

For all Iowa electrical service in 2006, total MWh sales and system peak MW, as reported to the Energy Information Administration on Form 861.

For Iowa natural gas service, separately for residential customers and nonresidential customers:

- Number of customers or accounts, for residential customers, nonresidential customers, and transportation customers.
- Gas throughput to firm residential, firm nonresidential, and transportation customers, in MCf.
- Revenues from customers for residential, nonresidential, and transportation customers.
- Peak day system throughput, in MCf.

Section 3. Utility comparative data for 2006.

- Energy Efficiency MW savings versus electric peak MW demand.
- Load Management MW savings versus electric peak MW demand.
- Energy Efficiency MWh savings versus electric MWh retail sales if the utility's energy efficiency program were not in place.
- Energy Efficiency MCf savings versus natural gas MCf retail throughput, as above.
- Energy Efficiency and Load Management total spending versus retail customer revenues.

Sections 4A, 4B, and 4C. Utility energy efficiency and load management summary impact data for 2006.

For each set of programs, separately for electric service and natural gas service, list the following:

- Electric energy efficiency -- number of participants, peak kW demand savings, non-peak kW savings, annual energy kWh savings.
- Electric load management -- number of participants, peak kW demand savings, annual kWh savings (if any). List both cumulative kW and kWh and incremental changes in annual kW and kWh.

- Natural gas energy efficiency -- number of participants, peak day MCf savings, annual MCf savings.

Section 5. Summary of utility program cost information.

For each program, separately for electric service and natural gas service, list the following:

- Electric energy efficiency – utility administrative cost and incentives to customers.
- Electric load management – utility administrative cost and incentives to customers.
- Natural gas energy efficiency – utility administrative cost and incentives to customers.

Section 6. List of energy efficiency measures.

Provide a list of the types of energy efficiency measures which the utility's customers installed in 2006 as a result of the utility's energy efficiency programs.

Section 7. Environmental benefits.

Provide a summary or total of the environmental benefits achieved by the utility energy efficiency programs, in terms of greenhouse gas equivalent reductions.

Section 8. Cost-effectiveness.

For consumer-owned utilities, a minimum requirement is to describe benefits and costs, in dollars, for the total utility. A consumer-owned utility may elect to list benefits and costs for each program, and may use this section as a summary.

The utility may use a benefit-cost calculation method developed by itself, by another utility, or by an Iowa utility association. Also, explain the method used, in detail. The Board has provided an example of an Excel spreadsheet calculation method for benefits and costs developed by Interstate Power and Light Company.

Section 9. Narrative descriptions.

Provide an overall narrative description of the utility's energy efficiency efforts, including:

- Utility educational programs or efforts promoting customer-based energy efficiency, load management, or similar end-use programs.

- Case studies for particular customers with results worthy of consideration, assuming the customer(s) are willing to share their story.
- Case studies for particular programs worthy of consideration.
- Special circumstances which may limit the utility's programs.
- Opportunities to leverage or augment energy efficiency programs, in cooperation with other government or private entities.

Section 10. Utility notes, analyst notes, description of residual uncertainties, caveats.

This section may include any information helpful or necessary for a complete evaluation of the utility's program.

Section 11. Program data sheets.

Program data must address calendar year 2006 for each individual energy efficiency and load management program. Include program names and numbers as heading for each individual program, as follows: Section 11.1 – "program name," Section 11.2 – "program name," Section 11.3 – "program name," and so on, for all programs.

Note: If the utility provides more than one type of a program (e.g., on-site energy audits and on-line energy audits), consider listing each effort as a separate program.

A. Program description.

(Attach or substitute available written information as needed). Describe the program target markets, including:

- Residential, nonresidential, or other.
- New construction or retrofit.
- Targeted at energy efficiency or peak load management.
- Additional descriptive information to allow full understanding of the program.

B. List the energy efficiency measures or operating practices targeted for replacement or improvement. For each measure, provide:

Name of measure, type of measure, measure lifetime, estimated measure savings (kW, kWh, peak CCf, annual CCf), and customer incremental costs.

C. Describe methods for promoting the program and encouraging participation, including strategies for increasing customer awareness and communicating and coordinating with vendors and trade allies.

D. Describe the method for estimating or determining results.

E. Provide impact data for 2006 for the program, separately for electric and natural gas impacts, as follows:

Electric:
- Number of participants for electric measures.
- Electric impacts: peak kW, non-peak kW, annual kWh.
- Electric implementation costs: Utility administrative and incentive costs, total customer incremental costs.

Natural Gas:
- Number of participants for natural gas measures.
- Natural gas impacts: peak day Ccf, annual Ccf.
- Natural gas implementation costs: Utility administrative and incentive costs, total customer incremental costs.

F. Provide program 2006 benefit-cost information.

- Benefit-cost test results for the electricity savings from the program, and separately for the natural gas savings. Explain the method used, in detail.

IV. CONCLUSION

The utility may use a benefit-cost calculation method developed by itself, by another utility, or by an Iowa utility association. The Board has provided an example of an Excel spreadsheet calculation method for benefits and costs developed by Interstate Power and Light Company.

On or before July 27, 2007, all investor and consumer-owned utilities in Iowa must file responses to all of the data requests contained in this order. All data responses shall be made on the form approved by the Board, and found at

http://www.state.ia.us/iub. All responses shall be filed as follows: 1) an original and five written copies, filed with the Board's Executive Secretary, 2) one electronic copy, on CD or DVD filed with the Board's Executive Secretary, and 3) one electronic copy, via e-mail, to Leighann LaRocca, the inquiry administrative manager at leighann.larocca@iub.state.ia.us. All other communications regarding this inquiry are to be directed to the inquiry manager:

Gordon Dunn
Iowa Utilities Board
350 Maple Street
Des Moines, Iowa 50319-0069
Telephone: (515) 281-7051
Facsimile: (515) 281-5329
E-mail: Gordon.Dunn@iub.state.ia.us

After receipt and review of the forms, the Board will determine what additional procedures are necessary to complete the inquiry. Work sessions may be scheduled or additional comments on specific questions may be solicited. An oral presentation to solicit additional comments and argument may also be scheduled. Participants will be notified of any subsequent procedures established.

V. ORDERING CLAUSES

IT IS THEREFORE ORDERED:

1. An inquiry, identified as Docket No. NOI-07-2, is initiated concerning the status of Energy Efficiency Programs in Iowa in accordance with House File 918, and Iowa Code §§ 476.6(14) and 476.6(16)

2. The Board will send stakeholders a letter containing information about participation in this inquiry. The data request form may be downloaded from the Board's Web site at www.state.ia.us/iub.

3. The Board will post on its Web site, www.state.ia.us/iub, information about how to obtain the form to answer the data requests. On or before July 27, 2007, investor-owned and consumer-owned utilities shall complete and return the data request. All responses shall be filed as follows: 1) an original and five written copies, filed with the Board's Executive Secretary, 2) one electronic copy, on CD or DVD filed with the Board's Executive Secretary, and 3) one electronic copy, via e-mail, to Leighann LaRocca, the inquiry administrative manager at leighann.larocca@iub.state.ia.us. All other communications regarding this inquiry are to be directed to the inquiry manager, Gordon Dunn.

UTILITIES BOARD

/s/ John R. Norris

/s/ Curtis W. Stamp

ATTEST:

/s/ Judi K. Cooper
Executive Secretary

/s/ Krista K. Tanner

Dated at Des Moines, Iowa, this 19th day of June, 2007.

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About the IUB
Board Activity
Complaints about Utilities
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How to File
Links (off-site)
Contact Us

Overview of the Iowa Weatherization Challenge

Each autumn since 2005, generally from August through November, the Iowa Utilities Board (IUB) has led a statewide initiative to reduce Iowa's energy use. The Iowa Weatherization Challenge is part of the Iowa Energy Initiative, a comprehensive effort to reduce energy use in Iowa.

This effort is designed to engage community groups and organizations, local governments, faith-based groups, and other non-profit groups to conduct weatherization projects in their communities. Their volunteer efforts directly help their neighbors and friends by providing them increased comfort and lower energy bills in their homes. Indirectly, people all across Iowa and the United States win by saving energy,which can also help lower energy prices for everyone. Community weatherization projects also raise the awareness level of all consumers and help promote ongoing energy efficiency efforts statewide.

The IUB assists volunteer groups and organizations across the state in weatherizing homes for Iowa's low-income, elderly, disabled individuals, and others needing assistance. This includes help in securing funds and training in weatherization methods for volunteers, finding donated or favorably priced supplies, locating appropriate weatherization sites, and communicating with the media and the public.

When funds are available, community groups planning weatherization projects may apply to the IUB for matching grant awards. Local government and service organizations with 501(c)(3) (non-profit) status are eligible to apply as are neighborhood associations and other community or social groups. The IUB provides an information kit and educational presentations for interested groups and organizations. Organizations interested in participating in the Iowa Weatherization Challenge may also call the IUB toll free at 1-877-565-4451 for assistance.

The IUB information kit provides general information on how to recruit volunteers, raise funds, identify households or neighborhoods, coordinate training, and work with the media for weatherization projects. It also includes air sealing guidelines for volunteers, low cost or no cost tips to save energy, a media kit with sample news releases and additional suggestions, a volunteer checklist and waiver release form, a grant application form, and a report card to help the IUB track specific project details. Several video clips demonstrating weatherization techniques are also available for download.

Community weatherization projects, whether certified under an IUB matching grant program or not, raise public awareness of energy efficiency benefits and techniques. Spreading the word about the Iowa Weatherization Challenge in their local communities is a simple way for organizations like Community Action Program (CAP) agencies to directly assist low-income, elderly, and disabled Iowans while lowering Iowa's energy use. CAP agencies and other community organizations can assist groups planning local community projects in finding appropriate weatherization sites by informing their clients or contacts. This is a good way for some of those who might benefit most from the voluntary weatherization assistance to learn about it.

For more information, please contact Brenda Biddle at brenda.biddle@iowa.gov or 515.242.0218

Clean Energy Home

Energy & You

- How does electricity use affect the environment?
- How clean is the electricity I use? *Power Profiler*
- How can I reduce my impact ?

Clean Energy Programs

Clean Energy Tools

Clean Energy Events

Newsroom

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Links

Site Map

National Action Plan for Energy Efficiency

Meetings
Outreach Tools
Media Kit
Resources
Leadership Commitments
Report
Successes

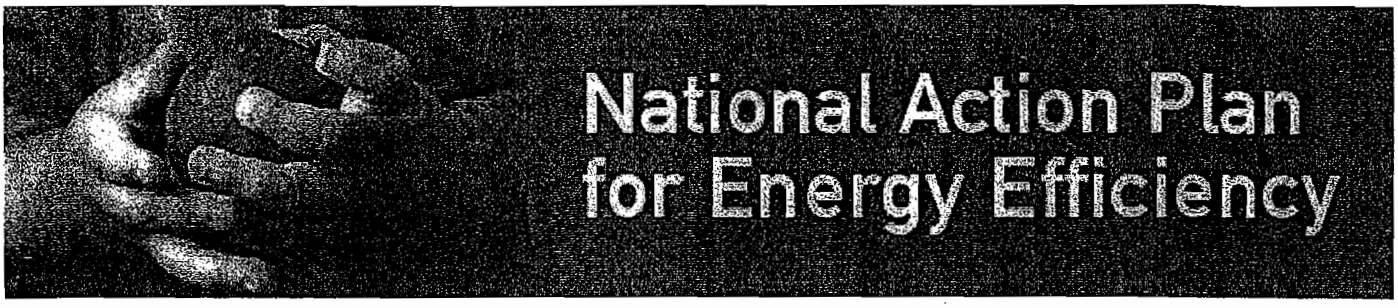
What's New

New Building Codes and Energy Efficiency Fact Sheet

Presentations available from Southeast, Mid-Atlantic and Midwest meetings

This effort engages energy market leaders—including electric and gas utilities, state utility regulators and energy agencies, energy consumers, energy service providers, and environmental/energy efficiency advocates—in the development of a National Action Plan for Energy Efficiency. Action Plan participants are identifying key barriers limiting greater U.S. investment in energy efficiency, and developing and documenting sound business practices for removing these barriers. Leaders are pursuing these business practices through their business channels, as appropriate, and are assisting in the dissemination of these business practices to key audiences.

Goal	The goal of the National Action Plan for Energy Efficiency is to create a sustainable, aggressive national commitment to energy efficiency through gas and electric utilities, utility regulators, and partner organizations.
Participants	The National Action Plan for Energy Efficiency is an ongoing effort led by a Leadership Group (PDF, 2 pp., 239 KB, About PDF) of leading gas and electric utilities, state agencies, energy consumers, energy service providers, and environmental/energy efficiency organizations.
Facilitators	• U.S. Department of Energy (DOE) EXIT Disclaimer • U.S. Environmental Protection Agency (EPA)
Co-Chairs	Marsha Smith Commissioner, Idaho Public Utilities Commission 1st Vice President, National Association of Regulatory Utility Commissioners James E. Rogers Chairman, President and Chief Executive Officer Duke Energy



Public Statements & Commitments in Support of the Action Plan

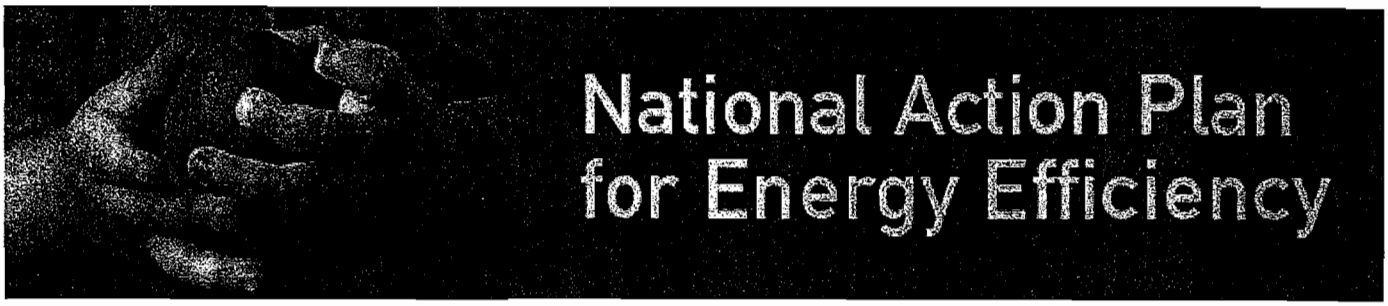
A key component of the National Action Plan for Energy Efficiency is stakeholders committing to take action to advance the Recommendations in their spheres of influence. This document provides 73 public statements and commitments by 99 organizations as of September 2007, to advance energy efficiency. These stakeholders include utilities, state agencies, consumer advocates, large energy users, environmental groups, trade associations, and others.

