SUMMARY PROFILE REPORT

Program Name: E+ Energy Audit for Your Home
Implementing Organization: Northwestern Energy

Program Synopsis

The Efficiency Plus Audit Program for the Home is an on-site energy audit program for residential customers whose space and/or water heating fuels are delivered by Northwestern Energy. The goal is to achieve cost-effective energy savings in residential facilities on Northwestern Energy's system. The audit includes the installation of water measures, a gas appliance inspection, and customer education supported through a blower door analysis. Customers receive a bill disaggregation as well as an analysis of recommended major measures with a payback of less than 7 years.

Program Type

Incentive
- Prescriptive Rebates
- Custom Incentives SPC
- Bill Credits Rate Discounts
- Services
- Direct Installation
- Financing Loans Leasing
- Free Measures
- InHousePlusSubs
- Incentive Other

Information and Training
- General Education
- Mail Audit
- Telephone Audit
- On Site Audit
- On Line Audit
- Design Assistance
- Feasibility Studies
- End User Training
- Trade Ally Training

Program Focus

Primary Market Events Targeted
- All Market Events Targeted
- New Construction Renovation
- Existing Construction All
- Existing Construction Retrofit
- Existing Construction Natural Replacement
- Existing Construction Early Retirement

Primary Program Focus
- End User
- Supply Side
- End User and Supply Side

Residential End User Target Markets
- Residential All
- Single Family
- Multi Family
- Mobile Home
- Low Income
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Market Barriers

<table>
<thead>
<tr>
<th>End User</th>
<th>Supply Side</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Information or Search Costs</td>
</tr>
<tr>
<td></td>
<td>Performance Uncertainties</td>
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<tr>
<td></td>
<td>Asymmetric Information and Opportunism</td>
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<tr>
<td></td>
<td>Hassle or Transaction Costs</td>
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<td></td>
<td>Hidden Costs</td>
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<tr>
<td></td>
<td>Misplaced or Split Incentives</td>
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<tr>
<td></td>
<td>Product or Service Unavailability</td>
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<tr>
<td></td>
<td>Externalities</td>
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<tr>
<td></td>
<td>Non-Externality Pricing</td>
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<tr>
<td></td>
<td>Inseparability of Product Features</td>
</tr>
<tr>
<td></td>
<td>Access to Financing</td>
</tr>
<tr>
<td></td>
<td>Bounded Rationality</td>
</tr>
</tbody>
</table>

Commercial/Industrial End User Markets

Commercial
- All
- Offices
- Retail
- Restaurant
- Public (govt.) Facilities
- Grocery Store
- Health Care
- Education
- Lodging (Hotels/Motels)
- Warehouses
- Other (specify:)

Industrial
- All
- Other (specify:)
- Other (specify:)

Other (specify:)

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R78 - 2
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<table>
<thead>
<tr>
<th>Organizational Practices or Customs</th>
<th>Irreversibility</th>
<th>Other End User</th>
<th>Other Supply Side</th>
</tr>
</thead>
</table>

