January 2, 2008

Michael E. Marshall, Secretary of the Senate
Mark Brandsgard, Chief Clerk of the House
Statehouse
L O C A L

Dear Mr. Marshall and Mr. Brandsgard:

The Iowa General Assembly passed HF 918 during the 2007 Legislative Session. This bill directed the Iowa Utilities Board to conduct two studies: (1) a study to determine the status and effectiveness of all gas and electric utilities' energy efficiency plans and programs and (2) a survey of consumer knowledge of energy use and energy efficiency.

Attached is the Iowa Utilities Board's report on both studies.

Sincerely,

/s/

John R. Norris
Chairman

The Status of Energy Efficiency Programs in Iowa

and

The 2007 Iowa Residential Energy Survey

Report to the Iowa General Assembly

January 1, 2008

IOWA UTILITIES BOARD

John R. Norris, Chairman
Krista K. Tanner
Darrell Hanson

TABLE OF CONTENTS

EXECUTIVE SUMMARY

During the 2007 Legislative Session, the Iowa General Assembly passed HF 918, which directed the Iowa Utilities Board (IUB) to conduct two studies: (1) a study to determine the status and effectiveness of all gas and electric utilities' energy efficiency plans and programs and (2) a survey of consumer knowledge of energy use and energy efficiency.

1. Report on the Status of Energy Efficiency Programs in Iowa

On June 19, 2007, the Board initiated a formal inquiry that directed all utilities in Iowa to provide information on their energy efficiency programs and results for calendar year 2006. Following are key findings from the utility reporting:

Investor-Owned Utilities - Alliant, Aquila, Atmos Energy, and MidAmerican

- Investor-owned utilities (IOUs) provide 75 percent of electricity sold in Iowa.
- IOUs report substantially increased energy savings over the past six years, with the most notable improvements in 2004 through 2006.
- In 2006 investor-owned utilities achieved new or incremental savings of 0.8 percent of retail electricity and natural gas sales. Electric efficiency and load management programs have also achieved savings of peak electric use equivalent to 1,000 megawatts of peaking plant capacity.
- In 2006 IOUs achieved cumulative or ongoing savings of 5.9 percent of retail sales.
- In 2006 investor-owned utilities spent 3.36 percent of electric revenues and 2.80 percent of gas revenues on energy efficiency.
- By statute, cost effectiveness is the overriding goal of energy efficiency programs. The investor-owned utilities achieved a benefit/cost ratio of 2.13, which means that more than $2 of benefits are received for every $1 spent on energy efficiency.
- Compared with a comprehensive national-level study of energy efficiency best practices, Iowa IOU plans and programs address all 16 of the recommended program areas; one or two areas are being developed via test projects, but many have been in effect for as long as ten years.
- There is no reliable national data on energy efficiency savings results, which prevents quantitative benchmarking of Iowa energy efficiency results against other states. This is why most rankings are based on spending rather than results.
- Iowa's investor-owned utilities ranked among the top ten states for planned per capita spending for energy efficiency, according to the Consortium for Energy Efficiency
    - Energy efficiency and load management (#1)
    - Electric energy efficiency (#9)
    - Natural gas energy efficiency (#2)
    - Load management (#1)

Municipal Electric Utilities (136 utilities)

- Municipal utilities provide 12.5 percent of total electricity sold in Iowa.
- In 2006 municipal electric utilities achieved new or incremental savings of .15 percent of retail electricity sales.
- In 2006 municipal electric utilities spent 1.0 percent of electric revenues on energy efficiency.

Municipal Natural Gas Utilities (48 utilities)

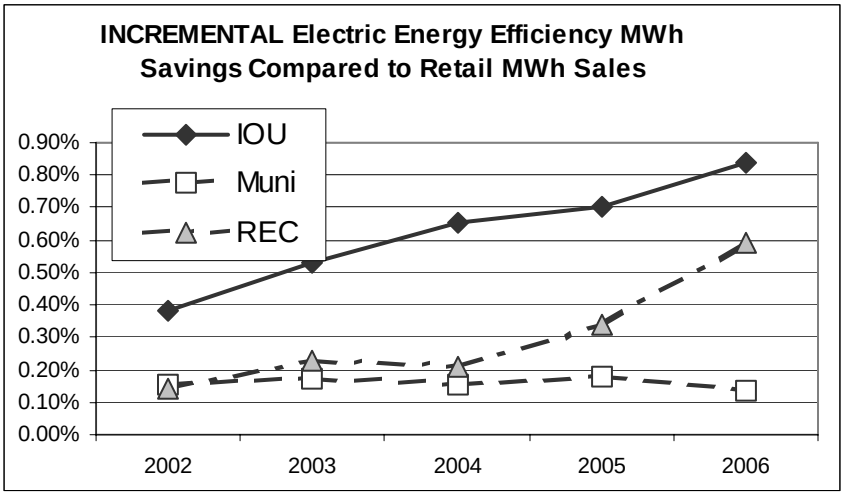
- In 2006 municipal natural gas utilities achieved new or incremental savings of 0.18 percent of retail sales.
- In 2006 municipal natural gas utilities spent 0.3 percent of natural gas revenues on energy efficiency.

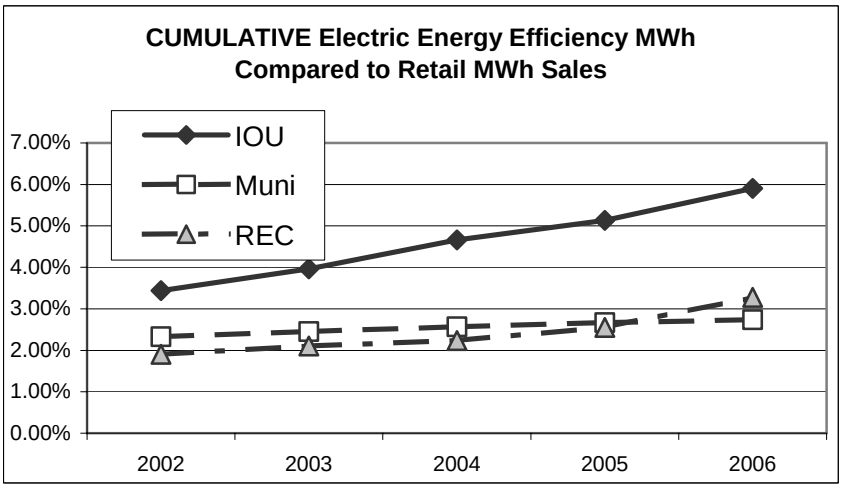
Rural Electric Cooperatives (45 utilities)

- Rural electric cooperatives provide 11.7 percent of total electricity sold in Iowa.
- In 2006 electric cooperatives achieved new or incremental savings of about 0.6 percent of retail sales.
- In 2006 electric cooperatives achieved cumulative or ongoing savings of 3.47 percent of retail sales.
- In 2006 electric cooperatives spent 2.7 percent of revenues on energy efficiency.
- Rural electric cooperatives have tripled energy savings from their energy efficiency programs between 2004 and 2006.

General Conclusion

Investor-owned utilities have achieved better results than the electric cooperatives and municipals, in terms of both incremental electrical and natural gas energy savings and cumulative energy savings. The IUB has required the investor-owned utilities to spend more on energy efficiency and they have achieved more. For every dollar they spend, they receive over $2 of energy benefits.





2. Report on the 2007 Iowa Residential Energy Survey

The IUB worked with the Iowa Energy Center and the Center for Social and Behavioral Research at the University of Northern Iowa to develop and conduct the survey. Conclusions:

- Respondents view global climate change as a serious issue and believe strong action is needed to combat the changes.
- Knowledge about energy efficiency and conservation is moderate but generally accurate.
- Television and print media are viewed as the most effective communication sources for energy information.
- Utility providers are viewed as the most credible source of energy information.
- Attitudes and behaviors vary across subgroups. Additional efforts may be needed to increase environmental attitudes and behaviors among males, those with lower educational attainment, and those with lower household incomes.

3. Recommendations and Action Items

Based on the Report on the Status of Energy Efficiency Programs in Iowa in 2006 and the 2007 Iowa Residential Energy Survey, the Iowa Utilities Board is recommending the following actions, some of which may require new statutory authority:

A. The IUB recommends that the Legislature establish goals for energy efficiency performance that apply to all Iowa energy utilities and extend to all Iowa utilities the requirement to comply with the same IUB approval process for energy efficiency plans that has been effective with the investor-owned utilities, modified (if necessary) to reflect unique features of various utilities.

B. The IUB will direct investor-owned utilities to analyze the feasibility and effects of increasing energy savings from 0.8 percent in 2006 to 1.5 percent of annual utility retail energy sales by 2012, as suggested by the 2007 Energy Efficiency Study Committee. The investor-owned utilities will include this information in their energy efficiency plans that will be filed this spring.

C. The IUB will require IOUs to estimate in their energy efficiency plans the effects of potential carbon dioxide emission standards on future avoided costs, which are used to determine the cost-effectiveness of IOU energy efficiency programs and plans.

D. The IUB will work with all utilities to research and consider implementing shared energy efficiency programs to achieve economies of scale and broader availability.

E. The IUB will work with all Iowa utilities to research and consider implementing a statewide energy education and marketing program. The 2007 Iowa Residential Energy Survey indicates that Iowans' knowledge of energy efficiency and energy efficient measures is moderate. It also found that Iowans view their utility as the best source of energy information on these issues.

F. The IUB will research the feasibility of increased funding for low-income weatherization in both rate-regulated and nonrate-regulated utilities' energy efficiency plans.

G. The IUB will work with stakeholders to research and consider the feasibility of funding for energy efficiency through loan guarantees, grants to secure loans, or other sources of capital. The 2007 Iowa Residential Energy Survey found that almost a quarter of respondents had completed a home energy audit. Home insulation was offered most frequently as the change that was recommended but not made and cost was most frequently mentioned as the reason that audit recommendations were not followed.

PART I. INTRODUCTION

During the 2007 Legislative Session, the Iowa General Assembly passed House File 918 (HF 918), which established the Office of Energy Independence and the Iowa Power Fund. In addition, HF 918 directed the Iowa Utilities Board (IUB) to conduct two studies: (1) a study to determine the status and effectiveness of all gas and electric utilities' energy efficiency plans and programs and (2) a study to survey consumer knowledge of energy use and energy efficiency. Both studies are due to the General Assembly by January 1, 2008. A discussion of each follows.

1. Docket No. NOI-07-2: Inquiry into the Status of Energy Efficiency Programs in Iowa.

There was much study and discussion of energy efficiency during the 2007 Legislative Session. A wide variety of topics were explored including: current programs being conducted by the investor-owned utilities (IOUs), the municipal utilities (Munis) and rural electric cooperatives (RECs); the costs and savings of these programs; possible new levels of efficiency; administrative and marketing efficiencies; and best practices. After hours of testimony and discussion, it was decided that the Iowa Utilities Board would put together the most up-to-date information to determine the level and effectiveness of current programs as a benchmark for future discussion. The Legislature directed:

> 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.

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 interested persons to seek comment. Comments were received from all utility groups and the Office of Consumer Advocate (OCA).

On June 19, 2007, the Board initiated a formal inquiry that directed all utilities in Iowa to provide information on their energy efficiency program activities and results for the calendar year 2006. A letter, sent to each utility in the state, included a list of data requirements and forms for data responses. Responses were required to be provided by July 27, 2007. One of the utility associations requested and received an extension until August 17, 2007.

2. 2007 Iowa Residential Energy Survey

During the 2007 Legislative Session, the Legislature directed the Utilities Board to survey Iowans on their knowledge of energy use and energy efficiency. This information would be used to increase consumer knowledge and enthusiasm to use less energy in a more efficient manner.

> Sec. 17. ENERGY EFFICIENCY STUDIES – IOWA UTILITIES BOARD.
>
> 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.

The IUB worked with the Iowa Energy Center to obtain the services of the Center for Social and Behavioral Research at the University of Northern Iowa to develop and conduct the survey. The survey was funded by the Iowa Energy Center.

Random survey participants were interviewed by telephone from September 10, 2007, to October 24, 2007. Twelve hundred Iowans completed the interviews, which lasted approximately 25 minutes. Every Iowa county was represented in the survey.

The survey found, among other things: 1) About one-fourth of respondents reported having had an energy audit in their home; 2) almost half of respondents reported they use compact fluorescent light bulbs extensively; and 3) about half of respondents considered cost to be a significant obstacle to adopting additional energy conservation measures in their home.

PART II. Energy Efficiency Programs in Iowa

Iowa Utilities Board jurisdiction

The Iowa Utilities Board is charged with responsibility for energy efficiency plans and programs of Iowa utilities. Investor-owned utilities conduct energy efficiency programs under plans that are reviewed and approved by the IUB. Municipal utilities and rural electric cooperatives file energy efficiency plans with the IUB. Energy efficiency plans in Iowa address both electric and natural gas use through a variety of programs that attempt to give all customers opportunities to participate.

The energy efficiency plans of Iowa's utilities target three key areas:

1. Electric energy savings, measured in megawatt-hours or MWh, which help utilities reduce the use of coal or natural gas

2. Electric peak demand savings, measured in peak megawatts or MW, which avoid new "peaking" plants that use natural gas during summer peak periods.

3. Natural gas savings, measured in thousand cubic feet or Mcf. Natural gas heats Iowans' homes and businesses and provides the fuel for new bio-based industries.

Statutory requirements for IOU energy efficiency plans

1. Plans must be cost-effective. Four benefit-cost tests are 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.

2. Plans must include programs for all types of customers.

3. Plans must include an analysis of potential for energy efficiency and must include performance standards in terms of energy and capacity savings.

4. The IOU recovers costs through an automatic rate pass-through, reconciled annually to prevent over recovery or under recovery.

5. The IUB is authorized to conduct prudence reviews of IOU energy efficiency, with authority to disallow imprudent costs.

Process for approval of IOU energy efficiency plans

Currently, each IOU develops its own energy efficiency plan for approval by the IUB. Part of the planning is done cooperatively with the other utilities. New energy efficiency plans are developed in five-year cycles. The IOUs are now in the planning phase for new energy efficiency plans that will be effective in 2009. During this planning phase the utility:

1. Develops a forecast or projection of its customers' future use of electricity and natural gas with a 20-year time frame for electricity and a 5-year time frame for natural gas.

2. Projects electricity and natural gas capacity surplus and shortfalls.

3. Identifies future supply options and costs.

4. Identifies avoided capacity and energy costs.

5. Develops an assessment of potential for energy and capacity savings from end-use equipment and buildings in a ten-year time frame.

6. Develops proposed performance goals (in peak demand reductions and energy savings) for energy efficiency programs.

7. Surveys and reviews energy efficiency technology (measures), lists features of technologies, and screens technologies or measures for applicability, feasibility and basic cost-effectiveness.

8. Develops a proposed energy efficiency plan, including programs, budget and cost allocation for cost recovery, which includes program descriptions listing target customers or markets; energy efficiency measures; and promotional strategies or techniques.

9. Develops estimated annual energy and demand savings for each program and the plan as a whole.

10. Develops a budget for each program and the plan.

11. Develops a strategy and processes for monitoring and evaluating programs and the plan.

During this process each utility works closely with the OCA. Over the years this has proven to be an effective way to formulate a plan that contains suggestions and programs recommended by the OCA. While this may extend the planning

process, it reduces the OCA's final review time and, ultimately, results in a better more collaborative product.

Finally, the plan is filed with the IUB for its review. A formal hearing may be held before the Board issues a decision.

Other energy efficiency processes during the five-year cycle

1. IUB staff, OCA staff, intervenors and stakeholders meet annually with the utility to review progress.

2. Plan modifications may lead to contested proceedings and result in formal changes to an IOU plan that must be approved by the IUB.

3. Pilot projects in an IOU plan may become new programs.

4. Cost recovery reconciliations and adjustment filings and reviews may be routine or may lead to prudence reviews.

5. Prudence reviews are conducted by the IUB to review the IOU's formal presentation of program results and evaluation.

PART III. STATUS AND EFFECTIVENESS OF CURRENT UTILITY ENERGY EFFICIENCY PROGRAMS – 2006 DATA AND NARRATIVES

Section 1. Introduction to Part III – Status and effectiveness of utility programs

The IUB study of utility energy efficiency programs focuses primarily on the programs of the IOUs because the IUB has the authority and responsibility to review, approve and evaluate the programs of IOUs. The results of energy efficiency programs of the Munis and RECs are addressed at the end of Part III.

Utility energy efficiency programs in Iowa are implemented or carried out largely through activities grouped into programs. Programs can be very small, for just a few customers, or very large, addressing scores of types of energy efficiency measures and hundreds of thousands of potential participants. Some participants may be able to choose among several programs. For example, Alliant/IPL treats most of its nonresidential programs as parts of an overall effort to serve nonresidential customers with energy efficiency options. Customers with similar energy efficiency projects may be served by a custom-designed project, a performance contract or rebates for specific energy-efficiency measures.

Part III starts with an overview of the utilities' characteristics such as numbers of customers, energy sales trends, and forecasts of future energy use. Next, the study presents recent results of IOU energy efficiency programs to show trends in energy efficiency performance by IOUs. The bulk of Part III provides detailed information on IOU programs and results for calendar year 2006, as requested in the legislative directive. The details include lists of the technologies installed through IOU programs, tables listing the programs offered in 2006 by each IOU, tables showing the results of the programs in 2006, tables showing all the details of spending by each IOU on each program in 2006, and tables showing the results of all four cost effectiveness tests for each program of each IOU.

The description of IOU programs includes a section describing the load management programs and results for Alliant/IPL (IPL) and MidAmerican Energy Company (MEC). Load management programs help to avoid the costs of installing generators that are used only for a few dozen hours per year.

Section 2. Iowa utility status – Customers, sales, electric peaks, trends in sales and peaks

The following tables show numbers of customers and sales of electricity (in MWh) among the IOUs, RECs, and Munis in Iowa. The data shows that although nonresidential electric customers in Iowa are fewer than 20 percent of total utility customers, they consumed more than two-thirds of the electricity sold in 2006.

Table III-1. Numbers of utility customers for all Iowa utilities in 2006

Iowa Utility 2006 Electric Customers		
	Residential	Nonresidential
IOU Res	942,318	161,158
REC Res	193,340	18,339
MUNI Res	173,683	34,376

Table III-2. Utility sales of electric energy in 2006 by type of utility and customer

Utility Type	MWh sales	% of Total
IOU Res	8,836,865	20.5%
IOU Nonres	23,743,736	55.2%
REC Res	2,807,291	6.5%
REC Nonres	2,246,276	5.2%
MUNI Res	1,780,714	4.1%
MUNI Nonres	3,626,075	8.4%
Total	43,040,957	

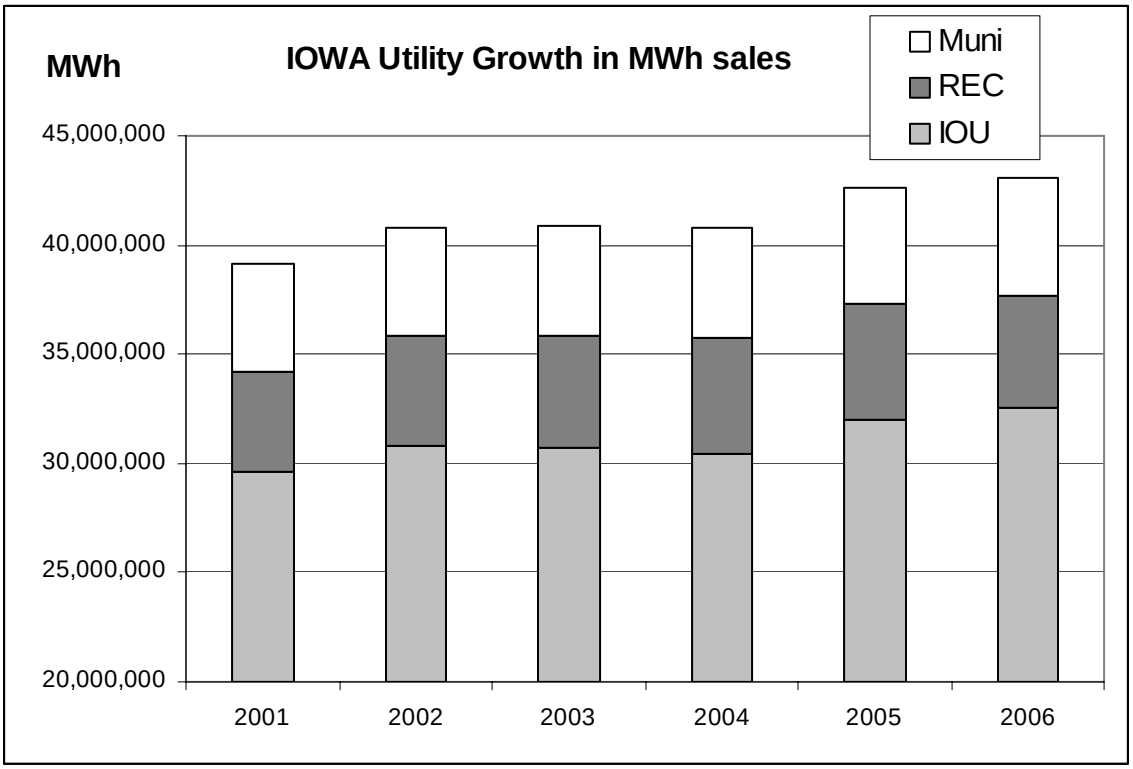
The IOUs have a significant majority of the customers and sales of electricity in Iowa. Nonresidential customers consume more than two-thirds of the electricity sold by utilities in 2006, although RECs sold slightly more than half of their electricity to residential customers.

The following table and chart show trends in electricity use in recent years. Utility sales of electricity show moderate but continuing growth in use of electricity.

Table III-3. Trends in electricity sales for IOUs RECs and Munis

	MWh Change 1997 -- 2000	Average Yearly %	MWh Change 2000 -- 2003	Average Yearly %	MWh Change 2003 – 2006	Average Yearly %
IOU	1,734,939	2.1%	1,161,757	1.3%	1,840,075	2.0%
REC	909,933	8.3%	573,426	4.2%	-69,692	-0.5%
Muni	308,458	2.3%	132,451	0.9%	427,291	2.9%
Total	2,953,331	2.7%	1,867,634	1.6%	2,197,674	1.8%

Chart III-1. Recent trends in Iowa utility sales of electricity. Note the scale starts at 20,000,000 MWh to highlight the effects of changes for each type of utility.



Peak use of electricity, typically on hot summer days, is at least as important as total sales of electricity, because utilities must maintain “peaker” power plants to meet just the peak load during just a few dozen hours per year, while these plants are idle for the rest of the time. The following table shows recent trends in peak electricity use in Iowa for the IOUs.

Table III-4. IOU peak electricity use, 1996 – 2006

IOU FERC Form 1 data on Peak Electric Use				IOU Total MW
Units in Noncoincident Peak MW			IOU Total	% Change
	IPL Peaks	MEC Peaks	Pk MW	Year to Year
1996	2,819	3,538	6,357	NA
1997	2,782	3,548	6,330	-0.42%
1998	2,928	3,643	6,571	3.81%
1999	2,997	3,833	6,830	3.94%
2000	3,052	3,648	6,700	-1.90%
2001	3,148	3,758	6,906	3.07%
2002	3,086	3,889	6,975	1.00%
2003	2,945	3,935	6,880	-1.36%
2004	3,017	3,894	6,911	0.45%
2005	3,077	4,040	7,117	2.98%
2006	3,070	4,136	7,206	1.25%
Total Changes in Peak MW as Averages for:				
		1996 – 2001		1.73%
		2001 – 2006		0.87%

Iowa electricity future trends – Forecasts of energy and demand

Iowa IOUs are required to file forecasts for estimated future energy sales and peak usage, as part of energy efficiency plans. The IOU forecasts project steady future growth in electric sales (MWh) and peak use (MW).

Table III-5. IOU forecasts of electric energy sales

	Forecast of MWH Sales		IPL & MEC	IOU MWh
	IPL	MEC	Combined	% Change Year to Year
2007	17,574,000	21,607,220	39,181,220	NA
2008	17,680,000	22,592,867	40,272,867	2.79%
2009	17,807,000	23,644,197	41,451,197	2.93%
2010	17,917,000	24,265,213	42,182,213	1.76%
2011	18,219,000	24,625,173	42,844,173	1.57%
2012	18,519,000	24,926,527	43,445,527	1.40%
2013	18,833,000	25,249,508	44,082,508	1.47%
2014	19,159,000	25,595,202	44,754,202	1.52%
2015	19,501,000	25,954,900	45,455,900	1.57%
2016	19,851,000	26,319,874	46,170,874	1.57%
2017	20,200,000	26,699,396	46,899,396	1.58%

Table III-6. IOU forecasts of peak electricity use

IOU Forecast of Peak MW			IPL & MEC	IOU MWh
	IPL	MEC	Combined	% Change Year to Year
2007	2982	4565	7547	NA
2008	3005	4720	7725	2.36%
2009	2979	4881	7860	1.75%
2010	3031	4991	8022	2.06%
2011	3080	5062	8142	1.50%
2012	3126	5130	8256	1.40%
2013	3175	5206	8381	1.51%
2014	3226	5289	8515	1.60%
2015	3279	5377	8656	1.66%
2016	3330	5467	8797	1.63%
2017	3384	5554	8938	1.60%

Iowa natural gas recent trends

Recent trends in retail sales of natural gas have been downward. This trend began even before the impacts of natural gas price increases that occurred in 2000-2001 and again in 2005-2006. The trends toward decreasing gas sales hold for both residential and nonresidential natural gas customers in Iowa. For purposes of this report, the focus is on IOUs, which sell more than 90 percent of the natural gas in Iowa.

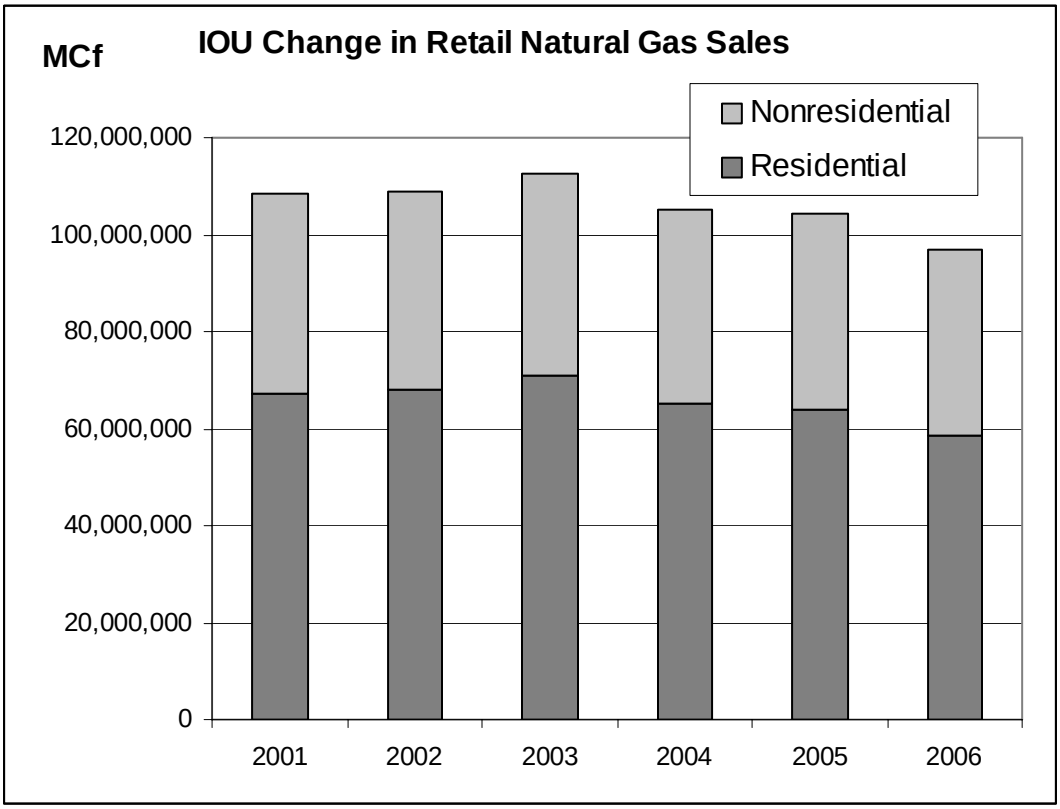
Table III-7. Trends in natural gas sales for IOUs

	Mcf Change 1997-2000	Average Yearly %	Mcf Change 2000-2003	Average Yearly %	Mcf Change 2003-2006	Average Yearly %
Residential	-6,897,428	-2.94%	-195,416	-0.09%	-12,412,163	-5.82%
Nonresidential	-7,722,375	-5.14%	-841,672	-0.66%	-3,100,167	-2.49%
Total Retail Gas Sales	-14,619,803	-3.80%	-1,037,088	-0.30%	-15,512,330	-4.59%

Table III-8. Trends in natural gas sales for IOUs

IOU Gas sales Totals	1996	2006	Mcf Change 1997-2006	Average Yearly %
Residential	83,986,817	58,703,751	-25,283,066	-3.0%
Nonresidential	53,995,434	38,377,628	-15,617,806	-2.9%
Total Retail Gas Sales	137,982,251	97,081,379	-40,900,872	-3.0%

Chart III-2. IOU recent changes in natural gas sales



Section 3. IOU recent trends in energy efficiency – The long-term picture

The IOU energy efficiency programs show significantly increased performance in recent years, with the best overall results occurring in 2006. The IOUs increased their performance over several years, starting in 2001 and improving more as new energy efficiency plans took effect in 2004.

Energy efficiency programs of Iowa IOUs fall into three general categories:

- Electric energy efficiency, which results in savings of both energy (MWh) and peak electric demand (MW).
- Electric load management, which saves peak electric demand (MW).
- Natural gas energy efficiency, which results in savings of natural gas (Mcf).

Energy efficiency programs are developed and implemented through energy efficiency plans with specific annual performance goals for each IOU established in the plan. The goals are stated for each program and for a utility's plan as a

whole in terms of electric energy savings (MWh), electric capacity savings (peak MW), and natural gas energy savings (Mcf). The following table shows that the results for peak MW come from both energy efficiency and load management.

