

**Response of
Interstate Power and Light Company
to
OFFICE OF CONSUMER ADVOCATE
Data Request No. 1**

Docket Number: EEP-08-1
Date of Request: April 25, 2008
Response Due: May 2, 2008
Information Requested By: Ben Stead
Date Responded: May 2, 2008
Author: Lisa Pucelik
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Subject: Residential Rebates
Reference:

Data Request No. 1

Please provide a complete quantitative and qualitative explanation, and a copy of all documentation concerning the objectives, criteria, goals and philosophy on how IPL establishes each residential rebate level.

Response

Residential rebate levels, outlined in Table 1, Appendix B of IPL's Energy Efficiency Plan (EEP), filed on April 23, 2008, in Docket No. EEP-08-1, are proposed as preliminary prescriptive measures. It is important to define this list as preliminary as the measures, rebate amounts and qualifications are subject to change based on ongoing collaborations with the other investor-owned utilities (IOUs) in Iowa, namely Aquila and MidAmerican Energy. Establishing consistent rebates is a priority for IPL. However, as of April 23, 2008, the other IOUs were at various stages in the planning process and detailed discussions of each measure were not possible. In the coming months, IPL will continue to initiate and participate in these discussions with the goal of standardizing incentive amounts and measure qualifications to the extent possible.

IPL's preliminary list, as outlined in Table 1, Appendix B, was created as a starting point based on the following factors:

- Cost-effectiveness, including
 - Incremental cost to a program participant to install the measure
 - Avoided capacity and energy costs achieved by the measure
- Measures included in 2008 programs and popular with customers
- Research by product managers
- Discussions with trade allies

- Suitability for IPL’s service territory (performance issues, weather concerns, etc.)

The overall objective of IPL’s prescriptive rebates is to provide a sufficient financial incentive to encourage the purchase of energy efficient equipment over a less expensive, less energy efficient piece of equipment and not pay more than the customer would need to adopt the measure. Establishing rebate levels may vary greatly, depending on customer’s willingness to purchase equipment for a specific measure and IPL’s experience with customer adoption of energy efficient equipment.

Prescriptive rebates are an important component of the residential portfolio, offering an entry point for consumers into the energy efficiency programs. The initial goal of the rebates is to encourage the purchase of energy efficient equipment with the ultimate objective of achieving IPL’s energy savings goals.

Table 1 below is reprinted from the Table 1, Appendix B, mentioned above with the addition of a column entitled “explanation.” This additional column provides insight into how IPL established a starting point for the rebate discussions. Additionally, enclosed with this Data Request response, are several attachments with information on benefit cost analysis, total resource costs, technical potential and measure assumptions. The attachments are defined as follows:

- DR No. 1 Attachment A Res Economic Measures by Segment
- DR No. 1 Attachment B Res Prescriptive Measure Assumptions
- DR No. 1 Attachment C Measure Incentives and Benefits
- DR No. 1 Attachment D Passing Measures Under Updated Based and Carbon Scenarios
- DR No. 1 Attachment E Proposed Residential Prescriptive Measures - Costs and Benefits

Table 1. 2009 PRELIMINARY Residential Prescriptive Measures

| Measure | Rebate | Customer Rebate as Percent of Incremental Cost | Explanation |
|--|---------------|--|--|
| Appliance Recycling - Removal of Refrigerator, Freezer, or Room A/C Unit | \$25 - \$50 | N/A | \$50 appliance recycling rebate offered by many utilities with similar programs. \$25 room air rebate reflects lower value of the equipment and lesser energy savings. |
| Boiler – Gas, 85% AFUE or Greater | \$100 - \$400 | 5 - 10% | Consistent with current rebate levels. |
| Boiler – Gas, Quality Installation | \$100 | 33% | Rebate covers portion of contractors’ service charge (additional time required for QI). |

Table 1. 2009 PRELIMINARY Residential Prescriptive Measures - *continued*

| Measure | Rebate | Customer Rebate as Percent of Incremental Cost | Explanation |
|---|-------------------------|--|--|
| Ceiling Fan – ENERGY STAR | \$20 | 18% | Consistent with current rebate level. |
| Central A/C & Air-Source Heat Pumps (< 65,000 Btu) Min SEER 14 | \$100 per SEER above 13 | 30 - 35% | Consistent with current rebate levels. |
| Central A/C & Air-Source Heat Pumps (units > 65,000 and < 135,000 Btu) Min EER 12 | \$150 per EER above 12 | 30 – 35% | Consistent with current rebate levels. |
| Central Air Conditioner, Quality Installation (units < 65,000) | \$100 | 33% | Consistent with current rebate levels. |
| Central Air Conditioner, Quality Installation (units > 65,000 and < 135,000) | \$125 | 33% | Consistent with current rebate levels. |
| Clothes Washer - ENERGY STAR | \$100 | 45% | Consistent with current rebate levels. |
| Compact Fluorescent Light Bulbs – ENERGY STAR | 50% of cost | 50% | Consistent with current rebate level. |
| Dishwasher - ENERGY STAR | \$20 | 67% | New ENERGY STAR standards became effective January 1, 2007; new models must be at least 41% more energy efficient than minimum federal government standards. \$20 rebate is consistent with other appliance rebates as portion of incremental costs. |
| Doors | \$50 | 24% | Rebate increased from current level to encourage greater participation. |
| ECM Motor for Furnace or Air Conditioner | \$40 | 20% | Consistent with other utility rebate programs. |
| Freezer – ENERGY STAR | \$25 | 63% | Consistent with other appliance rebates as portion of incremental costs. |
| Furnace – Gas, 92% AFUE or greater | \$250 - \$350 | 15 - 20% | Consistent with current rebate levels. |
| Furnace – Gas, Quality Installation | \$100 | 50% | Rebate covers portion of contractors' service charge (additional time required for QI). |
| Furnace – Gas, Clean and Tune | \$30 | 50% | Rebate covers 50% of customer's cost. |
| Infiltration Control | Up to \$150 | 70% | Consistent with current rebate. |
| Insulation | Up to \$750 | 70% | Consistent with current rebate. |
| Lighting Fixture – ENERGY STAR | \$40 | 86% | Rebate amount increased from existing levels as reflection of increased equipment costs. |