Alliance to Save Energy

- Endorses Action Plan Recommendations.
- The Alliance to Save Energy (Alliance) will advance the mission of the Action Plan through on-going advocacy efforts before federal, regional, state and local policymakers, including:
  - Advocacy of national programs, funding, and incentives to advance energy efficiency in the power supply, industrial, buildings, and transportation sectors
  - Development of a new initiative, directed at the 11-state, southeastern region, based on applicable Action Plan Recommendations
  - Advocacy for stringent energy-efficiency building codes and higher minimum energy-efficiency standards for appliances and other equipment
- The Alliance will use its website and other communications tools to educate broad audiences and key stakeholders about the need for, and benefits of, full implementation of the Action Plan.
- The Alliance will make available its public communications staff and expertise to promote energy-saving measures to help consumers lower their home and vehicle energy bills and benefit our economy, environment, and national security.
- The Alliance will provide its technical and human resources to support efforts by utilities, utility commissions, government officials, and other stakeholders seeking to implement Action Plan Recommendations.
- The Alliance will provide energy-efficiency curricula for K-12 schools to help those schools, as well as colleges and universities, save energy in their own operations.

American Council for an Energy-Efficient Economy

- Endorses Action Plan Recommendations.
- American Council for an Energy-Efficient Economy (ACEEE) commits to supporting implementation of the plan through:
  - Making available ACEEE resources free via the Web (www.aceee.org), including:
    - ACEEE's state scorecard on utility programs
    - ACEEE's report on energy efficiency resource standards
    - ACEEE's best-practice review of electricity efficiency programs
    - ACEEE's best-practice review of natural gas efficiency
    - ACEEE's best-practice review of low-income efficiency programs
  - Making available ACEEE staff to work with utilities, utility commissions, state energy offices, and other stakeholders in processes to advance efficiency programs and related policies.
  - Following up the issuance of the Plan by attending future Leadership Committee meetings, and by engaging committee members and allied organizations in taking additional steps toward improving efficiency policies and programs.



American Electric Power
- Endorses Action Plan Recommendations.

American Gas Association
- Endorses Action Plan Recommendations.
- American Gas Association commits with Edison Electric Institute (EEI) and National Resources Defense Council (NRDC) to redoubled joint efforts in support of the National Action Plan's worthy goals and Recommendations.
- In addition, AGA will help implement the Action Plan Recommendations by:
  - Supporting energy efficiency actions that have enabled the average residential and commercial natural gas user to reduce their natural gas consumption by almost 25 percent during the last quarter century, while maintaining the same levels of reliability, warmth and comfort.
  - Supporting AGA member proposed innovative rate designs that encourage conservation and efficient use of natural gas by breaking the link between gas utility earnings and customer consumption.
  - Supporting the Low Income Home Energy Assistance Program (LIHEAP) to ensure that low-income residential energy consumers receive low-cost home weatherization and energy saving related home repairs.
  - Supporting greater use and adoption of total energy efficiency analysis. Total energy efficiency analysis, or full-cycle analysis, provides a truer more accurate assessment of energy efficiency measures, helping to ensure maximum effectiveness of such programs.
  - Widely communicating energy efficiency information to residential, commercial and industrial natural gas users through AGA's annual Winter Heating Season campaign. This nation-wide program, run during the highest natural gas demand period, is supported by AGA's 197 member companies and strives to communicate the message of using energy wisely and methods for achieving this objective to more than 68 million American natural gas consumers.
  - Actively supporting energy efficiency efforts through Congressional outreach and partnerships with a variety of coalitions dedicated to increasing adoption of energy efficient practices.

American Public Power Association
- Endorses Action Plan Recommendations.
- American Public Power Association (APPA), representing the nation's more than 2,000 not-for-profit, community-owned electric utilities, commits to continue to promote energy efficiency through a variety of initiatives, including the Demonstration of Energy-Efficient Developments program that funds innovation; and TREE POWER, a tree-planting program whose participants collectively serve 20 million customers.

Arkansas Public Service Commission
- Endorses Action Plan Recommendations.
- The Arkansas Public Service Commission highlights its current Docket No. 06-004-U, which will lead to the adoption of rules and guidelines pertaining to the cost-effective delivery of utility-sponsored conservation and energy efficiency programs in the State of Arkansas. The Arkansas Public Service Commission also highlights its intention to move towards implementation of all such cost-effective measures as expeditiously as possible, so that customers will be able to receive these benefits in a timely manner.

Austin Energy
- Endorses Action Plan Recommendations.
- The City of Austin commits to establish a task force to investigate the feasibility of a series of building code changes so that by 2015 all new single family residential homes are constructed as net zero energy homes.

Iowa Utility Association

- Endorses Action Plan Recommendations.
- Iowa utilities are committed to increasing the awareness and implementation of sound, measurable energy efficiency programs.

Iowa Governor Thomas Vilsack, Iowa Utilities Board

- Endorses Action Plan Recommendations.
- Iowa will act as a role model to promote the implementation of cost-effective energy efficiency:
  - Complete energy audits and develop strategies to save 15 percent in energy costs in state-owned/occupied buildings by 2010.
  - Build a model energy efficient building on the Capitol Complex to serve as a teaching tool for public and private sectors across Iowa.
- Iowa will educate the public in the benefits of energy efficiency and weatherization through the Iowa Weatherization Challenge, a program to help Iowans prepare their homes for the coming winter heating season:
  - Provide resources for speaking engagements and training opportunities.
  - Encourage community organizations to recruit volunteers to help weatherize homes for low-income, elderly, or disabled Iowans.
  - Provide matching grants to assist qualified volunteer groups. Matching grant funds of up to $500 to qualified groups undertaking such projects. In 2006, a total of at least $10,000 in matching funds will be available in Iowa.
  - Provide organizational and training kits
- Iowa will establish an Energy Management Team at the Iowa Utilities Board to re-evaluate the state's current energy efficiency programs, rate designs for the purpose of ensuring price signals that promote energy efficiency, demand response, energy-saving techniques, building codes, and legislative policies.

Johnson Controls

- Endorses Action Plan Recommendations.
- Johnson Controls currently works with every state in the country, as well as customers in 125 other countries, most federal agencies and hundreds of public and privately held companies to improve energy efficiency. Johnson Controls pledges to continue to communicate the strategies of the Action Plan and seek greater cooperation with utilities to implement its best practices.

Kansas Corporation Commission

- Endorses Action Plan Recommendations.
- The Kansas Corporation Commission (the Commission) commits to consider energy efficiency issues in a concerted manner. Toward that end, the Commission will be conducting an all-day informal workshop on August 9 for interested stakeholders. The Commission is hosting the workshop to facilitate informal discussion on the most appropriate approaches for fostering efficient energy usage in Kansas. Although it is not expected that there will be consensus on most issues, the Commission expects to decide further procedural steps, including whether it needs to open a formal Commission docket and what issues to explore as soon as possible after the workshop.

Large Public Power Council

- Endorses Action Plan Recommendations.

Mid-America Regulatory Conference

- Passed Resolution that states:
  - RESOLVED, That the Mid-America Regulatory Conference ("MARC"), convened at its 2006 Annual Conference in Columbus, Ohio supports NARUC's July 2004 "Resolution on Gas and Electric Energy Efficiency", as well as NARUC's continued efforts in this regard; and be it further
  - RESOLVED, That MARC endorses the principal objectives and Recommendations of the 2006 National Action Plan on Energy Efficiency, and commends to its member commissions a state-specific review of the elements and potential applicability of the energy efficiency policy Recommendations outlined in the Plan, in an effort to identify potential improvements in energy efficiency policy in each of the MARC states.

MidAmerican Energy Company

- Endorses Action Plan Recommendations.
- MidAmerican Energy Company has had a longstanding strong commitment to energy efficiency and intends to continue that commitment. Since implementing its first energy efficiency plan in 1990, MidAmerican Energy Company has permanently deferred construction of about 500 megawatts of new electric generating capacity and enough electricity to power about 75,000 homes annually. Through its natural gas energy efficiency programs, MidAmerican Energy and its customers have saved enough natural gas to heat about 30,000 homes annually. From an environmental perspective, the cumulative reduction in greenhouse gas emissions attributable to MidAmerican's energy savings since 1990 is equivalent to removing the annual emissions from over 115,000 automobiles or planting over 175,000 acres of trees.
- Energy efficiency achievements by MidAmerican Energy Company and its customers include major increases in funding for all programs including low-income weatherization; state, regional and national awards for energy-efficient new construction and promotion of compact fluorescent light bulbs; innovative programs leading to increased program participation by large commercial and industrial customers; responding to customer needs in the face of unprecedented increases in natural gas prices during the winter of 2005-2006; and enhanced customer satisfaction.
- In summary, MidAmerican Energy Company is firmly committed to energy efficiency, assisting the State of Iowa in meeting its commitment to the Midwest Natural Gas Initiative led by NARUC president Diane Munns and implementing the principles of the Action Plan.

Midwest Energy Efficiency Alliance

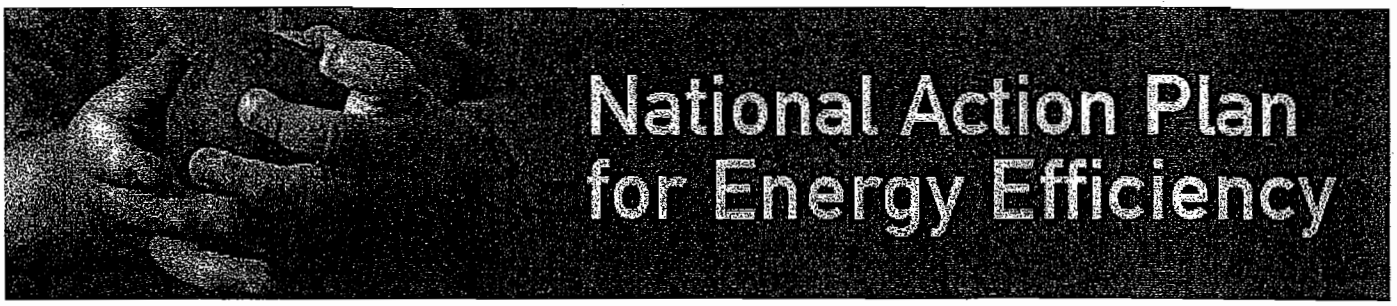
- Endorses Action Plan Recommendations.

Midwest Independent Transmission System Operator, Inc.

- Endorses Action Plan Recommendations.
- The Midwest Independent Transmission System Operator, Inc. ("Midwest ISO") commits to engage the states in its Region, as well as additional stakeholders, to determine appropriate ways to achieve the benefits of EE.

Minnesota Public Utilities Commission and Department of Commerce

- Endorses Action Plan Recommendations.



National Association of Energy Service Companies

- Endorses Action Plan Recommendations.
- National Association of Energy Service Companies (NAESCO) commits to:
  - Work with member companies across the country to help utilities and state regulators implement the Action Plan Recommendations and get proven cost-effective energy efficiency programs into the field.
  - Help pull together various organizations, including environmentalist, consumer and energy efficiency industry organizations, in states that are organizing energy efficiency programs.
  - Meet the challenge of helping to design and implement energy efficiency programs across the country.

National Rural Electric Cooperative Association

- Endorses Action Plan Recommendations.
- National Rural Electric Cooperative Association highlights its commitment to continue to increase efficiency and create savings through:
  - Fostering the construction of more energy efficient buildings.
  - Promoting the development and use of more energy-efficient appliances.
  - Accelerating the development and use of advanced electric meters.
  - Helping to commercialize fuel efficient, plug-in hybrid electric vehicles.

National Association of State Energy Officials

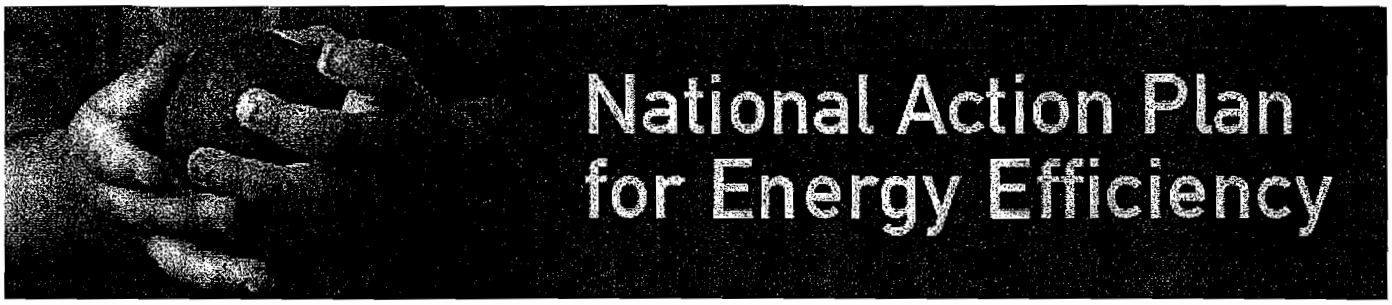
- Endorses Action Plan Recommendations.
- State energy offices stand ready to work with utilities and public service commissions to help implement the Action Plan Recommendations.

Natural Resources Defense Council

- Endorses Action Plan Recommendations.
- National Resources Defense Council commits with Edison Electric Institute (EEI) and American Gas Association (AGA) to redoubled joint efforts in support of the National Action Plan's worthy goals and Recommendations.

New England Conference of Public Utilities Commissioners

- Passed Resolution that states:
  - RESOLVED, That the New England Conference of Public Utilities Commissioners "NECPUC" supports NARUC's July 2004 "Resolution on Gas and Electric Energy Efficiency," as well as NARUC's continued efforts in this regard; and be it further
  - RESOLVED, That NECPUC endorses the principal objectives and Recommendations of the 2006 National Action Plan on Energy Efficiency, and commends to its member commissions a state-specific review of the elements and potential applicability of the energy efficiency policy Recommendations outlined in the Plan, in an effort to identify potential improvements in energy efficiency policy in each of the NECPUC states.