Table III-9. IOU savings goals and programs, showing the dual contributions of energy efficiency and load management to peak MW goals

Type of Goal/ Type of Program	Savings in MWh	Savings in Peak MW	Savings in Mcf
Electric Energy Efficiency	99 %	50 %	NA
Electric Load Management	1 %	50 %	NA
Natural Gas Energy Efficiency	NA	NA	100 %

The following tables and charts illustrate the recent trend toward higher performance by IOU energy efficiency plans and programs. The tables have been condensed from IOU data to provide a concise set of key numbers. For viewers unfamiliar with energy efficiency terminology, the following terms are defined:

- "Incremental" means new energy efficiency savings achieved by IOUs in a given year.
- "Cumulative" means the combination of new energy efficiency savings and the ongoing savings from previous years.
- "Load management" programs focus on achieving savings of peak MW, but can result in small amounts of electric MWh results.
- "Other miscellaneous" electric energy savings account for the ongoing effect of IOU programs for installing efficient outdoor lighting, mostly streetlights. These programs were completed in the 1990s but continue to produce small results.
- "Residential energy efficiency" savings include the results achieved through IOU funding of Low-Income Weatherization programs implemented by Community Action Program (CAP) weatherization efforts through the Department of Human Rights.

Table III-10. Trends in IOU electric energy efficiency savings, shown as "incremental" or new "first-year" savings in MWh

INCREMENTAL (NEW) MWh	IOU Electric Programs						
	2000	2001	2002	2003	2004	2005	2006
Residential Energy Efficiency (RES EE)	15,474	20,626	23,185	27,727	33,398	60,072	65,532
Nonresidential Energy Efficiency (NONRES EE)	92,489	90,769	94,154	133,791	164,636	157,681	209,443
Res and Nonres Load Management	-3,188	1,382	-243	764	26	7,010	6,003
TOTALS	104,775	112,776	117,095	162,281	198,059	224,763	280,978

Table III-11. IOU electric energy efficiency savings, showing the effect of preceding years' savings

CUMULATIVE (ONGOING) MWh	IOU Electric Programs						
	2000	2001	2002	2003	2004	2005	2006
Residential Energy Efficiency	116,193	136,819	160,004	187,731	221,129	281,200	346,733
Nonresidential Energy Efficiency	684,176	774,945	869,099	1,002,890	1,167,526	1,325,206	1,534,649
Othr Misc	22,034	22,034	22,034	22,034	22,034	22,034	22,034
Res and Nonres Load Management	4,694	6,075	5,832	6,595	6,621	13,632	19,635
TOTALS	827,097	939,873	1,056,968	1,219,250	1,417,309	1,642,072	1,923,050

The increasing results for IOU MWh savings are also reflected in comparisons of MWh savings with MWh sales of the IOUs. The following tables show that both incremental and cumulative MWh results of energy efficiency have approximately doubled from 2000 to 2006, when compared with annual retail sales of MWh by IOUs. In other words, absent the effects of energy efficiency programs, customers of IOUs would have used about 6 percent more electricity in 2006.

Table III-12. Trends in IOU MWh new savings compared to retail sales of MWh

IOU MWh INCREMENTAL (NEW) Energy Efficiency as Percentage of Class MWh Sales							
	2000	2001	2002	2003	2004	2005	2006
Residential	0.2%	0.3%	0.3%	0.3%	0.4%	0.7%	**0.7%**
NonResidential	0.4%	0.4%	0.4%	0.6%	0.7%	0.7%	**0.9%**
Total	0.4%	0.4%	0.4%	0.5%	0.7%	0.7%	**0.8%**

Table III-13. IOU cumulative MWh savings compared to annual retail MWh

IOU MWh CUMULATIVE (ONGOING) Energy Efficiency as Percentage of Class MWh Sales							
	2000	2001	2002	2003	2004	2005	2006
Residential	1.5%	1.7%	1.9%	2.2%	2.7%	3.1%	**3.9%**
NonResidential	3.3%	3.7%	4.0%	4.6%	5.4%	5.9%	**6.6%**
Total	2.8%	3.2%	3.4%	4.0%	4.7%	5.1%	**5.9%**

Energy efficiency programs also reduce electric peak demand, which typically occurs during hot summer weekdays. These demand reductions come from electric energy efficiency technologies that use less electricity at peak times and from load management programs in which customers voluntarily reduce electricity use at peak periods in return for incentives. These peak demand reductions are very valuable. The approximately 1,000 MW of peak reduction achieved by IOUs in 2006 is equivalent to about nine “peaker” power plants the size of MidAmerican Energy’s River Hills facility in Des Moines.

Table III-14. IOU peak demand reductions compared to IOU actual peak MW

IOU Peak Demand Reductions					
	2002	2003	2004	2005	2006
IOU PK Load Actual	6,975	6,880	6,911	7,117	7,206
IOU PK MW Savings – Energy Efficiency	265	307	360	425	490
IOU PK MW Savings - Load Management	509	519	609	527	499

Natural gas energy efficiency programs of IOUs also produce significant savings. The following tables show the increased results for gas energy efficiency, most of it coming from residential customers of IOUs who participated in programs to install new furnaces, increase home insulation and weatherization, and improve efficiency of water heating. In contrast to electric energy efficiency, residential customers have been the source of a large percentage of the total natural gas savings and this proportion has increased in recent years.

Table III-15. Trends in IOU natural gas savings, for new or “first-year” savings

INCREMENTAL GAS SAVINGS	IOU Gas EE Programs						
	2000	2001	2002	2003	2004	2005	2006
Residential	330,647	489,336	414,115	473,365	529,792	661,301	692,112
Non-residential	201,564	88,830	94,784	146,836	131,092	210,841	175,719
Total	532,211	578,167	508,899	620,201	660,884	872,142	867,831

Table III-16. IOU cumulative natural gas savings

CUMULATIVE GAS SAVINGS	IOU Gas EE Programs						
	2000	2001	2002	2003	2004	2005	2006
Residential	3,193,552	3,682,889	4,097,003	4,570,368	5,100,160	5,761,461	6,453,573
Non-residential	644,968	733,798	828,582	975,418	1,106,510	1,317,352	1,493,071
Total	3,838,520	4,416,687	4,925,586	5,545,786	6,206,671	7,078,813	7,946,644

Similar to electric energy efficiency, natural gas efficiency has increased as a percentage of IOU natural gas retail sales.

Table III-17. Trends in IOU new natural gas savings compared to gas sales

IOU Mcf INCREMENTAL (NEW) Energy Efficiency as Percentage of Class Mcf Sales							
	2000	2001	2002	2003	2004	2005	2006
Residential	0.46%	0.73%	0.61%	0.67%	0.81%	1.04%	1.18%
Non-residential	0.48%	0.22%	0.23%	0.35%	0.33%	0.52%	0.46%
Total	0.47%	0.53%	0.47%	0.55%	0.63%	0.83%	0.89%

Table III-18. IOU cumulative natural gas savings compared to gas sales

IOU Mcf CUMULATIVE (ONGOING) Energy Efficiency as Percentage of Class Mcf Sales							
	2000	2001	2002	2003	2004	2005	2006
Residential	4.48%	5.48%	6.02%	6.43%	7.84%	9.02%	10.99%
Non-residential	1.52%	1.78%	2.02%	2.35%	2.75%	3.24%	3.89%
Total	3.38%	4.07%	4.52%	4.93%	5.90%	6.77%	8.19%

Trends in spending on energy efficiency by IOUs

Spending by IOUs for energy efficiency programs has increased over the past six years. A significant jump in spending for electric load management in 2003 and 2004 was due mostly to a shift of the cost recovery mechanism for the Alliant/IPL nonresidential load management program.

Table III-19. Summary table of IOU energy efficiency spending trends

IOU Energy Efficiency Spending							
	2000	2001	2002	2003	2004	2005	2006
IOU EL RES EE	6,657,888	9,309,289	8,662,171	11,842,387	13,092,323	14,205,512	15,860,671
IOU EL NONRES EE	7,654,137	11,892,930	12,398,617	13,036,953	16,787,091	17,879,026	21,268,537
IOU EL LM	11,183,736	9,748,902	10,125,539	18,106,026	33,820,819	36,065,398	35,262,997
IOU EL Other	2,004,448	2,500,611	2,511,155	3,592,689	2,827,544	2,842,536	3,054,401
EL Total	27,500,209	33,451,732	33,697,482	46,578,055	66,527,777	70,992,471	75,446,606
	2000	2001	2002	2003	2004	2005	2006
IOU Gas RES EE	9,731,281	15,431,013	13,877,136	18,187,264	19,080,789	23,719,125	25,807,875
IOU Gas NONRES EE	2,836,220	1,450,209	2,157,738	2,176,691	2,222,615	3,182,192	3,648,270
IOU Gas Other	906,119	1,129,374	1,101,142	1,872,406	1,384,322	1,397,667	1,609,127
GAS Total	13,473,620	18,010,597	17,136,016	22,236,361	22,687,726	28,298,984	31,065,272
IOU EL + Gas Totals	40,973,829	51,462,328	50,833,498	68,814,416	89,215,502	99,291,455	106,511,878

The following tables show the effect of energy efficiency spending on rates. The electric energy efficiency and load management spending cannot be separated into residential and nonresidential without more analysis of the impact of load management costs on residential and nonresidential classes.

Table III-20. IOU electric spending as percentage of revenues

IOU Electric EE & LM Spending -- Compared to RES + NONRES Revenues							
	2000	2001	2002	2003	2004	2005	2006
ALL EL EE, LM + Othr	1.58%	1.85%	1.85%	2.52%	3.49%	3.37%	3.36%

Table III-21. IOU gas spending as percentage of revenues

IOU GAS EE -- Compared to Class Revenues							
	2000	2001	2002	2003	2004	2005	2006
RES EE ONLY	1.73%	2.61%	2.87%	2.78%	2.87%	2.99%	3.55%
NONRES EE ONLY	1.04%	0.50%	0.94%	0.69%	0.66%	0.74%	0.95%
All	1.61%	2.04%	2.41%	2.29%	2.27%	2.31%	2.80%

Recent cost effectiveness trends

Cost effectiveness is the overriding goal of energy efficiency programs by Iowa utilities. The IOUs have maintained a consistent level of cost effectiveness for their energy efficiency programs, even though there may be some variation year-to-year. Not every program is cost effective in every year, but IOU plans show significant levels of benefits in excess of costs.

The critical cost effectiveness test is the Societal Test (see Section 10), because it combines the perspectives of the utility, the program participants and all utility customers in general. If a program or plan passes this test, it means the benefits of the energy efficiency savings in future utility avoided costs are greater than the extra costs of energy efficient equipment paid by the participants who install the measures. All customers benefit from lower future utility costs, even if they do not participate in a program in a particular year.

The following table shows that IOU energy efficiency programs over the past four years have maintained respectable levels of net benefits as well as good benefit-cost ratios.

Table III-22. IOU cost effectiveness trends

Societal Test		IOU Total Energy Efficiency EL+Gas		
	Benefits ($ PV)	Costs ($ PV)	Net Benefits ($ PV)	B/C Ratio
2003	307,669,544	116,707,516	190,962,028	2.64
2004	206,456,197	113,947,626	92,508,571	1.81
2005	244,332,182	118,313,410	126,018,773	2.07
2006	298,001,414	146,629,198	151,372,216	2.03
2003 - 2006 Total	1,056,459,337	495,597,750	560,861,587	2.13
Average Annual	264,114,834	123,899,438	140,215,397	2.13

Note: Numbers for each year are the present value of all savings, over the first year and subsequent lives of the energy efficiency measures. Numbers from 2003, 2004 and 2005 were not adjusted to reflect inflation.

More details about cost effectiveness can be found in Sections 10 and 11 of this Part of the study.

Section 4. Snapshot of 2006 – Energy efficiency technologies or measures

The range and numbers of energy efficiency measures or technologies installed in a given year by investor-owned utilities is vast. These technologies are eligible for rebates or other customer incentives because the IOUs have qualified them as part of the energy efficiency planning process. An IOU also may add more types of energy efficiency measures to a program without reworking the entire plan, as long as the new measures do not change the program budgets or cost-effectiveness within certain limits.

Tables III-23 through III-27 provide a rough "head count" of measures installed by customers via IOU programs in calendar year 2006. The count of electric energy efficiency measures is dominated by the large numbers of lighting measures in the form of individual lamps, such as compact fluorescent lamps (CFLs). Natural gas energy efficiency programs show more diversity, with furnaces, water heating improvements, and insulation the most popular measures.

Measures described as custom, comprehensive, or packages typically involve technical assistance from the IOUs to evaluate the group of measures for a customer. The technical assistance may also involve training sessions for residential builders to familiarize them with the higher standards for new homes, or engineering reviews and calculations for business customers to determine which measures will work together for a particular customer. This design assistance is critical for new commercial or institutional construction because the design of a large building may play an essential role in determining the energy efficiency performance of the building.

Table III-23. Residential electric technologies installed through IOU energy efficiency programs for 2006

Type of Customer	Measure Description	El, Gas or E+G	Number of Units
RES	Clothes Washers	E	4,974
RES	Cooling	E	10,640
RES	Cooling-Geothermal	E	870
RES	Heating Thermostats and Ducts	E	8,179
RES	Insulation	E	12,111
RES	Lights	E	333,554
RES	Refrigerator/Freezer - Remove	E	5,722
RES	Refrigerator/Freezers	E	3,541
RES	Residential Comprehensive and Ratings	E	1,278
RES	Water Bed Insulation	E	56
RES	Water Heater - Efficient	E	1,003
RES	Water Heating - Insulation, Faucets, etc	E	1,840
RES	Weatherization Kits	E	2,695
RES	Windows and Doors	E	28,700
RES	TOTAL NUMBER OF MEASURES	E	415,163

Table III-24. Non-residential electric technologies in IOU energy efficiency programs for 2006

Type of Customer	Measure Description	El, Gas or E+G	Number of Units
NONRES	Agriculture Measures	E	4,047
NONRES	Cooling	E	1,209
NONRES	Cooling-Geothermal	E	211
NONRES	Custom	E	17
NONRES	Custom	E	96
NONRES	Heating-Thermostats	E	696
NONRES	Insulation	E	146
NONRES	Lighting	E	112,531
NONRES	Motors/Drives	E	723
NONRES	Refrigerators/Freezers	E	281
NONRES	Water Heaters	E	68
NONRES	Water Heating - Insulation, Faucets, etc	E	403
NONRES	Windows and Doors	E	3,299
NONRES	TOTAL NUMBER OF MEASURES	E	123,727

Table III-25. Residential natural gas technologies installed through IOU energy efficiency programs for 2006

Type of Customer	Measure Description	El, Gas or E+G	Number of Units
RES	Average Package per Home	G	215
RES	CAP Weatherize - Custom whole house	G	150
RES	Clothes Washers	G	1,060
RES	Doors	G	2,765
RES	Heating - Integrated Space and Water Heat	G	12
RES	Heating - Maintenance, Ducts	G	4,315
RES	Heating – Thermostat	G	3,950
RES	Heating-Boiler	G	361
RES	Heating-Furnaces	G	18,543
RES	HERS Rating	G	627
RES	Home - Comprehensive	G	160
RES	Home Audit	G	2,663
RES	Home Energy Savings	G	829
RES	Insulation	G	21,506
RES	Water Heater - Efficient	G	4,894
RES	Water Heating - Insulation, Faucets, etc	G	36,428
RES	Weatherize Kits	G	2,946
RES	Windows	G	9,262
RES	TOTAL NUMBER OF MEASURES	G	110,686

Table III-26. Non-residential natural gas technologies installed through IOU energy efficiency programs for 2006.

Type of Customer	Measure Description	El, Gas or E+G	Number of Units
NONRES	Business Audit	G	129
NONRES	Custom	G	21
NONRES	Energy Manage System	G	1
NONRES	Heating-Boilers	G	149
NONRES	Heating-Furnaces	G	1,663
NONRES	Heating-Integrated Space and Water Heat	G	1
NONRES	Heating-Thermostats	G	768
NONRES	Insulation	G	323
NONRES	Water Heater - Efficient	G	39
NONRES	Water Htng - Insulation, Faucets, etc	G	4,579
NONRES	Windows and Doors	G	794
NONRES	TOTAL NUMBER OF MEASURES	G	8,467

Table III-27. Technologies with combined electric and natural gas savings installed through IOU programs in 2006.

Type of Customer	Measure Description	El, Gas or E+G	Number of Units
RES	Audits, Clothes Washers, Insulation, Windows	E+G	35,120
NONRES	Perf Contracts	E+G	29
NONRES	Thermostats, Windows, Custom	E+G	1,102
NA	TOTAL NUMBER OF MEASURES	E+G	36,251

Technology types for REC programs are listed, but compilation of numbers and impacts of the REC measures would require extensive additional analysis, which would extend beyond the deadline for this report.

Table III-28. REC electric technology/program classifications

REC Program Category and Program Number	REC Program Type and Measure
I. Incentives for Energy Efficient Technologies	
1	Energy Star/Electric Appliance Rebate Program Energy Star Qualified Clothes Washer Energy Star Qualified Dishwasher Energy Star Qualified Refrigerator Energy Star Qualified Room Air Conditioner
2	High Efficiency/Energy Star Air Conditioning Rebate Program
3	Geothermal Heat Pump Rebate Program
4	Air Source/Energy Star Heat Pump Rebate Program
5	Premium Motors Rebate Program
6	Adjustable Speed Drive Motors Rebate Program
7	Dairy Pre-coolers Rebate Program
8	Air Quality Rebate Program
9	High Efficiency Water Heater Rebate Program
10	High Efficiency Zoned Electric Heat Rebate Program
11	High Efficiency Exterior Lighting Rebate Program
12	High Efficiency Interior Lighting Rebate Program
13	Energy Efficiency Low Interest Loan Program

Table III-29. REC electric technology/program classifications (continued)

REC Program Category and Program Number	REC Program Type and Measure
II. Demand Response Programs	
14	Residential Time-of-Day Price Program
15	Commercial and Industrial Time-of-Day Price Program
16	Time-of-Use—Heat Plus
17	Dual-Fuel Space Heating Program
18	Control (Interruptible) Space Heating and/or Air Conditioning Program
19	Industrial Interruptible Price Program
20	Dual-Fuel (also called Electric Thermal) Storage Space Heating and Air Conditioning Program
21	Water Heater Load Control Program
22	Crop Drying (including Off-Peak Crop Drying) and Irrigation Load Control Program

Table III-30. REC electric technology/program classifications (continued)

REC Program Category and Program Number	REC Program Type and Measure
III. Energy Audit & Technical Support Programs	
23	Expert Energy Services
24	Energy Audit Services Program
IV. Educational & Research Programs	
25	Model Housing Education Program
26	Domestic Water Heater Enhancement Program
27	Member Information and Education Program
28	Peak Alert Program (Costs included in Program 27)
29	Living with Energy in Iowa News Energy Information Program (Includes $ for Peak Alert if using this program)
30	Iowa Energy Center and Center for Global Regional Environmental Research Program
31	Totals

Section 5. IOU 2006 energy efficiency program names, labels and descriptions – Electric energy efficiency

The impacts or results for calendar year 2006 for IOUs are listed in the following tables. In addition, a table shows activities that are considered programs for purposes of IOU plans and cost recovery, but which are largely conducted by entirely separate agencies including the Iowa Energy Center and the Center for Global and Regional Environmental Research or by entities such as Trees Forever. These programs have various labels in IOU plans, but in this report they are grouped into the categories of "R&D Centers" and "TREES."

The programs in the tables are labeled using categories devised for this report, alongside the IOU company's name for the program and a short description of target markets, implementation actions, and incentives.

Table III-31. Alliant-IPL electric energy efficiency programs

IUB Study - Program Code Name	**ALLIANT-IPL / Electric Energy Efficiency Programs**	IUB Study Program and Incentive Description
	Utility's Program Name in 2006	
RES Prescrip	*Residential Prescriptive Rebate*	Measure-Specific Equipment & Appliance Rebates
RES Recycl	*Residential Appliance Recycling*	Appliance rebates plus free removal and recycling
RES Audits	*Residential Home Audits*	Audits + Direct Installation, Rebates and Loans
RES New Con	*Residential New Construction*	New Construction - Builder Incentives
RES Low-Inc	*Low Income*	Low-Income Weatherization via CAP Agencies
NONRES Custom	*Non-Residential Custom Rebates*	Custom-Designed Projects, Rebates
NONRES Perf Contr	*Non-Residential Performance Contracting*	Utility qualifies contractors and projects. Customers repay contracts through savings.
NONRES Prescrip	*Non-Residential Prescriptive Rebates*	Measure-Specific Shell, Equipment & Appliance Rebates
NONRES New Con	*Non-Residential Comm New Construction*	Technical assistance and incentives to builders or project developers
NONRES Agri	*Agriculture*	Custom-Designed Projects, Rebates

Table III-32. MidAmerican electric energy efficiency programs

IUB Study - Program Code Name	**MIDAMERICAN / Electric Energy Efficiency Programs** *Utility's Program Name in 2006*	IUB Study Program and Incentive Description
RES Prescrip	*Residential Equipment*	Measure-Specific Equipment & Appliance Rebates
RES Audits	*Residential Audit*	Audits + Direct Installation, Rebates and Loans
RES Low-Inc	*Low Income*	Low-Income Weatherization via CAP Agencies
RES New Con	*Residential New Construction*	New Construction - Builder Incentives
NONRES Prescrip	*Nonresidential Equipment*	Measure-Specific Shell, Equipment & Appliance Rebates
NONRES Custom	*Nonresidential Custom*	Custom-Designed Projects, Rebates
NONRES Comm Audit	*Small Commercial Audit*	Shell & Equipment, Audits + Direct Installation, Rebates and Loans
NONRES En Analyz	*Nonresidential Energy Analysis*	Custom-Designed Projects, Rebates
NONRES EE Bid	*Efficiency Bid*	Customers design projects, apply for funds, projects selected competitively on a quarterly basis
NONRES New Const	*Commercial New Construction*	Technical assistance and incentives to builders or project developers
NONRES Low-Inc	*Low Income*	Multi-family Low-Income projects with Iowa Finance Authority clients

Table III-33. Alliant-IPL, Aquila and MidAmerican “Other” programs

IUB Study Report -- Program Code Name	**ALLIANT-IPL / OTHER - R&D and Trees**	IUB Study Program and Incentive Description
R&D Centers	Regulatory	Iowa Energy Center and CGRER
TREES	Trees	Trees Forever, Other Tree Planting
	MIDAMERICAN / OTHER - R&D and Trees	
TREES	Trees	Iowa Energy Center and CGRER
R&D Centers	Assessments	Grants for Tree Planting
	AQUILA / OTHER - R&D and Trees	
TREES	Trees Forever	Trees Forever, Other Tree Planting
TREES	Trees for Kids	Trees Forever, Other Tree Planting
R&D Centers	Iowa Energy Center and Center for Global and Regional Environmental Research	Iowa Energy Center and CGRER

Section 6. IOU 2006 results – Electric energy efficiency

The following two tables show the energy efficiency savings by IOUs for electric energy efficiency programs. Note that both IOUs significantly exceeded the goals for kWh or MWh established in their plans.

Table III-34. Alliant-IPL electric energy efficiency; goals and results for 2006.

IUB Study -- Program Code Name	Year 2006	Participants			Peak kW			Annual kWh		
		Goal	Actual	% Goal	Goal	Actual	% Goal	Goal	Actual	% Goal
RES Prescrip	IPL-EL	19,360	58,053	300%	4,551	6,882	151%	7,750,000	19,043,832	246%
RES Recycl	IPL-EL	4,000	4,731	118%	375	1,255	335%	3,796,000	5,632,599	148%
RES Audits	IPL-EL	1,600	1,475	92%	490	798	163%	1,523,600	2,542,517	167%
RES New Con	IPL-EL	800	974	122%	1,280	1,952	153%	2,100,000	3,302,088	157%
RES Low-Inc	IPL-EL	1,500	2,703	180%	212	1,032	487%	972,000	2,024,572	208%
NONRES Custom	IPL-EL	165	187	113%	5,000	12,207	244%	28,000,000	65,785,608	235%
NONRES Perf Contr	IPL-EL	44	26	59%	4,158	1,349	32%	13,200,000	9,043,528	69%
NONRES Prescrip	IPL-EL	2,300	3,012	131%	1,700	2,000	118%	4,100,000	5,700,166	139%
NONRES New Con	IPL-EL	29	2	7%	3,800	575	15%	14,500,000	3,133,866	22%
NONRES Agri	IPL-EL	130	264	203%	460	903	196%	2,100,000	4,333,586	206%
R&D Centers	IPL-EL	0	0	NA	0	0	NA	0	0	NA
TREES	IPL-EL	0	0	NA	0	0	NA	0	0	NA
TOTALS	IPL-EL	29,928	71,427	239%	22,026	28,953	131%	78,041,600	120,542,362	154%

Table III-35. MidAmerican electric energy efficiency; goals and results for 2006.

IUB Study -- Program Code Name		Participants			Peak kW			Annual kWh		
		Goal	Actual	% Goal	Goal	Actual	% Goal	Goal	Actual	% Goal
RES Prescrip	MEC-EL	7,433	6,451	87%	5,610	1,941	35%	4,904,403	5,654,131	115%
RES Audits	MEC-EL	373	29,920	8021%	1,207	3,679	305%	3,124,111	15,466,716	495%
RES Low-Inc	MEC-EL	550	2,867	521%	92	282	307%	229,064	1,996,056	871%
RES New Con	MEC-EL	100	344	344%	4,467	7,073	158%	4,462,288	9,869,557	221%
TREES	MEC-EL	90	97	108%	0	0	NA	0	0	NA
R&D Centers	MEC-EL	0	0	NA	0	0	NA	0	0	NA
NONRES Prescrip	MEC-EL	40,139	57,235	143%	2,551	12,061	473%	16,593,392	63,539,871	383%
NONRES Custom	MEC-EL	126	89	71%	1,213	472	39%	4,140,558	3,288,953	79%
NONRES Comm Audit	MEC-EL	578	1,814	314%	1,057	701	66%	1,957,453	3,033,048	155%
NONRES En Analyz	MEC-EL	45	136	302%	687	756	110%	3,898,235	5,620,854	144%
NONRES EE Bid	MEC-EL	9	21	233%	602	1,480	246%	3,437,823	11,896,434	346%
NONRES New Const	MEC-EL	60	39	65%	3,527	7,195	204%	19,906,965	34,067,277	171%
TREES	MEC-EL	0	0	NA	0	0	NA	0	0	NA
R&D Centers	MEC-EL	0	0	NA	0	0	NA	0	0	NA
NONRES Low-Inc	MEC-EL	0	0	NA	0	0	NA	0	0	NA
TOTALS	MEC-EL	49,503	99,013	200%	21,013	35,640	170%	62,654,292	154,432,897	246%

Section 7. IOU 2006 names, labels, results, pluses and minuses – Electric load management

This section provides a short list of IOU load management programs, followed by a detailed description of the IOU load management programs.

Table III-36. Electric load management programs.

IUB Study -- Program Code Name	**ALLIANT-IPL / Electric Load Management**	**IUB Study Program and Incentive Description**
RES Load Man	Residential Load Management - DLC	Direct Load Control - Rebates or Direct Payments
NONRES Load Man	Non-Res Load Management – Interruptible	Interruptible Load Management – IPL Rate Discount
	MIDAMERICAN / Electric Load Management	**IUB Study Program and Incentive Description**
RES Load Man	Residential Load Management	Direct Load Control - Rebates or Direct Payments
NONRES Load Man	Nonresidential Load Management	Interruptible Load Control - Payments to customers

IPL and MEC appear to operate very similar residential load management programs, using direct control of customers' air conditioners via radio or pager communications. Residential customers receive bill credits at the end of each summer of participation. Non-residential customers also have similar programs, in the sense they are called and asked to interrupt

What are the pluses and minuses of the load management programs?

Pluses: Load management programs obtain valuable peak load capacity from customers of utilities who agree to shift their energy use away from peak periods when called on to do so. Although electric system peak loads may only occur for several hours in a given year, and may not recur for several years, the strain on utility systems at the time of peak load is worrisome to utility managers and the monetary value of peak electricity obtained from load reductions can be many times the normal value of electrical energy.

Customers receive value from incentives in the form of rate discounts or payments. IOUs pay incentives that are a fraction of the estimated cost of the utility to buy the capacity in the wholesale market or to invest in more peak electric generators. Customers determine how much of their load can be switched off or shifted to self-generation.

The ability to reduce load is also valuable to help utilities manage non-peak electric system emergencies. Iowa utilities have requested load management reductions from customers to deal with requests from the Midwest Independent Transmission System Operator (MISO) to help manage electrical transmission problems.

Minuses: Load management incentives must be paid each year to maintain the capability to reduce load, even if there are no interruptions in a given year. Unlike energy efficiency peak load savings, load management peak electrical savings depend on the will and ability of customers to actually make load reductions, sometimes on short notice. Customers who manage load by shifting to self-generation usually start up their own diesel-fired generators, which may produce more air emissions than utility natural gas-fired peaker plants. However, the number of hours and megawatts involved is usually a tiny fraction of the total annual megawatt-hours for a utility system.

Table III-37. Alliant-IPL load management program results, in 2006

IUB Study -- Program Code Name	Year 2006	Cumulative ParticipatIon			Cumulative Peak kW		
		Goal	Actual	% Goal	Goal	Actual	% Goal
RES Load Man	IPL-EL	43,983	43,951	100%	40,464	24,430	60%
NONRES Load Man	IPL-EL	156	158	101%	279,496	254,811	91%
TOTALS	IPL-EL	NA	NA	NA	319,960	279,241	87%

Table III-38. MidAmerican load management program results, in 2006

IUB Study -- Program Code Name		Cumulative ParticipatIon			Cumulative Peak kW		
		Goal	Actual	% Goal	Goal	Actual	% Goal
RES Load Man	MEC-EL	53,200	56,766	107%	48,807	50,376	103%
NONRES Load Man	MEC-EL	121	135	112%	125,177	171,885	137%
TOTALS	MEC-EL	NA	NA	NA	173,984	222,261	128%

The tables above show the actual participation and peak savings from load management programs. Alliant-IPL missed its goal for residential load management savings because an internal review by Alliant-IPL showed many of the residential load controls had failed over several years. Alliant-IPL is working to replace these controls and restore its residential load control program to full operation.

