Energy Efficiency from a Customer’s Point of View

As Interpreted By Kelly E. Needles, The Energy Group
Energy Efficiency from a customer’s perspective

COURSE NAME

BY U.S. Green Building Council

PROVIDER NAME

NUMBER OF CE HOURS: 1.0

REGISTERED FOR:
LEARNING OBJECTIVES

1. History of EE in Iowa
2. Cost effectiveness methodology
3. SPB vs. ROI
4. Benchmarking value
From the author:

• **NOTE 1:** The following presentation is an attempt at illustrating the subtle and not-so-subtle changes in energy efficiency delivery over the past 30 years in Iowa. The content and delivery are intended to be illustrative but also comedic in nature and is not intended to offend anyone or any parties.

• **NOTE 2:** If you already know history and don’t want to have fun poking fun at our industry, you can leave now!!!!

• **NOTE 3:** Just trying to have some fun at the Summit!!!!
Rebate / Incentive?

• American consumers do not view the noun “REBATE” the same as the utility industry.

Rebate to most customers is “cash back”
Rebate or Incentive?

GOOGLE REBATE and #1 Definition:

*a partial refund to someone who has paid too much money for tax, rent, or a utility.*
Incentive or Rebate?

GOOGLE INCENTIVE and #1 Definition:

*a thing that motivates or encourages one to do something.*
Energy Efficiency/ DSM and Customers

• In the early years of energy efficiency (late 1980’s) in Iowa, a number of things had not been “created”....

  – Energy Use Index
  – EECR
  – Energy Star Ratings
  – LEED Rated Facilities
  – The Internet / Email / Websites
  – Assessments of Potential
  – Cost Effectiveness Testing
  – Etc.
Keep in mind reason for EE....

• Legislation was created to avoid need for additional generating capacity.

• This cost savings or deferment would save Iowa investor-owned customers $$$$
Short History Lesson of EE in Iowa

• Important points of clarity:

  – We have always had a state energy office
    » DNR, OEI, IEDA
  – IOU’s are rate regulated, Municipals and REC’s are not
    » Rate regulation means EE is mandated by legislative initiatives and regulated by the Governor appointed IUB
In The Beginning...

Iowa quickly became viewed nationally as a leader in promoting energy efficiency and energy conservation

Largely due to actions of Iowa’s strong state energy office and the pioneers............
EE in the beginning....Slow Start

• Pilot Projects Across All Sectors

• Almost all early programs were designed to reduce peak demand

• Iowans referred to EE as DSM
• In the early years of energy efficiency in U.S.A. (1978), the U.S. Department of Energy provided Iowa with Funding.

https://www2.ed.gov/about/offices/list/oii/nonpublic/energy.html

• In Iowa, ICP or Institutional Conservation Program $$ was used to pay for partial payment of energy studies at Iowa schools, hospitals, colleges. This was expanded in Iowa to include local government facilities.

• $$ was provided to state of Iowa, who set up the state energy office as a division of the Iowa DNR or the Iowa DNR- Energy Bureau.

• The analyses provided good roadmaps but funding was lacking for implementation.
“Supported concepts that would be consistent with company’s strategy of stimulating the economy of the area served by Midwest Resources utility operations through investment in diversified activities.”

Quote from an Sioux City Journal, 2006, referencing Rock Valley and Dakota Dunes project supported by company.
• 1995- MidAmerican Energy was formed by the merger of Iowa-Illinois Gas and Electric Company with Midwest Resources.

• Midwest Resources in turn, was formed in 1990 by the merger of Midwest Energy and Iowa Resources. Midwest Energy was the holding company for Iowa Public Service Company (IPS), the main power provider for northwest Iowa, while Iowa Resources was the holding company for Iowa Power and Light Company, the main power provider for central and southwestern Iowa.
• Alliant Energy was formed in the mid-1990’s by merging IES and Interstate Power Company and Iowa Southern Utility.

• Aquila was the third Iowa investor-owned utility. In 2007 Aquila sold its Iowa assets to Black Hills Energy.
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Did you know, customers Pay for EE in Iowa

- **MIDAMERICAN ENERGY COMPANY** 5th 4th Revised Sheet No. 435 Electric Tariff No. 2 Canceling 4th 3rd Revised Sheet No. 435 Filed with the Iowa Utilities Board

- **ENERGY EFFICIENCY COST RECOVERY FACTORS**
  
  **Residential**  |  **Non-Residential**  |  **Lighting**
  --- | --- | ---
  RS, RST, RMS, GE*, GET* | GE, GD, GET, GDT | LS, LST, SS, SST, ICR, MWP | SL, AL, TC
  Total On-going MidAmerican Costs | $0.00483 | $0.00597 | $0.00254 | $0.00311 | $0.00311 | $0.00015 | I/I/I

*Residential Customers that have been placed on Rates GE or GET because their annual usage is greater than 50,000 kWh will be charged the Residential EECR factor.