Table 1. 2009 PRELIMINARY Residential Prescriptive Measures - *continued*

| Measure | Rebate | Customer Rebate as Percent of Incremental Cost | Explanation |
|--|---------------|---|---|
| Occupancy Sensor | \$30 | 56% | Rebate roughly 50% of customer's cost. |
| Programmable Thermostat – ENERGY STAR | \$20 | 57% | Decreased slightly from current rebate level due to decreased equipment costs. |
| Refrigerator - ENERGY STAR | \$50 | 50% | Consistent with current rebate. |
| Room Air Conditioner - ENERGY STAR | \$20 | 40% | Rebate amount decreased from existing levels as reflection of decreased equipment costs. |
| Water Heater – Electric, .93 EF or greater | \$50 | 53% | Consistent with current rebate. |
| Water Heater – Gas, 0.62 EF or greater (includes tankless) | \$50 - \$100 | 10 - 33% | Rebate determined by efficiency. Tankless models will receive the same rebate as equally efficient tank type models. |
| Windows/Sashes - Replacement | \$25 | 13% | Consistent with current rebate. Window rebates are very popular with customers and serve as an entry point into the DSM programs. |

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| Measure Name | Measure Description | Base Description | Single Family | Multifamily | Manufactured | Low Income Single Family | Low Income Multifamily | 10-Year Technical Potential (kWh) |
|---|--|---|---------------|-------------|--------------|--------------------------|------------------------|-----------------------------------|
| Air Conditioner - Central (2.5 ton unit) | SEER 14 | SEER 13 (Federal Code) | | 0.18 | | | 0.18 | - |
| Air Conditioner - Central (2.5 ton unit) | SEER 15 | SEER 13 (Federal Code) | | 0.16 | | | 0.16 | - |
| Air Conditioner - Central (2.5 ton unit) | SEER 16 | SEER 13 (Federal Code) | | 0.13 | | | 0.13 | - |
| Air Conditioner - Central (2.5 ton unit) | SEER 17 | SEER 13 (Federal Code) | | 0.11 | | | 0.11 | - |
| Air Conditioner - Central (2.5 ton unit) | SEER 18 | SEER 13 (Federal Code) | | 0.08 | | | 0.08 | - |
| Air Conditioner - Central (2.5 ton unit) | SEER 19 | SEER 13 (Federal Code) | | 0.07 | | | 0.07 | 3,542,104 |
| Air Conditioner - Central (3.0 ton unit) | SEER 14 | SEER 13 (Federal Code) | 0.36 | | 0.28 | 0.33 | | - |
| Air Conditioner - Central (3.0 ton unit) | SEER 15 | SEER 13 (Federal Code) | 0.31 | | 0.24 | 0.29 | | - |
| Air Conditioner - Central (3.0 ton unit) | SEER 16 | SEER 13 (Federal Code) | 0.25 | | 0.2 | 0.23 | | - |
| Air Conditioner - Central (3.0 ton unit) | SEER 17 | SEER 13 (Federal Code) | 0.19 | | 0.15 | 0.17 | | - |
| Air Conditioner - Central (3.0 ton unit) | SEER 18 | SEER 13 (Federal Code) | 0.15 | | 0.11 | 0.13 | | - |
| Air Conditioner - Central (3.0 ton unit) | SEER 19 | SEER 13 (Federal Code) | 0.12 | | 0.09 | 0.11 | | 44,849,528 |
| Air Conditioner - Central - 2 Stage | 2 Levels of Output - Lower Settings for Milder Climate | 1 Stage Central Air Conditioner Unit | 0.65 | 0.34 | | 0.64 | 0.34 | 60,327,987 |
| Air Conditioner - Central - Proper sizing | Correctly Sized Air Conditioner Unit | Oversized Air Conditioner Unit | 130.01 | 68.46 | 101.99 | 127.14 | 68.67 | 13,720,091 |
| Air Conditioner - Room (Individual Rooms) (10,000 BTU/HR) | EER = 10.2 | EER = 9.8 (Federal Code) | 0.63 | 0.27 | 0.47 | 0.57 | 0.27 | - |
| Air Conditioner - Room (Individual Rooms) (10,000 BTU/HR) | EER = 10.8 | EER = 9.8 (Federal Code) | 1.51 | 0.78 | 1.17 | 1.39 | 0.78 | - |
| Air Conditioner - Room (Individual Rooms) (10,000 BTU/HR) | EER = 11 | EER = 9.8 (Federal Code) | 0.02 | 0.01 | 0.01 | 0.02 | 0.01 | - |
| Air Conditioner - Room (Individual Rooms) (10,000 BTU/HR) | EER = 11.7 | EER = 9.8 (Federal Code) | 0.27 | 0.14 | 0.21 | 0.24 | 0.14 | 3,517,776 |
| Air Conditioning - Split System Ductless | Ductless AC | Central AC | 0.28 | | 0.22 | 0.27 | | 18,548,010 |
| Air Source Heat_Pump | 14 SEER, 8.5 HSPF | 13 SEER, 7.7 HSPF (Federal Code) | 1.09 | | | 1.12 | | - |
| Air Source Heat_Pump | 16 SEER, 8.8 HSPF | 14 SEER, 7.7 HSPF (Federal Code) | 0.89 | | | 0.91 | | - |
| Air Source Heat_Pump | 18 SEER, 9.0 HSPF | 15 SEER, 7.7 HSPF (Federal Code) | 0.64 | | | 0.66 | | 3,564,838 |
| Attic Fan | Attic Fan | No Attic Fan | 1.49 | | | 1.45 | | 4,625,160 |
| Battery Chargers | Energy Star Battery Chargers | Standard Battery Chargers | 0.66 | 0.67 | 0.67 | 0.66 | 0.67 | 653,030 |
| Blinds - Fixed Angle/Automatic | Install Blinds (Reduce Window SHGC by 50%) | No Interior Shading Device | 2.05 | 0.92 | 2.39 | 1.51 | 0.92 | 22,431,843 |
| CFL Lighting - 3-Way | 15 W, 20W And 27W | 60W, 75W, 100W | 7.17 | 7.17 | 7.17 | 7.17 | 7.17 | 9,104,155 |
| Canned Lighting Air Tight Sealing | Canned Lighting Air Tight Sealing | No Air tight Sealing | 10.42 | 5.21 | 8.3 | 10.4 | 5.3 | 10,163,601 |
| Ceiling Fan | Ceiling Fan | No Ceiling Fan | 1.93 | 0.98 | 1.55 | 1.69 | 0.98 | 35,085,505 |
| Clothes Dryer With Moisture Sensor | High-Efficiency Clothes Dryer With Moisture Sensor | Standard Dryer Without Moisture Sensor | 0.7 | 0.53 | 0.59 | 0.7 | 0.53 | 5,534,818 |
| Clothes Washer | Energy Star MEF = 1.72 (top Load) | Standard Clothes Washer (1.26) (Federal Code) | 0.64 | 0.39 | 0.56 | 0.71 | 0.4 | 9,493,520 |
| Clothes Washer | Standard Clothes Washer (1.26) (Federal Code) | Existing Clothes Washer (MEF = 1.1) | 0.15 | 0.09 | 0.13 | 0.17 | 0.09 | 2,381,384 |