Table III-39. Alliant-IPL operation of its nonresidential load management program in 2006

Curtailment Detail	07/17/06	07/19/06	07/28/06	07/31/06*
Start Time	1 pm	3 pm	2 pm	11 am/12 pm
Stop Time	7 pm	7 pm	6 pm	7 pm/8 pm
Decision Rule Condition**	2	2	2	1
# of Customers Called (current total equals 154)	66	71	40	154
Buy-Through Available	Yes	Yes	Yes	No
# of Customers Who Selected Buy-Through	5	2	0	N/A
MW IPL Called to Curtail (max available: 263 MW)	151	76	102	263
MW Bought Through	53	2	0	N/A
# of Customers Penalized	1	5	0	2

Alliant-IPL Notes:

* Some customers were called to curtail from 11 AM until 7 PM; other customers were called to curtail from 12 PM until 8 PM
** Condition 1 = Reliability
** Condition 2 = Energy Efficiency—Reducing Peak Demand
** Condition 3 = Energy Efficiency—Reducing Energy Usage
** Condition 4 = Program Quality Control

Table III-40. MidAmerican operation of its interruptible load management program in 2006

2006 Activity	2006 Performance	
	Contracts/Participants	Impact (kW)
New Contracts	7	
New Contract Impact (kW)		3,400
Renewed Contracts	39	
Renewed Contract Impact (kW))		933
Contracts Terminated/Not Renewed	5	
Contracts Terminated Impact (kW)		-1,836
Contracts Amended	20	
Contracts Amended Impacts (kW)		970
New Program Impact Change (kW)		3,467
Total Participants	135	
Total Contract Impact (kW)		185,286
Total Contract Incentives	$6,950,927	

Section 8. IOU 2006 names, labels, results – natural gas energy efficiency

Natural gas energy efficiency programs offered to customers of IOUs have been a part of energy efficiency from the beginning of IUB approved programs in 1991. These programs focus on saving natural gas used by retail customers of IOUs.

Table III-41. Alliant-IPL and MidAmerican natural gas EE programs

IUB Study -- Program Code Name	**ALLIANT-IPL / Gas Energy Efficiency Programs**	IUB Study Program and Incentive Description
RES Prescrip	Residential Prescriptive Rebate	Measure-Specific Equipment & Appliance Rebates
RES Audits	Residential Home Audits	Audits + Direct Installation, Rebates and Loans
RES New Con	Residential New Construction	New Construction - Builder Incentives
RES Low-Inc	Low Income	Low-Income Weatherization via CAP Agencies
NONRES Custom	Non-Residential Custom Rebates Total	Custom-Designed Projects, Rebates
NONRES Perf Contr	Non-Residential Performance Contracting	Utility qualifies contractors and projects. Customers repay contracts through savings.
NONRES Prescrip	Non-Residential Prescriptive Rebates	Measure-Specific Shell, Equipment & Appliance Rebates
NONRES New Const	Non-Residential Comm New Construction	Technical assistance and incentives to builders or project developers
IUB Study -- Program Code Name	**MIDAMERICAN / Gas Energy Efficiency Programs**	IUB Study Program and Incentive Description
RES Prescrip	Residential Equipment	Measure-Specific Equipment & Appliance Rebates
RES Audits	Residential Audit	Audits + Direct Installation, Rebates and Loans
RES Low-Inc	Low Income	Low-Income Weatherization via CAP Agencies
RES New Con	Residential New Construction	New Construction - Builder Incentives
NONRES Prescrip	Nonresidential Equipment	Measure-Specific Shell, Equipment & Appliance Rebates
NONRES Custom	Nonresidential Custom	Custom-Designed Projects, Rebates
NONRES Comm Audit	Small Commercial Audit	Shell & Equipment, Audits + Direct Installation, Rebates and Loans
NONRES En Analyz	Nonresidential Energy Analysis	Custom-Designed Projects, Rebates
NONRES EE Bid	Efficiency Bid	Customers design projects, apply for funds, projects selected competitively on a quarterly basis
NONRES New Const	Commercial New Construction	Technical assistance and incentives to builders or project developers
NONRES Low-Inc	Low Income	Multi-family Low-Income projects with Iowa Finance Authority clients

Table III-42. Aquila natural gas energy efficiency programs

IUB Study – Program Code Name	**AQUILA / Gas Energy Efficiency**	IUB Study Program and Incentive Description
RES Prescrip	Furnace Replacement	Measure-Specific Equipment & Appliance Rebates
RES Prescrip	Envelope Measures Retrofit	Measure-Specific Equipment & Appliance Rebates
RES Prescrip	Water Heater Replacement	Measure-Specific Equipment & Appliance Rebates
RES Prescrip	Innovative Space & Water Heating Technologies	Measure-Specific Equipment & Appliance Rebates
RES Prescrip	Setback Thermostat & Furnace Maintenance	Measure-Specific Equipment & Appliance Rebates
RES New Con	Residential New Construction	New Construction - Builder Incentives
RES Audits	Residential Energy Audits	Shell & Equipment, Audits + Direct Installation, Rebates and Loans
RES Education	School-Based Energy Education	Information/Education
RES Low-Inc	Low-Income Weatherization	Low-Income Weatherization via CAP Weatherization Teams
RES Low-Inc	Low-Income Energy Education	Information/Education
RES Low-Inc	Weatherization Teams	Utility teams provide low-cost weatherization
RES Low-Inc	Multi-Family Efficiency Improvement Program	Multi-family Low-Income projects with Iowa Finance Authority clients
NONRES Prescrip	C/I Prescriptive Rebate	Measure-Specific Equipment & Appliance Rebates
NONRES Custom	C/I Custom Rebate	Custom-Designed Projects, Rebates
NONRES Comm Audit	Small Commercial Energy Audit	Shell & Equipment, Audits + Direct Installation, Rebates and Loans
NONRES New Con	Habitat for Humanity	Technical assistance and incentives to builders or project developers

The following tables show the natural gas energy savings of IOU energy efficiency programs.

Table III-43. Alliant-IPL natural gas energy efficiency results, 2006

IUB Study -- Program Code Name	Year 2006	Participants Goal	Actual	% Goal	Peak Day MCF Goal	Actual	% Goal	Annual MCF Goal	Actual	% Goal
RES Prescrip	IPL-GAS	16,940	16,250	96%	0	0		114,590	85,406	75%
RES Audits	IPL-GAS	1,970	1,815	92%	0	0		30,200	52,927	175%
RES New Con	IPL-GAS	540	483	89%	0	0		18,400	18,037	98%
RES Low-Inc	IPL-GAS	938	810	86%	0	0		20,437	20,435	100%
NONRES Custom	IPL-GAS	45	46	102%	0	0		19,700	24,282	123%
NONRES Perf Contr	IPL-GAS	60	3	5%	0	0		28,800	19,673	68%
NONRES Prescrip	IPL-GAS	900	1,270	141%	0	0		13,500	20,929	155%
NONRES New Const	IPL-GAS	22	1	5%	0	0		11,000	-2,203	-20%
R&D Centers	IPL-GAS	0	0	NA	0	0		0	0	NA
TOTALS	IPL-GAS	21,415	20,678	97%	0	0		256,627	239,486	93%

Table III-44. MidAmerican natural gas energy efficiency results, 2006

IUB Study -- Program Code Name		Participants Goal	Actual	% Goal	Peak Day MCF Goal	Actual	% Goal	Annual MCF Goal	Actual	% Goal
RES Prescrip	MEC-GAS	9,000	10,834	120%	1,342	1,112	83%	92,940	76,666	82%
RES Audits	MEC-GAS	7,956	13,903	175%	430	1,090	253%	44,409	94,394	213%
RES Low-Inc	MEC-GAS	550	2,974	541%	134	340	254%	9,948	31,440	316%
RES New Con	MEC-GAS	1,900	3,396	179%	1,621	2,597	160%	109,630	172,334	157%
TREES	MEC-GAS	90	91	101%	0	0	NA	0	0	NA
R&D Centers	MEC-GAS	0	0	NA	0	0	NA	0	0	NA
NONRES Prescrip	MEC-GAS	909	978	108%	301	405	134%	11,833	17,980	152%
NONRES Custom	MEC-GAS	51	78	153%	96	259	270%	3,567	15,991	448%
NONRES Comm Audit	MEC-GAS	508	880	173%	890	353	40%	35,118	17,716	50%
NONRES En Analyz	MEC-GAS	6	140	2333%	54	5	10%	3,267	212	6%
NONRES EE Bid	MEC-GAS	0	1	NA	0	40	NA	0	1,485	NA
NONRES New Const	MEC-GAS	46	16	35%	238	272	114%	17,000	29,110	171%
TREES	MEC-GAS	0	0	NA	0	0	NA	0	0	NA
R&D Centers	MEC-GAS	0	0	NA	0	0	NA	0	0	NA
NONRES Low-Inc	MEC-GAS	0	0	NA	0	0	NA	0	0	NA
TOTALS	MEC-GAS	21,016	33,291	158%	5,106	6,472	127%	327,712	457,329	140%

Table III-45. Aquila natural gas energy efficiency results, 2006

IUB Study -- Program Code Name		Participants			Peak Day MCF			Annual MCF		
		Goal	Actual	% Goal	Goal	Actual	% Goal	Goal	Actual	% Goal
RES Prescrip	AQ-GAS	2,089	2,503	120%	298	404	136%	20,268	27,523	136%
RES Prescrip	AQ-GAS	366	1,785	488%	82	560	686%	5,493	37,676	686%
RES Prescrip	AQ-GAS	262	222	85%	3	2	72%	1,093	794	73%
RES Prescrip	AQ-GAS	99	150	152%	13	19	143%	1,050	1,530	146%
RES Prescrip	AQ-GAS	1,097	4,039	368%	182	601	330%	12,412	40,899	330%
RES New Con	AQ-GAS	208	215	103%	101	104	103%	7,827	8,072	103%
RES Audits	AQ-GAS	836	2,663	319%	6	30	494%	2,264	11,269	498%
RES Education	AQ-GAS	1,044	829	79%	3	6	222%	927	2,042	220%
RES Low-Inc	AQ-GAS	184	139	76%	32	32	100%	3,119	3,119	100%
RES Low-Inc	AQ-GAS	1,012	4,000	395%	12	12	100%	4,415	4,415	100%
RES Low-Inc	AQ-GAS	45	45	100%	7	7	100%	398	398	100%
RES Low-Inc	AQ-GAS	0	342	NA	4	4	100%	277	277	100%
NONRES Prescrip	AQ-GAS	366	240	66%	124	118	95%	16,706	15,878	95%
NONRES Custom	AQ-GAS	67	70	104%	60	178	297%	4,640	13,785	297%
NONRES Comm Audit	AQ-GAS	183	129	70%	0	0	NA	0	0	NA
NONRES New Con	AQ-GAS	0	7	NA	0	3	NA	0	375	NA
TREES	AQ-GAS	0	39	NA	0	0	NA	0	436	NA
TREES	AQ-GAS	0	2,690	NA	0	0	NA	0	70	NA
R&D Centers	AQ-GAS	0	0	NA	0	0	NA	0	0	NA
TOTALS	AQ-GAS	7,858	20,107	256%	925	2,078	225%	80,889	168,557	208%

Section 9. IOU 2006 spending and cost recovery

This section addresses IOU spending by program and category, showing percentages of total program spending for each category.

Table III-46. Summary of IOU spending in 2006 for electric energy efficiency, electric load management, and natural gas energy efficiency

Utility	Program Category	Spending for 2006 ($)
Alliant/IPL	Electric EE	20,832,645
	Electric LM	24,609,413
	Gas EE	8,592,363
	Total	54,034,422
MidAmerican	Electric EE	19,350,964
	Electric LM	10,653,584
	Gas EE	18,181,424
	Total	48,185,972
Aquila	Gas EE	4,256,243
Atmos	Gas EE	35,242
Grand Total for All IOU Programs		106,511,878

The tables below show all details of spending for each IOU. The tables for each IOU have been broken into “a” and “b” to fit on the page.

Table III-47a. Alliant-IPL 2006 electric expenditures

IOU Program Expenditures ($)		Planning & Design		Program Admin.		Advert. & Promotion		Incentives	
IUB Study – Program Code Name	Year 2006	Actual	Actual % of Total	Actual	Actual % of Total	Actual	Actual % of Total	Actual	Actual % of Total
RES Prescrip	IPL-EL	152,531	2.8%	476,273	8.7%	421,547	7.7%	4,290,769	78.4%
RES Recycl	IPL-EL	1,136	0.2%	5,650	0.8%	29,628	4.0%	693,407	93.1%
RES Audits	IPL-EL	7,766	1.2%	3,806	0.6%	15,267	2.4%	602,403	93.2%
RES New Con	IPL-EL	7,493	0.6%	5,112	0.4%	27,314	2.3%	1,041,284	89.0%
RES Low-Inc	IPL-EL	0	0.0%	52,392	13.1%	1,735	0.4%	344,365	86.2%
NONRES Custom	IPL-EL	18,021	0.3%	247,249	3.9%	712,550	11.2%	5,099,352	80.1%
NONRES Perf Contr	IPL-EL	99,915	7.3%	64,420	4.7%	104,309	7.6%	838,548	61.2%
NONRES Prescrip	IPL-EL	66,062	4.7%	51,614	3.7%	139,704	9.9%	1,102,223	78.1%
NONRES New Con	IPL-EL	46,400	4.4%	71,747	6.8%	82,461	7.9%	838,749	80.0%
NONRES Agri	IPL-EL	29,948	6.3%	59,672	12.5%	81,583	17.1%	296,465	62.2%
R&D Centers	IPL-EL	0	0.0%	1,083,237	100.0%	0	0.0%	0	0.0%
TREES	IPL-EL	0	0.0%	259,399	40.4%	116	0.0%	383,006	59.6%
TOTALS ($)	IPL-EL	429,272	2.1%	2,380,571	11.4%	1,616,215	7.8%	15,530,571	74.5%

Table III–47b. Alliant-IPL 2006 electric expenditures

IOU Program Expenditures ($)		Monitor & Eval.		Equip.	Install.	Misc.	IPL Electric EE	IPL Electric EE	IPL Electric EE
IUB Study -- Program Code Name		Actual	Actual % of Total	Actual	Actual	Actual	Goal	Actual	Actual as % of 2006 Goal
RES Prescrip	IPL-EL	134,253	2.5%	0	0	0	5,741,000	5,475,373	95%
RES Recycl	IPL-EL	15,363	2.1%	0	0	0	588,000	745,184	127%
RES Audits	IPL-EL	17,446	2.7%	0	0	0	497,000	646,688	130%
RES New Con	IPL-EL	88,825	7.6%	0	0	0	1,140,000	1,170,028	103%
RES Low-Inc	IPL-EL	1,087	0.3%	0	0	0	424,666	399,578	94%
NONRES Custom	IPL-EL	286,756	4.5%	0	0	0	3,725,000	6,363,928	171%
NONRES Perf Contr	IPL-EL	263,291	19.2%	0	0	0	2,757,604	1,370,484	50%
NONRES Prescrip	IPL-EL	51,102	3.6%	0	0	0	1,024,000	1,410,705	138%
NONRES New Con	IPL-EL	8,730	0.8%	0	0	0	2,269,000	1,048,087	46%
NONRES Agri	IPL-EL	9,164	1.9%	0	0	0	350,000	476,832	136%
R&D Centers	IPL-EL	0	0.0%	0	0	0	1,098,244	1,083,237	99%
TREES	IPL-EL	0	0.0%	0	0	0	648,893	642,521	99%
TOTALS ($)	IPL-EL	876,017	4.2%				20,263,407	20,832,645	103%

Table III-48a. MidAmerican 2006 electric expenditures

IOU Program Expenditures ($)		Planning & Design		Program Admin.		Advert. & Promotion		Incentives	
IUB Study -- Program Code Name	Year 2006	Actual	% TOT	Actual	% TOT	Actual	% TOT	Actual	% TOT
RES Prescrip	MEC-EL	43,146	1.8%	167,883	7.2%	151,379	6.5%	1,958,889	83.5%
RES Audits	MEC-EL	13,784	0.7%	294,000	15.4%	211,319	11.1%	1,366,837	71.6%
RES Low-Inc	MEC-EL	7,020	1.7%	60,973	14.6%	13,941	3.3%	331,415	79.4%
RES New Con	MEC-EL	22,893	0.8%	110,267	4.0%	130,079	4.7%	2,473,842	89.9%
TREES	MEC-EL	1,342	1.4%	3,719	3.8%	20,257	20.8%	71,520	73.6%
R&D Centers	MEC-EL	0	0.0%	0	0.0%	0	0.0%	0	0.0%
NONRES Prescrip	MEC-EL	31,775	0.9%	157,580	4.7%	189,036	5.6%	2,894,449	86.4%
NONRES Custom	MEC-EL	7,193	1.2%	173,873	28.3%	63,345	10.3%	306,081	49.8%
NONRES Comm Audit	MEC-EL	6,910	1.1%	103,202	16.0%	46,413	7.2%	461,764	71.4%
NONRES En Analyz	MEC-EL	11,894	1.0%	227,221	18.3%	79,544	6.4%	824,454	66.4%
NONRES EE Bid	MEC-EL	18,408	2.5%	106,708	14.2%	48,589	6.5%	472,867	63.1%
NONRES New Const	MEC-EL	69,897	1.8%	219,198	5.5%	214,212	5.4%	3,155,869	79.4%
TREES	MEC-EL	1,930	1.4%	5,352	3.8%	29,150	20.8%	102,918	73.6%
R&D Centers	MEC-EL	0	0.0%	0	0.0%	0	0.0%	0	0.0%
NONRES Low-Inc	MEC-EL	40	0.2%	3,506	18.7%	701	3.7%	14,328	76.3%
TOTALS	MEC-EL	236,232	1.2%	1,633,482	8.4%	1,197,965	6.2%	14,435,233	74.6%

Table III-48b. MidAmerican 2006 electric expenditures

IOU Program Expenditures ($)		Monitor & Eval.		Equip. Install. Misc.				MEC Electric EE	MEC Electric EE	MEC EL EE
IUB Study -- Program Code Name		Actual	% TOT	Actual	Actual	Actual	% TOT	Goal	Actual	Actual % of Goal
RES Prescrip	MEC-EL	24,915	1.1%	0	0	0	0.0%	1,787,000	2,346,212	131%
RES Audits	MEC-EL	23,473	1.2%	0	0	0	0.0%	794,000	1,909,413	240%
RES Low-Inc	MEC-EL	3,852	0.9%	0	0	0	0.0%	453,000	417,201	92%
RES New Con	MEC-EL	13,913	0.5%	0	0	0	0.0%	1,323,000	2,750,994	208%
TREES	MEC-EL	384	0.4%	0	0	0	0.0%	82,000	97,222	119%
R&D Centers	MEC-EL	0	0.0%	0	0	447,522	100.0%	419,000	447,522	107%
NONRES Prescrip	MEC-EL	78,131	2.3%	0	0	0	0.0%	1,232,000	3,350,971	272%
NONRES Custom	MEC-EL	64,022	10.4%	0	0	0	0.0%	621,000	614,514	99%
NONRES Comm Audit	MEC-EL	28,258	4.4%	0	0	0	0.0%	493,000	646,547	131%
NONRES En Analyz	MEC-EL	98,354	7.9%	0	0	0	0.0%	1,262,000	1,241,467	98%
NONRES EE Bid	MEC-EL	102,652	13.7%	0	0	0	0.0%	675,000	749,224	111%
NONRES New Const	MEC-EL	317,830	8.0%	0	0	0	0.0%	3,714,000	3,977,006	107%
TREES	MEC-EL	553	0.4%	0	0	0	0.0%	118,000	139,903	119%
R&D Centers	MEC-EL	0	0.0%	0	0	643,996	100.0%	603,000	643,996	107%
NONRES Low-Inc	MEC-EL	197	1.0%	0	0	0	0.0%	0	18,772	NA
TOTALS	MEC-EL	756,534	3.9%	0	0	1,091,518	5.6%	13,576,000	19,350,964	143%

Table III-49a. Alliant-IPL 2006 electric load management expenditures

IOU Program Expenditures ($)		Planning & Design		Program Admin.		Advert. & Promotion		Incentives	
IUB Study -- Program Code Name	Year 2006	Actual	Actual % of Total	Actual	Actual % of Total	Actual	Actual % of Total	Actual	Actual % of Total
RES Load Man	IPL-EL	2,665	0.1%	195,019	8.6%	23,538	1.0%	1,948,507	86.4%
NONRES Load Man	IPL-EL	115,343	0.5%	119,321	0.5%	57,070	0.3%	22,059,624	98.7%
TOTALS ($)	IPL-EL	118,008	0.5%	314,340	1.3%	80,609	0.3%	24,008,131	97.6%

Table – III-49b. Alliant-IPL 2006 electric load management expenditures

IOU Program Expenditures ($)		Monitor & Eval.		Equip.	Install.	Misc.	IPL Electric LM		
IUB Study -- Program Code Name		Actual	Actual % of Total	Actual	Actual	Actual	Goal	Actual	Actual as % Of 2006 Goal
RES Load Man	IPL-EL	85,388	3.8%	0	0	0	2,464,170	2,255,118	92%
NONRES Load Man	IPL-EL	2,937	0.0%	0	0	0	22,677,968	22,354,296	99%
TOTALS ($)	IPL-EL	88,325	0.4%				25,142,138	24,609,413	98%

Table III-50a. MidAmerican 2006 electric load management expenditures

IOU Program Expenditures ($)		Planning & Design		Program Admin.		Advert. & Promotion		Incentives	
IUB Study -- Program Code Name	Year 2006	Actual	% TOT	Actual	% TOT	Actual	% TOT	Actual	% TOT
RES Load Man	MEC-EL	47,009	1.6%	330,019	11.3%	179,115	6.1%	1,712,262	58.6%
NONRES Load Man	MEC-EL	112,428	1.5%	316,047	4.1%	266,094	3.4%	6,674,025	86.3%
TOTALS	MEC-EL	159,437	1.5%	646,066	6.1%	445,209	4.2%	8,386,287	78.7%

Table III-50b. MidAmerican 2006 electric load management expenditures

IOU Program Expenditures ($)		Monitor & Eval.		Equip.		Install.		Misc.	MEC Electric EE	MEC Electric EE	MEC Electric EE
IUB Study -- Program Code Name		Actual	% TOT	Actual	% TOT	Actual	% TOT	Actual	Goal	Actual	Actual % of Goal
RES Load Man	MEC-EL	37,292	1.3%	296,654	10.2%	319,831	10.9%	0	3,195,000	2,922,182	91%
NONRES Load Man	MEC-EL	362,808	4.7%	0	0.0%	0	0.0%	0	6,575,000	7,731,402	118%
TOTALS	MEC-EL	400,100	3.8%	296,654	2.8%	319,831	3.0%	0	9,770,000	10,653,584	109%

Table III-51a. Alliant-IPL 2006 natural gas expenditures

IOU Program Expenditures ($)		Planning & Design		Program Admin.		Advert. & Promotion		Incentives	
IUB Study -- Program Code Name	Year 2006	Actual	Actual % of Total	Actual	Actual % of Total	Actual	Actual % of Total	Actual	Actual % of Total
RES Prescrip	IPL-GAS	63,655	2.3%	237,064	8.5%	203,824	7.3%	2,211,757	79.3%
RES Audits	IPL-GAS	49,568	4.2%	5,708	0.5%	23,100	2.0%	1,062,876	91.0%
RES New Con	IPL-GAS	7,493	0.7%	5,112	0.5%	26,564	2.6%	908,188	87.6%
RES Low-Inc	IPL-GAS	0	0.0%	296,760	14.3%	9,832	0.5%	1,762,805	84.9%
NONRES Custom	IPL-GAS	2,237	0.5%	39,888	9.6%	94,153	22.7%	236,369	57.0%
NONRES Perf Contr	IPL-GAS	17,530	18.3%	18,076	18.9%	4,770	5.0%	9,053	9.5%
NONRES Prescrip	IPL-GAS	20,220	4.0%	15,512	3.1%	43,835	8.7%	405,662	80.8%
NONRES New Const	IPL-GAS	12,377	6.9%	20,258	11.3%	18,996	10.6%	125,259	69.8%
R&D Centers	IPL-GAS	0	0.0%	330,918	100.0%	0	0.0%	0	0.0%
TOTALS ($)		173,081	2.0%	969,295	11.3%	425,073	4.9%	6,721,970	78.2%

Table III-51b. Alliant-IPL 2006 natural gas expenditures

IOU Program Expenditures ($)		Monitor & Eval.		Equip.	Install.	Misc.	IPL Gas EE	IPL Gas EE	IPL Gas EE
IUB Study -- Program Code Name		Actual	Actual % of Total	Actual	Actual	Actual	Goal	Actual	Actual as % of 2006 Goal
RES Prescrip	IPL-GAS	72,744	2.6%	0	0	0	3,383,000	2,789,043	82%
RES Audits	IPL-GAS	26,339	2.3%	0	0	0	740,800	1,167,592	158%
RES New Con	IPL-GAS	89,498	8.6%	0	0	0	1,140,000	1,036,855	91%
RES Low-Inc	IPL-GAS	6,157	0.3%	0	0	0	2,404,082	2,075,553	86%
NONRES Custom	IPL-GAS	42,323	10.2%	0	0	0	423,000	414,969	98%
NONRES Perf Contr	IPL-GAS	46,184	48.3%	0	0	0	485,685	95,613	20%
NONRES Prescrip	IPL-GAS	17,135	3.4%	0	0	0	310,000	502,365	162%
NONRES New Const	IPL-GAS	2,564	1.4%	0	0	0	366,000	179,454	49%
R&D Centers	IPL-GAS	0	0.0%	0	0	0	302,339	330,918	109%
TOTALS ($)		302,944	3.5%				9,554,906	8,592,363	90%

Table III-52a. MidAmerican 2006 natural gas expenditures

IOU Program Expenditures ($)		Planning & Design		Program Admin.		Advert. & Promotion		Incentives	
IUB Study -- Program Code Name	Year 2006	Actual	% TOT	Actual	% TOT	Actual	% TOT	Actual	% TOT
RES Prescrip	MEC-GAS	33,019	1.0%	310,663	9.8%	178,364	5.6%	2,615,587	82.5%
RES Audits	MEC-GAS	31,695	0.8%	458,268	11.8%	253,081	6.5%	3,112,380	79.9%
RES Low-Inc	MEC-GAS	27,017	1.5%	283,718	15.5%	68,921	3.8%	1,437,045	78.4%
RES New Con	MEC-GAS	51,584	0.8%	222,953	3.6%	314,432	5.1%	5,599,335	90.0%
TREES	MEC-GAS	2,213	1.5%	7,853	5.3%	33,710	22.8%	103,473	69.9%
R&D Centers	MEC-GAS	0	0.0%	0	0.0%	0	0.0%	0	0.0%
NONRES Prescrip	MEC-GAS	4,417	1.6%	29,173	10.3%	14,695	5.2%	225,975	79.5%
NONRES Custom	MEC-GAS	2,689	0.6%	71,832	17.1%	27,457	6.6%	287,070	68.5%
NONRES Comm Audit	MEC-GAS	7,932	1.1%	111,000	15.6%	47,799	6.7%	513,052	72.2%
NONRES En Analyz	MEC-GAS	2,009	1.4%	40,199	28.8%	9,474	6.8%	74,737	53.5%
NONRES EE Bid	MEC-GAS	19	0.4%	324	7.6%	191	4.5%	3,713	86.8%
NONRES New Const	MEC-GAS	8,766	1.9%	36,839	8.0%	28,983	6.3%	356,513	77.2%
TREES	MEC-GAS	1,090	1.5%	3,869	5.3%	16,602	22.8%	50,965	69.9%
R&D Centers	MEC-GAS	0	0.0%	0	0.0%	0	0.0%	0	0.0%
NONRES Low-Inc	MEC-GAS	191	0.3%	15,076	23.9%	3,427	5.4%	43,550	69.2%
TOTALS	MEC-GAS	172,641	0.9%	1,591,767	8.8%	997,136	5.5%	14,423,395	79.3%

Table III-52b. MidAmerican 2006 natural gas expenditures

IOU Program Expenditures ($)		Monitor & Eval.		Equip.	Install.	Misc.		MEC Gas EE	MEC Gas EE	MEC Gas EE
IUB Study -- Program Code Name		Actual	% TOT	Actual	Actual	Actual	% TOT	Goal	Actual	Actual % of Goal
RES Prescrip	MEC-GAS	33,682	1.1%	0	0	0	0.0%	1,763,000	3,171,315	180%
RES Audits	MEC-GAS	38,242	1.0%	0	0	0	0.0%	1,840,000	3,893,666	212%
RES Low-Inc	MEC-GAS	17,128	0.9%	0	0	0	0.0%	1,704,000	1,833,829	108%
RES New Con	MEC-GAS	36,471	0.6%	0	0	0	0.0%	3,026,000	6,224,775	206%
TREES	MEC-GAS	829	0.6%	0	0	0	0.0%	134,000	148,078	111%
R&D Centers	MEC-GAS	0	0.0%	0	0	505,071	100.0 %	336,000	505,071	150%
NONRES Prescrip	MEC-GAS	9,954	3.5%	0	0	0	0.0%	202,000	284,214	141%
NONRES Custom	MEC-GAS	30,072	7.2%	0	0	0	0.0%	62,000	419,120	676%
NONRES Comm Audit	MEC-GAS	31,248	4.4%	0	0	0	0.0%	520,000	711,031	137%
NONRES En Analyz	MEC-GAS	13,372	9.6%	0	0	0	0.0%	224,000	139,791	62%
NONRES EE Bid	MEC-GAS	29	0.7%	0	0	0	0.0%	0	4,276	NA
NONRES New Const	MEC-GAS	30,494	6.6%	0	0	0	0.0%	496,000	461,595	93%
TREES	MEC-GAS	408	0.6%	0	0	0	0.0%	66,000	72,934	111%
R&D Centers	MEC-GAS	0	0.0%	0	0	248,767	100.0 %	165,000	248,767	151%
NONRES Low-Inc	MEC-GAS	718	1.1%	0	0	0	0.0%	0	62,962	NA
TOTALS	MEC-GAS	242,647	1.3%	0	0	753,838	4.1%	10,538,000	18,181,424	173%

Aquila, Inc., data for spending does not include any spending for Planning and Design, Advertising and Promotion, Equipment, or Installation. Aquila may include such costs within other categories.