Vermont Public Service Board

- Endorses Action Plan Recommendations.
- The Vermont Public Service Board has a long history of recognizing energy efficiency as a resource comparable to supply side options.
- In 2000, the state established Efficiency Vermont, which now delivers cost-effective comprehensive energy efficiency programs to residential, commercial, and industrial customers across the state at a cost of roughly 3.5 cents per kWh, compared to delivered supply costs of 9.5 cents per kWh.
- Efficiency Vermont is independent from the state's electric distribution utilities, and is selected through a competitive bidding process.
- Vermont's mechanism can become a model for delivering energy efficiency programs – it has been replicated by both Maine and New Brunswick.
- Vermont also supports a new initiative within the New England RTO that, when finalized, could allow energy efficiency and other demand side resources to receive capacity payments in the regional wholesale power market. Vermont applauds this important achievement which begins to put market-driven energy efficiency on a par with supply-side resources.

Wal-Mart Stores, Inc.

- Design and open a prototype building that is 25 -30% more efficient and will produce up to 30% fewer greenhouse gas emissions within the next 4 years.
- Share Wal-Mart's experiences and technology with others around the world, because the more companies that adopt, environmentally-sensitive technologies, the more the cost of such technologies will decline, thus enabling needed change without adverse economic impact.

Washington Utilities and Transportation Commission

- Endorses Action Plan Recommendations.
- Washington Utilities and Transportation Commission commits to the following:
  - Continue to emphasize cost-effective conservation and energy efficiency in the integrated resource plans now required of electric utilities in Washington.
  - Support efforts to meet the Northwest Power and Conservation Council's target of 700 average megawatts of conservation in the Pacific Northwest by 2009 and 2800 average megawatts over the next 20 years.
  - Explore mechanisms in ratemaking proceedings that align the interests of ratepayers and the utilities in implementing cost-effective conservation measures.
  - Work with the Office of the Governor and the Energy Division of the Department of Community, Trade and Economic Development to identify opportunities to improve energy efficiency in Washington State.

Waverly Light and Power

- Endorses Action Plan Recommendations.
- The Waverly Light and Power Board approved a MOU with the World Wildlife Fund in 2003, stating that Waverly Light and Power would achieve 15% energy efficiency by the year 2020, and that Waverly Light and Power will continue efforts to reduce overall demand (kW) in its service territory as part of a strategy to reduce the need for new electric generating capacity. As of 2005, Waverly Light and Power is pleased to have reduced its peak demand by 6.68% through a number of energy efficiency programs.
- In addition to energy efficiency, in 2006, Waverly Light and Power's Board of Trustees passed a resolution for the utility to reach a goal of 20% of its energy to come from renewable resources by the year 2020.
- The utility also participates in the annual Voluntary Reporting of Greenhouse Gases Emissions and Reductions (EIA-1605)).

Senate Resolution 31 - Introduced

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SENATE RESOLUTION NO.
BY BOLKCOM

A Resolution requesting the establishment of an interim study committee by the legislative council to conduct an examination of energy efficiency programs under the purview of the Iowa utilities board.

WHEREAS, achieving and continually improving upon energy efficiency in terms of the development and refinement of renewable sources of energy and the adoption and utilization of energy conservation practices is an increasingly important priority for the citizens of this state; and

WHEREAS, decreasing reliance on foreign sources of energy will enhance the well=being of the citizens of this state and stimulate the state's economy; and

WHEREAS, programs devoted to energy efficiency and alternative sources of energy production can reduce the state's dependence on foreign sources of energy, provide valuable public education regarding energy=efficient practices, and enhance the ability of lower income citizens to cope with rising energy costs; and

WHEREAS, the Iowa utilities board requires gas and electric public utilities to offer energy efficiency programs to their customers through energy efficiency plans, and administers statutory provisions relating to energy production and regulation; NOW THEREFORE,

BE IT RESOLVED BY THE SENATE, That the legislative council is requested to establish an interim study committee to examine energy efficiency programs under the purview of the Iowa utilities board and develop recommendations on how to improve and increase the effectiveness of such programs. The recommendations developed shall be based upon testimony from the board, rate and nonrate=regulated gas and electric utilities, the consumer advocate, state agencies involved with energy efficiency program administration, and environmental groups and associations, and consumer input. The committee shall be composed of 10 members, representing both political parties and both houses of the general assembly. Five members shall be members of the senate, three of whom shall be appointed by the majority leader of the senate and two of whom shall be appointed by the minority leader of the senate. The other five members shall be members of the house of representatives, appointed by the speaker of the house, three of whom shall be of the majority party and two of whom shall be of the minority party; and

BE IT FURTHER RESOLVED, That the committee shall be

staffed by the legislative services agency, with assistance from the Iowa utilities board, the department of natural resources, and the department of economic development; and

BE IT FURTHER RESOLVED, That the interim study committee shall issue a report of recommendations to the general assembly by December 15, 2007.

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House File 918 - Enrolled

PAG LIN

HOUSE FILE 918

AN ACT

ESTABLISHING THE OFFICE OF ENERGY INDEPENDENCE AND THE IOWA POWER FUND AND RELATED PROVISIONS, AND PROVIDING AN EFFECTIVE DATE.

BE IT ENACTED BY THE GENERAL ASSEMBLY OF THE STATE OF IOWA:

SUBCHAPTER I

GENERAL PROVISIONS

Section 1. NEW SECTION. 469.1 DEFINITIONS.

For the purposes of this chapter:

1. "Board" means the Iowa power fund board created in section 469.6.

2. "Committee" means the due diligence committee created in section 469.7.

3. "Director" means the director of the office of energy independence.

4. "Foreign" means a locality outside of or nation other than the United States, Canada, or Mexico.

5. "Fund" means the Iowa power fund created in section 469.9.

6. "Office" means the office of energy independence.

Sec. 2. NEW SECTION. 469.2 OFFICE OF ENERGY INDEPENDENCE.

The office of energy independence is established to coordinate state activities concerning energy independence.

Sec. 3. NEW SECTION. 469.3 DIRECTOR OF OFFICE OF ENERGY INDEPENDENCE.

1. A director of the office of energy independence shall be appointed by the governor, subject to confirmation by the senate, and shall serve at the pleasure of the governor. The governor shall fill a vacancy in the office in the same manner as the original appointment was made. The director shall be selected primarily for administrative ability and knowledge concerning renewable energy, renewable fuels, and energy efficiency. The salary of the director shall be fixed by the governor.

2. The director shall do all of the following:

a. Direct the office of energy independence.

b. Coordinate the administration of the Iowa power fund.

c. Lead outreach and public education efforts concerning renewable energy, renewable fuels, and energy efficiency.

d. Pursue new research and investment funds from federal and private sources.

e. Coordinate and monitor all existing state and federal renewable energy, renewable fuels, and energy efficiency grants, programs, and policy.

f. Advise the governor and general assembly concerning renewable energy, renewable fuels, and energy efficiency policy and legislation.

g. Establish performance measures for determining

effectiveness of renewable energy, renewable fuels, and energy efficiency efforts.

h. Contract for and utilize assistance from the department of economic development regarding administration of grants, loans, and other financial incentives related to section 469.9, subsection 4, paragraph "a", subparagraph (1), the department of natural resources and the utilities board regarding assistance in the administration of grants, loans, and other financial incentives related to section 469.9, subsection 4, paragraph "a", subparagraph (2), and other state agencies as appropriate.

i. Develop an Iowa energy independence plan pursuant to section 469.4.

j. Submit an annual report to the governor and general assembly by November 1 of each year concerning the activities and programs of the office, Iowa power fund, and other departments related to renewable energy, renewable fuels, and energy efficiency. The report shall include an assessment of needs with respect to renewable energy, renewable fuels, and energy efficiency efforts and policy and fiscal recommendations for renewable energy, renewable fuels, and energy efficiency. In addition, the director shall review issues relating to the transportation of biofuels and explore leading and participating in multistate efforts relating to renewable energy and energy efficiency.

k. Adopt rules pursuant to chapter 17A concerning the office, the Iowa power fund, and the programs and functions of the office and the fund.

Sec. 4. NEW SECTION. 469.4 IOWA ENERGY INDEPENDENCE PLAN.

1. The director shall develop an Iowa energy independence plan with the assistance of the department of natural resources as provided in section 473.7, and in association with public and private partners selected by the director including representatives of the energy industry, environmental interests, agricultural interests, business interests, other interested parties, and members of the general public. The plan shall be subject to approval by the board.

2. 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 greenhouse gas emissions. The options and strategies developed in the plan shall provide for achieving energy independence from foreign sources of energy by the year 2025.

3. The plan shall be initially submitted to the governor and members of the general assembly by December 14, 2007, and by December 14 annually thereafter. The plan shall be made electronically available to the public. The director shall conduct public meetings around the state to gather input to be used in developing the plan.

4. The plan shall identify cost=effective options and strategies that will allow the state to accomplish the following:

a. Maximize use of emerging technologies and practices to enhance energy efficiency and conservation and develop alternative and renewable energy sources.

b. Retain and create high=quality jobs that provide good wages and benefits.

c. Enhance the development of the state's bioeconomy

including but not limited to the design, construction, operation, and maintenance of bioengineering, biorefining, and other bioproduct manufacturing facilities in this state.

d. Encourage federal, local, and private industry investment in the state's bioeconomy.

e. Promote sustainable land use, soil conservation, clean air, sustainable water supply, and clean water practices.

f. Reduce greenhouse gas emissions, both on an aggregate and per capita basis.

g. Advance the interests of crop, biomass, and livestock producers and biofuel and other bioproduct manufacturers.

h. Identify the road, transit, trail, rail, pipeline, transmission, distributed generation, and other infrastructure investments needed to enhance the state's energy independence efforts.

i. Identify strategies to increase affordability of energy for individuals, families, organizations, and businesses, including low=income persons.

j. Review and assess the effectiveness of existing state programs, including but not limited to financial assistance programs and tax policies, in enhancing the state's energy independence efforts.

k. Develop short=term and long=term recommendations for the role of individuals, families, community organizations, cities, counties, public and private education institutions, and state agencies in enhancing the state's energy independence efforts.

l. Develop short=term and long=term recommendations regarding state energy regulatory policy.

Sec. 5. NEW SECTION. 469.5 INTELLECTUAL PROPERTY.

The director shall promote utilization across the state of the results of research, development, and commercialization activities funded in whole or in part by the Iowa power fund. The director is authorized to negotiate provisions with applicants that address issues relating to income generated from patents, trademarks, licenses, or royalties expected to be produced as a result of moneys proposed to be expended from the fund. The director may seek assistance from appropriate state agencies or outside expertise. An applicant shall not be prevented from protecting any previously developed intellectual property.

Sec. 6. NEW SECTION. 469.6 IOWA POWER FUND BOARD.

1. An eighteen=member Iowa power fund board is created with the following membership:

a. The chairperson of the utilities board or the chairperson's designee.

b. The director of the department of economic development or the director's designee.

c. The director of the department of natural resources or the director's designee.

d. The secretary of agriculture or the secretary's designee.

e. Seven members appointed by the governor subject to confirmation by the senate. All appointees shall represent nonpublic organizations or businesses, or research institutions, and must demonstrate experience or expertise in one or more of the fields of renewable energy, renewable fuels, agribusiness, energy efficiency, greenhouse gas reductions, utility operations, research and development of new technologies, commercialization of new technologies,

economic development, and finance.
f. Seven members serving in an ex officio, nonvoting capacity, appointed as follows:
(1) One member of the senate appointed by the majority leader of the senate.
(2) One member of the senate appointed by the minority leader of the senate.
(3) One member of the house of representatives appointed by the speaker of the house of representatives.
(4) One member of the house of representatives appointed by the minority leader of the house of representatives.
(5) One member representing the state board of regents appointed by the president of the state board of regents.
(6) One member representing the community colleges appointed by the executive director of the Iowa association of community college presidents.
(7) One member representing independent colleges and universities appointed by the president of the Iowa association of independent colleges and universities.
A legislative member is eligible for per diem and expenses as provided in section 2.10.
2. The members appointed by the governor shall be appointed for three=year staggered terms beginning and ending as provided in section 69.19. A vacancy on the board shall be filled for the unexpired term in the same manner as the original appointment was made.
3. The members of the board shall be reimbursed for actual and necessary travel and related expenses incurred in the discharge of official duties. Each member of the board may also be eligible to receive compensation as provided in section 7E.6.
4. A majority of the voting members of the board constitutes a quorum, and a majority of the total voting membership of the board is necessary to act in any matter within the jurisdiction of the board.
5. The duties of the board include all of the following:
a. Consider and approve grants, loans, or investments and other financial incentives made from the fund.
b. Advise the director concerning strategic direction for the fund.
c. Provide the governor with advice concerning economic development, policy, technical issues, and strategic direction concerning renewable energy, renewable fuels, and energy efficiency.
d. Direct moneys from the fund to be used to purchase private or public technical assistance needed to conduct due diligence activities and to develop an Iowa energy independence plan.
Sec. 7. NEW SECTION. 469.7 DUE DILIGENCE COMMITTEE.
1. A seven=member due diligence committee is created to review applications that will come before the board for financial assistance from moneys in the fund. The committee, after a thorough review, shall determine whether a proposed project using moneys from the fund is practical, economically feasible, and furthers the goals of the fund, and shall provide recommendations to the board regarding any moneys proposed to be expended from the fund. The recommendations may be conditional or recommend that a proposal be rejected. Membership of the committee shall consist of the following:
a. One member designated by the director of the office of

energy independence with expertise in the financing of new businesses and leveraging federal and private sources of funding.

b. One member designated by the president of the state board of regents.

c. One member designated by the director of the department of economic development.

d. One member designated by the director of the Iowa energy center.

e. One member from a single bioscience development organization determined by the director of the department of economic development to possess expertise in the promotion and commercialization of biotechnology.

f. Two members of the Iowa power fund board designated by the chairperson of the board.

2. A majority of the members of the committee shall constitute a quorum, and a quorum shall be necessary to act on any matter within the jurisdiction of the committee.

3. The director of the office of energy independence shall provide office space, staff assistance, and necessary supplies and equipment to the committee. The director shall budget moneys to pay the compensation expenses of the committee. In performing its functions, the committee is performing a public function on behalf of the state and is a public instrumentality of the state.

Sec. 8. NEW SECTION. 469.8 CONFLICTS OF INTEREST.

If a member of the board or due diligence committee has an interest, either direct or indirect, in a project for which financial assistance may be provided by the board, the interest shall be fully disclosed to the board in writing. The member having the interest shall not participate in the decision=making process with regard to the provision of such financial assistance to the project.

Sec. 9. NEW SECTION. 469.9 IOWA POWER FUND.

1. An Iowa power fund is created in the state treasury under the control of the office. The fund shall be separate from the general fund of the state and the balance in the fund shall not be considered part of the balance of the general fund of the state. However, the fund shall be considered a special account for the purposes of section 8.53, relating to generally accepted accounting principles.