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| Measure Name | Measure Description | Base Description | Single Family | Multifamily | Manufactured | Low Income Single Family | Low Income Multifamily | 10-Year Technical Potential (kWh) |
|---|--|--|---------------|-------------|--------------|--------------------------|------------------------|-----------------------------------|
| Clothes Washer | Tier 2. MEF = 2.0 (front load) | Energy Star MEF = 1.72 | 0.32 | 0.2 | 0.28 | 0.36 | 0.2 | 8,183,151 |
| Clothes Washer | Tier 3. MEF = 2.2 (front load) | Tier 2. MEF = 2.0 | 0.16 | 0.1 | 0.14 | 0.18 | 0.1 | 5,728,566 |
| Compact Fluorescent Fixtures | Energy Star CFL Fixture 11 W CFL | Standard Fixture 40 W Incandescent | 0.87 | 0.96 | 0.96 | 0.96 | 0.96 | 5,290,204 |
| Compact Fluorescent Fixtures | Energy Star CFL Fixture 15 W CFL | Standard Fixture 60 W Incandescent | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 | 25,994,966 |
| Compact Fluorescent Fixtures | Energy Star CFL Fixture 20 W CFL | Standard Fixture 75 W Incandescent | 1.04 | 1.04 | 1.05 | 1.04 | 1.04 | 8,472,434 |
| Compact Fluorescent Fixtures | Energy Star CFL Fixture 27 W CFL | Standard Fixture 100 W Incandescent | 1.39 | 1.39 | 1.39 | 1.39 | 1.39 | 5,326,688 |
| Compact Fluorescent Lamps | 11 W CFL | 40 W Incandescent | 3.52 | 3.52 | 3.52 | 3.52 | 3.52 | 20,905,765 |
| Compact Fluorescent Lamps | 15 W CFL | 60 W Incandescent | 5.46 | 5.46 | 5.46 | 5.46 | 5.46 | 129,022,648 |
| Compact Fluorescent Lamps | 20 W CFL | 75 W Incandescent | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 52,985,301 |
| Compact Fluorescent Lamps | 27 W CFL | 100 W Incandescent | 3.31 | 3.31 | 3.31 | 3.31 | 3.31 | 44,372,322 |
| Computers | Energy Star Office Computer | Standard Office Computer | 0.15 | 0.16 | 0.16 | 0.15 | 0.16 | 6,167,038 |
| Convection Oven | Convection Oven (wall oven) | Standard Oven (wall oven) | 0.21 | 0.21 | 0.21 | 0.21 | 0.21 | 10,952,722 |
| Cool Roofs | Lighter Colored Shingles (White) | Standard Roof Shingles | 8.61 | 2.73 | | 8.63 | 2.74 | 49,155,733 |
| Cordless Phone | Energy Star Cordless Phone | Standard Cordless Phone | 13.6 | 13.67 | 13.67 | 13.6 | 13.67 | 3,325,746 |
| DVD System | Energy Star DVD System | Standard DVD System | 1.04 | 1.05 | 1.05 | 1.04 | 1.05 | 4,525,050 |
| Daylighting Controls (Photocell) - Indoor/Outdoors | Install Photocell | No Daylighting Controls | 0.98 | 0.65 | 0.67 | 1 | 0.65 | 83,217,180 |
| Dehumidifiers | Energy Star Dehumidifiers | Standard Dehumidifiers | 1.4 | 1.41 | 1.41 | 1.4 | 1.41 | 256,111 |
| Desuperheater (Ground-Source Heat_Pump) system | Desuperheater with Standard Water_Heater | Standard Water_Heater - EF = 0.92 | 0.69 | | | 0.77 | | 89,091 |
| Desuperheater for Central Air Conditioner (AC) system | Desuperheater with Standard Water_Heater | Standard Water_Heater - EF = 0.92 | 0.25 | 0.16 | 0.22 | 0.28 | 0.16 | 10,311,873 |
| Desuperheater for Central Air Conditioner (Air-Source Heat_Pump) system | Desuperheater with Standard Water_Heater | Standard Water_Heater - EF = 0.92 | 0.69 | | | 0.77 | | 384,900 |
| Digital Set Top Receiver | Energy Star Digital Set Top Receiver | Standard Digital Set Top Receiver | 0.49 | 0.49 | 0.49 | 0.49 | 0.49 | 7,308,924 |
| Dishwasher | EF = 0.65 (ENERGY STAR) | EF = 0.46 (Federal Code) Existing Dishwasher | 2.25 | 1.39 | 1.99 | 2.52 | 1.4 | 790,721 |
| Dishwasher | EF = 0.77 | EF = 0.65 (ENERGY STAR) | 0.06 | 0.04 | 0.06 | 0.07 | 0.04 | 983,672 |
| Dishwasher | EF = 0.88 | EF = 0.77 | 0.09 | 0.06 | 0.08 | 0.1 | 0.06 | 1,127,124 |
| Door - Retrofit of Existing | Weatherstripping And Adding Door Sweeps | Existing Non-Efficient door | 1.02 | 1.17 | 0.92 | 0.99 | 1.17 | 1,308,783 |
| Doors | R-11 (Steel Doors with foam core) | R-2 (Wood Doors) | 181.46 | 193.89 | 121.03 | 142.16 | 152.26 | 5,761,188 |
| Drain Water_Heat Recovery (Power-Pipe) | Power-Pipe System | No Drain Water Heat Recovery | 0.15 | 0.09 | 0.13 | 0.16 | 0.09 | 4,073,675 |