Table III-53a & b. Aquila 2006 natural gas expenditures

IOU Program Expenditures ($)		Program Admin.		Incentives		Monitor & Eval.		Misc.	Aquila Gas EE		
IUB Study -- Program Code Name		Actual	% TOT	Actual	% TOT	Actual	% TOT	Actual	Goal	Actual	Actual % of Goal
RES Prescrip	AQ-GAS	87,700	10.9%	673,302	83.9%	36,612	4.6%	5,325	626,342	802,938	128%
RES Prescrip	AQ-GAS	6,112	0.5%	1,120,745	98.4%	12,000	1.1%	425	200,535	1,139,282	568%
RES Prescrip	AQ-GAS	3,151	14.2%	16,491	74.4%	2,519	11.4%	0	34,738	22,161	64%
RES Prescrip	AQ-GAS	1,874	3.4%	51,457	92.1%	2,527	4.5%	0	40,265	55,858	139%
RES Prescrip	AQ-GAS	5,734	2.8%	194,740	94.5%	5,650	2.7%	0	88,425	206,125	233%
RES New Con	AQ-GAS	49,360	15.2%	246,288	75.9%	28,005	8.6%	778	373,700	324,432	87%
RES Audits	AQ-GAS	149,205	40.1%	214,236	57.6%	8,721	2.3%	0	132,637	372,162	281%
RES Education	AQ-GAS	55,422	99.4%	0	0.0%	321	0.6%	0	49,476	55,743	113%
RES Low-Inc	AQ-GAS	445,124	99.8%	0	0.0%	675	0.2%	0	422,089	445,799	106%
RES Low-Inc	AQ-GAS	46,354	82.3%	0	0.0%	9,936	17.7%	0	49,487	56,290	114%
RES Low-Inc	AQ-GAS	17,739	100.0 %	0	0.0%	0	0.0%	0	17,739	17,739	100%
RES Low-Inc	AQ-GAS	13,662	73.8%	0	0.0%	4,850	26.2%	0	47,809	18,512	39%
NONRES Prescrip	AQ-GAS	78,762	93.1%	0	0.0%	5,804	6.9%	0	105,268	84,566	80%
NONRES Custom	AQ-GAS	13,421	9.6%	117,431	84.3%	8,402	6.0%	0	126,321	139,255	110%
NONRES Comm Audit	AQ-GAS	26,634	13.7%	131,213	67.5%	36,602	18.8%	0	142,111	194,448	137%
NONRES New Con	AQ-GAS	16,717	95.1%	0	0.0%	856	4.9%	0	30,528	17,573	58%
TREES	AQ-GAS	101,473	100.0 %	0	0.0%	0	0.0%	0	101,057	101,473	100%
TREES	AQ-GAS	15,000	100.0 %	0	0.0%	0	0.0%	0	15,790	15,000	95%
R&D Centers	AQ-GAS	186,886	100.0 %	0	0.0%	0	0.0%	0	176,850	186,886	106%
TOTALS	AQ-GAS	1,320,331	31.0%	2,765,904	65.0%	163,480	3.8%	6,528	2,781,166	4,256,243	153%

Table III-54. MidAmerican energy efficiency cost recovery charges for 2007

MidAmerican Rate Classes ELECTRIC	Electric – East System ($/kWh)	Electric – North System ($/kWh)	Electric – South System ($/kWh)
Residential	0.00212	0.00212	0.00212
Commercial	0.00118	0.00118	0.00118
Industrial	0.00118	0.00118	0.00118
Lighting	0.00011	0.00011	0.00011

Table III-55. MidAmerican energy efficiency cost recovery charges for 2007

MidAmerican Rate Classes – GAS	GAS- East System ($/therm)	GAS – West System ($/therm)
Residential Small Volume Firm (SVF)	0.03844	0.03844
Non-Residential SVF	0.01185	0.01185
Medium Volume Firm (MVF)	NA	0.01185
Large Volume Firm (LVF)	NA	0.01185
Interruptible	NA	0.01185
Seasonal	NA	0.01185

Table III-56. Alliant/IPL energy efficiency cost recovery charges for 2007

Alliant/IPL Electric Rate Classes	Electric Energy Efficiency Charges ($/kWh)	Natural Gas Energy Efficiency Charges ($/therm)
Residential and Farm	0.0050	0.0643
General Service (Commercial)	0.0030	0.0124
Large General Service (Industrial)	0.0023	0.0141
Lighting or Other	0.0027	NA
Bulk Supply	0.0022	NA

Table III-57. Aquila energy efficiency cost recovery charges for 2007

Aquila Rate Classes	Natural Gas Energy Efficiency Charges ($/therm)
General Service	0.03982
Non-General Service	0.00438
Transportation	0.0000

Section 10. Discussion of IOU energy efficiency cost effectiveness

Cost-effectiveness is probably the most essential determinant of whether an energy efficiency program should be pursued or how the program is working. The Iowa General Assembly directed that certain benefit-cost tests be applied to the IOU energy efficiency plans, with specific exceptions.

> **476.6 Changes in rates, charges, schedules, and regulations - supply and cost review - water costs for fire protection.**
>
> 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, ratepayer 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 benefit-cost tests are further defined in IUB rules as follows:

> 199—35.2(476) Definitions. The following words and terms, when used in this chapter, shall have the meanings shown below:
>
> "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.
>
> "Net societal benefits" means the present value of benefits less the present value of costs as defined in the societal test.

These definitions emphasize that benefits and costs must be expressed in present value. The benefits of energy efficiency extend far into the future, but almost all costs are incurred up-front, in the form of dollars expended to make the energy efficiency investment. A comparison of these immediate costs to only the first year of energy and capacity savings would yield misleading results.

Because energy efficiency savings extend into the future, these savings must be discounted to a present value. The reason that there are four (or in some cases, five) benefit-cost tests is that the net value of energy efficiency varies depending on the "perspective" or the economic position of the entity under consideration.

A quick view of the various tests and the key parameters can be seen in the following table, derived from the source document for the 1990 legislation that established the IOU energy efficiency programs (Energy Efficiency Options Study – Main Report, Morgan Systems Corporation, October 27, 1989).

Table III-58. Components of IUB benefit-cost tests

Perspective	Cost Components				Benefit Components			
	Program Costs (Admin)	Customers Rebates/ Incentives	Utility Revenue Decreases	Participant Incremental Costs	Savings in Utility Fuel $	Avoided Plant Investment	Customer Rebate/ Incentive	Customer Utility Bill Reduction
Participant				**X**			**X**	**X**
Rate-payer	**X**	**X**	**X**		**X**	**X**		
Utility	**X**	**X**			**X**	**X**		
Societal	**X**			**X**	**X**	**X**		

The IUB has also consistently followed the recommendation of the Morgan Systems Main Report, which is to "use the Societal test to screen demand side management programs for implementation, incorporat(ing) a term in the equation for externalities, for both gas and electric fuels." (Energy Efficiency Options Study – Main Report, page III-9)

Some of the IOU benefit-cost calculations are included as examples of how the various tests are performed. A table from the MEC 2006 Residential Equipment Program shows a summary of the calculations for each of the tests, for electric and gas benefits and costs. Note the additional test included by MEC, titled "Total Resource Cost" test. This test is identical to the Societal test in that it includes the cost components of program costs and participant incremental costs and the benefits of savings for utility fuel and avoided plant investment. However, the Total Resource Cost test does not include externality benefits.

Table III-59. MidAmerican Energy Company (MEC) benefit-cost results for the 2006 Residential Equipment Program

	Test Perspective and Discount Rate				
	Participant	Utility	Ratepayer Impact Measure	Total Resource Cost	Societal
	8.16%	8.16%	8.16%	8.16%	5.18%
Summary - Electric & Gas					
B/C Ratio	1.861	1.280	0.523	0.918	1.195
Net Benefits ($)	5,816,355	1,545,951	-6,447,868	-631,513	1,504,348
Total Benefits ($)	12,568,295	7,063,477	7,063,477	7,063,477	9,199,338
Total Costs ($)	6,751,940	5,517,526	13,511,345	7,694,990	7,694,990
Summary - Electric Only					
B/C Ratio	1.672	1.067	0.522	0.827	1.087
Net Benefits ($)	1,771,066	156,311	-2,292,834	-521,767	263,223
Total Benefits ($)	4,408,033	2,502,522	2,502,522	2,502,522	3,287,513
Total Costs ($)	2,636,967	2,346,212	4,795,356	3,024,290	3,024,290
Levelized Cost ($/kWh)	0.047	0.042	0.085	0.054	0.045
Summary - Gas Only					
B/C Ratio	1.983	1.438	0.523	0.977	1.266
Net Benefits ($)	4,045,289	1,389,640	-4,155,035	-109,746	1,241,125
Total Benefits ($)	8,160,262	4,560,955	4,560,955	4,560,955	5,911,825
Total Costs ($)	4,114,973	3,171,314	8,715,989	4,670,700	4,670,700
Levelized Cost ($/therm)	0.550	0.424	1.165	0.624	0.521
Benefit Components ($)					
Customer Electric Bill Decrease	2,449,144				
Customer Gas Bill Decrease	5,544,675				
Customer Rebates Received - Electri	1,958,889				
Customer Rebates Received - Gas	2,615,587				
MEC Electric Production Savings		1,094,924	1,094,924	1,094,924	1,384,126
MEC Capacity Savings		1,407,599	1,407,599	1,407,599	1,675,094
MEC Gas Acquisition Cost Savings		4,560,955	4,560,955	4,560,955	5,526,146
Externalities - Electric					228,293
Externalities - Gas					385,678
Cost Components ($)					
Incremental Participant Cost - Electric	2,636,967			2,636,967	2,636,967
Incremental Participant Cost - Gas	4,114,973			4,114,973	4,114,973
MEC Electric Revenue Decrease			2,449,144		
MEC Gas Revenue Decrease			5,544,675		
MEC Administrative Costs - Electric		387,323	387,323	387,323	387,323
MEC Administrative Costs - Gas		555,727	555,727	555,727	555,727
MEC Rebates Paid - Electric		1,958,889	1,958,889		
MEC Rebates Paid - Gas		2,615,587	2,615,587		

These benefits and costs are based on the present value of the future stream of savings and costs. This report includes a complete set of the IOU 2006 benefit-cost test results following this discussion.

The IOU benefit-cost tests provide an accurate portrayal of the present value of energy efficiency programs from various perspectives at a given time. There are a number of points that must be kept in mind when viewing the IOU 2006 benefit-cost tests, as listed in the following table:

Table III-60. Features and caveats of the cost-effectiveness tests

Key Feature	Caveats
The Ratepayer test is used primarily to estimate the impact of energy efficiency programs upon the ratepayers who do not participate in any program in a given year.	However, many of these ratepayers have participated or will participate in a program in some year, and thus will improve their energy efficiency and begin saving money.
If the Ratepayer impact test determined which energy efficiency programs should be implemented, most programs would fail, because most energy efficiency programs will increase rates to pay for recovery of costs.	However, if the Ratepayer test were also used to determine whether a power plant should be built, that project would also fail.
If a Ratepayer never participates in a program the Ratepayer will still benefit from energy efficiency programs that reduce future costs to the utility.	Doing nothing, that is, not implementing an energy efficiency program, will force all ratepayers to pay more for future generating plants (electric services) and fuel (electric and gas service).
The benefits of energy efficiency programs using the Societal test are the avoided costs to the utility.	These avoided costs are less than the Participant benefits, simply because the participant benefits are based on “retail” energy costs while the utility avoided costs are effectively “wholesale” amounts.

The IOUs' plan produced the following benefit-cost ratios and net benefits.

Table III-61. Societal benefits and costs for 2006

IOU Program Types	Societal Benefits ($ Million)	Societal Costs ($ Million)	Societal Net Ben. ($ Million)	Soc. B/C Ratio
Electric LM	486	240	245	2.02
Electric EE	216	96	120	2.24
Gas EE	82	50	32	1.63
All LM + EE	784	387	397	2.03

One item that tends to have a major impact on the benefits of the IOU energy efficiency programs is the avoided costs of new power plants. The following are some examples of avoided power plant costs.

- MidAmerican estimated its costs as a present worth of total revenue requirements for a combustion turbine, amounting to $694 per kilowatt in 2004.

- Alliant/IPL estimated its costs as present value of revenue requirements for a combustion turbine, amounting to $535 per kilowatt in 2005.

The value of avoiding a power plant is considerable, but avoiding the fuel and operating costs to produce electricity or avoiding purchase of the gas distributed to customers is also valuable. If energy efficiency programs can be implemented for less than the costs of capacity and energy in the future, programs will be cost-effective. IOU reports include the avoided costs used to determine the benefits of energy efficiency for current plans and programs, as follows:

Table III- 62. Alliant/IPL avoided costs (data response filed July 27, 2007)

Electric Capacity

$/kW-year	$	127.46

Electric Energy

Summer On Pk (kWH)	$0.0655
Summer Mid Pk (kWH)	$0.0453
Summer Off Pk (kWH)	$0.0338
Winter On Pk (kWH)	$0.0573
Winter Mid Pk (kWH)	$0.0400
Winter Off Pk (kWH)	$0.0281

Natural Gas Peak Day Capacity

$/Therm-year	$	8.15

Natural Gas Energy

On Peak	$	0.44
Off Peak	$	0.41

Table III-63. Aquila avoided costs (from Docket No. EEP-03-4, filed 03/31/03)

Peak day demand cost (2004) - - - - - - - - - - - - - = $3.40 per Pk-day Therm
Peak day demand cost for 2006, including inflation = $3.57 per Pk-day Therm
Gas energy cost (2004) - - - - - - - - - - - - - - - - - - - = $0.41 per Therm (Winter)
Gas energy cost for 2006, including inflation - - - - = $0.43 per Therm (Winter)

Another way of expressing the value of energy efficiency programs is to estimate what the cost of energy efficiency might be on a dollars per kW or cents per kWh basis. IOU data included information on "levelized costs," that is, the up-front costs for implementing energy efficiency, from various perspectives, spread over the entire stream of kW, kWh, or therms saved by the energy efficiency measures.

IOUs calculate the effects of the energy efficiency measures installed in a particular year by estimating savings for the entire lifetime of the energy efficiency measures. The levelized cost calculation spreads the cost over all of the future kW, kWh, or therms using discounting to obtain a present value for the future savings. The following table shows an example of levelized costs for all of the energy efficiency programs combined for MidAmerican. The benefit-cost section of this study includes tables of with levelized costs for individual programs for MidAmerican, Alliant/IPL, and Aquila.

Table III-64. MEC levelized costs for all electric and gas savings from programs implemented in 2006

MEC 2006 All Programs Combined	Electric Levelized Energy Costs $ per kWh	Electric Levelized Capacity Cost $ per kW (NONRES Load Management only)	Natural Gas Energy Levelized Cost
Participant	$0.023	$ 3.01	$0.56
Utility	$0.017	$ 56.63	$0.38
Ratepayer	$0.071	$ 57.33	$1.14
Societal	$0.025	$ 11.41	$0.51

Similar numbers can be seen for individual programs implemented by Alliant/IPL and Aquila, although those companies did not estimate total plan levelized costs.

MidAmerican includes with its levelized cost estimates the following disclaimer:

> MidAmerican notes that making comparisons between the value of program impacts and program expenditures is most meaningfully

done with the benefit/cost tests themselves, as this is the purpose for which they were developed. We believe that directly comparing levelized costs to avoided costs, which are highly variable within a year and across years, is difficult, over-simplified, and subject to misinterpretation. (Docket No. NOI-07-2, filing of July 27, 2007, section 8c.)

Section 11. IOU 2006 results – Benefit-cost results

The following tables show the benefit-cost results for each program of each IOU.

Table III-65. Alliant-IPL electric energy efficiency Participant test

IUB Study -- Program Code Name	($PV) = 2006 PV	Participant Test Benefits ($PV)	Costs ($PV)	Net Benefits	B/C	Levelized Cost Energy	Capacity
RES Prescrip	IPL-EL	22,719,129	7,951,469	14,767,660	2.86	0.04	122.56
RES Recycl	IPL-EL	5,989,863	-242,539	6,232,401	NA	NA	NA
RES Audits	IPL-EL	2,995,744	277,328	2,718,416	10.80	0.01	36.87
RES New Con	IPL-EL	3,586,722	143,091	3,443,631	25.07	0.00	7.78
RES Low-Inc	IPL-EL	2,243,541	174,034	2,069,507	12.89	0.01	17.88
NONRES Custom	IPL-EL	39,012,577	20,516,090	18,496,487	1.90	0.03	178.29
NONRES Perf Contr	IPL-EL	5,315,885	359,137	4,956,749	14.80	0.00	28.24
NONRES Prescrip	IPL-EL	7,213,345	1,670,035	5,543,310	4.32	0.03	88.59
NONRES New Con	IPL-EL	1,667,886	1,258,123	409,763	1.33	0.04	232.11
NONRES Agri	IPL-EL	10,908,286	2,149,371	8,758,914	5.08	0.05	252.50
R&D Centers	IPL-EL	0	1,083,237	-1,083,237	NA	NA	NA
TREES	IPL-EL	0	642,521	-642,521	NA	NA	NA
EL EE Comb BC	IPL-EL	101,652,978	35,981,897	65,671,081	2.83	NA	NA

Table III-66. Alliant-IPL electric load management Participant test

IUB Study -- Program Code Name		Participant Test Benefits ($PV)	Costs ($PV)	Net Benefits	B/C	Levelized Cost Energy	Capacity
RES Load Man	IPL-EL	49,837	-21,630,585	91,391	NA	0.00	0.00
NONRES Load Man	IPL-EL	331,912,440	114,304,091	217,608,349	2.90	0.00	0.00

Table III-67. Alliant-IPL natural gas Participant test

IUB Study -- Program Code Name		Participant Test Benefits ($PV)	Costs ($PV)	Net Benefits	B/C	Levelized Cost Energy	Capacity
RES Prescrip	IPL-GAS	9,832,444	3,120,042	6,712,403	3.15	0.39	27.21
RES Audits	IPL-GAS	6,542,210	761,217	5,780,993	8.59	0.15	12.34
RES New Con	IPL-GAS	3,507,040	489,025	3,018,016	7.17	0.29	20.02
RES Low-Inc	IPL-GAS	2,525,923	-675,807	3,201,729	-3.74	NA	NA
NONRES Custom	IPL-GAS	1,734,535	1,076,787	657,749	1.61	0.47	46.94
NONRES Perf Contr	IPL-GAS	1,405,315	41,241	1,364,073	34.08	0.02	2.22
NONRES Prescrip	IPL-GAS	1,422,259	605,466	816,794	2.35	0.31	14.24
NONRES New Const	IPL-GAS	-153,260	187,888	-341,148	-0.82	NA	NA
R&D Centers	IPL-GAS	0	330,918	-330,918	NA	NA	NA
GAS EE Comb BC	IPL-GAS	26,816,466	5,936,777	20,879,690	4.52	NA	NA

Table III-68. Alliant-IPL electric energy efficiency Utility test

IUB Study -- Program Code Name	($PV) = 2006 PV	Utility Test Benefits	Benefits ($PV)	Costs ($PV)	B/C	Levelized Cost Energy	Capacity
RES Prescrip	IPL-EL	21,425,318	5,213,999	16,211,319	4.11	0.03	70.82
RES Recycl	IPL-EL	4,246,559	745,184	3,501,375	5.70	0.01	55.50
RES Audits	IPL-EL	2,659,741	646,688	2,013,053	4.11	0.02	75.75
RES New Con	IPL-EL	4,630,486	1,170,028	3,460,458	3.96	0.03	56.03
RES Low-Inc	IPL-EL	2,777,027	399,578	2,377,449	6.95	0.02	36.18
NONRES Custom	IPL-EL	42,430,670	6,363,928	36,066,742	6.67	0.01	48.73
NONRES Perf Contr	IPL-EL	5,402,442	1,370,484	4,031,958	3.94	0.01	94.97
NONRES Prescrip	IPL-EL	5,179,252	1,410,705	3,768,547	3.67	0.02	65.94
NONRES New Con	IPL-EL	1,891,163	1,048,087	843,076	1.80	0.03	170.39
NONRES Agri	IPL-EL	3,563,569	476,832	3,086,737	7.47	0.01	49.36
R&D Centers	IPL-EL	0	1,083,237	-1,083,237	NA	NA	NA
TREES	IPL-EL	0	642,521	-642,521	NA	NA	NA
EL EE Comb BC	IPL-EL	94,206,228	20,571,271	73,634,957	4.58	NA	NA

Table III-69. Alliant-IPL electric load management Utility test

IUB Study -- Program Code Name	($PV) = 2006 PV	Utility Test Benefits ($PV)	Costs ($PV)	Net Benefits	B/C	Levelized Cost Energy	Capacity
RES Load Man	IPL-EL	29,181,974	25,034,306	4,147,668	1.17		
NONRES Load Man	IPL-EL	325,144,747	247,168,511	77,876,236	1.32		

Table III-70. Alliant-IPL natural gas efficiency Utility test

IUB Study -- Program Code Name	($PV) = 2006 PV	Utility Test Benefits ($PV)	Costs ($PV)	Net Benefits	B/C	Levelized Cost Energy	Capacity
RES Prescrip	IPL-GAS	6,281,183	2,660,388	3,620,795	2.36	0.29	20.44
RES Audits	IPL-GAS	4,161,131	1,167,592	2,993,539	3.56	0.21	16.68
RES New Con	IPL-GAS	1,454,222	1,036,855	417,367	1.40	0.54	37.41
RES Low-Inc	IPL-GAS	1,647,101	2,075,553	-428,452	0.79	0.95	67.83
NONRES Custom	IPL-GAS	1,831,833	414,969	1,416,864	4.41	0.16	15.94
NONRES Perf Contr	IPL-GAS	1,483,969	95,613	1,388,356	15.52	0.05	4.54
NONRES Prescrip	IPL-GAS	1,749,036	502,365	1,246,671	3.48	0.22	10.41
NONRES New Const	IPL-GAS	-160,253	179,454	-339,707	-0.89	NA	NA
R&D Centers	IPL-GAS	0	330,918	-330,918	NA	NA	NA
GAS EE Comb BC	IPL-GAS	18,448,222	8,463,707	9,984,515	2.18	NA	NA

Table III-71. Alliant-IPL electric energy efficiency Ratepayer test

IUB Study – Program Code Name	($PV) = 2006 PV	Ratepayer Impact Test Benefits ($PV)	Costs ($PV)	Net Benefits	B/C	Levelized Cost Energy	Capacity
RES Prescrip	IPL-EL	21,425,318	30,882,499	-9,457,181	0.69	0.03	95.96
RES Recycl	IPL-EL	4,246,559	7,350,376	-3,103,817	0.58	0.02	96.29
RES Audits	IPL-EL	2,659,741	4,020,767	-1,361,025	0.66	0.03	104.70
RES New Con	IPL-EL	4,630,486	5,140,338	-509,853	0.90	0.04	71.40
RES Low-Inc	IPL-EL	2,777,027	2,956,653	-179,626	0.94	0.03	52.22
NONRES Custom	IPL-EL	42,430,670	49,041,173	-6,610,503	0.87	0.01	77.41
NONRES Perf Contr	IPL-EL	5,402,442	7,185,720	-1,783,278	0.75	0.02	130.33
NONRES Prescrip	IPL-EL	5,179,252	5,761,520	-582,268	0.90	0.03	82.80
NONRES New Con	IPL-EL	1,891,163	2,857,181	-966,017	0.66	0.04	198.02
NONRES Agri	IPL-EL	3,563,569	5,957,116	-2,393,547	0.60	0.02	89.69
R&D Centers	IPL-EL	0	1,083,237	-1,083,237	NA	0.00	0.00
TREES	IPL-EL	0	642,521	-642,521	NA	0.00	0.00
EL EE Comb BC	IPL-EL	94,206,228	122,879,101	-28,672,873	0.77	NA	NA

Table III-72. Alliant-IPL electric load management Ratepayer test

IUB Study -- Program Code Name	($PV) = 2006 PV	Ratepayer Impact Test Benefits ($PV)	Costs ($PV)	Net Benefits	B/C	Levelized Cost Energy	Capacity
RES Load Man	IPL-EL	29,181,974	25,084,143	4,097,831	1.16		
NONRES Load Man	IPL-EL	325,044,747	247,168,511	77,876,236	1.32		

Table III-73. Alliant-IPL natural gas efficiency Ratepayer test

IUB Study -- Program Code Name	($PV) = 2006 PV	Ratepayer Impact Test Benefits ($PV)	Costs ($PV)	Net Benefits	B/C	Levelized Cost Energy	Capacity
RES Prescrip	IPL-GAS	6,281,183	13,655,840	-7,374,657	0.46	0.38	26.91
RES Audits	IPL-GAS	4,161,131	8,618,068	-4,456,937	0.48	0.30	24.13
RES New Con	IPL-GAS	1,454,222	5,026,390	-3,572,168	0.29	0.68	47.53
RES Low-Inc	IPL-GAS	1,647,101	4,952,154	-3,305,052	0.33	1.04	74.41
NONRES Custom	IPL-GAS	1,831,833	2,390,313	-558,480	0.77	0.21	21.25
NONRES Perf Contr	IPL-GAS	1,483,969	1,696,030	-212,061	0.87	0.10	9.85
NONRES Prescrip	IPL-GAS	1,749,036	2,100,693	-351,657	0.83	0.28	12.88
NONRES New Const	IPL-GAS	-160,253	6,207	-166,461	-25.82	NA	NA
R&D Centers	IPL-GAS	0	330,918	-330,918	NA	NA	NA
GAS EE Comb BC	IPL-GAS	18,448,222	38,776,612	-20,328,390	0.48	NA	NA

Table III-74. Alliant-IPL electric energy efficiency Societal test

IUB Study -- Program Code Name	($PV) = 2006 PV	Societal Test Benefits ($PV)	Costs ($PV)	Net Benefits	B/C	Levelized Cost Energy	Capacity
RES Prescrip	IPL-EL	33,376,361	13,165,468	20,210,893	2.54	0.05	127.15
RES Recycl	IPL-EL	5,966,191	502,645	5,463,545	11.87	0.01	26.62
RES Audits	IPL-EL	4,140,441	924,016	3,216,425	4.48	0.02	76.96
RES New Con	IPL-EL	6,884,848	1,313,119	5,571,728	5.24	0.03	44.71
RES Low-Inc	IPL-EL	4,333,278	573,612	3,759,666	7.55	0.02	36.93
NONRES Custom	IPL-EL	58,236,044	26,880,018	31,356,026	2.17	0.03	146.36
NONRES Perf Contr	IPL-EL	7,409,612	1,729,621	5,679,991	4.28	0.01	85.22
NONRES Prescrip	IPL-EL	7,284,402	3,080,740	4,203,662	2.36	0.04	266.59
NONRES New Con	IPL-EL	2,537,760	2,306,210	231,550	1.10	0.05	266.59
NONRES Agri	IPL-EL	5,426,734	2,626,203	2,800,531	2.07	0.04	193.31
R&D Centers	IPL-EL	0	1,083,237	-1,083,237	NA	0.00	0.00
TREES	IPL-EL	0	642,521	-642,521	NA	0.00	0.00
EL EE Comb BC	IPL-EL	135,595,669	54,827,410	80,768,259	2.47	NA	NA

Table III-75. Alliant-IPL electric load management Societal test

IUB Study -- Program Code Name	($PV) = 2006 PV	Societal Test Benefits ($PV)	Costs ($PV)	Net Benefits	B/C	Levelized Cost Energy	Capacity
RES Load Man	IPL-EL	25,608,010	2,713,517	22,894,494	9.44		
NONRES Load Man	IPL-EL	285,234,251	92,948,477	192,285,774	3.07		

Table III-76. Alliant-IPL natural gas efficiency Societal test

IUB Study -- Program Code Name	($PV) = 2006 PV	Societal Test Benefits ($PV)	Costs ($PV)	Net Benefits	B/C	Levelized Cost Energy	Capacity
RES Prescrip	IPL-GAS	9,127,658	5,780,430	3,347,228	1.58	0.45	31.58
RES Audits	IPL-GAS	6,429,381	1,928,809	4,500,573	3.33	0.24	19.60
RES New Con	IPL-GAS	2,238,263	1,525,880	712,383	1.47	0.56	39.15
RES Low-Inc	IPL-GAS	2,544,943	1,399,746	1,145,197	1.82	0.46	32.53
NONRES Custom	IPL-GAS	2,830,373	1,491,756	1,338,617	1.90	0.41	40.75
NONRES Perf Contr	IPL-GAS	2,292,886	136,854	2,156,032	16.75	0.05	4.62
NONRES Prescrip	IPL-GAS	2,582,655	1,107,831	1,474,824	2.33	0.35	16.33
NONRES New Const	IPL-GAS	-241,318	367,342	-608,660	-0.66	NA	NA
R&D Centers	IPL-GAS	0	330,918	-330,918	NA	NA	NA
GAS EE Comb BC	IPL-GAS	27,804,842	14,069,566	13,735,276	1.98	NA	NA

Table III-77. MidAmerican electric energy efficiency Participant test

IUB Study -- Program Code Name	($PV) = 2006 PV	Participant Test Benefits ($PV)	Costs ($PV)	Net Benefits	B/C	Levelized Cost Energy	Capacity	
RES Prescrip	MEC-EL	4,408,033	2,636,967	1,771,066	1.67	0.05		
RES Audits	MEC-EL	9,189,159	1,625,975	7,563,184	5.65	0.01		
RES Low-Inc	MEC-EL	1,528,724	315,507	1,213,217	4.85	0.02		
RES New Con	MEC-EL	9,227,867	6,132,996	3,094,871	1.50	0.06		
TREES	MEC-EL	0	0	0	0.00	0.00		
R&D Centers	MEC-EL	0	0	0	0.00	0.00		
NONRES Prescrip	MEC-EL	34,639,352	11,052,850	23,586,502	3.13	0.02		
NONRES Custom	MEC-EL	1,684,712	747,814	936,898	2.25	0.02		
NONRES Comm Audit	MEC-EL	1,548,265	616,413	931,853	2.51	0.03		
NONRES En Analyz	MEC-EL	3,274,751	1,461,108	1,813,643	2.24	0.03		
NONRES EE Bid	MEC-EL	6,010,015	1,453,390	4,556,625	4.14	0.01		
NONRES New Const	MEC-EL	21,074,964	7,047,573	14,027,391	2.99	0.02		
TREES	MEC-EL	174,438	0	174,438	NA	NA		
R&D Centers	MEC-EL	0	0	0	NA	NA		
NONRES Low-Inc	MEC-EL	0	0	0	0.00	0.00		
EL EE Comb BC	MEC-EL	92,760,280	33,090,593	59,669,687	2.80	NA		

Table III-78. MidAmerican electric load management Participant test

IUB Study -- Program Code Name	($PV) = 2006 PV	Participant Test Benefits ($PV)	Costs ($PV)	Net Benefits	B/C	Levelized Cost Energy	Capacity	
RES Load Man	MEC-EL	27,256,442	0	27,256,442	NA	0.00		
NONRES Load Man	MEC-EL	103,796,542	6,304,529	97,492,012	16.46	3.01		
EL LM Comb BC	MEC-EL	131,052,984	6,304,529	124,748,454	20.79	NA		