2. The fund shall be used to further the goals of increasing the research, development, production, and use of biofuels and other sources of renewable energy, improve energy efficiency, and reduce greenhouse gas emissions, and shall encourage, support, and provide for research, development, commercialization, and the implementation of energy technologies and practices. The technologies and practices should reduce this state's dependence on foreign sources of energy and fossil fuels. The research, development, commercialization, implementation, and distribution of such technologies and practices are intended to sustain the environment and develop business in this state as Iowans market these technologies and practices to the world.

3. The fund shall consist of appropriations made to the fund and other moneys available to and obtained or accepted by the office from federal or private sources to the credit of the fund. Notwithstanding section 12C.7, subsection 2, interest or earnings on moneys in the fund shall be credited to the fund.

4. a. Moneys available in the fund for a fiscal year are appropriated to the office to be used in providing financial assistance to entities conducting business, research, or programs in Iowa:

(1) To accelerate research and development, knowledge transfer, technology innovation, and improve the economic competitiveness of efforts furthering the goals stated in subsection 2.

(2) To increase the demand for and educate the public about technologies and approaches furthering the goals stated in subsection 2.

b. Eligibility criteria for grants awarded or loans made pursuant to paragraph "a" after due diligence activities shall be established by the director by rule, and shall include documentation relating to the actual or potential development of the following:

(1) Commercialization of technology and product development for sale in the national and international market.

(2) Utilization of crops and products grown or produced in this state that maximize the value of crops used as feedstock in biomanufacturing products and as coproducts.

(3) Reduction of greenhouse gas emissions and carbon sequestration.

(4) Private or federal matching funds.

c. The board may reclaim any moneys granted or loaned if the commitments set forth in the documentation required pursuant to paragraph "b" are not met.

d. All grant and loan recipients must provide to the board a report on the use and effectiveness of the moneys granted or loaned on a periodic basis as determined by the board.

5. Notwithstanding section 8.33, moneys credited to the Iowa power fund shall not revert to the fund from which appropriated.

SUBCHAPTER II

FINANCIAL INCENTIVES FOR BIOMASS, BIOREFINERY, RENEWABLE ENERGY, AND ENERGY EFFICIENCY PROJECTS

Sec. 10. NEW SECTION. 469.31 DEFINITIONS.

As used in this chapter, unless the context otherwise requires:

1. "Agricultural animal" means the same as defined in section 717A.1.

2. "Alternative and renewable energy" means energy sources including but not limited to solar, wind turbine, waste management, resource recovery, recovered energy generation, refuse=derived fuel, hydroelectric, agricultural crops or residues, hydrogen produced using renewable fuel sources, and woodburning, or relating to renewable fuel development and distribution.

3. "Biobased material" means a material in which carbon is derived in whole or in part from a renewable resource.

4. "Biobased product" means a product generated by blending or assembling of one or more biobased materials, either exclusively or in combination with nonbiobased materials, in which the biobased material is present as a quantifiable portion of the total mass of the product.

5. "Biomass" means organic material that is available on a renewable or recurring basis, including but not limited to crops; plants, including aquatic plants and grasses; residues; trees grown for energy production; wood waste and wood

residues; fibers; animal wastes and other waste materials; animal fats; and other fats, oils, and greases including recycled fats, oils, and greases.

6. "Biorefinery" means a cluster of biobased industries producing power, fuel, materials, chemicals, and products.

7. "Cellulosic biomass renewable fuel" means renewable fuel derived from an lignocellulosic or hemicellulosic matter that is available on a renewable or recurring basis, including dedicated energy crops and trees, wood and wood residues, plants, grasses, agricultural residues, fiber, animal wastes and other waste materials, refuse=derived fuel, and municipal solid waste.

8. "Crop" means the same as defined in section 717A.1.

9. "Recovered energy generation" means a recycled energy system, other than a system whose primary purpose is the generation of electricity, which produces electricity from currently unused waste heat resulting from combustion or other processes and which does not use an additional combustion process.

10. "Renewable fuel" means a fuel that is all of the following:

a. A motor vehicle fuel that is any of the following:

(1) Produced from grain; starch; oilseed; vegetable, animal, or fish materials, including but not limited to fats, greases, and oil; sugar components, grasses, or potatoes; or other biomass.

(2) Natural gas produced from a biogas source including but not limited to a landfill, sewage waste treatment plant, animal feeding operation, or other place where decaying organic material is found.

b. Used to replace or reduce the quantity of fossil fuel present in a motor fuel mixture used to operate a motor vehicle.

Sec. 11. NEW SECTION. 469.32 FINANCIAL INCENTIVES RELATING TO PRODUCTS FOR BIOREFINERIES == AUTHORIZATION.

The Iowa power fund board, with the assistance of the office of energy independence and other appropriate state agencies, may provide financial incentives and adopt necessary rules pursuant to chapter 17A in relation to the following:

1. Research, development, and commercialization of products derived from or developed for biorefineries, including but not limited to:

a. Renewable fuel such as cellulosic biomass renewable fuel, and associated agricultural or industrial coproducts which promise to provide environmentally benign product life cycles, promote rural economic development, and diversify energy resources.

b. Products to be used as feedstuffs for agricultural animals.

c. Other products to add value to the biorefinery supply chain.

2. Research, development, and commercialization of specialized crop varieties for use in biorefineries, equipment in production and harvesting, soil conservation, and crop management practices designed for sustainability.

3. Research, development, and commercialization of advanced manufacturing and information technology required for supporting biorefineries.

4. Market development of biorefinery products, including but not limited to public education, quality testing,

transportation, and infrastructure financial support.

Sec. 12. NEW SECTION. 469.33 FEDERAL BIOMASS RESEARCH AND DEVELOPMENT PROGRAMS == AUTHORIZATION.

The Iowa power fund board, the office of energy independence, and other appropriate state agencies, shall cooperate with federal agencies and participate in federal programs including but not limited to programs under the federal Biomass Research and Development Act of 2000, 7 U.S.C. } 7624, et seq., in order to provide for the production of cost=competitive industrial products derived from biomass, including but not limited to renewable fuels, such as cellulosic biomass renewable fuels or biobased materials and biobased products, and associated agricultural or industrial coproducts which promise to provide environmentally benign product life cycles, promote rural economic development, and diversify energy resources.

Sec. 13. NEW SECTION. 469.34 FINANCIAL INCENTIVES FOR RENEWABLE ENERGY PRODUCTS == AUTHORIZATION.

The Iowa power fund board, with the assistance of the office of energy independence and other appropriate state agencies, may provide financial incentives and adopt necessary rules pursuant to chapter 17A in relation to the following:

1. Research, development, and commercialization of renewable energy.

2. Market development of renewable energy, including but not limited to public education, quality testing, transportation, transmission, and infrastructure.

Sec. 14. NEW SECTION. 469.35 FINANCIAL INCENTIVES FOR ENERGY EFFICIENCY PROJECTS == AUTHORIZATION.

The Iowa power fund board, with the assistance of the office of energy independence and other appropriate state agencies, may provide financial incentives to individuals or communities and adopt necessary rules pursuant to chapter 17A in relation to the following:

1. Research, development, and commercialization of technologies and practices that improve energy efficiency.

2. Implementation of technologies and practices that improve energy efficiency.

3. Public education efforts encouraging improved energy efficiency.

Sec. 15. Section 473.7, subsection 1, Code 2007, is amended to read as follows:

1. ~~Deliver to the general assembly by January 15, 1990, a plan for the development, management, and efficient utilization of all energy resources in the state. The plan shall evaluate existing energy utilization with regard to energy efficiency and shall evaluate the future energy needs of the state. The plan shall include but is not limited to the following elements:~~ Assist the director of the office of energy independence with preparation of the Iowa energy independence plan as provided in section 469.4. In addition to assistance requested by the director, the department shall supply and annually update the following information:

a. The historical use and distribution of energy in Iowa.

b. The growth rate of energy consumption in Iowa, including rates of growth for each energy source.

c. A projection of Iowa's energy needs at a minimum ~~of ten years into the future~~ through the year 2025.

d. The impact of meeting Iowa's energy needs on the economy of the state, including the impact of energy

efficiency and renewable energy on employment and economic development.

e. The impact of meeting Iowa's energy needs on the environment of the state, including the impact of energy production and use on greenhouse gas emissions.

f. An evaluation of ~~alternative~~ renewable energy sources ~~and uses of energy~~, including the current and future technological potential for such sources.

~~g. Legislative recommendations that may be necessary as a basis for a state policy for the development and efficient utilization of energy resources.~~

~~h. An evaluation of the ability of existing laws and regulations surrounding the utilization of energy resources.~~

~~The department shall develop the plan with the assistance of, and in consultation with, representatives of the energy industry, economic interests, the public, and other interested parties. The department shall submit a report to the general assembly concerning the status and implementation of the plan on a biennial basis. The biennial update shall contain an evaluation of all state energy programs including expected versus actual benefits and forecasts of future energy demand in Iowa.~~

Sec. 16. Section 476.6, subsection 14, Code 2007, is amended to read as follows:

14. ENERGY EFFICIENCY PLANS. Electric and gas public utilities shall offer energy efficiency programs to their customers through energy efficiency plans. An energy efficiency plan as a whole shall be cost=effective. In determining the cost=effectiveness of an energy efficiency plan, the board shall apply the societal test, utility cost test, rate=payer impact test, and participant test. Energy efficiency programs for qualified low=income persons and for tree planting programs, educational programs, and assessments of consumers' needs for information to make effective choices regarding energy use and energy efficiency need not be cost=effective and shall not be considered in determining cost=effectiveness of plans as a whole. The energy efficiency programs in the plans may be provided by the utility or by a contractor or agent of the utility. Programs offered pursuant to this subsection by gas and electric utilities that are required to be rate=regulated shall require board approval.

Sec. 17. ENERGY EFFICIENCY STUDIES == IOWA UTILITIES BOARD.

1. ENERGY EFFICIENCY PLANS. The Iowa utilities board, in conjunction with other interested parties, shall conduct a study of the energy efficiency plans and programs offered by all gas and electric utilities pursuant to section 476.6 to determine the status and effectiveness of energy efficiency programs in the state, using the most accurate and up=to=date information available to the board during the time period prescribed for the study. The board shall report the results of the study, with recommendations for best practices to increase energy efficiency and reduce energy consumption, to the members of the general assembly by January 1, 2008.

2. FUTURE CONSUMER ENERGY REDUCTION PLAN. The board shall coordinate with the Iowa energy center to conduct a consumer survey and study relating to consumer knowledge of energy use and energy efficiency, and methods for increasing such knowledge, with the objective of reducing consumer energy utilization. The board shall report the results of the study

to the members of the general assembly by January 1, 2008.

Sec. 18. EFFECTIVE DATE. This Act, being deemed of immediate importance, takes effect upon enactment.

PATRICK J. MURPHY
Speaker of the House

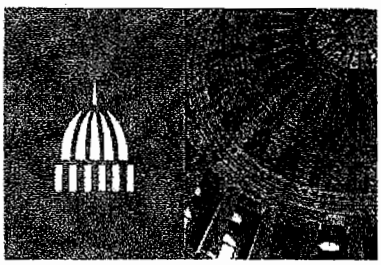
JOHN P. KIBBIE
President of the Senate

I hereby certify that this bill originated in the House and is known as House File 918, Eighty=second General Assembly.

MARK BRANDSGARD
Chief Clerk of the House

Approved _____, 2007

CHESTER J. CULVER
Governor



NCSL STATE LEGISLATIVE REPORT

ANALYSIS OF STATE ACTIONS ON IMPORTANT ISSUES

APRIL 2001 VOLUME 26, NUMBER 3

State Incentives for Energy Efficiency

By Christie Rewey, *Staff Assistant*

It is easy to take energy prices for granted when they are low and stable. During the summer of 2000, however, they were anything but low, and have steadily increased. This situation is posing some challenges for state policymakers. Those challenges are the more imposing because the price of several energy commodities has been deregulated, so that state policymakers often have very little control over the price of energy.

The increase in energy prices has been the largest in more than a decade. Natural gas prices serve as an example. In 1999, natural gas prices were near the end of a long-time depressed price of approximately $2.50 per Mmbtu (million British thermal units, the measurement for gas). By the end of the summer of 2000, however, they had doubled-and even tripled in some places-to about $6 per Mmbtu. In some areas with particularly high demand, such as California, the cost of natural gas increased to as much as $40 per Mmbtu. Heating oil and propane prices, which affect more specific areas of the United States, have risen along with natural gas prices. Electricity prices in much of the country also have risen.

State policymakers have some options at their disposal to address these energy price increases. Many of the options have to do with assisting state citizens or state agencies to reduce their energy bills—even if the rates cannot be reduced. Thus, many states may find they can effectively deal with exposure to high energy prices if they reduce consumption. New and commercially available technologies now allow people to reduce energy consumption without sacrificing their quality of life.

Many states have enacted incentives to help state private residents, state agencies and schools deal with high or volatile energy prices by using energy more efficiently. Broadly, these incentives fall into three categories: tax incentives, grants and loans, and bonding.

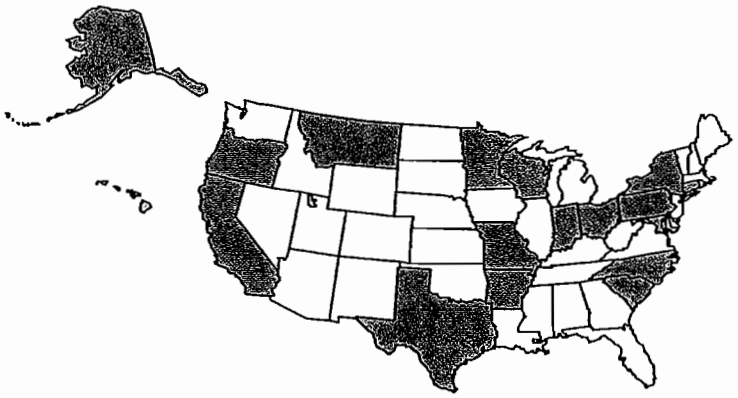
- Tax incentives, which provide exemptions from or reductions on tax obligations, are available relating to energy efficiency in seven states.

- Grants (that do not require repayment) and loans (that must be repaid) offer funding for specific purchases; they are available in 16 states.

- Bonds provide up-front capital by attracting investment in the creditworthiness of an institution; three states have established bond programs.