DR No. 1 Attachment A Res Economic Measures by Segment.xls

Elec

| Measure Name | Measure Description | Base Description | Single Family | Multifamily | Manufactured | Low Income Single Family | Low Income Multifamily | 10-Year Technical Potential (kWh) |
|--|--|--|---------------|-------------|--------------|--------------------------|------------------------|-----------------------------------|
| Duct Repair And Sealing | Repair And Sealing | Existing Duct Condition | 2.27 | 1.93 | 2.79 | 2.34 | 1.97 | 25,927,502 |
| ECM Motor | ECM Motor for Forced Air | Standard Motor | 5.35 | 3.11 | 4.44 | 4.88 | 3.11 | 57,255,924 |
| ECM Motor | ECM Motor for Forced Air | Standard Motor | 5.35 | 3.11 | 4.44 | 4.88 | 3.11 | 46,196,841 |
| ECM Motor | ECM motor for Central Air Conditioner | Standard Motor | 2.35 | 1.24 | 1.85 | 2.29 | 1.24 | 16,954,182 |
| Existing Windows | U = 0.35 (State Code), SHGC 0.32 | Existing Windows (U=0.51, SHGC = 0.67) | 0.26 | 0.2 | 0.38 | 0.22 | 0.2 | 3,493,961 |
| Existing Windows | U = 0.43, SHGC 0.47 | Existing Windows (U=0.51, SHGC = 0.67) | 0.16 | 0.13 | 0.24 | 0.13 | 0.13 | 1,810,870 |
| Fanfold or Dow Board | Install Fanfold / Dow Board Insulation (R-1) | No Fanfold or Dow Board Insulation | 0.2 | 0.3 | 0.47 | 0.19 | 0.3 | 1,803,358 |
| Faucet Aerators | 0.5 GPM | Existing Faucet Aerator (3.0 GPM) | 8.77 | 11.04 | 11.64 | 9.81 | 8.19 | 1,671,145 |
| Faucet Aerators | 1.5 GPM | Existing Faucet Aerator (3.0 GPM) | 4.24 | 5.34 | 5.63 | 4.75 | 3.96 | 803,018 |
| Fluorescent Torchieres | 55 W CFL-Based Lamp | 180 W Halogen Lamp | 2.72 | 2.72 | 2.72 | 2.72 | 2.72 | 8,445,408 |
| Freezer - Stand-Alone | Energy Star Freezer | Standard Freezer | 0.74 | 0.74 | 0.74 | 0.74 | 0.74 | 5,130,966 |
| HDTV's | Energy Star HDTV's | Standard HDTV | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 6,548,683 |
| Halogen Cap Lights (Indoor) | 42 W Halogen Capsylyte | 60 W Incandescent | 2.18 | 1.82 | 1.82 | 1.82 | 1.82 | 6,619,479 |
| Halogen Cap Lights (Indoor) | 45 W Halogen Capsylyte | 60 W Incandescent | | | | 1.82 | | 1,071,102 |
| Halogen Cap Lights (Indoor) | 52 W Halogen Capsylyte | 75 W Incandescent | 2.79 | 2.79 | 2.79 | 2.79 | 2.79 | 3,301,823 |
| Halogen Cap Lights (Indoor) | 72 W Halogen Capsylyte | 100 W Incandescent | 4.21 | 4.21 | 4.21 | 4.21 | 4.21 | 2,536,183 |
| Heat_Pump - Ductless Room | 13 SEER, 7.7 HSPF (Federal Code) | Electric Baseboard Heating, Room Air Conditioner | 4.13 | 2.61 | 3.82 | 4.12 | 2.61 | 28,569,745 |
| Heat_Pump - Proper Sizing | Correctly Sized Heat_Pump (Cooling And Heating Unit) | Oversized Heat_Pump | 814.49 | | | 911.13 | | 1,677,821 |
| Heat_Pump Water_Heater | EF = 2.0 | EF = 0.92 (State Code - 40 gallon tank) | 0.82 | 0.51 | 0.73 | 0.92 | 0.51 | 8,379,170 |
| Home Audio Systems | Energy Star Home Audio System | Standard Home Audio system | 1.65 | 1.66 | 1.66 | 1.65 | 1.66 | 17,693,795 |
| Home Office Copiers | Energy Star Office Copiers | Standard Office Copiers | 0.35 | 0.53 | 0.44 | 0.35 | 0.53 | 648,043 |
| Home Office Monitors | Energy Star Office Monitor | Standard Office Monitor | 0.51 | 0.51 | 0.51 | 0.51 | 0.51 | 5,063,753 |
| Hot Water Pipe Insulation | Install Insulation (R-4) | No Pipe Insulation | 0.65 | 0.6 | 0.84 | 0.71 | 0.59 | 2,498,545 |
| Induction Stovetop | Induction Stovetop | Standard Range | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 45,777,673 |
| Infiltration Control (Caulk, Weather Strip, etc.) Blower-Door test | Install Caulking And Weatherstripping | Existing Infiltration Conditions | 2.32 | 2.47 | 1.92 | 2.32 | 2.5 | 31,653,502 |
| Insulation (Basement - Wall) 2*4 | R-13 | Average Existing Insulation value (R-8) | 0.67 | | | 0.65 | | 478,680 |
| Insulation (Basement - Wall) 2*4 | R-13 + R-5 sheathing | Average Existing Insulation value (R-8) | 0.74 | | | 0.72 | | 905,966 |