- **RECONCILIATION**
  A reconciliation will be filed annually. The energy efficiency costs recovered from customers during the prior period will be compared to those which were allowed to be recovered. Any over/under collection, any ongoing costs, and any change in forecast sales, will be used to adjust the current energy efficiency cost recovery factors.

- **CLAUSE EECR – ENERGY EFFICIENCY COST RECOVERY**

  - **Issued:** *February 29, 2016*  
    **Effective:** *June 2, 2016*  
    **Issued by:** *Rob Berntsen*  
    **Issued by:** *Naomi G. Czachura*
  - **Senior V.P. & General Counsel**
  - **Vice President**
Economic Development Through Energy Efficiency

*Economic Impact Analysis Results*

$1 = $5.27

- Public funding is more than matched by private investment and utility rebate.

- When local contractors are used, there is an economic multiplier effect (indirect and induced spending) from purchase of supplies and equipment and employees with more money in their pockets.

- Money spent making efficiency improvements reduces future energy costs which have a significant net present value.
Cost Effectiveness

• Utility Staffers and their advisors conducted FOCUS Group Meetings to determine customer needs / wants........
Customers Felt Involved.....

- Since customers helped design the incentive programs, they felt a level of ownership in them.

- A lot of things were tried at the direction of customers.
Customer Understanding Thus Far....

- Legislated programs are to be offered
- Focus groups established res / non-res programs
- Cash-Back prescriptive was in place
Cash Back

- Almost all Incentive programs were what we would call prescriptive rebates today

- CNC did not exist

- Custom did not exist
There were residential and commercial programs (only 2 programs)
Even Today, Customers Recognize EE as Commendable
Back To Customer Perspective

• Example #1
Cash Back Methodology

• Eliminating fixtures
• Creating more efficiency lay-out
• Installing LED technology
• Daylighting / Occupancy Controls
• Reducing Energy Usage by 28%
• Hopefully reducing energy cost by 20%
Here is my Receipt / Copy of Invoice....

KEEP CALM AND PAY ME MY MONEY
Outcome
Reality..........

11/7/2019 Property of The Energy Group Co., Inc.
Utility Pre-Approval

- Due to new lay-out, project must be pre-approved
- No materials purchased or planned to purchase before pre-approval
- 4-6 week lead time to gain pre-approval
- Materials must MEET EPA/DLC Standard or be listed on appropriate authority pre-approved list of materials
- Cost effectiveness could possibly mean project is denied rebate / incentive
Outcome
Iowa School

- Planned replacement
- Engineered in winter for following summer install
- Pre-approval if necessary, no problem
- Only issue might be existence of program due to split calendar budget year for utility
Outcome
Utility Perspective

• Rate-payer money must be managed with care and diligence

• Cost effectiveness is critical to ensure that the utility is a winner, non-participants are winners, as well as the recipient of the rebate/incentive.
## Cost Effectiveness Testing

### Table 1. Health and environmental benefits that could be included in traditional cost-effectiveness tests

<table>
<thead>
<tr>
<th>Cost-effectiveness screening test</th>
<th>Costs and benefits included</th>
<th>Avoided utility environmental compliance costs</th>
<th>Societal environmental benefits</th>
<th>Societal health benefits</th>
<th>Participant health benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Resource Cost (TRC) Test</td>
<td>Costs and benefits to utility system and impacts on program participants</td>
<td>✓</td>
<td></td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Societal Cost Test</td>
<td>TRC Test impacts plus impacts on society</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Utility/Program Administrator Cost Test (UCT)</td>
<td>Costs and benefits that affect utility system operation and provision of electric and gas services to customers</td>
<td></td>
<td></td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Participant Cost Test</td>
<td>Costs and benefits to program participants</td>
<td></td>
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<tr>
<td>Rate Impact Measure (RIM)</td>
<td>UCT costs and benefits plus estimates of utility lost revenues created by energy efficiency programs</td>
<td></td>
<td>✓</td>
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</table>

Current Iowa Methodology
In Conclusion

• Energy efficiency in Iowa is a confusing matter to consumers
  – Most customers don’t know they pay for EE
  – EE industry keeps calling incentives rebates
EE / DSM is not a utility program

• Whether a home-owner, business, or industry customers are interesting in managing energy usage/costs regardless of existence of rebates/incentives.

• Will programs in Iowa help or hinder customers as they work toward energy efficient buildings?
Thank you

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