**Types of measure/end use technologies**

- **ALL MEASURES**

<table>
<thead>
<tr>
<th>HVAC</th>
<th>Lighting</th>
</tr>
</thead>
<tbody>
<tr>
<td>✓ Multiple Measures</td>
<td>✓ Multiple Measures</td>
</tr>
<tr>
<td>□ High Efficiency DX/HP</td>
<td>□ Compact Fluorescents</td>
</tr>
<tr>
<td>□ High Efficiency Chillers</td>
<td>□ Electronic Ballasts</td>
</tr>
<tr>
<td>□ High Efficiency Room/Terminal</td>
<td>□ Reflector Systems</td>
</tr>
<tr>
<td>□ Economizers</td>
<td>□ Efficient Fluorescent Lamps (T-8, T-5, etc.)</td>
</tr>
<tr>
<td>□ Control Systems</td>
<td>□ Lighting Controls</td>
</tr>
<tr>
<td>□ Variable Speed Drives</td>
<td>□ Occupancy Sensors</td>
</tr>
<tr>
<td>□ Occupancy Sensors</td>
<td>□ High Intensity Discharge</td>
</tr>
<tr>
<td>□ Duct Sealing and Balancing</td>
<td>□ Operations and Maintenance</td>
</tr>
<tr>
<td>□ Operations and Maintenance</td>
<td>□ Day lighting</td>
</tr>
<tr>
<td>□ Equipment Testing/Tune-up</td>
<td>□ Other (specify:)</td>
</tr>
<tr>
<td>□ Commissioning</td>
<td></td>
</tr>
<tr>
<td>□ Retro-commissioning</td>
<td></td>
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<tr>
<td>□ Space Heating</td>
<td></td>
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<tr>
<td>□ Heat Pump</td>
<td></td>
</tr>
<tr>
<td>□ Other (specify:)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Water Heating</th>
<th>Appliances</th>
</tr>
</thead>
<tbody>
<tr>
<td>✓ Multiple Measures</td>
<td>✓ Multiple Measures</td>
</tr>
<tr>
<td>□ Load Control (Cycling)</td>
<td>□ Refrigerators</td>
</tr>
<tr>
<td>□ High Efficiency</td>
<td>□ Dish Washers</td>
</tr>
<tr>
<td>□ Insulation Blankets</td>
<td>□ Clothes Washers</td>
</tr>
</tbody>
</table>
The program has been around since 1992 and has not changed much, so it is well established. In the first three years the program had a budget of as much as $3 million; it dropped back down and has been around $1 million for the last 7 years. The program evolved from a resource acquisition program implemented by a utility to defer new generation capacity to a public benefits funded program in the late 1990s.

A project manager at Northwestern Energy, manages the contract with Kema-Xenergy, a private firm that implements the program. There are about 8 auditors, plus office staff, plus project...
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Implementing Organization:
- Utility
- Nonprofit
- Govt
- Private
- IOOther

Implementation Structure:
- InHouse
- TurnkeyContractor
- InHouseAndSubcontractors
- Other

Reporting and Tracking

Contractor's database (it was Paradox, now in Access) which tracks just about everything from the day the request was made to the customer's characteristics (from Northwestern's CIS). There is a separate database in the audit software (Recap) where results of the audits are stored.

Verification and Quality Control

There is no verification that measures are installed (other than the direct install measures) but, for any recommended major measure with less than 7 year payback, customers receive a 6 week follow up letter to see if they've installed those measures. Quality control includes auditors handing out cards where customers rate the job they did; as well as about 160 follow-up phone calls a year where customers are asked about the process and the results.

Participation Process

Customers call in and ask for an audit. KEMA-Xenergy determines whether they qualify for the on-site audit (ie, Northwestern provides them with heat or hot water, service is year-round, the house is at least 5 years old) and if they do, schedule the audit, where free measures are installed (water heater blanket, up to 10' pipe insulation, low-flow showerheads and aerators) and the audit is performed. Results and recommendations are sent out about 5-10 days later, including bill disaggregation and recommendations of measures with paybacks of less than 7 years. Customers who have no space or water heat fuels delivered by NorthWestern Energy (or whose homes are less than 5 years old) are sent the E+ Energy Survey, a mail-out audit.

Outreach, Marketing and Advertising

Customers are targeted with about $100,000 worth of direct mail, newspaper, and sometimes TV advertising a year. In addition, TV stations sometimes do spots about the program or newspapers write stories.

Installation and Delivery

Goals are based on the revenue in the contract and the cost per audit -- which currently means about 3500 on-site audits. Goals have always been met. Customers receive free measures: water heater blanket, pipe insulation, low-flow showerheads; bathroom and kitchen sink faucet aerators, but there are no goals for measures installed.

Program Evaluation
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The program has not had an independent third party evaluation since the early 1990s. Now there is a review of the number of audits, the free measures installed, and the number of measures recommended. In addition there are quality control calls to assess customer satisfaction.

Quantitative Data

Program Year: January 1, 2002 to December 31, 2002

- Participation rate is available
- Cost Breakdown is available
- Net Savings Breakdown is available
- Net-to-Gross is available
- Total Resource Cost Data is not available

Quantitative Data Summary:

Program budget is about $1 million a year. Over the life of the program, about 40,000 audits have been done, out of a total of about 300,000 residential customers; they do about 1 percent (3000-3500) per year. Impacts are estimated at about 4000 MWh and .8 MW.

List Of Key Sources

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ProgramName: E+ Energy Audit for Your Home
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Name: Taffy Miller
Title: Program Manager
Company: Kema-Xenergy
Phone: (406) 4439264 Ext.
Email: tmiller@kema-xenergy.com