DR No. 1 Attachment A Res Economic Measures by Segment.xls

Elec

| Measure Name | Measure Description | Base Description | Single Family | Multifamily | Manufactured | Low Income Single Family | Low Income Multifamily | 10-Year Technical Potential (kWh) |
|-----------------------------------|---|---|---------------|-------------|--------------|--------------------------|------------------------|-----------------------------------|
| Insulation (Ceiling) | R-38 (State Code - Southern Iowa) | Average Existing Insulation Value R-19 | 1.73 | 1.08 | 3.99 | 1.55 | 1.08 | 3,034,941 |
| Insulation (Ceiling) | R-49 (State Code - Northern Iowa) | Average Existing Insulation Value R-19 | 1.48 | 0.91 | 3.35 | 1.32 | 0.91 | 3,407,940 |
| Insulation (Duct) | R-4 | No Duct Insulation | 3.24 | 2.64 | 3.89 | 3.29 | 2.6 | 1,209,434 |
| Insulation (Duct) | R-8 | No Duct Insulation | 4.51 | 3.34 | 4.96 | 4.62 | 3.32 | 1,850,196 |
| Insulation (Floor) | R-25 | Average Existing Insulation Value (R-5) | 2.12 | 0.44 | 1.36 | 2.06 | 0.48 | 10,557,866 |
| Insulation (Floor) | R-30 | Average Existing Insulation Value (R-5) | 2.07 | 0.43 | 1.34 | 2.03 | 0.47 | 10,993,655 |
| Insulation (Rim And Band Joist) | R-10 | No Rim And Band Joist Insulation | 3 | | | 2.93 | | 358,950 |
| Insulation (Rim And Band Joist) | R-19 | No Rim And Band Joist Insulation | 6.43 | | | 5.8 | | 846,096 |
| Insulation (Slab) | R-13 | Average Existing Insulation Value (R-5) | 1.01 | 0.21 | | 0.97 | 0.21 | 1,441,907 |
| Insulation (Slab) | R-18 | Average Existing Insulation Value (R-5) | 0.89 | 0.18 | | 0.85 | 0.19 | 1,818,200 |
| Insulation (Wall) 2*4 | R-11 | Average Existing Insulation Value (R-8) | 0.25 | 0.28 | 0.38 | 0.24 | 0.3 | 1,321,512 |
| Insulation (Wall) 2*4 | R-11 + R-5 sheathing | Average Existing Insulation Value (R-8) | 0.6 | 0.74 | 0.94 | 0.56 | 0.74 | 2,808,603 |
| Insulation (wall) 2*6 | R-16.7 | Average Existing Insulation Value (R-8) | 0.5 | 0.45 | | 0.46 | 0.45 | 2,982,440 |
| Insulation (wall) 2*6 | R-16.7 + R5 Sheathing | Average Existing Insulation Value (R-8) | 0.98 | 0.89 | | 0.9 | 0.89 | 4,264,652 |
| Interior Shades or Thermal Drapes | Install Thermal Drapes (Reduce SHGC by 80%) | No Interior Shading Device | 18.31 | 3.78 | 13.54 | 17.39 | 3.79 | 25,588,056 |
| LED Christmas Lighting | LED Christmas Lighting | Incandescent Christmas Lighting | 0.53 | 0.35 | 0.36 | 0.54 | 0.35 | 2,584,295 |
| LED Lamps | 13 W LED | 100 W Incandescent | 0.29 | 0.29 | 0.29 | 0.29 | 0.29 | 15,760,563 |
| LED Lamps | 13 W LED | 27 W CFL | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 | 231,782 |
| LED Lamps | 2.5 W LED | 11 W CFL | 0.41 | 0.41 | 0.41 | 0.41 | 0.41 | 105,648 |
| LED Lamps | 2.5 W LED | 40 W Incandescent | 1.38 | 1.38 | 1.38 | 1.38 | 1.38 | 7,049,699 |
| LED Lamps | 7 W LED | 15 W CFL | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 683,607 |
| LED Lamps | 7 W LED | 60 W Incandescent | 0.62 | 0.62 | 0.62 | 0.62 | 0.62 | 45,288,975 |
| LED Lamps | 9 W LED | 20 W CFL | 0.11 | 0.11 | 0.11 | 0.11 | 0.11 | 274,064 |
| LED Lamps | 9 W LED | 75 W Incandescent | 0.55 | 0.55 | 0.55 | 0.55 | 0.55 | 18,949,591 |
| Low-Flow Showerheads | 2.0 GPM | Existing Showerhead (4.0 GPM) | 7.37 | 9.8 | 13.04 | 8.24 | 9.92 | 6,230,370 |
| Low-Flow Showerheads | 2.5 GPM (Federal Code) | Existing Showerhead (4.0 GPM) | 5.34 | 7.1 | 9.45 | 5.97 | 7.19 | 4,063,285 |
| Occupancy Sensors | Wall-Switch Occupancy Sensors | No Occupancy Sensor | 5.51 | 3.67 | 3.76 | 5.67 | 3.67 | 140,073,128 |
| Outlet Gasket | Install Outlet Gasket (Reduce Air Leakage) | No Outlet Gasket | 11.22 | 12.1 | 11.63 | 11.3 | 12.28 | 7,707,959 |
| Pool Pump Timers | Pool Pump Timers | Pool Pump No Timers | 8.57 | | | | | 900,943 |
| Pool Pumps - VSD | Pool Pumps (VSD) | Pool Pumps constant speed | 1.05 | | | | | 4,450,813 |