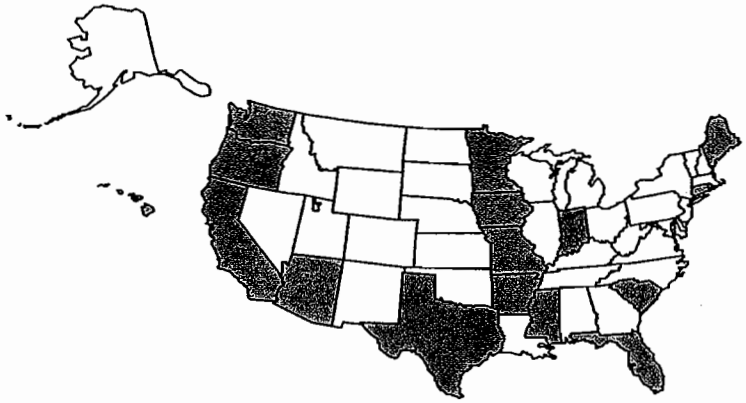
Figures 1 and 2 show the states that have enacted energy efficiency incentives for the private, state agency and school district sectors.

Figure 1. States With Energy Efficiency Incentive Programs: Private Sector



Source: NCSL, 2001.

Figure 2. States With Energy Efficiency Incentive Programs: State Agency and School District Sectors



Source: NCSL, 2001.

Tax Incentives

A common obstacle to the use of energy-saving technologies is their high up-front price. To help overcome this hurdle, several states have established tax incentives to encourage certain types of purchasing. A tax incentive can be a deduction against the income tax a person owes, or deductions from property value assessments that are used to calculate property tax, or an exemption from paying sales tax on a certain item. In most cases, the price of the energy-efficient product or service determines the amount of the incentive. Incentives of this type have been shown to enhance the likelihood that people will buy items they normally would not purchase. The National Conference of State Legislatures (NCSL) study has identified eight tax incentive programs in seven states that are designed to promote the efficient use of energy.

The NCSL study has identified nine tax incentive programs in seven states that are designed to promote the efficient use of energy.

State: Hawaii

Citation: Hawaii Rev. Stat. §235 (12) (1990)

Eligible Sector: Private

Summary: This law provides a tax credit for the purchase of ice storage systems. The credit cannot exceed 50 percent of the total cost of the system and must be claimed against net income tax for the year in which the system was purchased and placed in use. Also, the credit can apply only to the costs of purchase, accessories and installation. Ice storage systems store ice or chilled fluids (used in air conditioning or refrigeration) in order to shift energy consumption to off-peak periods.

State: Indiana

Citation: Indiana Code Ann. §6-3-2-5 (1978)

Eligible Sector: Private

Summary: The law provides an individual adjusted gross income tax deduction for purchase of or investment in energy-efficient equipment. Purchases covered under this deduction include installation of new-but not replacement-insulation, weatherstripping, double pane windows, storm doors or storm windows. Installation of these items must be for the sole purpose of stopping the flow of heat into or out of a building. The deduction may be taken for the amount of the cost (up to a maximum of $1,000). Indiana's Department of Revenue administers the tax deduction, which applies only if the residence was constructed at least three years before the taxable year for which the deduction is claimed. To obtain this deduction, the taxpayer must file with the department proof of his costs for the instal-

lation and a list of the people or corporations who supplied labor or materials for the installation. Table 1 shows use of this tax deduction for the last three tax years.

Table 1. Indiana's Tax Deduction for Energy Efficiency

Year	Number of Participants	Total Amount of Deduction
1996	37,042	$26,762,375
1997	34,987	$25,713,003
1998	34,028	$25,016,732

Source: Indiana Department of Revenue, 2000.

State: Maryland

Citation: Md. Ann. Code art. 11, §226 (1999)

Eligible Sector: Private

Maryland incentives include a suspension of the state's 5 percent sales tax on energy-saving new clothes washers, refrigerators, and air conditioners.

Summary: The state provides tax incentives for purchase of or investment in energy-efficient equipment. Incentives include a suspension of the state's 5 percent sales tax on energy-saving new clothes washers, refrigerators, and air conditioners and suspension of the sales tax on purchases of highly efficient heating and central air conditioning and fuel cells for heat and electricity generation. Most of the incentives will be available for purchases made between July 1, 2000, and Dec. 31, 2004. Production tax credits will run for 10 years. After their most beneficial effects have been realized, the incentives will expire. The Energy Star program of the U.S. Environmental Protection Agency (EPA) and U.S. Department of Energy (DOE) uses standard criteria to identify energy-efficient appliances. Only appliances bearing the Energy Star label are eligible for the sales tax incentive.

State: Montana

Citation: Mont. Code Ann. 15-32-109 (1981)

Eligible Sector: Private

Summary: The law allows a resident individual taxpayer to take as a credit against his or her tax liability a portion of the expense for a capital investment in a building for an energy conservation purpose. In the case of an expenditure for a residential building, the lesser of $150 or 5 percent will be credited. For a nonresidential building, the lesser of $300 or 5 percent of the expenditure will be credited. The credit or the sum of the credits may not exceed the taxpayer's tax liability, and credits apply only to capital investments made after Jan. 1, 1975; people and firms not primarily engaged in the provision of gas or electricity derived from fossil fuel extraction or conventional hydroelectric development; and a ceiling

of $100,000 in tax savings per year to any one person or firm. The credit must be applied in the year the expenditure is incurred, as determined by the taxpayer's accounting method.

State: New York

Citation: 2000 N.Y. Laws, Chap. 63

Eligible Sector: Private

Summary: The law provides an incentive package to developers who build environmentally sound commercial buildings and apartment buildings. Builders who meet energy goals and use environmentally preferable materials can claim against their state tax bill up to $3.75 per square foot for interior work and $7.50 per square foot for exterior work. Each building must be certified by a licensed architect or engineer, and must meet specific requirements for energy use. In new buildings, this means energy use cannot exceed 65 percent of use permitted under the New York state energy code; in rehabilitated buildings, energy use cannot exceed 75 percent.

New York law provides an incentive package to developers who build environmentally sound commercial buildings and apartment buildings.

State: Oregon

Citation: Or. Rev. Stat. §469 (160, et seq.) (1977)

Eligible Sector: Private

Summary: The statute provides a tax credit for construction or installation of alternative energy devices that also are energy-efficient appliances. The tax credit cannot exceed 25 percent of the appliance's cost. The credit will equal 40 cents per kilowatt hour saved, or the equivalent for other fuel saved, not to exceed $1,000 each tax year. The taxpayer who is allowed the credit must be the owner of the residence.

Citation: Or. Rev. Stat. §469 (185, et seq.) (1979)

Eligible Sector: Private

Summary: The statute provides a 35 percent tax credit over five years for Oregon businesses. The tax credit encourages investment in conservation (any fuel), renewable resources, recycling and alternative fuels. It also includes rental housing weatherization and a one-time cash payment option through investor-owned utilities and other Oregon businesses.

State: South Carolina

Citation: S. C. Code Ann. §12 (36-2110[B]) (1984)

Eligible Sector: Private

Summary: This law limits the sales tax for energy efficiency in manufactured homes. Sales tax due on a manufactured home is limited to $300 if the home meets energy efficiency levels. Purchases that qualify are storm or double pane glass windows and insulated or storm doors. The minimum thermal resistance rating of the insulation must be R-11 for walls, R-19 for floors and R-30 for ceilings. However, variations in the energy efficiency levels for walls, floors and ceilings are allowed, and the exemption on tax due above $300 applies if the total heat loss does not exceed that calculated using the levels of R-11 for walls, R-19 for floors and R-30 for ceilings. The source for heat loss calculation is the current edition of the American Society of Heating, Refrigerating and Air Conditioning Engineers Guide. The dealer selling the manufactured home must maintain records, on forms provided by the State Energy Office, on each manufactured home sold. The records must contain the above calculations and verify whether the manufactured home met the energy efficiency levels provided for in this subsection. These records must be maintained for three years and must be made available for inspection upon request of the Department of Consumer Affairs or the State Energy Office.

Several legislatures have established funds that can be used only to purchase approved energy-efficient products and services.

Grants and Loans

In another attempt to overcome the price barrier, several legislatures have established funds that can be used only for purchasing approved energy-efficient products and services. These funds are awarded in the form of a grant and/or loan. Grants are one-time funding packages, while loans must be repaid, with interest, over a certain time. Grants and loans may be more effective than tax incentives because participants need not pay the actual cost of the item and will receive greater reimbursement than they would with tax incentives. The NCSL study identified 27 grant and/or loan programs in 16 states.

State: Alaska

Citation: Alaska Stat. §45.89.010 et seq. (1983)

Eligible Sector: Private

Summary: The statute establishes the residential energy conservation fund within the Department of Commerce and Economic Development. Loans and grants may be used to purchase, construct and install an energy conservation improvement in residential buildings. Money in the fund may be used by the Legislature to cover administrative costs.

Loans may not exceed $5,000 or the estimated energy cost savings of the proposed project, whichever is less. Recipients must repay the loan within 10 years. Each June 30, the unspent and unobligated balance of the fund lapses into the state's general fund.

State: California

Citation: SB 5X, AB 29X, 2001

Summary: The law provides an $860 million package of energy conservation measures designed to cut California electricity use as quickly as possible. Most of the funding supports already existing state programs offering loans, grants and cash to business, agricultural, residential and low-income ratepayers. Programs include rebates on new refrigerators and air conditioners, as well as grants to place reflective surfaces on roofs, replace traffic lights with energy-efficient bulbs and weatherize homes.

California law provides $860 million for energy conservation measures designed to cut the state's electricity use as quickly as possible.

The law provides $240 million in aid for low-income households, including those earning below 150 percent of the federal poverty level (approximately $25,000 for a family of four). The California Alternate Rates for Energy Program, the existing low-income gas and electric bill subsidization program administered by the utilities, receives an additional $100 million under this law. Also, the law provides $120 million to assist households below 60 percent of the state median income ($33,000 for a family of four). These funds may be applied to residential energy efficiency measures such as insulation and weatherstripping. The California Public Utilities Commission and the California Energy Commission administer these and several other low-income energy conservation programs.

Other highlights of the legislation include:

- $50 million to augment new air conditioner and refrigerator rebate programs run by local utilities.
- $50 million in 3 percent loans to replace inefficient display refrigerators like the ones that hold drinks in grocery stores and convenience stores.
- $60 million to municipal utilities like those in Sacramento, Alameda and Palo Alto to expand their conservation efforts.

- $10 million for cities and counties to replace stoplights with energy efficient light-emitting diodes or LEDs.

- $35 million in grants to businesses that recoat the roofs of their low-story buildings with reflective surfaces.

- $35 million to create "demand responsive" buildings that use an Internet connection that can automatically adjust thermostats or lights when power alerts are called.

- $50 million for a grab bag program for other innovative energy savings.

- $10 million to retrofit existing gas agriculture pumps with alternative fuels.

A California law appropriates $50 million to the Energy Commission to implement an energy efficiency grant program.

Citation: Cal. Public Utilities Code §399.15 (West 2000) (In addition, this statute acts to add and repeal §12078 of the Government Code, to add and repeal §42301.14 of the Health and Safety Code, to add Chapter 6.5 (commencing with §25550) to Division 15 of, and to repeal §25550, §25552, and §25555 of, the Public Resources Code, and to amend §372 of Public Utilities Code, relating to energy resources.)

Eligible Sector: Private

Summary: Among other things, this law appropriates $50 million to the Energy Commission to implement an energy efficiency grant program. Grants provide assistance in purchasing price responsive heating, ventilation, air conditioning and lighting systems; urban heat island mitigation measures; pump retrofits; and other items. It also provides expansion and acceleration of programs to inspect and improve the operating efficiency of heating, ventilation and air-conditioning equipment in new and existing buildings to ensure that these systems achieve the maximum feasible cost-effective energy efficiency.

In addition, the law requires the Energy Commission to update the state's energy efficiency standards and to make recommendations regarding supply and energy conservation measures necessary to ensure adequate supply and conservation in California. The Energy Commission staff currently is preparing draft program guidelines, an overall program operation proposal, and descriptions of how the program elements will be administered (including who will be eligible for grants).

Citation: Cal. Education Code §17651 (1996)
Eligible Sector: Schools
Summary: The law allows school districts to borrow funds from federal or state-regulated financial institutions to be used for design and construction costs of making schools more energy efficient. The amount borrowed by school districts cannot exceed the amount of money that the energy measures will save. Savings and loan associations may make loans in amounts not to exceed 5 percent of their total assets. Utility companies or independent energy audit companies will conduct audits. To determine necessity and success of retrofits, schools will receive pre- and post-audits. These will be performed by investor-owned or municipal utility companies, independent energy auditors or other organizations that are recognized by federal or state-regulated financial institutions.

California law allows school districts to borrow funds for design and construction costs of making schools more energy efficient.

Citation: Cal. Public Resources Code §25410, et seq. (1979)
Eligible Sector: Schools
Summary: The act requires the commission to administer a state energy conservation assistance account to provide grants and loans to local governments and public institutions to maximize energy use savings, including, but not limited to, technical assistance, demonstrations, and identification and implementation of cost-effective energy efficiency measures and programs. The legislature also requires that the commission seek the assistance of utility companies in providing energy audits for local governments and public institutions and in publicizing to qualified entities the availability of state energy conservation assistance account funds. Interested parties must submit applications to the commission, detailing how the costs of the project will be recovered via energy savings. Once approved, the operator of each project must submit an annual report of energy saved. Principal plus interest must be repaid in not more than 22 semiannual payments.

Citation: Cal. Public Resources Code §25619 (West 2000) (In addition, this statute acts to amend §801.5 of the Civil Code, and to add and repeal §25620.10 of, the Public Resources Code, relating to energy programs.)
Eligible Sector: Private
Summary: This law establishes a grant program for purchasers of solar water heating systems, storage for grid-connected solar-electric systems, and distributed electrical generation systems. The Energy Commission currently is developing the guidelines needed to implement this program.

State: Connecticut

Citation: Conn. Gen. Stat. §8-37kk (1995)

Eligible Sector: Private

Summary: The statute requires the Department of Economic and Community Development and the Connecticut Housing Finance Authority to give preference in all its grant and loan programs to loans for energy efficiency projects.

A Connecticut statute requires the commissioner of housing to establish a program of rehabilitation and major repair.

Citation: Conn. Gen. Stat. §8-44a (1989)

Eligible Sector: Private

Summary: This statute requires the commissioner of housing to establish a program of rehabilitation and major repair, including any necessary repair, replacement or installation, to keep residences in sound, habitable and energy-efficient condition. The program applies to existing rental housing projects developed with state financial assistance. After approval by the commissioner, the state may provide assistance in the form of a grant-in-aid, loan, or combination thereof to support construction or repair. To support the fund, the state bond commission is empowered to issue bonds in one or more series, not to exceed $42 million total.