Table III-79. MidAmerican natural gas efficiency Participant test

IUB Study -- Program Code Name	($PV) = 2006 PV	Participant Test Benefits ($PV)	Costs ($PV)	Net Benefits	B/C	Levelized Cost Energy	Capacity
RES Prescrip	MEC-GAS	8,160,262	4,114,973	4,045,289	1.98	0.55	
RES Audits	MEC-GAS	11,260,559	4,866,788	6,393,770	2.31	0.47	
RES Low-Inc	MEC-GAS	3,812,761	992,556	2,820,205	3.84	0.32	
RES New Con	MEC-GAS	19,595,742	13,168,052	6,427,690	1.49	0.73	
TREES	MEC-GAS	0	0	0	0.00	0.00	
R&D Centers	MEC-GAS	0	0	0	0.00	0.00	
NONRES Prescrip	MEC-GAS	1,291,531	846,757	444,774	1.53	0.51	
NONRES Custom	MEC-GAS	1,795,423	802,763	992,660	2.24	0.48	
NONRES Comm Audit	MEC-GAS	1,856,720	922,926	933,794	2.01	0.49	
NONRES En Analyz	MEC-GAS	92,560	78,400	14,160	1.18	3.08	
NONRES EE Bid	MEC-GAS	130,956	138,946	-7,990	0.94	0.89	
NONRES New Const	MEC-GAS	2,248,869	617,503	1,631,366	3.64	0.21	
TREES	MEC-GAS	154,438	0	154,438	NA	NA	
R&D Centers	MEC-GAS	0	0	0	NA	NA	
NONRES Low-Inc	MEC-GAS	0	0	0	0	0.00	
GAS EE Comb BC	MEC-GAS	50,399,820	26,549,664	23,850,156	1.90	NA	

Table III-80. MidAmerican electric energy efficiency Utility test

IUB Study -- Program Code Name	($PV) = 2006 PV	Utility Test Benefits ($PV)	Costs ($PV)	Net Benefits	B/C	Levelized Cost Energy	Capacity
RES Prescrip	MEC-EL	2,502,522	2,346,212	156,311	1.07	0.04	
RES Audits	MEC-EL	4,395,314	1,909,414	2,485,899	2.30	0.02	
RES Low-Inc	MEC-EL	524,762	435,972	88,789	1.20	0.03	
RES New Con	MEC-EL	8,157,364	2,750,994	5,406,370	2.97	0.03	
TREES	MEC-EL	0	0	0	0.00	0.00	
R&D Centers	MEC-EL	0	0	0	0.00	0.00	
NONRES Prescrip	MEC-EL	23,031,109	3,350,972	19,680,137	6.87	0.01	
NONRES Custom	MEC-EL	1,087,260	614,514	472,747	1.77	0.02	
NONRES Comm Audit	MEC-EL	797,679	646,546	151,132	1.23	0.04	
NONRES En Analyz	MEC-EL	1,846,375	1,241,467	604,908	1.49	0.02	
NONRES EE Bid	MEC-EL	3,571,807	749,225	2,822,582	4.77	0.01	
NONRES New Const	MEC-EL	13,801,146	3,977,006	9,824,140	3.47	0.01	
TREES	MEC-EL	0	237,124	-237,124	0.00	NA	
R&D Centers	MEC-EL	0	6,091,510	-6,091,510	0.00	NA	
NONRES Low-Inc	MEC-EL	0	0	0	0.00	0.00	
EL EE Comb BC	MEC-EL	59,715,338	24,350,956	35,364,382	2.45	NA	

Table III-81. MidAmerican electric load management Utility test

IUB Study -- Program Code Name	($PV) = 2006 PV	Utility Test Benefits ($PV)	Costs ($PV)	Net Benefits	B/C	Levelized Cost Energy	Capacity
RES Load Man	MEC-EL	28,598,536	45,511,239	-16,912,703	0.63	79.53	
NONRES Load Man	MEC-EL	112,647,035	118,528,431	-5,881,396	0.95	56.63	
EL LM Comb BC	MEC-EL	141,245,571	164,039,670	-22,794,099	0.86	NA	

Table III-82. MidAmerican natural gas efficiency Utility test

IUB Study -- Program Code Name	($PV) = 2006 PV	Utility Test Benefits ($PV)	Costs ($PV)	Net Benefits	B/C	Levelized Cost Energy	Capacity
RES Prescrip	MEC-GAS	4,560,955	3,171,314	1,389,640	1.44	0.42	
RES Audits	MEC-GAS	6,454,135	3,893,666	2,560,469	1.66	0.37	
RES Low-Inc	MEC-GAS	1,815,447	1,896,791	-81,344	0.96	0.62	
RES New Con	MEC-GAS	11,607,510	6,224,775	5,382,735	1.86	0.34	
TREES	MEC-GAS	0	0	0	0.00	0.00	
R&D Centers	MEC-GAS	0	0	0	0.00	0.00	
NONRES Prescrip	MEC-GAS	1,101,647	284,213	817,434	3.88	0.17	
NONRES Custom	MEC-GAS	1,056,767	419,120	637,647	2.52	0.25	
NONRES Comm Audit	MEC-GAS	1,275,600	711,031	564,569	1.79	0.38	
NONRES En Analyz	MEC-GAS	18,853	139,791	-120,938	0.13	5.50	
NONRES EE Bid	MEC-GAS	111,155	4,276	106,879	26.00	0.03	
NONRES New Const	MEC-GAS	1,639,599	461,595	1,178,003	3.55	0.16	
TREES	MEC-GAS	0	221,012	-221,012	0.00	NA	
R&D Centers	MEC-GAS	0	753,838	-753,838	0.00	NA	
NONRES Low-Inc	MEC-GAS	0	0	0	0	0.00	
GAS EE Comb BC	MEC-GAS	29,641,669	18,181,424	11,460,245	1.63	NA	

Table III-83. MidAmerican electric energy efficiency Ratepayer test

IUB Study -- Program Code Name	($PV) = 2006 PV	Ratepayer Impact Test Benefits ($PV)	Costs ($PV)	Net Benefits	B/C	Levelized Cost Energy	Capacity
RES Prescrip	MEC-EL	2,502,522	4,795,356	-2,292,834	0.52	0.09	
RES Audits	MEC-EL	4,395,314	9,731,736	-5,336,422	0.45	0.09	
RES Low-Inc	MEC-EL	524,762	1,618,953	-1,094,192	0.32	0.10	
RES New Con	MEC-EL	8,157,364	9,505,019	-1,347,655	0.86	0.09	
TREES	MEC-EL	0	0	0	0.00	0.00	
R&D Centers	MEC-EL	0	0	0	0.00	0.00	
NONRES Prescrip	MEC-EL	23,031,109	35,095,876	-12,064,766	0.66	0.06	
NONRES Custom	MEC-EL	1,087,260	1,993,145	-905,884	0.55	0.06	
NONRES Comm Audit	MEC-EL	797,679	1,733,048	-935,369	0.46	0.09	
NONRES En Analyz	MEC-EL	1,846,375	3,691,764	-1,845,388	0.50	0.07	
NONRES EE Bid	MEC-EL	3,571,807	6,286,373	-2,714,566	0.57	0.05	
NONRES New Const	MEC-EL	13,801,146	21,896,100	-8,094,954	0.63	0.06	
TREES	MEC-EL	0	237,124	-237,124	0.00	NA	
R&D Centers	MEC-EL	0	6,091,510	-6,091,510	0.00	NA	
NONRES Low-Inc	MEC-EL	0	0	0	0.00	0.00	
EL EE Comb BC	MEC-EL	59,715,338	102,676,003	-42,960,664	0.58	NA	

Table III-84. MidAmerican electric load management Ratepayer test

IUB Study -- Program Code Name	($PV) = 2006 PV	Ratepayer Impact Test Benefits ($PV)	Costs ($PV)	Net Benefits	B/C	Levelized Cost Energy	Capacity
RES Load Man	MEC-EL	28,598,536	46,517,366	-17,918,830	0.61	81.29	
NONRES Load Man	MEC-EL	112,647,035	120,006,960	-7,359,925	0.94	57.33	
EL LM Comb BC	MEC-EL	141,245,571	166,524,326	-25,278,754	0.85	NA	

Table III-85. MidAmerican natural gas efficiency Ratepayer test

IUB Study -- Program Code Name	($PV) = 2006 PV	Ratepayer Impact Test Benefits ($PV)	Costs ($PV)	Net Benefits	B/C	Levelized Cost Energy	Capacity
RES Prescrip	MEC-GAS	4,560,955	8,715,989	-4,155,035	0.52	1.17	
RES Audits	MEC-GAS	6,454,135	12,041,845	-5,587,709	0.54	1.16	
RES Low-Inc	MEC-GAS	1,815,447	4,228,958	-2,413,510	0.43	1.37	
RES New Con	MEC-GAS	11,607,510	20,221,183	-8,613,672	0.57	1.11	
TREES	MEC-GAS	0	0	0	0.00	0.00	
R&D Centers	MEC-GAS	0	0	0	0.00	0.00	
NONRES Prescrip	MEC-GAS	1,101,647	1,349,769	-248,122	0.82	0.81	
NONRES Custom	MEC-GAS	1,056,767	1,927,473	-870,706	0.55	1.15	
NONRES Comm Audit	MEC-GAS	1,275,600	2,054,699	-779,099	0.62	1.09	
NONRES En Analyz	MEC-GAS	18,853	157,614	-138,760	0.12	6.20	
NONRES EE Bid	MEC-GAS	111,155	131,519	-20,364	0.85	0.84	
NONRES New Const	MEC-GAS	1,639,599	2,353,952	-714,353	0.70	0.81	
TREES	MEC-GAS	0	221,012	-221,012	0.00	NA	
R&D Centers	MEC-GAS	0	753,838	-753,838	0.00	NA	
NONRES Low-Inc	MEC-GAS	0	0	0	0	0.00	
GAS EE Comb BC	MEC-GAS	29,641,669	54,157,850	-24,516,181	0.55	NA	

Table III-86. MidAmerican electric energy efficiency Societal test

IUB Study -- Program Code Name	($PV) = 2006 PV	Societal Test Benefits ($PV)	Costs ($PV)	Net Benefits	B/C	Levelized Cost Energy	Capacity
RES Prescrip	MEC-EL	3,287,513	3,024,290	263,223	1.09	0.04	
RES Audits	MEC-EL	5,668,498	2,168,552	3,499,946	2.61	0.02	
RES Low-Inc	MEC-EL	689,202	405,736	283,466	1.70	0.02	
RES New Con	MEC-EL	11,343,945	6,410,148	4,933,797	1.77	0.05	
TREES	MEC-EL	0	0	0	0.00	0.00	
R&D Centers	MEC-EL	0	0	0	0.00	0.00	
NONRES Prescrip	MEC-EL	30,842,414	11,509,374	19,333,041	2.68	0.02	
NONRES Custom	MEC-EL	1,461,724	1,056,247	405,478	1.38	0.03	
NONRES Comm Audit	MEC-EL	1,053,253	801,195	252,058	1.31	0.04	
NONRES En Analyz	MEC-EL	2,510,457	1,878,120	632,337	1.34	0.03	
NONRES EE Bid	MEC-EL	4,783,071	1,729,748	3,053,324	2.77	0.01	
NONRES New Const	MEC-EL	18,487,872	7,868,709	10,619,163	2.35	0.02	
TREES	MEC-EL	0	62,687	-62,687	0.00	NA	
R&D Centers	MEC-EL	0	6,091,510	-6,091,510	0.00	NA	
NONRES Low-Inc	MEC-EL	0	0	0	0.00	0.00	
EL EE Comb BC	MEC-EL	80,127,952	43,006,316	37,121,636	1.86	NA	

Table III-87. MidAmerican electric load management Societal test

IUB Study -- Program Code Name	($PV) = 2006 PV	Societal Test Benefits ($PV)	Costs ($PV)	Net Benefits	B/C	Levelized Cost Energy	Capacity
RES Load Man	MEC-EL	40,239,162	27,329,472	12,909,690	1.47	35.96	
NONRES Load Man	MEC-EL	160,060,924	31,920,986	128,139,938	5.01	11.41	
EL LM Comb BC	MEC-EL	200,300,086	59,250,458	141,049,628	3.38	NA	

Table III-88. MidAmerican natural gas efficiency Societal test

IUB Study -- Program Code Name	($PV) = 2006 PV	Societal Test Benefits ($PV)	Costs ($PV)	Net Benefits	B/C	Levelized Cost Energy	Capacity
RES Prescrip	MEC-GAS	5,911,825	4,670,700	1,241,125	1.27	0.52	
RES Audits	MEC-GAS	9,211,271	5,648,074	3,563,197	1.63	0.42	
RES Low-Inc	MEC-GAS	2,459,103	1,408,753	1,050,350	1.75	0.37	
RES New Con	MEC-GAS	16,095,012	13,793,493	2,301,520	1.17	0.60	
TREES	MEC-GAS	0	0	0	0.00	0.00	
R&D Centers	MEC-GAS	0	0	0	0.00	0.00	
NONRES Prescrip	MEC-GAS	1,395,880	904,995	490,885	1.54	0.46	
NONRES Custom	MEC-GAS	1,434,780	934,813	499,967	1.53	0.45	
NONRES Comm Audit	MEC-GAS	1,778,927	1,120,904	658,022	1.59	0.47	
NONRES En Analyz	MEC-GAS	27,503	143,454	-115,951	0.19	4.27	
NONRES EE Bid	MEC-GAS	147,170	139,509	7,661	1.05	0.73	
NONRES New Const	MEC-GAS	2,161,825	722,586	1,439,240	2.99	0.20	
TREES	MEC-GAS	0	66,575	-66,575	0.00	NA	
R&D Centers	MEC-GAS	0	753,838	-753,838	0.00	NA	
NONRES Low-Inc	MEC-GAS	0	0	0	0	0.00	
GAS EE Comb BC	MEC-GAS	40,623,296	30,307,693	10,315,603	1.34	NA	

Table III-89. Aquila natural gas efficiency Participant test

IUB Study -- Program Code Name	($PV) = 2006 PV	Participant Test Benefits ($PV)	Costs ($PV)	Net Benefits	B/C	Levelized Cost Energy	Capacity
RES Prescrip	AQ-GAS	1,405,906	612,093	793,813	2.30	0.36	
RES Prescrip	AQ-GAS	1,924,577	509,429	1,415,148	3.78	0.22	
RES Prescrip	AQ-GAS	40,581	14,992	25,589	2.71	0.31	
RES Prescrip	AQ-GAS	78,174	93,558	-15,384	0.84	0.99	
RES Prescrip	AQ-GAS	1,227,115	177,037	1,050,079	6.93	0.23	
RES New Con	AQ-GAS	412,332	223,899	188,433	1.84	0.45	
RES Audits	AQ-GAS	338,098	0	338,098	0.00	0.00	
RES Education	AQ-GAS	47,216	0	47,216	0.00	0.00	
RES Low-Inc	AQ-GAS	0	0	0	0.00	0.00	
RES Low-Inc	AQ-GAS	0	0	0	0.00	0.00	
RES Low-Inc	AQ-GAS	0	0	0	0.00	0.00	
RES Low-Inc	AQ-GAS	0	0	0	0.00	0.00	
NONRES Prescrip	AQ-GAS	0	6,450	-6,450	0.00	0.00	
NONRES Custom	AQ-GAS	811,079	320,268	490,811	2.53	0.33	
NONRES Comm Audit	AQ-GAS	704,140	326,642	377,498	2.16	0.39	
NONRES New Con	AQ-GAS	0	0	0	0.00	0.00	
TREES	AQ-GAS	0	0	0	0.00	0.00	
TREES	AQ-GAS	0	0	0	0.00	0.00	
R&D Centers	AQ-GAS	0	0	0	0.00	0.00	
TOTALS	AQ-GAS	6,989,217	2,284,367	4,704,851	3.06	NA	

Table III-90. Aquila natural gas efficiency Utility test

IUB Study -- Program Code Name	($PV) = 2006 PV	Utility Test Benefits ($PV)	Costs ($PV)	Net Benefits	B/C	Levelized Cost Energy	Capacity
RES Prescrip	AQ-GAS	2,003,330	730,675	1,272,656	2.74	0.43	
RES Prescrip	AQ-GAS	2,742,406	1,036,748	1,705,658	2.65	0.45	
RES Prescrip	AQ-GAS	57,825	20,167	37,659	2.87	0.41	
RES Prescrip	AQ-GAS	111,393	50,831	60,562	2.19	0.54	
RES Prescrip	AQ-GAS	1,474,821	187,574	1,287,247	7.86	0.24	
RES New Con	AQ-GAS	587,548	295,233	292,315	1.99	0.59	
RES Audits	AQ-GAS	406,346	338,668	67,678	1.20	1.58	
RES Education	AQ-GAS	58,978	50,726	8,252	1.16	0.00	
RES Low-Inc	AQ-GAS	0	445,799	-445,799	0.00	0.00	
RES Low-Inc	AQ-GAS	0	56,290	-56,290	0.00	0.00	
RES Low-Inc	AQ-GAS	0	17,739	-17,739	0.00	0.00	
RES Low-Inc	AQ-GAS	0	18,512	-18,512	0.00	0.00	
NONRES Prescrip	AQ-GAS	0	84,566	-84,566	0.00	0.00	
NONRES Custom	AQ-GAS	1,155,738	126,722	1,029,016	9.12	0.13	
NONRES Comm Audit	AQ-GAS	1,003,356	176,948	826,408	5.67	0.21	
NONRES New Con	AQ-GAS	0	17,573	-17,573	0.00	0.00	
TREES	AQ-GAS	0	101,473	-101,473	0.00	0.00	
TREES	AQ-GAS	0	15,000	-15,000	0.00	0.00	
R&D Centers	AQ-GAS	0	186,886	-186,886	0.00	0.00	
TOTALS	AQ-GAS	9,601,743	3,958,129	5,643,613	2.43	NA	

Table III-91. Aquila natural gas efficiency Ratepayer test

IUB Study -- Program Code Name	($PV) = 2006 PV	Ratepayer Test Benefits ($PV)	Costs ($PV)	Net Benefits	B/C	Levelized Cost Energy	Capacity
RES Prescrip	AQ-GAS	2,003,330	2,144,941	-141,611	0.93	1.26	
RES Prescrip	AQ-GAS	2,742,406	2,972,770	-230,364	0.92	1.28	
RES Prescrip	AQ-GAS	57,825	60,989	-3,164	0.95	1.24	
RES Prescrip	AQ-GAS	111,393	129,470	-18,077	0.86	1.37	
RES Prescrip	AQ-GAS	1,474,821	1,419,437	55,384	1.04	1.83	
RES New Con	AQ-GAS	587,548	710,017	-122,469	0.83	1.42	
RES Audits	AQ-GAS	406,346	678,074	-271,728	0.60	3.17	
RES Education	AQ-GAS	58,978	98,151	-39,173	0.60	0.00	
RES Low-Inc	AQ-GAS	0	445,799	-445,799	0.00	0.00	
RES Low-Inc	AQ-GAS	0	56,290	-56,290	0.00	0.00	
RES Low-Inc	AQ-GAS	0	17,739	-17,739	0.00	0.00	
RES Low-Inc	AQ-GAS	0	18,512	-18,512	0.00	0.00	
NONRES Prescrip	AQ-GAS	0	84,566	-84,566	0.00	0.00	
NONRES Custom	AQ-GAS	1,155,738	942,624	213,114	1.23	0.96	
NONRES Comm Audit	AQ-GAS	1,003,356	885,275	118,081	1.13	1.04	
NONRES New Con	AQ-GAS	0	17,573	-17,573	0.00	0.00	
TREES	AQ-GAS	0	101,473	-101,473	0.00	0.00	
TREES	AQ-GAS	0	15,000	-15,000	0.00	0.00	
R&D Centers	AQ-GAS	0	186,886	-186,886	0.00	0.00	
TOTALS	AQ-GAS	9,601,743	10,985,587	-1,383,844	0.87	NA	

Table III-92. Aquila natural gas efficiency Societal test

IUB Study -- Program Code Name	($PV) = 2006 PV	Societal Test Benefits ($PV)	Costs ($PV)	Net Benefits	B/C	Levelized Cost Energy	Capacity
RES Prescrip	AQ-GAS	2,954,839	1,403,404	1,551,435	2.11	0.67	
RES Prescrip	AQ-GAS	4,044,948	1,615,795	2,429,153	2.50	0.56	
RES Prescrip	AQ-GAS	85,290	36,745	48,545	2.32	0.60	
RES Prescrip	AQ-GAS	164,301	150,938	13,363	1.09	1.29	
RES Prescrip	AQ-GAS	1,936,457	381,087	1,555,370	5.08	0.43	
RES New Con	AQ-GAS	866,612	542,561	324,051	1.60	0.88	
RES Audits	AQ-GAS	533,537	353,800	179,737	1.51	1.46	
RES Education	AQ-GAS	79,086	52,992	26,094	1.49	0.00	
RES Low-Inc	AQ-GAS	0	445,799	-445,799	0.00	0.00	
RES Low-Inc	AQ-GAS	0	56,290	-56,290	0.00	0.00	
RES Low-Inc	AQ-GAS	0	17,739	-17,739	0.00	0.00	
RES Low-Inc	AQ-GAS	0	18,512	-18,512	0.00	0.00	
NONRES Prescrip	AQ-GAS	0	84,566	-84,566	0.00	0.00	
NONRES Custom	AQ-GAS	1,704,671	467,297	1,237,374	3.65	0.38	
NONRES Comm Audit	AQ-GAS	1,479,914	526,433	953,481	2.81	0.50	
NONRES New Con	AQ-GAS	0	17,573	-17,573	0.00	0.00	
TREES	AQ-GAS	0	101,473	-101,473	0.00	0.00	
TREES	AQ-GAS	0	15,000	-15,000	0.00	0.00	
R&D Centers	AQ-GAS	0	186,886	-186,886	0.00	0.00	
TOTALS	AQ-GAS	13,849,655	6,474,889	7,374,765	2.14	NA	

Section 12. IOU 2006 data comparisons and sorts

Table III-93. IOU 2006 electric efficiency programs, sorted by Societal benefit-cost ratios

IUB Study -- Program Code Name		Peak kW Actual	Annual kWh Actual	Societal Test Benefits ($PV)	Costs ($PV)	Societal Test Net Benefits	B/C	Levelized Cost/kWh
RES Recycle	IPL-EL	1,255	5,632,599	5,966,191	502,645	5,463,545	**11.87**	0.01
RES Low-Inc	IPL-EL	1,032	2,024,572	4,333,278	573,612	3,759,666	**7.55**	0.02
RES New Con	IPL-EL	1,952	3,302,088	6,884,848	1,313,119	5,571,728	**5.24**	0.03
RES Audits	IPL-EL	798	2,542,517	4,140,441	924,016	3,216,425	**4.48**	0.02
NONRES Perf Contr	IPL-EL	1,349	9,043,528	7,409,612	1,729,621	5,679,991	**4.28**	0.01
NONRES EE Bid	MEC-EL	1,480	11,896,434	4,783,071	1,729,748	3,053,324	**2.77**	0.01
NONRES Prescrip	MEC-EL	12,061	63,539,871	30,842,414	11,509,374	19,333,041	**2.68**	0.02
RES Audits	MEC-EL	3,679	15,466,716	5,668,498	2,168,552	3,499,946	**2.61**	0.02
RES Prescrip	IPL-EL	6,882	19,043,832	33,376,361	13,165,468	20,210,893	**2.54**	0.05
NONRES Prescrip	IPL-EL	2,000	5,700,166	7,284,402	3,080,740	4,203,662	**2.36**	0.04
NONRES New Const	MEC-EL	7,195	34,067,277	18,487,872	7,868,709	10,619,163	**2.35**	0.02
NONRES Custom	IPL-EL	12,207	65,785,608	58,236,044	26,880,018	31,356,026	**2.17**	0.03
NONRES Agri	IPL-EL	903	4,333,586	5,426,734	2,626,203	2,800,531	**2.07**	0.04
RES New Con	MEC-EL	7,073	9,869,557	11,343,945	6,410,148	4,933,797	**1.77**	0.05
RES Low-Inc	MEC-EL	282	1,996,056	689,202	405,736	283,466	**1.70**	0.02
NONRES Custom	MEC-EL	472	3,288,953	1,461,724	1,056,247	405,478	**1.38**	0.03
NONRES En Analyz	MEC-EL	756	5,620,854	2,510,457	1,878,120	632,337	**1.34**	0.03
NONRES Comm Audit	MEC-EL	701	3,033,048	1,053,253	801,195	252,058	**1.31**	0.04
NONRES New Con	IPL-EL	575	3,133,866	2,537,760	2,306,210	231,550	**1.10**	0.05
RES Prescrip	MEC-EL	1,941	5,654,131	3,287,513	3,024,290	263,223	**1.09**	0.04
Energy Effic. Totals	EL	64,593	274,975,259	215,723,621	89,953,771	125,769,850	2.40	NA

Table III-94. IOU 2006 electric load management programs, sorted by Societal benefit-cost ratios.

IUB Study -- Program Code Name		Peak kW Actual	Annual kWh Actual	Societal Test Benefits ($PV)	Costs ($PV)	Societal Test Net Benefits	B/C	Levelized Cost/PK kW
NONRES Load Man	MEC-EL	171,885	4,844,526	160,060,924	31,920,986	128,139,938	5.01	11.41
RES Load Man	IPL-EL	24,430	0	162,556	67,257	95,298	2.42	25.02
NONRES Load Man	IPL-EL	254,811	0	285,234,251	180,919,493	104,314,759	1.58	5.33
RES Load Man	MEC-EL	50,376	1,158,695	40,239,162	27,329,472	12,909,690	1.47	35.96
Load Manag. Totals	EL	501,502	6,003,221	485,696,893	240,237,208	245,459,685	2.02	NA

Table III-95. IOU 2006 natural gas energy efficiency programs, sorted by Societal benefit-cost ratios

IUB Study -- Program Code Name		Annual MCF Actual	Societal Test Benefits ($PV)	Costs ($PV)	Net Benefits	B/C	Levelized Cost-$/Therm
NONRES Perf Contr	IPL-Gas	19,673	2,292,886	136,854	2,156,032	16.75	0.05
RES Prescrip	AQ-Gas	40,899	1,936,457	381,087	1,555,370	5.08	0.43
NONRES Custom	AQ-Gas	13,785	1,704,671	467,297	1,237,374	3.65	0.38
RES Audits	IPL-Gas	52,927	6,429,381	1,928,809	4,500,573	3.33	0.24
NONRES New Const	MEC-Gas	29,110	2,161,825	722,586	1,439,240	2.99	0.20
NONRES Comm Audit	AQ-Gas	0	1,479,914	526,433	953,481	2.81	0.50
RES Prescrip	AQ-Gas	37,676	4,044,948	1,615,795	2,429,153	2.50	0.56
NONRES Prescrip	IPL-Gas	20,929	2,582,655	1,107,831	1,474,824	2.33	0.35
RES Prescrip	AQ-Gas	794	85,290	36,745	48,545	2.32	0.60
RES Prescrip	AQ-Gas	27,523	2,954,839	1,403,404	1,551,435	2.11	0.67
NONRES Custom	IPL-Gas	24,282	2,830,373	1,491,756	1,338,617	1.90	0.41
RES Low-Inc	IPL-Gas	20,435	2,544,943	1,399,746	1,145,197	1.82	0.46
RES Low-Inc	MEC-Gas	31,440	2,459,103	1,408,753	1,050,350	1.75	0.37
RES Audits	MEC-Gas	94,394	9,211,271	5,648,074	3,563,197	1.63	0.42
RES New Con	AQ-Gas	8,072	866,612	542,561	324,051	1.60	0.88
NONRES Comm Audit	MEC-Gas	17,716	1,778,927	1,120,904	658,022	1.59	0.47
RES Prescrip	IPL-Gas	85,406	9,127,658	5,780,430	3,347,228	1.58	0.45
NONRES Prescrip	MEC-Gas	17,980	1,395,880	904,995	490,885	1.54	0.46
NONRES Custom	MEC-Gas	15,991	1,434,780	934,813	499,967	1.53	0.45
RES Audits	AQ-Gas	11,269	533,537	353,800	179,737	1.51	1.46
RES Education	AQ-Gas	2,042	79,086	52,992	26,094	1.49	0.00
RES New Con	IPL-Gas	18,037	2,238,263	1,525,880	712,383	1.47	0.56
RES Prescrip	MEC-Gas	76,666	5,911,825	4,670,700	1,241,125	1.27	0.52
RES New Con	MEC-Gas	172,334	16,095,012	13,793,493	2,301,520	1.17	0.60
RES Prescrip	AQ-Gas	1,530	164,301	150,938	13,363	1.09	1.29
NONRES EE Bid	MEC-Gas	1,485	147,170	139,509	7,661	1.05	0.73
NONRES En Analyz	MEC-Gas	212	27,503	143,454	-115,951	0.19	4.27
NONRES Prescrip	AQ-Gas	15,878	0	84,566	-84,566	0.00	0.00
NONRES New Con	AQ-Gas	375	0	17,573	-17,573	0.00	0.00
RES Low-Inc	AQ-Gas	3,119	0	445,799	-445,799	0.00	0.00
RES Low-Inc	AQ-Gas	4,415	0	56,290	-56,290	0.00	0.00
RES Low-Inc	AQ-Gas	398	0	17,739	-17,739	0.00	0.00
RES Low-Inc	AQ-Gas	277	0	18,512	-18,512	0.00	0.00
NONRES New Const	IPL-Gas	-2,203	-241,318	367,342	-608,660	-0.66	NA
Energy Effic. Totals	GAS	864,866	82,277,792	49,397,459	32,880,334	1.67	NA

Section 13. IOU programs -- Additional analyses or descriptions

Table III-96. IOU electric energy efficiency programs, B/C ratio compared with MWh saved

Iowa's Investor-Owned Utilities Electric Energy Efficiency Programs Relationship of Program Benefit/Cost Ratio and Megawatt Hours Saved			
Megawatt Hours Saved By EE Program In 2006	Benefit/Cost Ratio of EE Program in 2006		
	< 2.0	2.0 - 2.9	3.0 +
< 5,000 Megawatt Hours	**Residential** Low-Income Assistance (MidAmerican) Non-Residential Custom Rebate (MidAmerican) Non-Residential Audit (MidAmerican) Non-Residential New Construction (Alliant)	Non-Residential Agricultire (Alliant)	**Residential** Low-Income Assistance (Alliant) **Residential** New Construction (Alliant) **Residential** Audit (Alliant)
5,000 - 9,999 Megawatt Hours	**Residential** New Construction (MidAmerican) Non-Residential Energy Analysis (MidAmerican) **Residential** Equipment (MidAmerican)	Non-Residential Prescriptive Rebate (Alliant)	**Residential** Appliance Recycling (Alliant) Non-Residential Performance Contracting (Alliant)
10,000 - 19,999 Megawatt Hours		Non-Residential Efficiency Bid (MidAmerican) **Residential** Audit (MidAmerican) **Residential** Prescriptive Rebate (Alliant)	
20,000 + Megawatt Hours		Non-Residential Equipment (MidAmerican) Non-Residential New Construction (MidAmerican) Non-Residential Custom Rebate (Alliant)	