Elec

| Measure Name | Measure Description | Base Description | Single Family | Multifamily | Manufactured | Low Income Single Family | Low Income Multifamily | 10-Year Technical Potential (kWh) |
|---|---|---|---------------|-------------|--------------|--------------------------|------------------------|-----------------------------------|
| Printers | Energy Star Office Printer | Standard Office Printer | 0.18 | 0.18 | 0.18 | 0.18 | 0.18 | 150,583 |
| Radiant Barrier (Ceiling) | Install Radiant Barrier | No Radiant Barrier | 5.15 | 2.24 | 2.68 | 5.37 | 2.27 | 55,915,667 |
| Radiant Heating | Radiant Heating | Electric Baseboard Heating | 1.95 | 1.79 | 2.64 | 1.89 | 1.79 | 17,637,771 |
| Range And Oven | Efficient Range And Oven (self cleaning, multi-size elements, window in oven door) | Std. Range And Oven | 0.14 | 0.14 | 0.14 | 0.14 | 0.14 | 1,939,298 |
| Ref./Freezer - Early Replacement | Standard Refrigerator | Existing Refrigerator | 0.55 | 0.55 | 0.55 | 0.68 | 0.68 | 21,764,315 |
| Refrigerator eCube | Refrigerator eCube | No Refrigerator eCube | 0.2 | 0.2 | 0.2 | 0.24 | 0.24 | 7,759,713 |
| Refrigerator/Freezer | Energy Star Refrigerator | Standard Refrigerator | 0.52 | 0.53 | 0.53 | 0.52 | 0.53 | 13,811,262 |
| Removal of Secondary Refrigerator/Freezer | Proper Disposal of Refrigerator/Freezer | Existing Non-Efficient Refrigerator/Freezer | 7.49 | 7.53 | 7.53 | 9.23 | 9.27 | 80,240,990 |
| Spray-On-Foam Insulation | 2*4Wall R-26 | 2*4Wall R-13 | 1.11 | 1.59 | 1.23 | 1.12 | 1.6 | 394,564 |
| Stand-Alone Freezer - Removal | Proper Disposal of Freezer | Existing Non-Efficient Freezer | 5.4 | 5.43 | 5.43 | 6.04 | 6.04 | 102,504,263 |
| Storm And Thermal Doors | Install Storm Door (R-1) | No Storm Door | 0.59 | 0.27 | 0.63 | 0.6 | 0.27 | 587,660 |
| Storm And Thermal Doors | Install Thermal Door (R-5) | No Thermal Door | 0.68 | 0.3 | 0.73 | 0.67 | 0.3 | 2,675,131 |
| TV's | Energy Star TV's | Standard TV | 1.51 | 1.52 | 1.52 | 1.51 | 1.52 | 15,486,174 |
| Tankless Water_Heater | EF = 0.98, 4.0 gpm | EF = 0.92 (State Code - 40 gallon tank) | 0.15 | 0.09 | 0.13 | 0.16 | 0.09 | 1,316,486 |
| Thermostat - Clock/Programmable | Programmable Thermostat | Manual Thermostat | 43.05 | 23.25 | 34.46 | 45.44 | 23.65 | 36,043,811 |
| Thermostat - Multi-Zone | Individual Room Temperature Control for Major Occupied Rooms | Programmable Thermostat - Central Control Only | 0.86 | 0.48 | 0.7 | 0.91 | 0.48 | 3,152,736 |
| Time Clocks (Exterior Lighting) | Exterior Lighting on a Time Clock | Exterior Lighting (Manual Control) | 0.23 | 0.16 | 0.16 | 0.24 | 0.16 | 1,336,872 |
| Tune-Up/Maintenance - Heat_Pump (Existing Unit) | Checking Air Flow, Proper Charge, Clean Filters etc. (Verifying That Unit Is Running at Correct Efficiency Level) | Heat_Pump Running Below Expected Efficiency Level | 2.36 | | | 2.64 | | 1,836,148 |
| Tune-Up/Maintenance - Heat_Pump (New Unit) | Checking Air Flow, Proper Charge, Clean Filters etc. (Verifying That Unit Is Running at Correct Efficiency Level) | Heat_Pump Running Below Expected Efficiency Level | 4.73 | | | 5.28 | | 153,540 |
| Tune-up/Maintenance - Central Air Conditioner (Existing unit) | Checking Air Flow, Proper Charge, Clean Filters etc. (Verifying That Unit Is Running at Correct Efficiency Level) | AC Unit Running Below Expected Efficiency Level | 0.64 | 0.34 | 0.5 | 0.63 | 0.34 | 17,317,090 |