Citation: Conn. Gen. Stat. §8-44a 32-315, et seq. (1989)

Eligible Sector: Private

Summary: This program allows the commissioner of economic and community development to establish an energy conservation revolving loan account. This account will be used to make and guarantee loans or deferred loans to state residents for the purchase and installation of insulation, energy conservation materials, new furnaces and boilers, and similar equipment. Purchases must fit within guidelines created by the Office of Policy and Management. To qualify, applicants must prove that their income does not exceed 150 percent of the median area income by household size. In the case of residential structures containing fewer than four dwelling units, loans amount to at least $400 and at most $15,000 per structure. For buildings with more than four units, loans are at least $2,000 per unit, with a maximum loan of $60,000. Interest rates will reflect the recipient's income.

Loan repayments are made to the state treasurer for deposit into the loan account. Interest on the loans is paid to the general fund. The State Bond Commission will authorize the issuance of bonds up to $23,700, and the proceeds of the sale of bonds will be deposited in the Energy Conservation Loan Fund. Each electric and gas company that has at least

75,000 customers must participate in the implementation of this program, acting as loan guarantors, among other activities.

State: Indiana

Citation: Ind. Code §4-23-5.5-15 (1993)

Eligible Sector: Private, State Agencies, Schools

Summary: The law establishes an energy efficiency loan fund to assist Indiana industries and governing bodies (school corporations, libraries and political subdivisions) to undertake energy efficiency projects. The fund is administered by the Indiana Recycling and Energy Development Board. The Public Facility Energy Efficiency Program is funded through the energy efficiency loan fund for governing bodies. The program offers loans of up to $100,000 at 0 percent interest for up to 100 percent of the actual cost of energy efficiency improvements for new and existing facilities and for technical audits that identify energy efficiency improvements. The repayment term for the technical audit loan is one year. Repayment terms for the energy efficiency improvements loan are tied to the project's energy savings and must have an energy payback of less than 10 years.

Indiana law establishes an energy efficiency loan fund to assist Indiana industries and governing bodies to undertake energy efficiency projects.

State: Iowa

Citation: Iowa Code §473.20 (1986)

Eligible Sector: State Agencies, Schools

Summary: The law allows the Department of Natural Resources to make loans to the state, state agencies, political subdivisions of the state, school districts, area education agencies, community colleges, and nonprofit organizations for implementation of energy conservation measures. These measures must be identified in a comprehensive engineering analysis. Loans shall not be made for energy conservation measures that require more than an average of six to recoup the actual or projected cost of implementing the improvements; and the cost of the engineering plans and specifications. Before approving loans, the department shall require completion of an energy management plan including an energy audit and a comprehensive engineering analysis.

State: Maine

Citation: Me. Rev. Stat. tit. 30-A, §5953-C (1993)

Eligible Sector: State Agencies, Schools

Summary: The law provides loans for energy efficiency improvements in municipal and school buildings. Through the new Efficiency Partners Program, the Maine Municipal

Bond Bank will finance cost-effective improvements to heating and cooling systems, windows, insulation, lighting and equipment. Energy audits by professional engineers are required to identify cost-effective strategies. The bank will request proposals from energy service companies and vendors to provide these services. When proposals are essentially equal, the bank will choose an in-state bidder.

Loans in this program must ensure, to the greatest extent possible, that the cost savings achieved by the energy efficiency improvements are sufficient to cover the loan and earn money as soon as possible. The rate of interest charged for the loans must be below the currently available rate of interest charged on commercial loans of equivalent term and use.

State: Minnesota

Citation: Minn. Stat. §462A.05, Sub. 14b (1995)

Eligible Sector: Private

Summary: The statute empowers the Minnesota Housing Finance Agency to purchase, make or otherwise participate in the making of loans to individuals and families to assist in energy conservation rehabilitation measures for existing housing. The loan, which must be made to the owner of the home, sets no limits on the maximum incomes of the borrowers. Measures that the loans may cover include, but are not limited to, weatherstripping and caulking; chimney construction or improvement; furnace or space heater repair, cleaning or replacement; insulation; storm windows and doors; and structural or other directly related repairs essential for energy conservation. Loans are made only when the agency determines that financing under equivalent terms and conditions is not otherwise available, in whole or in part, from private lenders.

A Minnesota statute requires certain oil overcharge money to be appropriated for projects that directly serve low-income Minnesota residents.

Citation: Minn. Stat. §119A.40 (1998)

Eligible Sector: Private

Summary: This statute requires oil overcharge money that is not otherwise appropriated by law or dedicated by court order to be appropriated to the commissioner for energy conservation for projects that directly serve low-income Minnesota residents. The appropriation is available until spent. Oil overcharge money is received by the state as a result of litigation or settlements of alleged violations of federal petroleum pricing regulations. Half of this money will be used for projects that have been reviewed and recommended by the Legislative Commission on Minnesota Resources. A work plan must be prepared for each

proposed project for review by the commission, which then recommends specific projects to the Legislature.

Citation: 1993 Minn. Laws, Chap. 369, §11, Sub. 6
Eligible Sector: Private
Summary: The law reappropriates $1.6 million of the remaining funds from the Exxon oil overcharge money that was allocated to the Minnesota Housing Finance Agency to provide revolving loan funds for an energy loan program. These loans are available to owners of rental housing. The program is marketed and delivered in coordination with similar services. The remainder of the funding is available for any purpose consistent with the state's energy conservation program.

Citation: Minn. Stat. §216C.37 et seq. (1983)
Eligible Sector: Schools
Summary: The law allows the commissioner of public service to approve loans to municipalities, including school districts, to finance energy conservation investments. The loans may cover all capital expenditures that are associated with conservation measures identified in an energy project study. The cost of these measures must be recouped within 10 years.

Missouri law requires the state treasurer to establish, maintain and administer an energy set-aside program fund.

State: Mississippi

Citation: Miss. Code Ann. §57-39-201 (1984)
Eligible Sector: Schools
Summary: The law allows any public school district in the state to seek and obtain loans from the Department of Economic and Community Development for the purpose of implementing school energy conservation programs.

State: Missouri

Citation: Mo. Rev. Stat. §640.651 to §640.686, et seq. (1995)
Eligible Sector: Private
Summary: The law requires the state treasurer to establish, maintain and administer an energy set-aside program fund. This fund provides loans to small businesses, state agencies, school districts and other energy-using sectors to be used to implement energy conservation projects and reduce their overall energy costs and consumption. The fund provides low-interest loans for design, construction and renovation projects that reduce energy use and operating costs. The loans are repaid from the resulting savings.

The director of the Department of Natural Resources may secure other forms of financial assistance and establish public-private partnerships to further implementation of energy conservation projects.

Citation: Mo. Ann. Stat. §660.100 to §660.136 (Vernon 1997)
Eligible Sector: Private
Summary: The statute creates a state fund to augment the funds available for the low-income weatherization assistance program of the Department of Natural Resources and the Low-Income Home Energy Assistance Program operated by the Department of Social Services. Up to $5 million in state general revenue can be appropriated to this fund each fiscal year.

A North Carolina statute requires the state Housing Finance Agency to approve and administer energy conservation loans for lower income citizens.

State: North Carolina

Citation: N.C. Gen. Stat. §122A-5.3 (1977)
Eligible Sector: Private
Summary: The statute requires the state Housing Finance Agency to approve and administer energy conservation loans for lower income citizens. These loans cover the purchase and installation of materials that result in a significant decrease in energy consumption. Loans cannot exceed $1,200 and no person or family is entitled to more than one loan guarantee. The funds are supported by appropriations from the General Assembly.

State: Ohio

Citation: Ohio Rev. Code Ann. §4928.57 et seq. (Baldwin 1999)
Eligible Sector: Private
Summary: This law establishes an energy efficiency revolving loan fund for investment in various sectors, including low-income and moderate-income housing. The project, administered by the director of development, provides loans at below market rates for energy conversion, solid waste energy conversion, or thermal efficiency improvements. The fund receives support from the following sources: a temporary rider on retail electric service rates, revenues from loan repayments, and payments from municipal utilities. The fund's revenue target does not exceed more than $15 million in any year through 2005, and no more than $5 million in any year after 2005. The rider will expire after 10 years or when the loan fund, including interest, reaches $100 million, whichever is first.

State: Oregon

Citation: Or. Rev. Stat. §469.673 et seq. (1981)
Eligible Sector: Private
Summary: The statute provides low-interest loans for energy conservation. These loans apply to energy conservation measures, including weatherization, for single- and multi-family housing that uses fuel oil, propane, kerosene, or wood for heating. Caulking, weatherstripping and other infiltration protection materials, ceiling, wall and crawlspace insulation; timed thermostats; heating ducts; hot water pipes; dehumidifiers; storm windows; and double-glazed windows are the main weatherization changes that are financed. The dwelling owner's labor is not reimbursed.

The Oregon Energy Office administers these loans and provides a free energy audit, which is required before a loan is awarded. The Energy Office also may inspect finished projects to ensure that state funds were used properly. This incentive cannot be combined with other state incentives. Annual interest rates are not to exceed 6.5 percent annually. Due to administrative costs, the loans have very seldom been used in the residential sector, but they have been used by businesses and school districts. Oregon oil companies fund the program.

An Oregon program provides loans for conservation, renewable energy resources, alternative fuels and recycling.

Citation: Or. Rev. Stat. §470 et seq. (1980)
Eligible Sectors: Private, State Agencies, Schools
Summary: This program provides low-interest, long-term loans for conservation, renewable energy resources (including generation), alternative fuels and recycling. The loans are available to individuals, businesses, nonprofit organizations, tribes, schools, special districts, and local and state governments.

The energy loan program is self-supporting; general obligation bonds are sold to fund the loans. Borrowers repay the full cost of the loans, including program costs. The program makes only fully secured loans. Staff work with other lenders to develop multi-source financing.

To date, the energy loan program has awarded more than 500 loans totaling $285 million. Projects save or produce energy worth $41 million a year. State Energy Office staff provide technical support and review. Loans can include most costs from study through commis-

sioning. Demonstration project loans can finance more than energy measures. Highlights of this program include the following.

- A $1.8 million loan was granted for construction of a small office building in Portland that features the use of recycled and environmentally friendly materials and is at least 25 percent more energy efficient than code requires.
- A grant of $20,546 was made for a solar electric system that provides electricity for a home outside Creswell.
- A grant of $60,500 was made to the Prineville fire department for improvements to the station's heating and lighting systems.
- A grant of $82,000 was made to a farm in Umatilla for a low-pressure irrigation system that saves both energy and water.
- A grant of $293,719 was made for weatherizing an 85-unit apartment building in Portland.
- A grant of $1.9 million was made for a power plant that generates electricity from methane gas at a landfill in Benton County.

Portland, Ore., received a $293,719 grant to weatherize an 85-unit apartment building.

State: Pennsylvania

Citation: Pa. Cons. Stat. Ann. tit. 62, §6.3011 et seq. (1986)

Eligible Sector: Private

Summary: The statute establishes an energy conservation and assistance fund. Grants from this fund will supplement the Pennsylvania Supplemental Low-Income Weatherization Program and the Pennsylvania Supplemental Low-Income Energy Assistance Program. People with annual incomes at or below 150 percent of the federal poverty guidelines are eligible for a grant. The weatherization program is administered by the Department of Community Affairs and the Energy Assistance Program is administered by the Department of Public Welfare. This fund receives its money from the state's share of oil overcharge funds.

State: Rhode Island

Citation: R.I. Gen. Laws §44-38-1 (1956)

Eligible Sector: Private

Summary: The law establishes energy conservation grants for the elderly. An owner or renter—who is age 65 or over and not required to file income tax returns—of a residential dwelling is eligible for an energy conservation grant. This grant can cover insulation, storm or thermal windows and doors, caulking, weatherstripping, timed thermostats, and furnace modifications to increase fuel efficiency. Grants may be used for 50 percent of any money spent to purchase and install energy conservation items. The grant cannot exceed $200.

To apply for a grant, the qualified resident must file an informational tax return with the division of taxation. The division of taxation then will reserve a certain amount of money. To receive payment, the applicant must present a receipt within 60 days for money spent on energy conservation measures.

State: South Carolina

Citation: S.C. Code Ann. §48-52-650

Eligible Sectors: State Agencies, Schools

Summary: Requires the state Energy Office to establish a mechanism for a revolving loan fund for state agencies and political subdivisions, including colleges and universities, to use for energy conservation measures. The loans can be used for insulation; storm windows or doors; caulking or weatherstripping; multiglazed windows or doors; heat absorbing or heat reflective glazed and coated window or door systems, additional modifications that reduce energy consumption; energy control or recovery systems; heating, ventilating or air conditioning system modifications or replacements; replacement or modification of lighting fixtures; cogeneration systems; and any other energy conservation measures that provide long-term operating cost reductions. Repayment may be from the savings in the entity's utility budget.

South Carolina allows state agencies to enter into lease purchase agreements with vendors of energy efficiency products and utility companies.

Allows state agencies to enter into lease purchase agreements for up to a year with vendors of energy efficiency products and utility companies. Proposals must be procured through competitive procurement policies. A governmental unit may enter into guaranteed energy savings contracts for a duration of more than one year with vendors of guaranteed energy savings programs. No funds disclaimer clause—as provided for in Section 11-35-2030—is

required in these contracts. Repayment may be made from savings on the agency utility budget. This means that energy cost savings resulting from implementation of the energy conservation measures may be used to make payments for the energy conservation systems installed pursuant to guaranteed energy savings contracts.

State: Texas

Citation: Tex. Government Code Ann. §2305.32 et seq. (Vernon 1993)

Eligible Sectors: Private, State Agencies, Schools

Summary: The Texas LoanSTAR (Saving Taxes and Resources) Program is a state loan program for energy efficiency retrofits. Projects financed by the program include, but are not limited to, energy efficient lighting systems; high-efficiency heating, ventilation and air conditioning systems; computerized energy management control systems; boiler efficiency improvements; energy recovery systems; and building shell improvements. Eligible applicants include state agencies, institutions of higher education, school districts, small and medium sized businesses, and local governments. At least 85 percent of the loans must be awarded to state agencies, institutions of higher education, public schools or political subdivisions. The Texas State Energy Conservation Office (SECO) administers LoanSTAR. To ensure the success of each project, it is monitored at the specification and construction phases and at project completion. The program's revolving loan mechanism allows borrowers to repay loans through the stream of cost savings generated by the funded projects.

A Texas program's revolving loan mechanism allows borrowers to repay loans through the stream of cost savings generated by the funded projects.