Table III-97. IOU electric energy efficiency programs, program cost compared with MWh saved

Iowa's Investor-Owned Utilities Electric Energy Efficiency Programs Relationship of Program Cost and Megawatt Hours Saved			
Megawatt Hours Saved By EE Program In 2006	Cost of EE Program in 2006		
	< $1.0 million	$1.0 million - $3.9 million	$4.0 million +
< 5,000 Megawatt Hours	**Residential** Audit (Alliant) Non-Residential Audit (MidAmerican) **Residential** Low-Income Assistance (Alliant) **Residential** Low-Income Assistance (MidAmerican)	Non-Residential Agricultire (Alliant) Non-Residential New Construction (Alliant) **Residential** New Construction (Alliant) Non-Residential Custom Rebate (MidAmerican)	
5,000 - 9,999 Megawatt Hours	**Residential** Appliance Recycling (Alliant)	Non-Residential Prescriptive Rebate (Alliant) **Residential** Equipment (MidAmerican) Non-Residential Energy Analysis (MidAmerican) Non-Residential Performance Contracting (Alliant)	**Residential** New Construction (MidAmerican)
10,000 - 19,999 Megawatt Hours		**Residential** Audit (MidAmerican) Non-Residential Efficiency Bid (MidAmerican)	**Residential** Prescriptive Rebate (Alliant)
20,000 + Megawatt Hours			Non-Residential Custom Rebate (Alliant) Non-Residential Equipment (MidAmerican) Non-Residential New Construction (MidAmerican)

Table III-98. IOU natural gas energy efficiency programs, B/C ratio compared with million cubic feet of gas saved

Iowa's Investor-Owned Utilities
Natural Gas Energy Efficiency Programs
Relationship of Program Benefit/Cost Ratio and Million Cubic Feet Saved

Cubic Feet Of Natural Gas Saved By EE Program In 2006	Benefit/Cost Ratio of EE Program in 2006		
	< 1.0	1.0 - 1.9	2.0 +
< 10 Million Cubic Feet	**Residential** Low-Income Weatherization (Aquila) **Residential** Low-Income Energy Education (Aquila) **Residential** Multi-Family Efficiency (Aquila) Non-Residential New Construction (Alliant) **Residential** Weatherization Teams (Aquila) **Residential** Habitat for Humanity (Aquila)	**Residential** New Construction (Aquila) **Residential** School-Based Energy Education (Aquila) **Residential** Innovative Space & Water Heating (Aquila) Non-Residential Efficiency Bid (MidAmerican)	Non-Residential Audit (Aquila) **Residential** Water Heater Replacement (Aquila)
10 - 19.9 Million Cubic Feet	Non-Residential Energy Analysis (MidAmerican) Non-Residential Prescriptive Rebate (Aquila)	Non-Residential Audit (MidAmerican) Non-Residential Equipment (MidAmerican) Non-Residential Custom Rebate (MidAmerican) **Residential** Audit (Aquila) **Residential** New Construction (Alliant)	Non-Residential Performance Contracting (Alliant) Non-Residential Custom Rebate (Aquila)
20 - 49.9 Million Cubic Feet		Non-Residential Custom Rebate (Alliant) **Residential** Low-Income Assistance (Alliant) **Residential** Low-Income Assistance (MidAmerican)	**Residential** Setback Thermostat & Furnance Maintenance (Aquila) Non-Residential New Construction (MidAmerican) **Residential** Furnace Replacement (Aquila) Non-Residential Prescriptive Rebate (Alliant) **Residential** Envelope Retrofit (Aquila)
50 Million + Cubic Feet		**Residential** Audit (MidAmerican) **Residential** Prescriptive Rebate (Alliant) **Residential** Equipment (MidAmerican) **Residential** New Construction (MidAmerican)	**Residential** Audit (Alliant)

Table III-99. IOU natural gas energy efficiency programs, program cost compared with million cubic feet of gas saved

Iowa's Investor-Owned Utilities Natural Gas Energy Efficiency Programs Relationship of Program Cost and Million Cubic Feet Saved			
Cubic Feet Of Natural Gas Saved By EE Program In 2006	Cost of EE Program in 2006		
	< $300,000	$300,000 - $999,999	$1.0 million +
< 10 Million Cubic Feet	Non-Residential Energy Analysis (MidAmerican) Non-Residential Efficiency Bid (MidAmerican) **Residential** Innovative Space & Water Heating (Aquila) **Residential** Water Heater Replacement (Aquila) **Residential** Low-Income Energy Education (Aquila) **Residential** School-Based Energy Education (Aquila) **Residential** Multi-Family Efficiency (Aquila) **Residential** Weatherization Teams (Aquila) **Residential** Habitat for Humanity (Aquila)	**Residential** New Construction (Aquila) Non-Residential Audit (Aquila) **Residential** Low-Income Weatherization (Aquila) Non-Residential New Construction (Alliant)	
10 - 19.9 Million Cubic Feet	Non-Residential Performance Contracting (Alliant) Non-Residential Prescriptive Rebate (Aquila)	Non-Residential Equipment (MidAmerican) Non-Residential Custom Rebate (MidAmerican) Non-Residential Custom Rebate (Aquila) **Residential** Audit (Aquila)	**Residential** New Construction (Alliant) Non-Residential Audit (MidAmerican)
20 - 49.9 Million Cubic Feet		Non-Residential New Construction (MidAmerican) **Residential** Setback Thermostat & Furnance Maintenance (Aquila)	**Residential** Envelope Retrofit (Aquila) Non-Residential Custom Rebate (Alliant) **Residential** Low-Income Assistance (MidAmerican) **Residential** Low-Income Assistance (Alliant) **Residential** Furnace Replacement (Aquila) Non-Residential Prescriptive Rebate (Alliant)
50 Million + Cubic Feet			**Residential** New Construction (MidAmerican) **Residential** Prescriptive Rebate (Alliant) **Residential** Equipment (MidAmerican) **Residential** Audit (Alliant) **Residential** Audit (MidAmerican)

Section 14. Muni 2006 results

Table III-100a. Muni electric energy efficiency spending and savings for 2006, compared with revenues and MWh sales

	Electric Retail Revenues In 2006	Electric EE Spending In 2006	EE Spending As A Pct Of Revenues	Retail MWh Sales In 2006	MWh Saved Through EE Measures Initiated In 2006	EE MWh Saved As A Pct Of Retail MWh Sales
Afton	$575,174	$4,345	0.8	6,310	19	0.31
Akron	$993,376	$11,395	1.1	14,780	7	0.05
Algona	$6,703,625	$88,478	1.3	102,626	289	0.28
Alta	$1,199,819	$5,516	0.5	15,220	4	0.03
Alta Vista	$198,150	$608	0.3	1,560	0	0.22
Alton	$638,640	$17,152	2.7	10,740	7	0.07
Ames	$41,826,084	$331,278	0.8	605,888	10	0
Anita	$672,080	$2,349	0.3	9,345	3	0.03
Anthon	$286,167	$13,019	4.5	5,824	16	0.27
Aplington	$535,678	$1,416	0.3	6,517	6	0.09
Atlantic	$5,167,209	$48,314	0.9	101,302	74	0.07
Auburn	$170,689	$377	0.2	1,800	0	0.17
Aurelia	$542,625	$16,557	3.1	8,342	5	0.07
Bancroft	$874,240	$1,662	0.2	10,835	0	0.19
Bellevue	$1,502,222	$50,930	3.4	17,675	133	0.75
Bloomfield	$1,925,762	$1,985	0.1	29,489	1	0.43
Breda	$327,751	$8,827	2.7	4,312	0	0
Brooklyn	$1,041,972	$13,881	1.3	12,102	1	0.01
Buffalo	$389,225	$433	0.1	4,571	0	0.18
Burt	$365,465	$2,547	0.7	3,553	3	0.08
Callender	$192,001	$996	0.5	2,137	0	0.16
Carlisle	$1,423,064	$6,951	0.5	19,051	0	0.18
Cascade	$1,527,928	$26,620	1.7	18,878	52	0.27
Cedar Falls	$30,058,388	$348,237	1.2	427,479	1,075	0.25
Coggon	$323,505	$777	0.2	3,311	1	0.02
Coon Rapids	$1,460,545	$4,517	0.3	17,237	1	0
Corning	$1,229,970	$9,769	0.8	18,800	31	0.16
Corwith	$229,906	$258	0.1	2,202	0	0.18
Danville	$535,872	$561	0.1	5,401	0	0.17
Dayton	$498,192	$8,073	1.6	5,266	57	1.08
Denison	$6,805,923	$291,961	4.3	148,585	10	0.01
Denver	$924,280	$16,688	1.8	12,867	20	0.15
Dike	$489,850	$533	0.1	5,717	0	0
Durant	$1,544,379	$19,104	1.2	12,452	11	0.09
Dysart	$858,238	$6,467	0.8	8,841	11	0.13

Table III-100b. Muni electric energy efficiency spending and savings for 2006, compared with revenues and MWh sales

	Electric Retail Revenues In 2006	Electric EE Spending In 2006	EE Spending As A Pct Of Revenues	Retail MWh Sales In 2006	MWh Saved Through EE Measures Initiated In 2006	EE MWh Saved As A Pct Of Retail MWh Sales
Earlville	$458,423	$18,166	4.0	5,064	3	0.06
Eldridge	$3,485,047	$9,831	0.3	33,955	15	0.05
Ellsworth	$446,692	$5,933	1.3	5,064	19	0.38
Estherville	$3,859,003	$101,338	2.6	59,582	25	0.04
Fairbank	$570,665	$2,239	0.4	7,305	2	0.03
Farnhamville	$362,311	$390	0.1	4,831	0	0.17
Fonda	$396,500	$478	0.1	5,097	0	0
Fontanelle	$428,893	$7,296	1.7	6,271	15	0.25
Forest City	$3,560,844	$13,059	0.4	69,644	33	0.05
Fredericksburg	$1,046,691	$2,946	0.3	14,971	5	0.03
Glidden	$620,170	$2,401	0.4	8,590	0	0
Gowrie	$696,042	$8,925	1.3	7,223	0	0
Graettinger Electric	$672,267	$1,302	0.2	9,418	0	0
Grafton	$137,371	$889	0.6	2,175	0	0
Grand Junction	$507,425	$502	0.1	5,092	0	0
Greenfield	$2,940,609	$68,202	2.3	44,893	86	0.19
Grundy Center	$2,083,545	$3,189	0.2	27,864	0	0
Guttenberg	$1,104,267	$8,394	0.8	16,660	36	0.21
Harlan	$5,293,939	$12,555	0.2	60,773	97	0.16
Hartley	$935,682	$4,040	0.4	17,164	1	0.01
Hawarden	$1,656,063	$12,672	0.8	28,470	7	0.02
Hinton	$500,619	$10,197	2.0	7,640	9	0.12
Hopkinton	$370,614	$438	0.1	4,545	0	0
Hudson	$1,094,751	$3,788	0.3	12,653	0	0
Independence	$5,966,650	$91,522	1.5	61,723	422	0.68
Indianola	$7,782,287	$80,663	1.0	111,280	180	0.16
Keosauqua	$956,024	$5,331	0.6	13,539	0	0
Kimballton	$165,815	$2,845	1.7	2,275	5	0.24
La Porte City	$1,338,414	$5,272	0.4	15,414	2	0.01
Lake Mills	$2,408,921	$3,472	0.1	37,422	1	0
Lake Park	$781,411	$2,216	0.3	11,168	1	0.01
Lake View	$1,361,639	$17,638	1.3	19,054	0	0
Lamoni	$1,798,537	$23,874	1.3	22,010	31	0.14
Larchwood	$461,513	$2,506	0.5	6,556	2	0.03
Laurens	$1,364,288	$6,667	0.5	28,340	4	0.01

Table III-100c. Muni electric energy efficiency spending and savings for 2006, compared with revenues and MWh sales

	Electric Retail Revenues In 2006	Electric EE Spending In 2006	EE Spending As A Pct Of Revenues	Retail MWh Sales In 2006	MWh Saved Through EE Measures Initiated In 2006	EE MWh Saved As A Pct Of Retail MWh Sales
Lawler	$258,659	$270	0.1	2,636	0	0
Lehigh	$209,715	$5,789	2.8	2,101	1	0.03
Lenox Electric	$1,007,287	$11,572	1.1	16,739	18	0.11
Livermore	$317,563	$1,543	0.5	2,697	1	0.05
Long Grove	$311,978	$463	0.1	2,958	0	0
Manilla	$457,341	$3,285	0.7	7,372	38	0.52
Manning Electric	$1,647,895	$34,416	2.1	34,679	40	0.11
Mapleton	$823,654	$29,305	3.6	13,654	20	0.15
Maquoketa	$7,187,326	$24,920	0.3	72,598	68	0.09
Marathon	$167,344	$3,516	2.1	2,200	0	0
McGregor	$607,205	$3,193	0.5	7,336	21	0.29
Milford	$1,990,186	$15,778	0.8	32,057	156	0.49
Montezuma Electric	$2,243,064	$4,567	0.2	30,967	6	0.02
Mount Pleasant	$6,539,653	$8,120	0.1	70,381	13	0.02
Muscatine	$42,451,979	$342,634	0.8	863,716	2,455	0.28
Neola	$291,494	$1,690	0.6	4,715	0	0
New Hampton	$3,791,908	$3,867	0.1	52,907	1	0
New London	$1,340,315	$6,204	0.5	14,075	28	0.2
Ogden	$1,273,726	$2,707	0.2	13,177	0	0
Onawa	$1,673,581	$37,778	2.3	31,097	47	0.15
Orange City	$5,389,608	$18,830	0.3	91,294	37	0.04
Orient	$221,927	$3,252	1.5	2,393	13	0.55
Osage	$3,277,107	$25,210	0.8	53,864	21	0.04
Panora	$856,827	$17,254	2.0	11,349	72	0.64
Paton	$163,734	$2,307	1.4	1,722	0	0
Paullina	$637,743	$3,785	0.6	9,820	0	0
Pella Municipal	$14,906,214	$17,795	0.1	194,382	15	0.01
Pocahontas	$1,306,500	$128,344	9.8	20,272	24	0.12
Preston	$729,214	$1,596	0.2	8,357	1	0.01
Primghar	$689,015	$1,097	0.2	9,121	0	0
Readlyn	$369,171	$2,223	0.6	4,506	7	0.15
Remsen	$1,013,176	$1,946	0.2	15,553	1	0
Renwick	$267,283	$3,961	1.5	3,471	10	0.29
Rock Rapids	$1,544,904	$17,446	1.1	28,756	36	0.12
Rockford	$484,236	$548	0.1	5,993	0	0

Table III-100d. Muni electric energy efficiency spending and savings for 2006, compared with revenues and MWh sales

	Electric Retail Revenues In 2006	Electric EE Spending In 2006	EE Spending As A Pct Of Revenues	Retail MWh Sales In 2006	MWh Saved Through EE Measures Initiated In 2006	EE MWh Saved As A Pct Of Retail MWh Sales
Sabula	$413,622	$1,022	0.2	3,768	0	0.01
Sanborn	$1,417,157	$2,014	0.1	20,322	1	0.01
Sergeant Bluff	$2,482,214	$20,435	0.8	32,361	1	0
Shelby	$336,236	$562	0.2	6,059	0	0
Sibley	$2,192,163	$6,592	0.3	34,837	1	0
Sioux Center	$5,771,368	$41,134	0.7	104,229	324	0.31
Spencer	$10,174,901	$97,745	1.0	159,121	966	0.61
Stanhope	$254,999	$649	0.3	2,664	1	0.04
Stanton	$500,419	$5,506	1.1	7,202	6	0.08
State Center	$1,399,204	$6,842	0.5	12,051	19	0.16
Story City	$4,256,693	$7,115	0.2	194,657	16	0.01
Stratford	$502,585	$13,202	2.6	4,490	41	0.92
Strawberry Point	$813,279	$852	0.1	7,196	0	0
Stuart	$1,211,699	$13,801	1.1	13,570	1	0.01
Sumner	$1,641,711	$8,251	0.5	15,022	59	0.39
Tipton	$2,921,593	$2,741	0.1	29,390	1	0
Traer	$1,734,834	$9,283	0.5	20,564	10	0.05
Villisca	$745,158	$4,774	0.6	11,225	12	0.11
Vinton	$2,806,027	$19,444	0.7	37,619	27	0.07
Wall Lake	$611,888	$1,060	0.2	8,746	0	0
Waverly	$10,171,417	$299,416	2.9	133,995	591	0.44
Webster City	$11,055,115	$35,786	0.3	158,534	165	0.1
West Bend	$1,172,673	$3,176	0.3	13,360	7	0.05
West Liberty	$3,904,738	$4,578	0.1	55,307	1	0
West Point	$1,165,349	$4,044	0.3	12,763	6	0.05
Westfield	$71,389	$149	0.2	773	0	0
Whittemore	$353,063	$827	0.2	4,654	0	0.01
Wilton	$1,934,709	$29,971	1.5	24,587	17	0.07
Winterset	$3,812,628	$63,315	1.7	46,082	7	0.02
Woodbine Electric	$883,347	$24,962	2.8	14,610	77	0.53
Woolstock	$180,767	$142	0.1	2,675	0	0
TOTAL	$354,993,403	$3,420,358	1.0	5,406,088	8,355	0.15

Table III-101a. Muni natural gas energy efficiency spending and savings for 2006, compared with revenues and Mcf sales

	Gas Retail Revenues In 2006	Gas EE Spending In 2006	EE Spending As A Pct Of Revenues	Retail MCF Sales In 2006	MCF Saved Through EE Measures Initiated In 2006	MCF Saved As A Pct Of Retail MCF Sales
Bedford Gas	$688,210	$795	0.1	57,631	0	0
Bloomfield	$1,472,152	$1,717	0.1	142,191	0	0
Brighton	$314,165	$2,726	0.9	21,718	82	0.38
Brooklyn	$759,504	$2,066	0.3	66,273	2	0
Cascade	$1,097,633	$7,335	0.7	87,781	577	0.66
Cedar Falls	$16,883,450	$188,699	1.1	1490812	4,182	0.28
Clearfield Gas	$185,298	$239	0.1	18,282	0	0
Coon Rapids	$1,092,611	$3,733	0.3	93,655	0	0
Corning	$1,019,563	$13,214	1.3	96,903	679	0.7
Emmetsburg	$2,455,871	$12,009	0.5	239,575	339	0.14
Everly Gas	$489,154	$684	0.1	40,945	0	0
Fairbank	$428,171	$4,394	1.0	33,594	199	0.59
Gilmore City	$929,691	$2,387	0.3	97,889	53	0.05
Graettinger Gas	$637,132	$1,349	0.2	47,713	68	0.14
Guthrie Center Gas	$1,737,120	$3,169	0.2	136,998	233	0.17
Harlan	$2,760,056	$8,596	0.3	332,265	116	0.03
Hartley	$999,076	$1,237	0.1	79,997	4	0.01
Hawarden	$1,461,075	$2,782	0.2	123,323	169	0.14
Lake Park	$980,939	$2,241	0.2	91,972	0	0
Lamoni	$941,525	$4,436	0.5	82,547	11	0.01
Lenox Gas	$1,566,444	$3,965	0.3	174,306	87	0.05
Lineville Gas	$123,081	$154	0.1	10,128	0	0
Lorimor Gas	$163,220	$185	0.1	12,718	0	0
Manilla	$405,470	$2,699	0.7	31,411	165	0.53
Manning Gas	$1,138,218	$7,924	0.7	95,986	78	0.08
Montezuma Gas	$1,457,986	$3,737	0.3	138,453	126	0.09
Morning Sun Gas	$360,946	$451	0.1	29,350	0	0
Moulton Gas	$278,889	$317	0.1	20,789	0	0
Orange City	$4,067,179	$16,449	0.4	438,294	95	0.02
Osage	$3,283,033	$11,939	0.4	313,532	687	0.22
Prescott Gas	$107,494	$131	0.1	8,922	0	0
Preston	$583,485	$1,553	0.3	44,926	37	0.08
Remsen	$1,216,772	$1,475	0.1	80,703	0	0
Rock Rapids	$1,622,469	$14,948	0.9	147,613	599	0.41
Rolfe Gas	$467,899	$1,084	0.3	40,295	0	0

Table III-101b. Muni natural gas energy efficiency spending and savings for 2006, compared with revenues and Mcf sales

	Gas Retail Revenues In 2006	Gas EE Spending In 2006	EE Spending As A Pct Of Revenues	Retail MCF Sales In 2006	MCF Saved Through EE Measures Initiated In 2006	MCF Saved As A Pct Of Retail MCF Sales
Sabula	$467,899	$1,084	0.2	29,991	0	0
Sac City Gas	$1,815,753	$7,279	0.4	134,032	246	0.18
Sanborn	$1,715,755	$2,085	0.1	181,692	0	0
Sioux Center	$9,742,356	$20,165	0.2	1108280	3,432	0.31
Tipton	$1,899,676	$2,201	0.1	172,247	0	0
Wall Lake	$687,450	$396	0.1	63,986	0	0
Waukee Gas	$3,663,108	$12,022	0.3	321,476	572	0.18
Wayland Gas	$533,138	$1,727	0.3	44,102	65	0.15
Wellman Gas	$632,936	$3,723	0.6	55,606	244	0.44
West Bend	$863,215	$2,973	0.3	73,731	197	0.27
Whittemore	$643,643	$1,250	0.2	63,920	0	0
Winfield Gas	$500,692	$552	0.1	40,903	0	0
Woodbine Gas	$727,349	$6,458	0.9	59,714	143	0.24
TOTAL	$78,067,951	$392,734	0.5	7,319,170	13,487	0.18

Table III-102. Municipal utilities with the highest spending for electric energy efficiency in 2006.

Iowa Municipal Utilities Spending for Electric Energy Efficiency in 2006			
	Spending for Electric Energy Efficiency	**Retail Electric Revenues**	**EE $ As Percent of Revenues**
The 25 utilities that accounted for 80% of all municipals' spending for electric energy efficiency	**$2,742,475**	**$216,311,455**	**1.3**
Cedar Falls	$348,237	$30,058,388	1.2
Muscatine	$342,634	$42,451,979	0.8
Ames	$331,278	$41,826,084	0.8
Waverly	$299,416	$10,171,417	2.9
Denison	$291,961	$6,805,923	4.3
Pocahontas	$128,344	$1,306,500	9.8
Estherville	$101,338	$3,859,003	2.6
Spencer	$97,745	$10,174,901	1.0
Independence	$91,522	$5,966,650	1.5
Algona	$88,478	$6,703,625	1.3
Indianola	$80,663	$7,782,287	1.0
Greenfield	$68,202	$2,940,609	2.3
Winterset	$63,315	$3,812,628	1.7
Bellevue	$50,930	$1,502,222	3.4
Atlantic	$48,314	$5,167,209	0.9
Sioux Center	$41,134	$5,771,368	0.7
Onawa	$37,778	$1,673,581	2.3
Webster City	$35,786	$11,055,115	0.3
Manning Electric	$34,416	$1,647,895	2.1
Wilton	$29,971	$1,934,709	1.5
Mapleton	$29,305	$823,654	3.6
Cascade	$26,620	$1,527,928	1.7
Osage	$25,210	$3,277,107	0.8
Woodbine Electric	$24,962	$883,347	2.8
Maquoketa	$24,920	$7,187,326	0.3
The other 111 municipal utilities providing electric service	**$677,877**	**$138,681,948**	**0.5**
All 136 municipal utilities providing electric service	**$3,420,352**	**$354,993,403**	**1.0**

Note: Electric energy efficiency measures comprise: 1) utilities' measures that help consumers use electricity more efficiently; and 2) utilities' load management measures.

Note: The Iowa Utilities Board staff prepared this analysis in 2007, using data supplied by the utilities.

Table III-103. Municipal utilities with the highest energy savings for electric energy efficiency in 2006.

Iowa Municipal Utilities Megawatt Hours Saved in 2006 Through Energy Efficiency Measures			
	MWh Saved Through Measures Initiated in 2006	**Retail MWh Sales**	**MWh Saved As A Pct. Of MWh Sales**
The 11 utilities that accounted for 80% of all municipals' megawatt hours saved through energy efficiency measures	**6,755**	**2,172,436**	**0.31**
Muscatine	2,455	863,716	0.28
Cedar Falls	1,075	427,479	0.25
Spencer	966	159,121	0.61
Waverly	591	133,995	0.44
Independence	422	61,723	0.68
Sioux Center	324	104,229	0.31
Algona	289	102,626	0.28
Indianola	180	111,280	0.16
Webster City	165	158,534	0.10
Milford	156	32,057	0.49
Bellevue	133	17,675	0.75
The other 125 municipal utilities providing electric service	**1,604**	**3,233,650**	**0.05**
All 136 municipal utilities providing electric service	**8,359**	**5,406,086**	**0.15**

Note: Electric energy efficiency measures comprise: 1) utilities' measures that help consumers use electricity more efficiently; and 2) utilities' load management measures.

Note: The Iowa Utilities Board staff prepared this analysis in 2007, using data supplied by the utilities.

Table III-104. Municipal utilities with the highest spending for natural gas energy efficiency in 2006.

Iowa Municipal Utilities Spending for Natural Gas Energy Efficiency in 2006			
	Spending For Natural Gas Energy Efficiency	**Retail Natural Gas Revenues**	**EE Spending As A Pct. Of Revenues**
The 11 utilities that accounted for 80% of all municipals' spending for natural gas energy efficiency	**$313,300**	**$47,732,936**	**0.7**
Cedar Falls	$188,699	$16,883,450	1.1
Sioux Center	$20,165	$9,742,356	0.2
Orange City	$16,449	$4,067,179	0.4
Rock Rapids	$14,948	$1,622,469	0.9
Corning	$13,214	$1,019,563	1.3
Waukee Gas	$12,022	$3,663,108	0.3
Emmetsburg	$12,009	$2,455,871	0.5
Osage	$11,939	$3,283,033	0.4
Harlan	$8,596	$2,760,056	0.3
Manning Gas	$7,924	$1,138,218	0.7
Cascade	$7,335	$1,097,633	0.7
The other 37 municipal utilities providing natural gas service	**$79,434**	**$30,235,307**	**0.3**
All 48 municipal utilities providing natural gas service	**$392,734**	**$77,968,243**	**0.5**

Note: The Iowa Utilities Board staff prepared this analysis in 2007, using data supplied by the utilities.

Table III-105. Municipal utilities with the highest energy savings for natural gas energy efficiency in 2006.

Iowa Municipal Utilities Thousands of Cubic Feet of Natural Gas Saved in 2006 Through Energy Efficiency Measures			
	MCF Saved Through Measures Initiated in 2006	**Retail MCF Sales**	**MCF Saved As A Pct. Of MCF Sales**
The eight utilities that accounted for 80% of all municipals' natural gas saved through energy efficiency measures	**11,067**	**3,805,972**	**0.29**
Cedar Falls	4,182	1,490,812	0.28
Sioux Center	3,432	1,108,280	0.31
Osage	687	313,532	0.22
Corning	679	96,903	0.70
Rock Rapids	599	147,613	0.41
Cascade	577	87,781	0.66
Waukee Gas	572	321,476	0.18
Emmetsburg	339	239,575	0.14
The other 40 municipal utilities providing natural gas service	**2,422**	**3,513,152**	**0.07**
All 48 municipal utilities providing natural gas service	**13,489**	**7,319,124**	**0.18**

Note: The Iowa Utilities Board staff prepared this analysis in 2007, using data supplied by the utilities.

Section 15. REC 2006 results

Table III-106. REC 2006 spending and MWh savings, compared with revenues and MWh sales

	Electric Retail Revenues In 2006	Electric EE Spending In 2006	EE Spending As A Pct Of Revenues	Retail MWh Sales In 2006	MWh Saved In 2006 Through Ongoing EE Measures Initiated In Any Year	EE MWh Saved As A Pct Of Retail MWh Sales
Access Energy	$16,204,139	$241,785	1.5	230,547	3,865	1.68
Allamakee-Clayton	$12,500,918	$296,275	2.4	118,839	1,277	1.07
Amana Society	$5,161,405	$0	0	93,956	355	0.38
Atchison-Holt	$4,925,392	$0	0	63,407	0	0
Boone Valley	$312,455	$2,413	0.8	4,810	7	0.14
Butler County	$10,681,954	$245,607	2.3	113,457	5,200	4.58
Calhoun County	$2,314,762	$17,475	0.8	26,430	1,092	4.13
Chariton Valley	$6,897,024	$77,751	1.1	84,375	3,134	3.71
Clarke Electric	$8,841,707	$777,705	8.8	76,357	5,209	6.82
Consumers Energy	$11,237,087	$310,580	2.8	93,361	5,897	6.32
East-Central Iowa	$17,179,672	$275,796	1.6	176,225	9,089	5.16
Eastern Iowa L&P	$44,956,118	$494,344	1.1	567,458	12,656	2.23
Farmers-Greenfield	$10,543,801	$122,718	1.2	116,796	4,209	3.6
Farmers-Kalona	$1,687,028	$43,537	2.6	19,829	353	1.78
Federated	$66,284	$0	0	903	0	0
Franklin	$4,745,980	$83,003	1.7	57,737	1,969	3.41
Freeborn-Mower	$10,125	$488	4.8	113	0	0
Glidden	$6,750,637	$74,037	1.1	103,095	2,134	2.07
Grundy County	$6,080,944	$103,848	1.7	99,168	2,231	2.25
Grundy Electric	$308,224	$2,148	0.7	3,715	0	0
Guthrie County	$8,142,592	$338,124	4.2	80,320	6,813	8.48
Harrison County	$5,718,115	$347,070	6.1	86,783	3,049	3.51
Hawkeye Tri-County	$13,129,777	$230,820	1.8	127,384	501	0.39
Heartland Power	$13,209,255	$250,357	1.9	182,019	3,184	1.75
Humboldt County	$4,320,851	$62,633	1.4	49,250	1,423	2.89
Iowa Lakes	$29,742,818	$1,088,488	3.7	243,806	14,543	5.97
Linn County	$34,226,000	$761,642	2.2	349,633	21,825	6.24
Lyon County	$4,351,444	$90,817	2.1	70,034	2,187	3.12
Maquoketa Valley	$24,048,410	$762,834	3.2	246,166	16,857	6.85
Midland Power	$24,169,764	$2,003,884	8.3	332,000	7,887	2.38
Nishnabotna Valley	$6,901,961	$318,954	4.6	129,013	1,986	1.54
Nobles Electric	$10,547	$267	2.5	133	2	1.31
North West	$19,044,972	$712,003	3.7	376,009	11,765	3.13
Osceola Electric	$2,501,586	$65,145	2.6	56,482	60	0.11
Pella Coop	$5,306,485	$132,936	2.5	47,613	2,390	5.02
Pleasant Hill	$263,465	$1,386	0.5	3,409	22	0.65
Prairie Energy	$15,265,000	$272,463	1.8	231,768	3,282	1.42
Sac County	$2,383,029	$50,822	2.1	25,274	1,048	4.15

Southern Iowa	$6,366,762	$113,368	1.8	75,277	3,651	4.85
Southwest Iowa	$9,811,231	$307,314	3.1	87,593	5,605	6.4
T.I.P.	$12,643,545	$322,263	2.5	131,539	3,694	2.81
Tri-County Electric	$166,333	$1,888	1.1	1,487	47	3.16
United Electric	$710,000	$0	0	7,287	0	0
Western Iowa Power	$8,508,650	$137,066	1.6	115,500	5,278	0.46
Woodbury County	$5,209,358	$149,541	2.9	15,850	1,952	12.32
TOTAL	$427,557,606	$11,691,595	2.7	5,122,207	177,728	3.47

Note the REC MWh savings are NOT incremental, but instead were reported as cumulative savings, including effects of all previous years.