Elec

| Measure Name | Measure Description | Base Description | Single Family | Multifamily | Manufactured | Low Income Single Family | Low Income Multifamily | 10-Year Technical Potential (kWh) |
|---|---|--|---------------|-------------|--------------|--------------------------|------------------------|-----------------------------------|
| Tune-up/Maintenance - New Central Air Conditioner | Checking Air Flow, Proper Charge, Clean Filters etc. (Verifying That Unit Is Running at Correct Efficiency Level) | AC Unit Running Below Expected Efficiency Level | 0.96 | 0.51 | 0.75 | 0.94 | 0.51 | 1,205,466 |
| VCRs | Energy Star VCR | Standard Home VCR | 20.48 | 20.57 | 20.58 | 20.48 | 20.57 | 12,370,662 |
| VSD Fan | Variable Speed Fan | Constant Speed Fan | 0.47 | 0.15 | 0.22 | 0.51 | 0.15 | 2,843,376 |
| VSD Fan | Variable Speed Fan - Electric Furnace | Constant Speed Fan | 0.79 | 0.46 | 0.66 | 0.72 | 0.46 | 29,949,958 |
| VSD Fan | Variable Speed Fan - Gas Furnace | Constant Speed Fan | 0.79 | 0.46 | 0.66 | 0.72 | 0.46 | 36,429,984 |
| Vinyl Siding with Foam Backing | Siding with Foam Backing (R-3) | No Siding Insulation (Vinyl siding without foam backing) | 0.56 | 0.48 | 0.75 | 0.53 | 0.48 | 1,007,836 |
| Water_Heater (Electric) | EF = 0.95 | EF = 0.92 (State Code - 40 gallon tank) | 0.59 | 0.37 | 0.53 | 0.66 | 0.37 | 12,006,964 |
| Water_Heater Tank Blanket/Insulation | Install Insulation (R-5) | No Tank Insulation | 15 | 9.23 | 13.28 | 16.78 | 9.34 | 1,854,332 |
| Water_Heater Thermostat Setback | 115 degrees | 135 degrees | 2392.76 | 1472.48 | 2117.19 | 2676.51 | 1489.51 | 677,518 |
| Whole-House Dehumidifier | Whole-House Dehumidifier | No Dehumidifier | 0.07 | 0.04 | 0.06 | 0.07 | 0.04 | 5,596,393 |
| Whole-House Fan | Whole-House Fan | No Whole-House Fan | 1.56 | | | 1.52 | | 20,294,998 |
| Window Film | Install Window Film (SHGC reduction=45%) | No Window Film | 0.07 | 0.12 | 0.09 | 0.05 | 0.12 | 10,446,115 |
| Windows | U = 0.19, SHGC 0.25 | U = 0.35 (State Code), SHGC 0.32 | 0.05 | 0.03 | 0.06 | 0.04 | 0.03 | 6,257,166 |
| Windows | U = 0.29, SHGC 0.22 | U = 0.35 (State Code), SHGC 0.32 | 0.08 | 0.05 | 0.1 | 0.06 | 0.05 | 6,595,716 |