LoanSTAR is legislatively mandated to be funded at a minimum of $95 million. To date, $123 million has been loaned under the program. SECO estimates that energy bill savings by these public institutions have saved Texas taxpayers more than $63 million since the program began. 110 loans to public institutions have generated more than $63 million in documented energy cost savings.

Bonds

This incentive allows bonds to be issued to cover the cost of efficiency upgrades. A bond is a certificate of debt issued by a government or corporation; it guarantees payment of the original investment plus interest by a specified future date. By issuing the bonds described below, funds can be obtained to support energy-efficient purchasing. Although each of the four programs identified below assigns the bond issuing authority to a different entity, the programs support the same kinds of purchasing.

State: Arkansas

Citation: Ark. Stat. Ann. §14-167-201 (1987)

Eligible Sector: Private

Summary: The law allows municipalities or counties to issue bonds to help provide financing for facilities. The money can be used to reduce energy consumption or make use of renewable energy resources. Projects may be carried out in residential, commercial, industrial, and agricultural applications. Successive bond issues may be made to finance the same energy project. These bonds are exempt from all state, county, municipal and school district taxes.

State: Missouri

Arkansas law allows municipalities or counties to issue bonds to help provide financing for facilities.

Citation: Mo. Rev. Stat. §8.8.803 (1993)

Eligible Sectors: Private, State Agencies

Summary: The law allows the Board of Public Buildings or the State Environmental Improvement and Energy Resources Authority to authorize the sale of bonds or other financing arrangements for energy efficiency projects in state buildings. The joint committee on capital improvements approves each project, along with the projected amount of the financing arrangement. In the first three years after a project's completion-if energy savings are more than required to fulfill financing obligations-the energy savings are divided equally between the General Revenue Fund and an Energy Analysis Account. In conjunction with all state agencies, this division of funds establishes the criteria by which the project's savings are determined.

The aforementioned Energy Analysis Account is established and administered by the state treasurer. The Department of Natural Resources uses funds from this account to perform energy analyses of state buildings before efficiency projects are carried out. This account also receives funds from interest and income generated by money in the account, from General Assembly appropriations, and from other sources.

Each year, the Office of Administration and the Department of Natural Resources must file a report to the governor and to the committees on energy and environment in each legislative chamber. These reports analyze the identification of, planning for and implementation of energy efficiency projects in state buildings.

Citation: Mo. Rev. Stat. §8.833 et seq. (1993)
Eligible Sectors: State Agencies, Schools
Summary: The law allows the Board of Public Buildings or the State Environmental Improvement and Energy Resources Authority to authorize the sale of bonds for energy efficiency and retrofitting projects in state buildings. Expenditure of the proceeds from the sale of the bonds also supports efficiency projects. The Office of Administration determines the scope, content and priority of each project, basing priority upon a ranking of the payback period and projected energy savings.

This statute, in contrast with Section 8.803, does not specify how savings are to be treated. However, it notes that legislative appropriations committees are to be advised of the savings for the first two years after completion.

State: Oregon

Connecticut law provides shared savings incentives to agencies that achieve savings through energy conservation.

Citation: Or. Rev. Stat. §470.050 et seq. (1979) (Also Oregon State Constitution, Article XI-J)
Sector: Private
Summary: Under the state Constitution, the state treasurer is allowed to issue general obligation bonds to support Oregon's energy loan program (Revised Statutes 470). The amendment states that " ... the credit of the State of Oregon may be loaned and indebtedness incurred in an amount not to exceed one-half of one percent of the true cash value of all the property in the state for the purpose of creating a fund to be known as the Small Scale Local Energy Project Loan Fund." Secured repayment is required, and the amendment calls for levying of *ad valorem* property taxes to pay for interest and principal of the bonds.

Shared Savings Financing

This incentive establishes various uses for the money saved as a result of installation of energy efficiency measures. The funds may be applied to an agency's budget or be used to finance future efficiency upgrades.

State: Connecticut

Citation: Conn. Gen. Stat. §16a-37c (1990)
Eligible Sector: State Agencies
Summary: The law provides shared savings incentives to agencies that achieve savings through energy conservation. Any state agency can request from the Office of Policy and Manage-

ment a statement of the agency's energy cost savings achieved through conservation measures during the preceding fiscal year. The secretary of the Office of Policy and Management then will allow a portion of the energy savings (at least 50 percent) to be retained by the agency and used for future energy costs or conservation-related activities.

State: Florida

Citation: Fla. Stat. §255.258, et seq. (1991)

Eligible Sector: State Agencies

Summary: The law states that it is Florida's policy to encourage agencies to consider financing energy conservation measures and maintenance services through the use of "shared savings financing." Shared savings finances energy conservation measures and maintenance services through a private firm that may own any purchased equipment for the duration of a contract. The contract cannot exceed 10 years without special permission. The contract specifies that the private firm will be reimbursed using the funds saved from the conservation measures. These shared savings contracts must be developed in accordance with a model contract.

Other Incentives

State: Arizona

Citation: Ariz. Rev. Stat. Ann. §15-910.02 (1999)

Eligible Sector: Schools

Summary: The law allows school district governing boards to make expenditures for employee training, energy consultants, and other contractual arrangements with energy specialists who advise the district and its employees on energy savings, conservation measures or efforts to improve energy efficiency. School districts that participate may include in their budgets an adjustment based on a reduction of excess utility costs following implementation. Before the budget adjustment, energy cost savings will be certified and verified by the governing board and an independent audit.

Arkansas law requires that utilities regulated by the Public Service Commission engage in energy conservation practices and programs.

State: Arkansas

Citation: Ark. Stat. Ann. §748 (1977)

Sector: Private

Summary: The law requires that utilities regulated by the Public Service Commission engage in energy conservation practices and programs. It authorizes the Public Service Com-

mission to require and monitor energy efficiency measures that utility companies undertake.

Citation: Ark. Stat. Ann. §962 (1997)
Eligible Sector: Schools
Summary: The act authorizes school districts to issue postdated warrants and enter into installment contracts or lease purchase agreements for the purchase of energy conservation measures. These measures must be paid for within 10 years.

State: Hawaii

Citation: Hawaii Rev. Stat. §36-41 (1946)
Eligible Sector: State Agencies

Hawaii law requires all state agencies to retrofit buildings to save energy.

Summary: The law requires all state agencies to retrofit buildings to save energy. Provides that all cost savings from retrofits shall be returned to the retrofitting agency. All agencies shall evaluate and identify for implementation energy efficiency retrofitting through performance contracting. Agencies that perform energy efficiency retrofitting may continue to receive budget appropriations for energy expenditures at an amount that will not fall below the pre-retrofitting energy budget but will rise in proportion to any increase in the agency's overall budget for the duration of the performance contract or project payment term.

State: Oregon

Citation: Or. Laws 1999, Chapter 865
Eligible Sector: Schools
Summary: Oregon's deregulation bill requires that 10 percent of public purpose funds collected go to schools for energy conservation investments. The state Office of Energy helps ensure that funds are used for effective conservation measures. Audits are required before measures are funded.

State: Washington

Citation: Wash. Rev. Code §39.35C.020 (1996)
Eligible Sectors: State Agencies, Schools
Summary: Although this legislation does not represent an incentive *per se*, it requires the state Department of General Administration to provide thorough technical assistance for state agencies and school districts as they implement and maintain mandated cost- effective conservation improvements.

State Legislative Reports

"Trends in Postsecondary Remedial Education Policy" (Vol. 25, No. 8) (ISBN 1-58024-114-X)	July 2000
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State Green Buildings Mandates

August 23, 2007

California

On December 14, 2005 Executive Order S-20-04 was signed, creating a Green Building Action Plan to improve the energy performance of all state buildings and reduce grid-based energy usage in state buildings by 20% of 2003 levels by 2015. Under this order, all new and renovated buildings must be rated to at least the "Silver" level of LEED* standards. Agencies are also required to seek out office space leases in buildings with the ENERGY STAR rating for spaces of 5,000 square feet or more, to identify the most appropriate ways of achieving energy efficiency in their buildings, and to purchase ENERGY STAR products when cost effective.

Connecticut

HB 7432, enacted in 2007 creates a new state building construction standard applicable to all state buildings depending on renovation costs. The standard must meet or exceed LEED silver standard or 2 globes under the green globes standard. The standard applies to:

- Any new construction of a state facility that is projected to cost $5 million or more, of which two million dollars or more is state funding, and is approved and funded on or after January 1, 2008.
- Renovation of a state facility that is projected to cost two million dollars or more, of which two million dollars or more is state funding, approved and funded on or after January 1, 2008.
- New construction of a facility that is projected to cost five million dollars, or more, of which two million dollars or more is state funding, and is authorized by the General Assembly on or after January 1, 2009.
- Renovation of a public school facility that is projected to cost two million dollars or more, of which two million dollars or more is state funding, and is authorized by the General Assembly on or after January 1, 2009.
-

Florida

Executive order 07-126, signed in July 2007, directs the Department of Management Services to adopt the US Green Building Council's Leadership in Energy and Environmental Design for New Construction (LEED*-NC) for all new buildings, and to strive for Platinum Level certification. The Department of Management Services must also renovate all existing buildings they own and operate on behalf of client agencies to earn certification under LEED for Existing Buildings (EB).

Hawaii

Signed by the governor in 2006, HRS §196 requires each state agency to meet, ***to the extent possible***, LEED Silver standards, two globes for the green globes standards, or other similar standards.

Maine

On November 23, 2003, an Executive Order was signed requiring state buildings owned or operated by any state agency, board, office, commission, or department, including institutions of higher learning, to incorporate Leadership in Energy and Environmental Design (LEED*) standards into the design, construction, operation, and maintenance of any new, expanded, or existing building, ***provided it is cost-effective***.

Massachusetts

In 2007, the Executive Order 484 was signed, instructing all agencies involved in the construction and major renovation projects of over 20,000 square feet to meet LEED* certification and energy performance 20% better than required by the Massachusetts Energy Code by 2012 and 35% by 2020.

Nevada

In addition, the state energy office must adopt guidelines establishing Green Building Standards for all occupied public buildings whose construction will be sponsored or financed by the State or a local government. This includes adopting a Green Building Rating System, such as the Leadership in Energy and Environmental Design (LEED*) Green Building Rating System or its equivalent. Effective July 1st, 2007, each occupied public building whose construction will be sponsored or financed by the state must, when completed, meet the requirements to be certified at or meet the equivalent of the base level or higher in accordance with the LEED System, or an equivalent standard. Buildings financed by a local government are not required to meet the efficiency standards.

Tax incentives for green buildings have been quite successful--As of June 2007, nearly 63 million square feet of development space in Nevada had applied for LEED certification. Green buildings, depending on their level of attainment according to the LEED system, receive property tax rebates from 25 - 35 percent for up to 10 years.

New Jersey

On July 29th, 2002, New Jersey's governor signed Executive Order #24, requiring all new school designs to incorporate LEED Version 2.0 guidelines to achieve maximum energy efficiency and environmental sustainability in school facilities.

New Mexico

In 2006, Exective Order 2006-001 was signed, calling for all Executive Branch state agencies, including the Higher Education Department, to adopt the US Green Buildings Council's LEED* rating system. New construction of public buildings over 15,000 square feet or using over 50 kW peak electrical demand and renovations involving the replacement of more than 3 major systems (HVAC, lighting, etc.) must achieve a minimum rating of LEED "Silver". Projects between 5,000 and 15,000 square feet must achieve a minimum delivered energy performance standard of one half of the US energy consumption for that building type as defined by the US Department of Energy

Rhode Island

Executive Order 05-14, signed in 2005, requires any new, substantially expanded, or renovated building owned by the state, and state agencies, departments, offices, boards, commissions, and institutions of higher learning to meet Leadership in Energy and Environmental Design (LEED*) design, construction, operation, and maintenance standards. Buildings must be designed to qualify for LEED "Silver" certification.

South Carolina

SC enacted HB 3034 in June which requires All major facility projects in this State to be designed, constructed, and at least certified as receiving two globes using the Green Globes Rating System or receiving the LEED Silver standard.

Washington

A 2005 law (Wash. Rev. Code §§39.1-11) requires public buildings to be built using the high-performance green LEED Silver standards. The law applies to public facility projects funded by the capital budget, including public agencies and public school districts, and requires the facilities to document their operational savings. A main difference between the 2005 law and the 2005 order is the definition of major projects: the executive order includes projects over 25,000 gross square feet, whereas the bill includes projects larger than 5,000 gross square feet. Approximately 25 buildings that will meet the new standards are under construction and renovation—data on costs and energy saving will not be available until 2009. To assist builders in meeting requirements, the state offer a free build LEED training for public

project contractors and an integrated design workshop to identify LEED points as the project gets going. Affordable housing will also be covered by energy efficient building requirements beginning on July 1, 2008.

Washington's recently updated Energy Code establishes performance requirements for all newly constructed buildings. In addition, a lifecycle energy cost analysis must be performed on public buildings undergoing new construction or major remodels, with the goal of achieving lowest possible energy costs.

Source: NCSL and the North Carolina Database for Energy Incentives and Energy Efficiency , www.dsireusa.org.

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Energy Efficiency Funds

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Alabama

The Alabama Local Government Energy Loan Program, established in 1997, offers no-interest loans (which can be raised as high as to 5%) to small rural government agencies including schools for energy-efficiency equipment and building upgrades. The Fund has an endowment of $2 million per year. The maximum loan size is $150,000 per project and $300,000 per school system. In order to qualify for these loans, the facility must be in a town of no more than 20,000 people or a county with no more than 50,000 people.

Click here for more information. http://216.226.178.189/C3/Local%20Government%20Energy%20Loan%20P/default.aspx

The Alabama STAR (Savings Through Analysis and Retrofits) Program, established in 1997, provides prevailing interest-rate loans for energy-efficiency improvements to tax-exempt, public and non-profit schools. Eligible improvements include lighting retrofits, HVAC equipment, load management devices and sewage and water systems improvements, among other measures. The fund has an endowment of $4.6 million per year. Individual loans cannot exceed $2 million.

Click here for more information.
http://www.energyideas.uah.edu/alabama_starprog.html

Arizona

The Arizona Municipal Energy Management Program awards grants to encourage and assist in the development and implementation of energy management programs by helping with planning and providing the necessary basic tools, staff training and technical assistance. Arizona cities, towns, counties, improvement districts, and Indian tribes with populations under 70,000 are eligible. The Energy Office in the Arizona Department of Commerce funds these grants.