Table III-107. RECs with the highest spending for electric energy efficiency in 2006.

Iowa Rural Electric Cooperatives Spending for Electric Energy Efficiency in 2006			
	Spending For Electric Energy Efficiency	**Retail Electric Revenues**	**EE Spending As A Pct. Of Revenues**
The 16 RECs that accounted for 80% of all RECs' spending for electric energy efficiency	**$9,389,740**	**$284,429,910**	**3.3**
Midland Power	$2,003,884	$24,169,764	8.3
Iowa Lakes	$1,088,488	$29,742,818	3.7
Clarke Electric	$777,705	$8,841,707	8.8
Maquoketa Valley	$762,834	$24,048,410	3.2
Linn County	$761,642	$34,226,000	2.2
North West	$712,003	$19,044,972	3.7
Eastern Iowa L&P	$494,344	$44,956,118	1.1
Harrison County	$347,070	$5,718,115	6.1
Guthrie County	$338,124	$8,142,592	4.2
T.I.P.	$322,263	$12,643,545	2.5
Nishnabotna Valley	$318,954	$6,901,961	4.6
Consumers Energy	$310,580	$11,237,087	2.8
Southwest Iowa	$307,314	$9,811,231	3.1
Allamakee-Clayton	$296,275	$12,500,918	2.4
East-Central Iowa	$275,796	$17,179,672	1.6
Prairie Energy	$272,463	$15,265,000	1.8
The other 29 RECs	**$2,301,855**	**$143,127,696**	**1.6**
All 45 RECs	**$11,691,595**	**$427,557,606**	**2.7**

Note: Electric energy efficiency measures comprise: 1) RECs' measures that help consumers use electricity more efficiently; and 2) RECs' load management measures.

Note: The Iowa Utilities Board staff prepared this analysis in 2007, using data supplied by the RECs.

Table III-108. RECs with the highest energy savings for electric energy efficiency in 2006.

Iowa Rural Electric Cooperatives CUMULATIVE (Ongoing) Megawatt Hours Saved in 2006	
MWh Saved in 2006 Through Ongoing Measures Initiated in Any Year, Including 2006	
The 17 RECs that accounted for 80% of all RECs' megawatt hours saved through energy efficiency measures	**144,044**
Linn County	21,825
Maquoketa Valley	16,857
Iowa Lakes	14,543
Eastern Iowa L&P	12,656
North West	11,765
East-Central Iowa	9,089
Midland Power	7,887
Guthrie County	6,813
Consumers Energy	5,897
Southwest Iowa	5,605
Western Iowa Power	5,278
Clarke Electric	5,209
Butler County	5,200
Farmers-Greenfield	4,209
Access Energy	3,865
T.I.P.	3,694
Southern Iowa	3,651
The other 28 RECs	**33,685**
All 45 RECs	**177,729**
Note: Electric energy efficiency measures comprise: 1) RECs' measures that help consumers use electrcity more efficiently; 2) RECs' load management measures.	
Note: The Iowa Utilities Board staff prepared this analysis in 2007, using data supplied by the RECs.	

PART IV. OTHER STATES OR NATIONAL ENERGY EFFICIENCY

Information about energy efficiency and load management programs in states around the country was collected in an effort to learn: 1) which states seemed to be leaders in the field; and 2) how Iowa compared with other states.

This study includes information from:

- Utility-regulating agencies in various states
- The U. S. Department of Energy (www.doe.gov)
- The U. S. Environmental Protection Agency (www.epa.gov)
- The Consortium for Energy Efficiency, a nongovernmental organization based in Boston (www.cee1.org)
- The American Council for an Energy-Efficient Economy, a nongovernmental organization based in Washington, D. C. (www.aceee.org)
- The Database of State Incentives for Renewables and Efficiency, a service based at North Carolina State University (www.dsireusa.org)

Tables on the first seven pages compare information about energy efficiency spending, structure and developments:

- In Iowa and the neighboring states of Minnesota, Wisconsin, Illinois, Missouri, Nebraska and South Dakota.
- In Iowa and four other states of similar-size population – Utah, Mississippi, Arkansas and Kansas.
- In Iowa and eight other leading EE states – Minnesota, Wisconsin, Vermont, Massachusetts, Oregon, Washington, California and New York.

The spending amounts displayed in these tables were supplied by the Consortium for Energy Efficiency. States' per capita spending was calculated through the use of state 2006 population estimates provided by the U. S. Census Bureau. Information about customer bill surcharges and EE program administrators was supplied by the American Council for an Energy-Efficient Economy. (Detailed descriptions of Iowa's EE programs were derived from data provided by utilities.) Information about the structure of states' electricity market was supplied by the U. S. Department of Energy. Information contained in the "developments" section was provided by a variety of sources.

Tables on the other five pages show how states ranked in planned 2006 per capita spending for: 1) electric EE; 2) natural gas EE; 3) electric EE plus gas EE; 4) load management; and 5) electric EE plus gas EE plus load management. The rankings were based on spending amounts supplied by the Consortium for Energy Efficiency. Iowa ranked first in the category of per capita spending for electric EE plus gas EE plus load management, and Iowa ranked high in all other categories as well.

Table IV-1: Energy Efficiency Programs in Electricity and Natural Gas: A Comparison of Iowa and Neighboring States (Page 1 of 2)

	Spending				Structure	Developments
		Planned 2006 Spending	Spending Per Capita	Rank Among 51 In Per Capita Spending		
IOWA	Energy Efficiency	$59 million	$19.78	4	State population: 3.0 million Electricity market: Not restructured EE program administrator: Utilities IOUs' surcharge on customer bills for funding electric EE program: 1.10 mills/kWh IOUs' surcharge on customer bills for funding load management program: 1.10 mills/kWh IOUs' surcharge on customer bills for funding natural gas EE program: 3 cents/therm	IOUs' EE spending in '06 totaled $106 million: · $40 million for electric EE · $30 million for natural gas EE · $36 million for load management Other utilities spent $15 million -- $12 million for EE and $3 million for LM. In '06, IOUs: · Saved 281 GWh of electricity through EE & LM -- equivalent to 0.9% of retail sales. · Saved 868 million cu. ft. of natural gas, equivalent to 0.8% of retail sales. In '07, ACEEE honored IPL/Alliant for its work in agricultural EE and new-home EE and honored MidAmerican for its work in new-home EE.
	Electric	$39 million	$13.04	9		
	Natural Gas	$20 million	$6.74	2		
	Load Management	$35 million	$11.70	1		
	EE + LM	$94 million	$31.48	1		
MINNESOTA	Energy Efficiency	$92 million	$17.77	6	State population: 5.2 million Electricity market: Not restructured EE program administrator: Utilities Surcharge on customer bills for funding electric EE program: 1.30 mills/kWh	In '07 the legislature passed the New Generation Energy Act, which set energy-saving goals for utilities. Beginning in 2010, utilities need to save energy equivalent to 1.5% of the utility's annual retail sales in the state. Electric utilities are required to spend 1.5% of gross revenue on EE, and gas utilities are required to spend 0.5% of gross revenue on EE. In '05, Minnesota utilities saved 470 GWh of electricity and 135 MW of peak demand. In '07, ACEEE honored Xcel Energy for its work in EE in commercial/industrial construction, retrofitting and lighting.
	Electric	$78 million	$15.04	6		
	Natural Gas	$14 million	$2.73	5		
	Load Management	$8 million	$1.56	8		
	EE + LM	$100 million	$19.33	6		
WISCONSIN	Energy Efficiency	$97 million	$17.46	7	State population: 5.6 million Electricity market: Not restructured EE program administrator: A public/private partnership named "Focus on Energy" Surcharge on customer bills for funding electric EE program: 1.17 mills/kWh	In '06, the legislature passed the Energy Efficiency and Rewables Act, which requires utilities to spend 1.2% of their annual operating revenues to fund programs in EE and renewable energy In '07, ACEEE honored Focus on Energy for its work in agricultural/rural business EE and in industrial process EE.
	Electric	$54 million	$9.75	15		
	Natural Gas	$43 million	$7.71	1		
	Not Categorized	$5 million				
	Load Management	$2 million	$0.36	17		
	EE + LM	$104 million	$18.71	7		

Table IV-1: Energy Efficiency Programs in Electricity and Natural Gas: A Comparison of Iowa and Neighboring States (Page 2 of 2)

	Spending				Structure	Developments
		Planned 2006 Spending	Spending Per Capita	Rank Among 51 In Per Capita Spending		
IOWA	Energy Efficiency	$59 million	$19.78	4	State population: 3.0 million Electricity market: Not restructured EE program administrator: Utilities IOUs' surcharge on customer bills for funding electric EE program: 1.10 mills/kWh IOUs' surcharge on customer bills for funding load management program: 1.10 mills/kWh IOUs' surcharge on customer bills for funding natural gas EE program: 3 cents/therm	IOUs' EE spending in '06 totaled $106 million: · $40 million for electric EE · $30 million for natural gas EE · $36 million for load management Other utilities spent $15 million -- $12 million for EE and $3 million for LM. In '06, IOUs: · Saved 281 GWh of electricity through EE & LM -- equivalent to 0.9% of retail sales. · Saved 868 million cu. ft. of natural gas, equivalent to 0.8% of retail sales. In '07, ACEEE honored IPL/Alliant for its work in agricultural EE and new-home EE and honored MidAmerican for its work in new-home EE.
	Electric	$39 million	$13.04	9		
	Natural Gas	$20 million	$6.74	2		
	Load Management	$35 million	$11.70	1		
	EE + LM	$94 million	$31.48	1		
		Planned 2006 Spending	Spending Per Capita	Rank Among 51 In Per Capita Spending		
ILLINOIS	Energy Efficiency	$21 million	$1.61	25	State population: 12.8 million Electricity market: Restructured EE program administrator: Utilities and Illinois Department of Commerce and Economic Opportunity Surcharge on customer bills for funding electric EE program: 0.02 mills/kWh	In '07, the legislature passed a law that set energy-saving goals for electric utilities. Beginning in 2008, utilities need to save energy equivalent to 0.2% of energy delivered to consumers. The goal increases each year threafter, reaching 2% of energy delivered in 2015 Utilities have filed EE plans, which the Illinois Commerce Commission will review in '08.
	Electric	$21 million	$1.61	25		
	Natural Gas	-0-				
	Load Management	$12 million	$0.94	11		
	EE + LM	$33 million	$2.55	25		
		Planned 2006 Spending	Spending Per Capita	Rank Among 51 In Per Capita Spending		
MISSOURI	Energy Efficiency	$3 million	$0.53	31	State population: 5.8 million Electricity market: Not restructured No EE program or customer surcharge	In '07, the legislature passed a law setting goals for renewable energy and EE. By 2012, utilities need to use renewables and EE to produce or save energy equivalent to 4% of retail sales in the state. The goal for 2015 is 8%, and the goal for 2020 is 11%.
	Electric	$3 million	$0.53	30		
	Natural Gas	-0-				
	Load Management	$5 million	$0.89	12		
	EE + LM	$8 million	$1.42	28		
NEBRASKA / S. DAKOTA	No spending planned for 2006.				**Nebraska** Population: 1.8 million Electricity market: Not restructured No EE program or customer surcharge **South Dakota** Population: 782,000 Electricity market: Not restructured No EE program or customer surcharge	----------

Table IV-2: Energy Efficiency Programs in Electricity and Natural Gas: A Comparison of Iowa and Other States of Similar-Size Population

IOWA

Spending

	Planned 2006 Spending		Spending Per Capita		Rank Among 51 In Per Capita Spending
Energy Efficiency		$59 million		$19.78	4
Electric	$39 million		$13.04		9
Natural Gas	$20 million		$6.74		2
Load Management		$35 million		$11.70	1
EE + LM		$94 million		$31.48	1

Structure

State population: 3.0 million

Electricity market: Not restructured

EE program administrator: Utilities

IOUs' surcharge on customer bills for funding electric EE program: 1.10 mills/kWh

IOUs' surcharge on customer bills for funding load management program: 1.10 mills/kWh

IOUs' surcharge on customer bills for funding natural gas EE program: 3 cents/therm

Developments

IOUs' EE spending in '06 totaled $106 million:
- $40 million for electric EE
- $30 million for natural gas EE
- $36 million for load management

Other utilities spent $15 million -- $12 million for EE and $3 million for LM.

In '06, IOUs:
- Saved 281 GWh of electricity through EE & LM -- equivalent to 0.9% of retail sales.
- Saved 868 million cu. ft. of natural gas, equivalent to 0.8% of retail sales.

In '07, ACEEE honored IPL/Alliant for its work in agricultural EE and new-home EE and honored MidAmerican for its work in new-home EE.

UTAH

Spending

	Planned 2006 Spending		Spending Per Capita		Rank Among 51 In Per Capita Spending
Energy Efficiency		$19 million		$7.33	19
Electric	$19 million		$7.33		18
Natural Gas	-0-				
Load Management		$6 million		$2.54	5
EE + LM		$25 million		$9.87	19

Structure

State population: 2.6 million

Electricity market: Not restructured

EE program administrator: Utilities

Surcharge on customer bills for funding EE program: 1.44 mills/kWh

Developments

In '06, Gov. John Huntsman said that Utah should reduce its projected 2015 energy use by 17%, with that goal covering all forms of energy. A Utah Energy Efficiency Strategy report, developed for the governor, found that Utah has the potential to reduce projected 2015 electricity use by 18% and reduce projected 2020 electricity use by 26%. The report also found potential for reducing projected natural gas demand by 14% in 2015 and by 22% in 2020. (The projections do not include gas used in generating electricity.)

MISSISSIPPI / ARKANSAS / KANSAS

Spending

No spending planned for 2006.

Structure

Mississippi
Population: 2.9 million
Electricity market: Not restructured
No EE program or customer surcharge

Kansas
Population: 2.8 million
Electricity market: Not restructured
No EE program or customer surcharge

Arkansas
Population: 2.8 million
Electricity market: Market was restructured but restructuring has been suspended
No EE program or customer surcharge

Developments

Arkansas
In '07, the Arkansas Public Service Commission issued rules for a potential EE program that would be implemented by electric and gas utilities. The PSC has asked utilities to submit proposals for EE initiatives.

Table IV-3: Energy Efficiency Programs in Electricity and Natural Gas: A Comparison of Iowa and Other Leading EE States (Page 1 of 4)

	Spending				Structure	Developments
		Planned 2006 Spending	Spending Per Capita	Rank Among 51 In Per Capita Spending		
IOWA	Energy Efficiency	$59 million	$19.78	4	State population: 3.0 million Electricity market: Not restructured EE program administrator: Utilities IOUs' surcharge on customer bills for funding electric EE program: 1.10 mills/kWh IOUs' surcharge on customer bills for funding load management program: 1.10 mills/kWh IOUs' surcharge on customer bills for funding natural gas EE program: 3 cents/therm	IOUs' EE spending in '06 totaled $106 million: · $40 million for electric EE · $30 million for natural gas EE · $36 million for load management Other utilities spent $15 million -- $12 million for EE and $3 million for LM. In '06, IOUs: · Saved 281 GWh of electricity through EE & LM -- equivalent to 0.9% of retail sales. · Saved 868 million cu. ft. of natural gas, equivalent to 0.8% of retail sales. In '07, ACEEE honored IPL/Alliant for its work in agricultural EE and new-home EE and honored MidAmerican for its work in new-home EE.
	Electric	$39 million	$13.04	9		
	Natural Gas	$20 million	$6.74	2		
	Load Management	$35 million	$11.70	1		
	EE + LM	$94 million	$31.48	1		
MINNESOTA	Energy Efficiency	$92 million	$17.77	6	State population: 5.2 million Electricity market: Not restructured EE program administrator: Utilities Surcharge on customer bills for funding electric EE program: 1.30 mills/kWh	In '07 the legislature passed the New Generation Energy Act, which set energy-saving goals for utilities. Beginning in 2010, utilities need to save energy equivalent to 1.5% of the utility's annual retail sales in the state. Electric utilities are required to spend 1.5% of gross revenue on EE, and gas utilities are required to spend 0.5% of gross revenue on EE. In '05, Minnesota utilities saved 470 GWh of electricity and 135 MW of peak demand. In '07, ACEEE honored Xcel Energy for its work in EE in commercial/industrial construction, retrofitting and lighting.
	Electric	$78 million	$15.04	6		
	Natural Gas	$14 million	$2.73	5		
	Load Management	$8 million	$1.56	8		
	EE + LM	$100 million	$19.33	6		
WISCONSIN	Energy Efficiency	$97 million	$17.46	7	State population: 5.6 million Electricity market: Not restructured EE program administrator: A public/private partnership named "Focus on Energy" Surcharge on customer bills for funding electric EE program: 1.17 mills/kWh	In '06, the legislature passed the Energy Efficiency and Rewables Act, which requires utilities to spend 1.2% of their annual operating revenues to fund programs in EE and renewable energy In '07, ACEEE honored Focus on Energy for its work in agricultural/rural business EE and in industrial process EE.
	Electric	$54 million	$9.75	15		
	Natural Gas	$43 million	$7.71	1		
	Not Categorized	$5 million				
	Load Management	$2 million	$0.36	17		
	EE + LM	$104 million	$18.71	7		

Table IV-3: Energy Efficiency Programs in Electricity and Natural Gas: A Comparison of Iowa and Other Leading EE States (Page 2 of 4)

	Spending				Structure	Developments
		Planned 2006 Spending	Spending Per Capita	Rank Among 51 In Per Capita Spending		
IOWA	Energy Efficiency	$59 million	$19.78	4	State population: 3.0 million Electricity market: Not restructured EE program administrator: Utilities IOUs' surcharge on customer bills for funding electric EE program: 1.10 mills/kWh IOUs' surcharge on customer bills for funding load management program: 1.10 mills/kWh IOUs' surcharge on customer bills for funding natural gas EE program: 3 cents/therm	IOUs' EE spending in '06 totaled $106 million: · $40 million for electric EE · $30 million for natural gas EE · $36 million for load management Other utilities spent $15 million -- $12 million for EE and $3 million for LM. In '06, IOUs: · Saved 281 GWh of electricity through EE & LM -- equivalent to 0.9% of retail sales. · Saved 868 million cu. ft. of natural gas, equivalent to 0.8% of retail sales. In '07, ACEEE honored IPL/Alliant for its work in agricultural EE and new-home EE and honored MidAmerican for its work in new-home EE.
	Electric	$39 million	$13.04	9		
	Natural Gas	$20 million	$6.74	2		
	Load Management	$35 million	$11.70	1		
	EE + LM	$94 million	$31.48	1		
		Planned 2006 Spending	Spending Per Capita	Rank Among 51 In Per Capita Spending		
VERMONT	Energy Efficiency	$18 million	$28.69	1	State population: 624,000 Electricity market: Not restructured EE program administrator: A nonprofit entity named "Efficiency Vermont" Surcharge on customer bills for funding electric EE program: 4.21 mills/kWh	As a result of EE initiatives, the people of Vermont used 1.5% less electricity in 2006 than in 2005. Efficiency Vermont reported that because of EE efforts since 2000: 1) Vermont is using 5% less energy than it would have used otherwise; 2) Vermont has reduced its winter peak demand by 52 MW; and 3) Vermont has reduced its summer peak demand by 44 MW. In '07, ACEEE honored Efficiency Vermont and Vermont Gas Systems for a variety of EE initiatives.
	Electric	$16 million	$26.29	1		
	Natural Gas	$2 million	$2.40	7		
	Load Management	-0-				
	EE + LM	$18 million	$28.69	2		
		Planned 2006 Spending	Spending Per Capita	Rank Among 51 In Per Capita Spending		
MASSACHUSETTS	Energy Efficiency	$148 million	$23.01	2	State population: 6.4 million Electricity market: Restructured EE program administrator: Utilities Surcharge on customer bills for funding electric EE program: 2.50 mills/kWh	Utilities are required to implement EE programs. In 2006 electric utilities installed EE equipment projected to save consumers $506 million over the life of the equipment. A state government reorganization in 2007 established the Department of Public Utilities, which now regulates electric and natural gas activities, including EE programs. Previously, EE was supervised by the Department of Telecommunications and Energy. In '07, ACEEE honored National Grid, a Massachusetts utility, for a variety of EE initiatives.
	Electric	$122 million	$19.03	3		
	Natural Gas	$26 million	$3.98	3		
	Load Management	-0-				
	EE + LM	$148 million	$23.01	4		

Table IV-3: Energy Efficiency Programs in Electricity and Natural Gas: A Comparison of Iowa and Other Leading EE States (Page 3 of 4)

	Spending				Structure	Developments
		Planned 2006 Spending	Spending Per Capita	Rank Among 51 In Per Capita Spending		
IOWA	Energy Efficiency	$59 million	$19.78	4	State population: 3.0 million Electricity market: Not restructured EE program administrator: Utilities IOUs' surcharge on customer bills for funding electric EE program: 1.10 mills/kWh IOUs' surcharge on customer bills for funding load management program: 1.10 mills/kWh IOUs' surcharge on customer bills for funding natural gas EE program: 3 cents/therm	IOUs' EE spending in '06 totaled $106 million: · $40 million for electric EE · $30 million for natural gas EE · $36 million for load management Other utilities spent $15 million -- $12 million for EE and $3 million for LM. In '06, IOUs: · Saved 281 GWh of electricity through EE & LM -- equivalent to 0.9% of retail sales. · Saved 868 million cu. ft. of natural gas, equivalent to 0.8% of retail sales. In '07, ACEEE honored IPL/Alliant for its work in agricultural EE and new-home EE and honored MidAmerican for its work in new-home EE.
	Electric	$39 million	$13.04	9		
	Natural Gas	$20 million	$6.74	2		
	Load Management	$35 million	$11.70	1		
	EE + LM	$94 million	$31.48	1		
		Planned 2006 Spending	Spending Per Capita	Rank Among 51 In Per Capita Spending		
OREGON	Energy Efficiency	$51 million	$13.81	10	State population: 3.7 million Electricity market: Oregon restructured its market but has suspended restructuring. EE program administrator: A nonprofit entityn named the "Energy Trust of Oregon" Surcharge on customer bills for funding electric EE program: 1.18 mills/kWh	The Energy Trust of Oregon reported that in 2006 its EE efforts saved 25 MW of electricity and 2.3 million therms of natural gas. By 2012 the Energy Trust will have been operating for a decade. The Energy Trust hopes that in 2012 energy savings will total 300 MW of electricity and 19 million therms of natural gas. In '07, ACEEE honored the Energy Trust of Oregon for its EE work in commercial/ industrial new construction.
	Electric	$39 million	$10.54	14		
	Natural Gas	$12 million	$3.27	4		
	Load Management	-0-				
	EE + LM	$51 million	$13.81	12		
		Planned 2006 Spending	Spending Per Capita	Rank Among 51 In Per Capita Spending		
WASHINGTON	Energy Efficiency	$66 million	$10.38	16	State population: 6.4 million Electricity market: Not restructured EE program administrator: Utilities Surcharge on customer bills for funding electric EE program: 1.73 mills/kWh	In November 2006, voters in Washington state approved a ballot initiative requiring large utilities to undertake cost-effective EE efforts and to obtain 15% of their electricity from new renewable sources by 2020. Under the initiative, electric utilities: 1) must determine by 2010 their achievable cost-effective conservation potential through 2019; and 2) set energy-saving goals in two-year increments for the 2010-2019 period. In '07, ACEEE honored Puget Sound Energy for its ENERGY STAR residential lighting program.
	Electric	$58 million	$9.10	16		
	Natural Gas	$8 million	$1.28	9		
	Load Management	-0-				
	EE + LM	$66 million	$10.38	17		

Table IV-3: Energy Efficiency Programs in Electricity and Natural Gas: A Comparison of Iowa and Other Leading EE States (Page 4 of 4)

	Spending				Structure	Developments
		Planned 2006 Spending	Spending Per Capita	Rank Among 51 In Per Capita Spending		
IOWA	Energy Efficiency	$59 million	$19.78	4	State population: 3.0 million Electricity market: Not restructured EE program administrator: Utilities IOUs' surcharge on customer bills for funding electric EE program: 1.10 mills/kWh IOUs' surcharge on customer bills for funding load management program: 1.10 mills/kWh IOUs' surcharge on customer bills for funding natural gas EE program: 3 cents/therm	IOUs' EE spending in '06 totaled $106 million: · $40 million for electric EE · $30 million for natural gas EE · $36 million for load management Other utilities spent $15 million -- $12 million for EE and $3 million for LM. In '06, IOUs: · Saved 281 GWh of electricity through EE & LM -- equivalent to 0.9% of retail sales. · Saved 868 million cu. ft. of natural gas, equivalent to 0.8% of retail sales. In '07, ACEEE honored IPL/Alliant for its work in agricultural EE and new-home EE and honored MidAmerican for its work in new-home EE.
	Electric	$39 million	$13.04	9		
	Natural Gas	$20 million	$6.74	2		
	Load Management	$35 million	$11.70	1		
	EE + LM	$94 million	$31.48	1		
CALIFORNIA		Planned 2006 Spending	Spending Per Capita	Rank Among 51 In Per Capita Spending	State population: 36.5 million Electricity market: California restructured its market but has suspended restructuring. EE program administrator: Utilities Surcharge on customer bills for funding electric EE program: 3.00 mills/kWh	Each year IOUs must meet energy-saving goals set by the California Public Utilities Commission. Two of the 2013 goals: 1) Reduce projected electricity use by 30,000 GWh, or 10%; 2) Reduce projected peak demand by 8 GW, or 12%. From 2004 to mid-2007 the IOUs saved 8,000 GWh in electricity and 1.5 MW in peak demand. In '07, ACEEE honored all four of the state's investor-owned utilities for their work in a variety of EE initiatives.
	Energy Efficiency	$770 million	$21.10	3		
	Electric	$676 million	$18.52	4		
	Natural Gas	$94 million	$2.58	6		
	Load Management	$103 million	$2.83	4		
	EE + LM	$873 million	$23.93	3		
NEW YORK		Planned 2006 Spending	Spending Per Capita	Rank Among 51 In Per Capita Spending	State population: 19.3 million Electricity market: Restructured EE program administrator: A state government entity named NYSERDA -- the New York State Energy Research and Development Authority Surcharge on customer bills for funding electric EE program: 0.74 mills/kWh	In April '07, Gov. Eliot Spitzer said that New York State should reduce its projected 2015 electricity use by 15%. In August '07, the Public Service Commission staff issued a report that: 1) described potential EE initiatives for achieving the 2015 goal; and 2) proposed a multi-year PSC planning process addressing the 2015 goal. In '07, ACEEE honored NYSERDA for its work in a variety of EE initiatives, including those involving residential lighting and appliances and residential retrofitting.
	Energy Efficiency	$257 million	$13.33	12		
	Electric	$257 million	$13.33	8		
	Natural Gas	-0-				
	Not Categorized	$3 million				
	Load Management	$12 million	$0.60	14		
	EE + LM	$272 million	$14.07	11		

Table IV-4: States ranked by planned per capita spending for energy efficiency in 2006

		Amount	Per Capita
1	Vermont	$17,900,000	$28.69
2	Massachusetts	$148,100,000	$23.01
3	California	$769,300,000	$21.10
4	Iowa	$59,000,000	$19.78
5	Rhode Island	$21,000,000	$19.67
6	Minnesota	$91,800,000	$17.77
7	Wisconsin	$97,000,000	$17.46
8	Connecticut	$57,700,000	$16.46
9	New Jersey	$125,200,000	$14.35
10	Oregon	$51,100,000	$13.81
11	New Hampshire	$17,800,000	$13.54
12	New York	$257,300,000	$13.33
13	Hawaii	$14,600,000	$11.36
14	Montana	$10,600,000	$11.22
15	Nevada	$27,300,000	$10.94
16	Washington	$66,400,000	$10.38
17	Maine	$11,900,000	$9.00
18	Idaho	$11,600,000	$7.91
19	Utah	$18,700,000	$7.33
20	Florida	$89,300,000	$4.94
21	Arizona	$25,900,000	$4.20
22	Colorado	$17,800,000	$3.74
23	Texas	$78,800,000	$3.35
24	Tennessee	$11,600,000	$1.92
25	Illinois	$20,700,000	$1.61
26	Michigan	$15,000,000	$1.49
27	New Mexico	$2,700,000	$1.38
28	Ohio	$15,800,000	$1.38
29	Wyoming	$400,000	$0.78
30	Georgia	$6,800,000	$0.73
31	Missouri	$3,100,000	$0.53
32	Indiana	$2,800,000	$0.44
33	Kentucky	$1,800,000	$0.43
34	Maryland	$800,000	$0.14
	Alabama	$0	$0.00
	Alaska	$0	$0.00
	Arkansas	$0	$0.00
	Delaware	$0	$0.00
	District of Columbia	$0	$0.00
	Kansas	$0	$0.00
	Louisiana	$0	$0.00
	Mississippi	$0	$0.00
	Nebraska	$0	$0.00
	North Carolina	$0	$0.00
	North Dakota	$0	$0.00
	Oklahoma	$0	$0.00
	Pennsylvania	$0	$0.00
	South Carolina	$0	$0.00
	South Dakota	$0	$0.00
	Virginia	$0	$0.00
	West Virginia	$0	$0.00

Sources: 1) Spending amounts -- Consortium for Energy Efficiency; 2) Per capita calculations -- IUB staff.