Click here for more information.
http://www.commerce.state.az.us/Energy/default.asp

The Arizona Energy Conservation Savings Reinvestment Plan for the City of Phoenix, started in 1984, provides secure and long-term loans for energy-efficiency initiatives under the Energy Management Program. Under this plan, 50 percent of all documented energy savings (up to $750,000) must be reinvested in further efficiency improvements. All municipal departments in Phoenix are eligible. Eligible projects include upgrading lighting, motors and chillers, among other upgrades.

Click here for more information. http://www.iclei.org/index.php?id=1677&0=

California

California's Energy Efficiency Financing Program offers loans to public schools, public hospitals, cities, counties, special districts, and public care institutions (public only). Eligible projects are those with proven energy savings, such as lighting and HVAC efficiency improvements. The Program has a $40 million endowment, with a maximum loan of $3 million per application. There is no minimum loan amount. The projects must be technically or economically feasible and must have a simple payback of 9.8 years or less, based on energy savings. Additionally, the Energy Commission provides technical assistance to help customers identify ways to save energy costs and to encourage the most efficient use of energy in their facilities. The majority of these programs are for public agencies. The Bright Schools Program helps public K-12 school districts and non-profit schools reduce energy costs in their facilities. The Energy Partnership Program targets the same entities as the loan program does and also nonprofit schools, hospitals, colleges and public care facilities. Both the Bright Schools and Energy Partnership Programs pays a portion of the consultant's cost associated with preparing a report—often this cost is sufficient to analyze one or more facilities.

Click here for more information.
http://www.energy.ca.gov/efficiency/public_programs.html

Colorado

A bill signed in February of 2006 mandates that a portion of the severance tax trust fund be used to provide energy-related assistance to low-income households through bill pay assistance and home energy-efficiency improvements, and appropriates money for the next four fiscal years for this purpose.

Idaho

The Idaho Energy Conservation Loan Program, started in 1987, provides loans for energy conservation measures and the promotion of renewable resources. The Program was originally funded by the settlements Idaho received from Exxon and Stripper Well. Its endowment is $5,015,000, and individual loans are capped at $10,000 for residential projects and $100,000 for commercial, governmental, agricultural and school, hospital or health care facility projects, and all projects must have a payback period of no more than ten years from energy savings.

Click here for more information. http://www.idwr.state.id.us/

Indiana

The Indiana Industrial Energy Efficiency Fund, founded in 1994, offers no-interest loans to manufacturers so that they can replace or convert their existing equipment to improve energy efficiency or for the purchase of new energy-efficient equipment. The loans finance 50% of the projects, up to $250,000.

Click here for more information. http://www.iedc.in.gov/index.asp

Maryland

The Maryland Community Energy Loan Program, founded in 1989, offers loans to

nonprofits and local governments, including private and public schools for expenses associated with the identification and implementation of energy-efficiency improvements. Eligible projects will have a payback of no more than seven years. The Fund's endowment is $3.2 million, and originally came from the Oil Overcharge Fund. The loans range from $30,000 to $400,000.

Click here for more information.
http://www.energy.state.md.us/programs/government/communityenergyloan.htm

The Maryland State Agency Loan Program, found in 1991, provides no-interest loans to state agencies for energy-efficiency improvements. The maximum payback period for eligible projects is ten years, and the maximum loan is $600,000.

Click here for more information.
http://www.energy.state.md.us/programs/government/stateagencyloan.htm

Mississippi

The Mississippi Energy Investment Loan Program, founded in 1989, provides loans at 3% below the prevailing Prime Interest rate to individuals, partnerships and corporations for retrofit projects or for the design and development of innovative energy conservation processes. The Program's endowment is $6 million and the size of its loans range from $15,000 to $300,000. The maximum payback period is ten years for eligible projects.

Click here for more information.
http://www.mississippi.org/programs/energy/comm_ind_efficiency.htm

Missouri

Missouri's Energy Loan Program, founded in 1990, offers below-market interest rate loans to schools and local governments for energy conservation projects. The loans range from $5,000 to $2 million.

Click here for more information. http://www.dnr.state.mo.us/

Montana

The Montana State Buildings Energy Conservation Program, founded in 1989, offers loans to state agencies for the identification and implementation of cost-effective energy-efficiency improvements. The program is funded through the sale of general obligation bonds. Eligible programs must have a ten year payback period. There is no maximum loan size.

Click here for more information.
http://www.deq.state.mt.us/Energy/buildings/StateBuildings.asp

Nebraska

Nebraska's Dollar and Energy Saving Loan Program offers low-interest financing for many typical home, building or system energy improvements. Financing is also available for other types of efficiency improvements, such as alternate fuel vehicle or fueling facility, telecommunications equipment or waste minimization. The program's endowment is $23 million, and the loan size ranges from $35,000 to $175,000 depending on the type of project.

Click here for more information.
http://www.neo.state.ne.us/loan/index.html

New Hampshire

The New Hampshire Building Energy Conservation Initiative was created in 1999 and will run through 2019. It offers 3.85% interest rate loans to state agencies for the construction and implementation of energy-efficient building improvements. The endowment is $25 million and the payback period is ten years.

Click here for more information. http://nh.gov/oep/programs/energy/beci.htm

New York

The New York Energy Smart Loan Fund will offer loans with an interest rate reduction of up to 4% off normal interest rates through June 30, 2006 for facilities installing energy-efficiency improvements and/or renewable technologies. Residential, multifamily (i.e. apartment buildings) and commercial loans are all available. The size of the loan varies depending on the type of loan.

Click here for more information. http://www.nyserda.org/loanfund/default.asp

Oklahoma

The Oklahoma Community Energy Education Municipal Program, founded in 1995, offers low-interest loans to counties, cities and towns in Oklahoma for energy-efficiency improvements. The endowment is $1 million and loans generally do not exceed $150,000.

Click here for more information. http://www.okcommerce.gov/index.php?option=content&task=view&id=286&Itemid=95#3

The Oklahoma Energy Loan Fund for Schools, founded in 1998, offers low-interest loans to K-12 schools for energy-efficiency improvements. The endowment is $1 million, and the maximum loan is $100,000. The payback period for eligible projects ranges from 18 months to seven years.

Click here for more information. http://www.okcommerce.gov/index.php?option=content&task=view&id=286&Itemid=362#4

Oregon

The Oregon Energy Loan Program, created in 1979, offers low-interest, fixed rate loans to individuals, schools, cities, counties, special districts, state and federal agencies, public corporations, cooperatives, tribes and non-profits for energy conservation, renewable energy, alternative fuels or recycled product production. The Program is funded through Oregon general obligation bonds, and offers loans ranging from $20,000 to $11 million. The payback period for eligible projects ranges from five to 15 years.

Click here for more information.
http://egov.oregon.gov/ENERGY/LOANS/index.shtml

Pennsylvania

The Pennsylvania Sustainable Energy Funds, established in 2000, offer loans for programs that promote energy-efficiency and conservation or renewable/clean energy. There are four funds, established after deregulation, and each one run by one of the State's four major utilities (GPU Energy, PECO Energy, PP&L and Allegheny Power/West Penn Power Company. Combined, the four funds have an

endowment of approximately $83.5 million.

Click here for more information.
http://www.puc.state.pa.us/electric/greenclean/Green_Clean.htm#Sustainable%20Energy%20Funds

South Carolina

The South Carolina Conserfund Loan Program offers 5% maximum interest rate loans to state and local governments, schools and colleges, hospitals and other nonprofit organizations for energy-efficiency improvements. The Program's endowment comes from the Stripper Well Settlement funds. The loans range from $25,000 to $500,000. The payback period for eligible programs can be as large as ten years.

Click here for more information.
http://www.state.sc.us/energy/Public/conserfund.htm

Tennessee

The Tennessee Local Government Loan Program, started in 1991, offers 3% interest rate loans to local government agencies including public school systems for energy-efficiency improvements. The endowment is provided by the Petroleum Violation Escrow fund. Loans up to $500,000 are offered. The maximum payback period for eligible programs is seven years.

The Tennessee Small Business Energy Loan Program, founded in 1988, offers 3% interest rate loans to small businesses (less than 300 employees or less than 3.5 million dollars in annual gross sales or receipts) for energy-efficiency upgrades in their buildings, plants and manufacturing processes. The endowment is provided by the Petroleum Violation Escrow fund. Loans up to $100,000 are offered. The maximum payback period for eligible programs is seven years.

Click here for more information. http://www.state.tn.us/ecd/energy_loans.htm

Texas

The Texas LoanSTAR Revolving Loan Program, founded in 1989, offers loans to state agencies, institutions of higher learning, school districts and local governments for energy-efficiency retrofits. The fund endowment is $98 million and comes from the 1976 oil overcharge funds. Loans from $10,000 to $5 million are offered. The maximum payback period is ten years.

Click here for more information. http://www.seco.cpa.state.tx.us/ls.htm

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Appliance Standards

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Arizona

Arizona passed energy efficiency standards for twelve appliances and supplies, including four that must meet the California standards, on April 25, 2005. The standards take effect January 1, 2008.

Click here for more information.
http://www.azleg.state.az.us/DocumentsForBill.asp?Bill_Number=2390

California

California passed legislation in 2002 creating energy efficiency standards for 11 different products. The California Energy Commission established energy efficiency standards for 19 other products on December 15, 2004. The new standards will take effect in January, 2006 and will apply to a wide range of appliances including hot tubs, external power supplies, swimming pool pumps, and general service incandescent light bulbs.

Click here for more information.
http://www.energy.ca.gov/appliances/index.html

Connecticut

In May 2004, Connecticut passed legislation establishing minimum energy efficiency standards for eight products. More information.

Hawaii

Although there are currently no state energy-efficiency appliance standards in Hawaii, the state government does require the use of energy-efficient appliances and equipment in state facilities.

Click here for more information.
http://www.capitol.hawaii.gov/hrscurrent/Vol03_Ch0121-0200D/HRS0196/HRS_0196-0011.htm

Maryland

In January 2004, a bill regulating energy efficiency standards for appliances was enacted. Both the Maryland Senate and the House of Delegates voted to override Governor Ehrlich's (R) veto of the bill. The law establishes minimum energy efficiency standards for nine types of appliances, including ceiling fans and commercial clothes washers.

Click here for more information.
http://mlis.state.md.us/2003rs/billfile/hb0747.htm

Massachusetts

Massachusetts has established minimum energy-efficiency appliance standards for five appliances.

Click here for more information.
http://www.mass.gov/legis/laws/mgl/25b-1.htm

Minnesota

Minnesota has established minimum energy-efficiency standards for commercial heating, air conditioning, and ventilating equipment, motors, and fluorescent lamp ballasts.

Click here for more information.
http://www.revisor.leg.state.mn.us/arule/7676/

New Jersey

New Jersey passed legislation in March 2005 which sets energy efficiency standards on eight appliances.

Click here for more information.
http://www.njleg.state.nj.us/2004/Bills/PL05/42_.HTM

New York

A bill passed in July of 2005 sets minimum energy-efficiency standards for thirteen appliances.
Click here for more information.

Oregon

A law passed in July, 2005 establishing energy efficiency standards for eleven products, starting January, 2006.

Click here for more information.
http://www.leg.state.or.us/05reg/measures/hb3300.dir/hb3363.en.html

Rhode Island

A law passed in June, 2005 establishing minimum energy efficiency standards for thirteen appliances.

Click here for more information.
http://www.rilin.state.ri.us/Billtext/BillText05/HouseText05/H5307B.pdf

Washington

In May, 2005 Washington passed legislation creating state energy efficiency standards for twelve appliances, including commercial clothes washers and commercial refrigerators and freezers.

Click here for more information.
http://www.leg.wa.gov/wsladm/billinfo1/dspBillSummary.cfm?billnumber=1062

Analysis of the financial, energy and water benefits of these standards in Washington is provided in Section II of the following report:
http://www.cted.wa.gov/_cted/documents/ID_1872_Publications.pdf.

Legislation passed in April 2006 set minimum efficiency standards for eight additional types of commercial appliances, heating/cooling and lighting equipment sold within the state.

Click here for more information. http://apps.leg.wa.gov/billinfo/summary.aspx?bill=6840&year=2006

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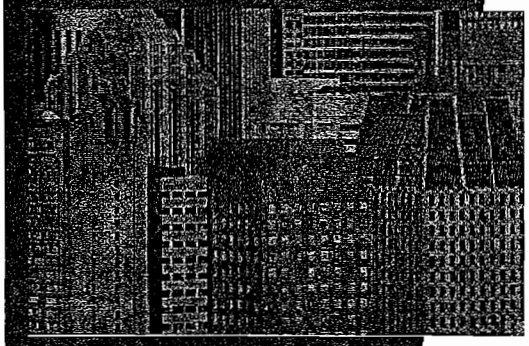

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Building Operator Energy Efficiency Ideas

For building operators, the bottom line often is the cost of energy. Energy efficiency investments pay for themselves. There are numerous opportunities that generally involve maintenance and operation rather than more long-term capital investments that can save energy and dollars. Here is a sampling of suggestions for reducing energy use that building operators can do.

General

Track your energy use. Analyze your energy bills for the past year, looking for patterns. This information will help you see the results of energy-saving efforts and alert you to developing problems that could be costly. Encourage employees to be energy conscious. Consider offering a small reward or other incentives for employees who save the most energy.

Lighting

- Eliminate unneeded lights. Many offices are over-lighted. You may be able to turn off up to half of overhead lights without a problem. Don't run desk lights and task lights in addition to overhead lights.
- Replace incandescent task lights (desk lamps) with compact fluorescent lamps.
- Compact fluorescent lamps use one fourth as much energy and last ten times longer.
- Change out incandescent exit lights with 3-7 watt LED exit lights. These lights last up to 25 years, reducing maintenance costs.
- Motion sensors, timers, and other simple lighting controls can turn lights on and off according to occupancy and time of day.
- Make sure photocells (light sensors that turn on electric lights after dark) are clean.
- Increase use of available daylighting. It is not only the healthiest but also the cheapest source of lighting.
- If a janitorial service comes in after hours, request that they only use lights in areas they are cleaning. Have them turn all lights off when they are finished for the night.

Heating and Cooling

- Schedule HVAC tune-ups once or twice a year. Clean coils, check and correct refrigerant charge, clean and lubricate the fan motor, check for proper airflow, adjust the pulley settings and fan belts, replace air handling unit filters, and do routine checks to ensure proper performance.
- When the building is unoccupied, make sure outside air dampers are closed. This includes morning warm-up periods.
- During occupied hours, make sure the amount of outside air matches load. Adding CO_2 monitors, coupled with outside air controls, will only allow as much outside air as is necessary to enter the building in the heating season.