Table IV-5: States ranked by planned per capita spending for electric energy efficiency in 2006

		Amount	Per Capita
1	Vermont	$16,400,000	$26.29
2	Rhode Island	$21,000,000	$19.67
3	Massachusetts	$122,500,000	$19.03
4	California	$675,200,000	$18.52
5	Connecticut	$56,800,000	$16.21
6	Minnesota	$77,700,000	$15.04
7	New Hampshire	$17,800,000	$13.54
8	New York	$257,300,000	$13.33
9	Iowa	$38,900,000	$13.04
10	New Jersey	$104,600,000	$11.99
11	Hawaii	$14,600,000	$11.36
12	Montana	$10,600,000	$11.22
13	Nevada	$26,700,000	$10.70
14	Oregon	$39,000,000	$10.54
15	Wisconsin	$54,200,000	$9.75
16	Washington	$58,200,000	$9.10
17	Maine	$11,900,000	$9.00
18	Utah	$18,700,000	$7.33
19	Idaho	$10,700,000	$7.30
20	Florida	$89,300,000	$4.94
21	Arizona	$25,900,000	$4.20
22	Texas	$78,800,000	$3.35
23	Colorado	$15,200,000	$3.20
24	Tennessee	$11,600,000	$1.92
25	Illinois	$20,700,000	$1.61
26	Michigan	$15,000,000	$1.49
27	Ohio	$15,300,000	$1.33
28	Wyoming	$400,000	$0.78
29	Georgia	$6,800,000	$0.73
30	Missouri	$3,100,000	$0.53
31	Indiana	$2,800,000	$0.44
32	Kentucky	$1,600,000	$0.38
33	New Mexico	$500,000	$0.26
	Alabama	$0	$0.00
	Alaska	$0	$0.00
	Arkansas	$0	$0.00
	Delaware	$0	$0.00
	District of Columbia	$0	$0.00
	Kansas	$0	$0.00
	Louisiana	$0	$0.00
	Maryland	$0	$0.00
	Mississippi	$0	$0.00
	Nebraska	$0	$0.00
	North Carolina	$0	$0.00
	North Dakota	$0	$0.00
	Oklahoma	$0	$0.00
	Pennsylvania	$0	$0.00
	South Carolina	$0	$0.00
	South Dakota	$0	$0.00
	Virginia	$0	$0.00
	West Virginia	$0	$0.00

Sources: 1) Spending amounts -- Consortium for Energy Efficiency; 2) Per capita calculations -- IUB staff.

Table IV-6: States ranked by planned per capita spending for natural gas energy efficiency in 2006

		Amount	Per Capita
1	Wisconsin	$42,800,000	$7.70
2	Iowa	$20,100,000	$6.74
3	Massachusetts	$25,600,000	$3.98
4	Oregon	$12,100,000	$3.27
5	Minnesota	$14,100,000	$2.73
6	California	$94,100,000	$2.58
7	Vermont	$1,500,000	$2.40
8	New Jersey	$20,600,000	$2.36
9	Washington	$8,200,000	$1.28
10	New Mexico	$2,200,000	$1.13
11	Idaho	$900,000	$0.61
12	Colorado	$2,600,000	$0.55
13	Connecticut	$900,000	$0.26
14	Nevada	$600,000	$0.24
15	Maryland	$800,000	$0.14
16	Kentucky	$200,000	$0.05
17	Ohio	$500,000	$0.04
	Alabama	$0	$0.00
	Alaska	$0	$0.00
	Arizona	$0	$0.00
	Arkansas	$0	$0.00
	Delaware	$0	$0.00
	District of Columbia	$0	$0.00
	Florida	$0	$0.00
	Georgia	$0	$0.00
	Hawaii	$0	$0.00
	Illinois	$0	$0.00
	Indiana	$0	$0.00
	Kansas	$0	$0.00
	Louisiana	$0	$0.00
	Maine	$0	$0.00
	Michigan	$0	$0.00
	Mississippi	$0	$0.00
	Missouri	$0	$0.00
	Montana	$0	$0.00
	Nebraska	$0	$0.00
	New Hampshire	$0	$0.00
	New York	$0	$0.00
	North Carolina	$0	$0.00
	North Dakota	$0	$0.00
	Oklahoma	$0	$0.00
	Pennsylvania	$0	$0.00
	Rhode Island	$0	$0.00
	South Carolina	$0	$0.00
	South Dakota	$0	$0.00
	Tennessee	$0	$0.00
	Texas	$0	$0.00
	Utah	$0	$0.00
	Virginia	$0	$0.00
	West Virginia	$0	$0.00
	Wyoming	$0	$0.00

Sources: 1) Spending amounts -- Consortium for Energy Efficiency; 2) Per capita calculations -- IUB staff.

Table IV-7: States ranked by planned per capita spending for load management in 2006

		Amount	Per Capita
1	Iowa	$34,900,000	$11.70
2	Florida	$156,000,000	$8.62
3	Hawaii	$4,400,000	$3.42
4	California	$103,200,000	$2.83
5	Utah	$6,500,000	$2.55
6	Idaho	$3,400,000	$2.32
7	Georgia	$20,800,000	$2.22
8	Minnesota	$8,100,000	$1.57
9	Colorado	$6,400,000	$1.35
10	Nevada	$3,200,000	$1.28
11	Illinois	$12,000,000	$0.94
12	Missouri	$5,200,000	$0.89
13	Connecticut	$2,800,000	$0.80
14	New York	$11,500,000	$0.60
15	Indiana	$2,900,000	$0.46
16	Tennessee	$2,500,000	$0.41
17	Wisconsin	$2,000,000	$0.36
18	Maryland	$1,400,000	$0.25
19	Kentucky	$800,000	$0.19
20	Texas	$4,200,000	$0.18
	Alabama	$0	$0.00
	Alaska	$0	$0.00
	Arizona	$0	$0.00
	Arkansas	$0	$0.00
	Delaware	$0	$0.00
	District of Columbia	$0	$0.00
	Kansas	$0	$0.00
	Louisiana	$0	$0.00
	Maine	$0	$0.00
	Massachusetts	$0	$0.00
	Michigan	$0	$0.00
	Mississippi	$0	$0.00
	Montana	$0	$0.00
	Nebraska	$0	$0.00
	New Hampshire	$0	$0.00
	New Jersey	$0	$0.00
	New Mexico	$0	$0.00
	North Carolina	$0	$0.00
	North Dakota	$0	$0.00
	Ohio	$0	$0.00
	Oklahoma	$0	$0.00
	Oregon	$0	$0.00
	Pennsylvania	$0	$0.00
	Rhode Island	$0	$0.00
	South Carolina	$0	$0.00
	South Dakota	$0	$0.00
	Vermont	$0	$0.00
	Virginia	$0	$0.00
	Washington	$0	$0.00
	West Virginia	$0	$0.00
	Wyoming	$0	$0.00

Sources: 1) Spending amounts -- Consortium for Energy Efficiency; 2) Per capita calculations -- IUB staff.

Table IV-8: States ranked by planned per capita spending
for energy efficiency and load management in 2006

		Amount	Per Capita
1	Iowa	$93,912,000	$31.49
2	Vermont	$17,877,000	$28.65
3	California	$872,605,000	$23.93
4	Massachusetts	$148,117,000	$23.01
5	Rhode Island	$20,973,000	$19.64
6	Minnesota	$99,892,000	$19.33
7	Wisconsin	$103,945,000	$18.71
8	Connecticut	$60,505,000	$17.26
9	Hawaii	$18,942,000	$14.74
10	New Jersey	$125,195,000	$14.35
11	New York	$271,679,000	$14.07
12	Oregon	$51,029,000	$13.79
13	Florida	$245,356,000	$13.56
14	New Hampshire	$17,785,000	$13.53
15	Nevada	$30,111,000	$12.07
16	Montana	$10,562,000	$11.18
17	Washington	$66,402,000	$10.38
18	Idaho	$15,001,000	$10.23
19	Utah	$25,160,000	$9.87
20	Maine	$11,929,000	$9.03
21	Colorado	$24,135,000	$5.08
22	Arizona	$25,900,000	$4.20
23	Texas	$82,922,000	$3.53
24	Georgia	$27,655,000	$2.95
25	Illinois	$32,750,000	$2.55
26	Tennessee	$14,142,000	$2.34
27	Michigan	$15,000,000	$1.49
28	Missouri	$8,325,000	$1.42
29	New Mexico	$2,724,000	$1.39
30	Ohio	$15,763,000	$1.37
31	Indiana	$5,650,000	$0.89
32	Wyoming	$385,000	$0.75
33	Kentucky	$2,472,000	$0.59
34	Maryland	$2,238,000	$0.40
	Alabama	$0	$0.00
	Alaska	$0	$0.00
	Arkansas	$0	$0.00
	Delaware	$0	$0.00
	District of Columbia	$0	$0.00
	Kansas	$0	$0.00
	Louisiana	$0	$0.00
	Mississippi	$0	$0.00
	Nebraska	$0	$0.00
	North Carolina	$0	$0.00
	North Dakota	$0	$0.00
	Oklahoma	$0	$0.00
	Pennsylvania	$0	$0.00
	South Carolina	$0	$0.00
	South Dakota	$0	$0.00
	Virginia	$0	$0.00
	West Virginia	$0	$0.00

Sources: 1) Spending amounts -- Consortium for Energy Efficiency; 2) Per capita calculations -- IUB staff.

PART V. BEST PRACTICES

Best Practices -- The National Energy Efficiency Best Practices Study

National literature on “best practices” reveals one major source for information on energy efficiency best practices. The National Energy Efficiency Best Practices Study is described as a “benchmarking study to identify best practices in energy efficiency programs throughout the United States." The study was funded by the California Public Utilities Commission and was conducted by Quantum Consulting Inc. during 2004. The study resulted in a number of reports available from a website established in 2005; www.eebestpractices.com.

A document from the Web site defines “Best Practice” as “the business practice that, when compared to other business practices that are used to address a similar business process, produces superior results.” The following is a description of a key report which presents the analyses and listed Crosscutting Best Practices, defined as best practices in multiple individual program areas.

The report is titled *Volume S – Crosscutting Best Practices and Project Summary*, and includes a short introduction followed by a summary of results and a description of the project methods. The summary tables include:

(1) Tables listing 90 programs analyzed in 16 program areas, including:

1. Residential Lighting
2. Residential Air Conditioning
3. Residential Appliances
4. Residential Single-Family Comprehensive
5. Residential Multi-Family Comprehensive
6. Residential Audits and Information
7. Residential New Construction
8. Non-Residential Lighting
9. Non-Residential HVAC
10. Non-Residential Refrigeration, Motors, Compressed Air, Process
11. Non-Residential Small Comprehensive Incentive
12. Non-Residential Large Comprehensive Incentive
13. Non-Residential General and Other Comprehensive
14. Non-Residential Trade Allies
15. Non-Residential New Construction Information and Incentives
16. Other – Mass Market Advertising

(2) A summary list of Crosscutting Best Practices for specific parts of program theory, management, implementation and evaluation.

(3) A detailed list of Best Practices expanded to include the rationale for the efficacy of the practice.

The project methodology is described in detail, including the methods for obtaining the program descriptions included in the study. The authors note that many programs initially included in the study had to be dropped because:

- A program no longer exists.
- The program was not really a program, but rather a program element.
- The program overlapped too much with other programs in the study.

The authors state "[t]he upshot for the project was that there is less uniqueness in programmatic approaches than were anticipated going into the data collection phase."

Using the National Energy Efficiency Best Practices Study as a checklist, current programs by IOUs were compared to the list, to identify any major areas not being addressed by IOU plans. Each IOU program is identified by company, program name, and a short description summarizing the program.

National Energy Efficiency Best Practices Study – Comparison of Program Areas with Iowa IOU programs.

1. Residential Lighting

Alliant-IPL: **Residential Home Audits**; Audits + Direct Installation, Rebates and Loans.

MidAmerican: **Residential Audit;** Audits + Direct Installation, Rebates and Loans

2. Residential Air Conditioning

Alliant-IPL: **Residential Prescriptive Rebate**; Measure-Specific Equipment & Appliance Rebates.

MidAmerican: **Residential Equipment**; Measure-Specific Equipment & Appliance Rebates.

3. Residential Appliances

Alliant-IPL: **Residential Prescriptive Rebate**; Measure-Specific Equipment & Appliance Rebates.

MidAmerican: **Residential Equipment**; Measure-Specific Equipment & Appliance Rebates.

4. Residential Single-Family Comprehensive

Alliant-IPL: **Residential Home Audits**; Audits + Direct Installation, Rebates and Loans.

MidAmerican: **Residential Audit;** Audits + Direct Installation, Rebates and Loans.

5. Residential Multi-Family Comprehensive

Alliant-IPL, Aquila and MidAmerican are conducting a pilot program in conjunction with the Iowa Finance Authority to provide **comprehensive multi-family retrofit assistance** to firms which own and manage multi-family properties that serve low-income renters.

6. Residential Audits and Information

Alliant-IPL: **Residential Home Audits**; Audits + Direct Installation, Rebates and Loans.

MidAmerican: **Residential Audit;** Audits + Direct Installation, Rebates and Loans

Aquila: **Residential Audit**

7. Residential New Construction

Alliant-IPL: **Residential New Construction**; New Construction - Builder Incentives.

MidAmerican: **Residential New Construction**; New Construction - Builder Incentives.

Aquila: **Residential New Construction**

8. Non-Residential Lighting

Alliant-IPL: **Non-Residential Prescriptive Rebates**; Measure-Specific Shell, Equipment & Appliance Rebates

MidAmerican: **Nonresidential Equipment**; Measure-Specific Shell, Equipment & Appliance Rebates.

9. Non-Residential HVAC

Alliant-IPL: **Non-Residential Prescriptive Rebates**; Measure-Specific Shell, Equipment & Appliance Rebates

MidAmerican: **Non-Residential Equipment**; Measure-Specific Shell, Equipment & Appliance Rebates.

10. Non-Residential Refrigeration, Motors, Compressed Air, Process

Alliant-IPL: **Non-Residential Prescriptive Rebates**; Measure-Specific Shell, Equipment & Appliance Rebates

MidAmerican: **Non-Residential Equipment**; Measure-Specific Shell, Equipment & Appliance Rebates.

11. Non-Residential Small Comprehensive Incentive

Alliant-IPL: **Non-Residential Custom Rebates**; Custom-Designed Projects, Rebates

MidAmerican: **Small Commercial Audit**; Shell & Equipment, Audits + Direct Installation, Rebates and Loans.

Aquila: **Nonresidential programs.**

12. Non-Residential Large Comprehensive Incentive

Alliant-IPL: **Non-Residential Custom Rebates**; Custom-Designed Projects, Rebates

MidAmerican: **Non-Residential Custom**; Custom-Designed Projects, Rebates

MidAmerican: **Non-Residential Energy Analysis**; Custom-Designed Projects, Rebates

13. Non-Residential General and Other Comprehensive

Alliant-IPL: **Non-Residential Custom Rebates**; Custom-Designed Projects, Rebates

MidAmerican: **Non-Residential Custom**; Custom-Designed Projects, Rebates.

14. Non-Residential Trade Allies

All Alliant-IPL, Aquila and MidAmerican non-residential programs involve **extensive assistance to trade allies**, including information, websites, seminars, free advertising, and incentives.

15. Non-Residential New Construction Information and Incentives

Alliant-IPL: **Non-Residential Commercial New Construction**; Technical assistance and incentives to builders or project developers.

MidAmerican: **Commercial New Construction**; Technical assistance and incentives to builders or project developers.

16. Other – Mass Market Advertising

All Iowa IOUs include **mass market advertising** in their programs, especially for residential customers.

Additional Item: Other Iowa IOU programs not considered by the National Energy Efficiency Best Practices Study.

- All Iowa IOU **Residential and Non-Residential natural gas energy efficiency programs**, including the extensive list of programs for Aquila, Inc.

- All Iowa IOUs provide funding, educational programs and other assistance to **low-income weatherization programs**, through both the Community Action Agencies and special projects.

- All Iowa IOUs provide **funding and other assistance for tree planting**, typically by community groups organized by Trees Forever or the Iowa Department of Natural Resources.

- Alliant-IPL: **Residential Appliance Recycling**; Appliance rebates plus free removal and recycling.

- Alliant-IPL: **Non-Residential Performance Contracting**; Utility qualifies contractors and projects. Customers repay contracts through savings.

- Alliant-IPL: **Agriculture**; Custom-Designed Projects, Rebates

- MidAmerican: **Efficiency Bid**; Customers design projects, apply for funds, projects selected competitively on a quarterly basis

- Alliant-IPL and MidAmerican offer **Residential and Non-Residential load management programs**.

IUB Best Practices

IUB rules, decisions, and past practices have been essential in putting substance in the structure of energy efficiency statutes. The IUB has taken the initiative in several instances to prod or order the IOUs to make meaningful changes. The following are a sample of such policies or actions:

- The IUB has supported comprehensive planning and long-term cost-effectiveness in the development of plans by the IOUs. The methods in IUB rules provide a solid economic basis for selection of energy efficiency measures, design of energy efficiency programs, and determination of goals.

- The IUB has emphasized and required collaborative discussion of IOU energy efficiency plans among the utilities, Office of Consumer Advocate and other stakeholders, to resolve as many issues as possible before plans are filed with the IUB.

- The IUB has conducted several rounds of contested review of IOU plans, maintaining a venue for resolution of disputes not resolved by the collaborative process.

- The IUB has encouraged efforts by IOUs to work with other interested parties, exemplified by:

    1) the joint funding and common standards for low-income programs

    2) efforts by IOUs to standardize residential new construction programs

    3) cooperation by IOUs in conducting energy audits;

    4) joint funding of a common assessment of potential for the three major IOUs

    5) joint implementation of the “Change a Light” program

    6) training programs for building operators jointly sponsored by the IOUs

Iowa Utilities’ Cooperative Implementation of Energy Efficiency

IUB rules have prompted Iowa IOUs to cooperate with each other, municipals and RECs, and other parties on several levels:

- IOUs jointly developed common requirements and rebates for residential new construction programs.

- IOUs revised low-income weatherization programs to use a common set of energy efficiency measures and long-term contracts with the State Weatherization Bureau.

- IOUs cooperated with the Iowa Finance Authority to develop a multi-family low-income housing energy efficiency initiative.

- IOUs cooperated with municipal utilities and RECs to promote the "Change A Light – Change the World" program for fluorescent lighting.

- IOUs have cooperatively developed with the Iowa Energy Center a Building Operator training and certification program.

PART VI. RESULTS OF THE CONSUMER ENERGY SURVEY

In the fall of 2007 the Center for Social and Behavioral Research at the University of Northern Iowa conducted the Iowa Residential Energy Survey on behalf of the IUB and the Iowa Energy Center. In the survey, 1,200 randomly selected Iowans were contacted by telephone and were asked 76 questions, most of which addressed respondents' energy use in homes.

The Center for Social and Behavioral Research prepared a summary of results of its survey, and that summary appears on the following two pages of this IUB report. The Center's 82-page report describing survey results is available at http://www.state.ia.us/government/com/util/about_iub/index_reports.html.

The IUB prepared an analysis focusing on seven of the questions asked in the survey. That analysis appears on the pages following the Center's summary.

Summary of Results of the Iowa Residential Energy Survey
Prepared by the Center for Social and Behavioral Research
University of Northern Iowa

- The majority of Iowa energy consumers view global climate change/global warming as a serious issue and believe strong action is important to combat the changes.
- The large majority of respondents view their family energy conservation efforts as good or excellent.
- Energy efficiency, energy conservation, and ENERGY STAR are terms associated primarily with appliance; energy efficiency is mainly associated with appliances using less energy, conservation is associated primarily with turning off appliances, and ENERGY STAR is associated with efficient appliances.
- When asked about specific strategies for saving energy, turning off lights and appliances was mentioned most frequently along with raising/lowering the thermostat in hot and cold weather, respectively.
- Almost a quarter of respondents reported that they had completed a home energy audit. Home insulation and switching to compact fluorescent lights (CFLs) were the most frequently reported changes made as a result of an audit. Home insulation was offered most frequently as the change that was recommended but not made and cost was most frequently mentioned as the reason that audit recommendations were not followed.
- Respondents reported most frequently that installing insulation, installing a new furnace or energy efficient windows and switching to CFLs were the steps they had taken in the last 2 years to conserve energy or lower energy costs.
- Turning off lights and televisions and using compact fluorescent lights were cited by a large majority of respondents as specific products or behaviors that they have adopted to reduce energy use. In the cases of turning off lights and using water flow restrictors, the majority of respondents not endorsing these items reported that they did not do this or use the item because they had not thought about it.
- Almost three-quarters of the respondents indicated that they used CFLs. Users reported that over half of the household bulbs were CFLs. The majority of users reported that they were very satisfied with the bulbs and less than one in ten users expressed any dissatisfaction with the lights.
- Just over half of the respondents indicated that they owned ENERGY STAR appliances and six in ten reported awareness of rebates for energy efficient appliances and about a third reported that they had participated in such a rebate program in the past 2 years.

- Television, print and radio sources were viewed as the most effective for communicating information about energy efficiency and conservation. Top mentions for actual sources of energy efficiency and conservation were television news, newspapers and brochures.
- Utility providers and consumer groups were viewed as the most credible sources of information on energy efficiency and conservation. Elected officials were viewed as the least credible.
- Both energy attitudes and self-perceptions of household energy conservation efforts are positively associated with actual use of energy conserving products and conservation behaviors.

Controlling simultaneously for several variables, regression analyses show that: 1) being male is negatively associated with both positive energy attitudes and energy conservation behaviors; 2) having a college education or graduate degree is associated with more positive energy attitudes; 3) being older, having minor children at home, having positive energy attitudes, and having higher income are all associated with engaging in more energy conserving behaviors.

2007 Iowa Residential Energy Survey
IUB Staff Analysis of Selected Findings (Page 1 of 4)

In the fall of 2007 the Center for Social and Behavioral Research at The University of Northern Iowa conducted a 76-question telephone survey of 1,200 randomly selected Iowans, asking them about their household energy use. The survey was conducted on behalf of the Iowa Utilities Board and the Iowa Energy Center. The Center for Social and Behavioral Research has produced a detailed report of survey findings. Staff of the Iowa Utilities Board has produced a summary analysis of selected findings, and that analysis appears on the following pages.

Key	Selected Survey Findings Presented in Tables on Pages 2, 3 and 4
1	% of respondents who have had an energy audit of their home
2	% of respondents who are aware of rebates for buying energy-efficient appliances
3	% of respondents who have received any of those rebates in the past two years
4	% of respondents who have added or changed insulation in the walls or attic of their home
5	% of respondents who report that at least half of the light bulbs in their home are compact fluorescent bulbs
6	% of respondents who use ceiling fans to circulate air
7	% of respondents who think cost is a significant obstacle to adopting additional energy conservation measures in their home

Highlights of Findings
(See pages 2, 3 and 4 for details)

Energy Audits

- About one-fourth of respondents report having had an energy audit in their home.
- People who live in urban areas are much more likely than people in rural areas to have had an energy audit.
- Higher-income people are much more likely than lower-income people to have had an energy audit.
- People who regularly read the informational inserts mailed with electric bills are much more likely to have had an energy audit than people who do not read the inserts.

Appliance Rebates

- About one-fifth of respondents report having received a rebate for buying an energy-efficient appliance.
- Higher-income people are much more likely than lower-income people to have received an appliance rebate.
- People who regularly read the informational inserts mailed with electric bills are much more likely to have received an appliance rebate than people who do not read the inserts.

Insulation

- Half of respondents report having added or changed insulation in the walls or attic of their home.
- People who live in rural areas are more likely than people in urban areas to have added or changed insulation.

CFL Bulbs

- Almost half of respondents report they use compact fluorescent light bulbs extensively in their home.

Ceiling Fans

- Nearly 90% of respondents report using ceiling fans to circulate air in their home.

Cost as an Obstacle

- About half of respondents think cost is a significant obstacle to adopting additional energy conservation measures in their home.
- Higher-income people are as likely as lower-income people to think that cost is an obstacle.
- Younger people are much more likely than older people to think that cost is an obstacle.

2007 Iowa Residential Energy Survey
IUB Staff Analysis of Selected Findings (Page 2 of 4)

Key	Selected Survey Findings
1	% of respondents who have had an energy audit of their home
2	% of respondents who are aware of rebates for buying energy-efficient appliances
3	% of respondents who have received any of those rebates in the past two years
4	% of respondents who have added or changed insulation in the walls or attic of their home
5	% of respondents who report that at least half of the light bulbs in their home are compact fluorescent bulbs
6	% of respondents who use ceiling fans to circulate air
7	% of respondents who think cost is a significant obstacle to adopting additional energy conservation measures in their home

Respondents		1	2	3	4	5	6	7
	Total Sample of 1,200	**23%**	**60%**	**19%**	**48%**	**45%**	**87%**	**47%**
1,200	**Region in Which Respondent Lives**							
140	Northwest (20 Counties)	22%	55%	12%	49%	37%	86%	44%
145	North Central (14 Counties)	29%	70%	23%	49%	48%	81%	48%
337	Northeast (21 Counties)	21%	70%	25%	51%	42%	87%	45%
105	Southwest (13 Counties)	11%	42%	11%	51%	41%	91%	40%
268	South Central (14 Counties)	26%	51%	12%	43%	48%	89%	53%
205	Southeast (17 Counties)	27%	62%	22%	47%	50%	86%	46%
1,200	**County in Which Respondent Lives**							
508	Counties Ranked 1-10 in Population	30%	61%	20%	44%	42%	86%	47%
149	Polk	35%	48%	13%	38%	47%	91%	48%
83	Linn	21%	82%	35%	49%	42%	87%	51%
42	Scott	55%	51%	24%	45%	48%	83%	55%
45	Black Hawk	36%	60%	20%	53%	38%	78%	47%
31	Johnson	29%	71%	26%	32%	48%	87%	39%
30	Woodbury	30%	60%	7%	40%	31%	83%	60%
40	Dubuque	10%	85%	38%	50%	25%	90%	30%
36	Pottawattamie	11%	31%	6%	47%	36%	86%	33%
29	Story	41%	66%	21%	45%	38%	79%	48%
23	Dallas	14%	64%	14%	48%	61%	87%	57%
284	Counties Ranked 11-30 in Population	23%	64%	22%	54%	50%	85%	48%
408	Counties Ranked 31-99 in Population	16%	57%	14%	49%	44%	89%	45%

2007 Iowa Residential Energy Survey
IUB Staff Analysis of Selected Findings (Page 3 of 4)

Key	Selected Survey Findings
1	% of respondents who have had an energy audit of their home
2	% of respondents who are aware of rebates for buying energy-efficient appliances
3	% of respondents who have received any of those rebates in the past two years
4	% of respondents who have added or changed insulation in the walls or attic of their home
5	% of respondents who report that at least half of the light bulbs in their home are compact fluorescent bulbs
6	% of respondents who use ceiling fans to circulate air
7	% of respondents who think cost is a significant obstacle to adopting additional energy conservation measures in their home

Respondents		1	2	3	4	5	6	7
	Total Sample of 1,200	**23%**	**60%**	**19%**	**48%**	**45%**	**87%**	**47%**
1,194	**Area in Which Respondent Lives**							
302	On a Farm or in a Rural Area	10%	62%	18%	53%	50%	90%	48%
254	In a City of No More Than 2,500 People	21%	60%	18%	47%	41%	87%	50%
203	In a City of 2,501-9,999 People	26%	60%	19%	49%	45%	85%	43%
167	In a City of 10,000-49,999 People	37%	62%	21%	49%	43%	84%	44%
268	In a City of At Least 50,000 People	30%	58%	20%	41%	44%	86%	46%
1,181	**Age of Respondent**							
57	18-30 Years	9%	40%	11%	28%	38%	79%	60%
407	31-50 Years	24%	61%	18%	46%	46%	89%	56%
481	51-70 Years	25%	64%	22%	52%	48%	88%	46%
236	70+ Years	22%	57%	14%	47%	37%	84%	30%
1,196	**Education Level of Respondent**							
397	College Graduate	29%	65%	22%	50%	47%	87%	51%
799	Not a College Graduate	21%	58%	17%	47%	44%	87%	45%
1,022	**Annual Income Of Respondent's Household**							
297	<$35,000	19%	51%	11%	39%	45%	79%	46%
198	$35,000-$49,999	21%	65%	20%	49%	47%	84%	55%
209	$50,000-$69,999	26%	63%	22%	54%	37%	91%	50%
318	$70,000+	28%	65%	22%	52%	50%	91%	46%

2007 Iowa Residential Energy Survey
IUB Staff Analysis of Selected Findings (Page 4 of 4)

Key	Selected Survey Findings
1	% of respondents who have had an energy audit of their home
2	% of respondents who are aware of rebates for buying energy-efficient appliances
3	% of respondents who have received any of those rebates in the past two years
4	% of respondents who have added or changed insulation in the walls or attic of their home
5	% of respondents who report that at least half of the light bulbs in their home are compact fluorescent bulbs
6	% of respondents who use ceiling fans to circulate air
7	% of respondents who think cost is a significant obstacle to adopting additional energy conservation measures in their home

Respondents		1	2	3	4	5	6	7
	Total Sample of 1,200	**23%**	**60%**	**19%**	**48%**	**45%**	**87%**	**47%**
1,066	**Size of Respondent's Home**							
175	No more than 1,000 Square Feet	20%	43%	10%	36%	47%	78%	42%
310	1,001-1,500 Square Feet	27%	67%	18%	48%	45%	87%	51%
260	1,501-2,000 Square Feet	25%	65%	24%	51%	43%	90%	50%
130	2,001-2,500 Square Feet	28%	59%	25%	54%	51%	89%	47%
191	More than 2,500 Square Feet	24%	67%	23%	50%	45%	92%	44%
967	**Age of Respondent's Home**							
137	<10 Years	18%	69%	19%	23%	39%	91%	34%
228	10-29 Years	17%	62%	23%	33%	44%	90%	45%
257	30-49 Years	37%	63%	18%	59%	46%	84%	44%
143	50-79 Years	32%	62%	24%	69%	49%	86%	57%
202	80+ Years	24%	62%	20%	63%	50%	91%	58%
1,155	**Company That Provides Electricity To Respondent's Home**							
429	MidAmerican	29%	51%	13%	46%	44%	88%	46%
395	IPL/Alliant	22%	71%	25%	51%	46%	87%	46%
193	Municipal Utility	23%	60%	17%	44%	41%	83%	45%
138	Rural Electric Cooperative	11%	62%	24%	53%	49%	90%	50%
1,017	**How Often Does Respondent Read Informational Insert Mailed with Electric Bill?**							
131	Never	18%	47%	10%	44%	40%	81%	42%
208	Rarely	24%	60%	19%	46%	41%	87%	51%
278	Several Times a Year	25%	67%	22%	48%	48%	90%	53%
400	Every Month	29%	66%	24%	50%	47%	87%	46%