Gas

| Measure Name | Measure Description | Base Description | Single Family | Multifamily | Manufactured | Low Income Single Family | Low Income Multifamily | 10-Year Technical Potential (kWh) |
|--|---|--|---------------|-------------|--------------|--------------------------|------------------------|-----------------------------------|
| Canned Lighting Air Tight Sealing | Canned Lighting Air Tight Sealing | No Air tight Sealing | 11.22 | 6.03 | 9.16 | 10.96 | 6.31 | 1,491,379 |
| Clothes Dryer w Moisture Sensor | High-Efficiency Clothes Dryer w Moisture Sensor | Standard Dryer without Moisture Sensor | 0.9 | 0.9 | 0.9 | 0.9 | 0.9 | 38,441 |
| Clothes Washer | Energy Star MEF = 1.72 (top Load) | Standard Clothes Washer (1.26) (Federal Code) | 0.62 | 0.38 | 0.39 | 0.7 | 0.4 | 830,216 |
| Clothes Washer | Standard Clothes Washer (1.26) (Federal Code) | Existing Clothes Washer (MEF = 1.1) | 0.14 | 0.09 | 0.09 | 0.16 | 0.09 | 203,823 |
| Clothes Washer | Tier 2. MEF = 2.0 (front load) | Energy Star MEF = 1.72 | 0.3 | 0.19 | 0.19 | 0.34 | 0.19 | 722,298 |
| Clothes Washer | Tier 3. MEF = 2.2 (front load) | Tier 2. MEF = 2.0 | 0.15 | 0.09 | 0.1 | 0.17 | 0.1 | 396,065 |
| Convection Oven | Convection Oven | Standard Oven | 0.11 | 0.11 | 0.11 | 0.11 | 0.11 | 127,210 |
| Desuperheater for Central Air Conditioner (AC) system | Desuperheater | Standard Water_Heater - EF = 0.59 (40 Gallon Tank) | 0.23 | 0.14 | 0.15 | 0.26 | 0.15 | 845,290 |
| Desuperheater for Central Air Conditioner (Air-Source Heat Pump) system | Desuperheater | Standard Water_Heater - EF = 0.59 (40 Gallon Tank) | 0.63 | | | 0.71 | | 42,756 |
| Desuperheater for Central Air Conditioner (Ground-Source Heat Pump) system | Desuperheater | Standard Water_Heater - EF = 0.59 (40 Gallon Tank) | 0.63 | | | | | 6,561 |
| Dishwasher | EF = 0.65 (ENERGY STAR) | EF = 0.46 (Federal Code) Existing Dishwasher | 2.12 | 1.32 | 1.35 | 2.4 | 1.36 | 173,404 |
| Dishwasher | EF = 0.77 | EF = 0.65 (ENERGY STAR) | 0.06 | 0.04 | 0.04 | 0.07 | 0.04 | 90,713 |
| Dishwasher | EF = 0.88 | EF = 0.77 | 0.09 | 0.05 | 0.05 | 0.1 | 0.05 | 82,662 |
| Doors | R-11 (Steel Doors with foam core) | R-2 (Wood Doors) | 205.06 | 162.48 | 190.24 | 207.95 | 171.1 | 2,187,948 |
| Drain Water_Heat Recovery (Power-Pipe) | Power-Pipe System | No Drain Water Heat Recovery | 0.16 | 0.1 | 0.1 | 0.18 | 0.1 | 334,278 |
| Duct Repair And Sealing | Repair And Sealing | Existing Duct Condition | 2.26 | 1.8 | 2.74 | 2.08 | 1.88 | 4,199,701 |
| Existing Windows | U = 0.35 (State Code), SHGC 0.32 | Existing Windows (U=0.51, SHGC = 0.67) | 0.19 | 0.07 | 0.28 | 0.14 | 0.14 | 16,200 |
| Existing Windows | U = 0.43, SHGC 0.47 | Existing Windows (U=0.51, SHGC = 0.67) | 0.11 | 0.05 | 0.18 | 0.08 | 0.1 | 16,207 |
| Fanfold or Dow Board | Install Fanfold / Dow Board | No Fanfold or Dow Board | 0.23 | 0.22 | 0.71 | 0.23 | 0.32 | 880,998 |
| Faucet Aerators | 0.5 GPM | Existing Faucet Aerator (3.0 GPM) | 7.62 | 9.7 | 7.29 | 8.62 | 7.34 | 130,132 |
| Faucet Aerators | 1.5 GPM | Existing Faucet Aerator (3.0 GPM) | 3.53 | 4.49 | 3.37 | 3.99 | 3.4 | 59,790 |
| Gas Boiler | AFUE=82% | AFUE=80% (State Code) | 0.94 | 0.62 | | 0.88 | 0.62 | - |
| Gas Boiler | AFUE=85% | AFUE=80% (State Code) | 0.43 | 0.31 | | 1.37 | 0.31 | - |

Gas

| | | | | | | | | | |
|--|--|--|---------|---------|---------|--------|-----------|--------|-----------|
| Gas Boiler | AFUE=90% | AFUE=80% (State Code) | 0.55 | 0.37 | 0.27 | 0.37 | - | 0.37 | - |
| Gas Boiler | AFUE=94% | AFUE=80% (State Code) | 0.31 | 0.22 | 0.21 | 0.22 | 225,924 | 0.22 | 225,924 |
| Gas Boiler - Proper Sizing | Proper Sizing of Gas Boiler | Oversized Gas Boiler | 1548.95 | 1074.65 | 1570.51 | 1116.3 | 228,168 | 1116.3 | 228,168 |
| Gas Furnace | AFUE = 80% | AFUE = 78% (State Code) | 14.84 | 12.93 | 14.86 | 12.93 | - | 12.93 | - |
| Gas Furnace | AFUE = 90% (Condensing Furnace) | AFUE = 78% (State Code) | 5.76 | 3.09 | 5.39 | 3.09 | - | 3.09 | - |
| Gas Furnace | AFUE = 93% (Condensing Furnace) | AFUE = 78% (State Code) | 7.11 | 4.74 | 6.74 | 4.74 | - | 4.74 | - |
| Gas Furnace | AFUE = 96% (Condensing Furnace) | AFUE = 78% (State Code) | 2.62 | 0.44 | 2.48 | 2.03 | 4,009,474 | 2.03 | 4,009,474 |
| Gas Furnace - Maintenance | Maintenance | No Maintenance | 0.71 | 0.39 | 0.72 | 0.41 | 4,705,053 | 0.41 | 4,705,053 |
| Gas Furnace - Maintenance - New Equipment | Maintenance | No Maintenance | 0.71 | 0.39 | 0.72 | 0.41 | 274,308 | 0.41 | 274,308 |
| Gas Furnace - Proper Sizing | Proper Sizing of Gas Furnace | Oversized Gas Furnace | 825.81 | 452.53 | 835.08 | 477 | 4,106,962 | 477 | 4,106,962 |
| Hot Water Pipe Insulation | Install Insulation (R-4) | No Pipe Insulation | 0.62 | 0.52 | 0.69 | 0.53 | 228,755 | 0.53 | 228,755 |
| Infiltration Control (Caulk, Weather Strip, etc.) Blower-Door test | Install Caulking And Weatherstripping | Existing Infiltration Conditions | 2.59 | 2.77 | 2.52 | 2.9 | 5,881,531 | 2.9 | 5,881,531 |
| Insulation (Basement - Wall) 2*4 | R-13 | Average Existing Insulation value (R-8) | 0.77 | | 0.75 | | 150,072 | | 150,072 |
| Insulation (Basement - Wall) 2*4 | R-13 + R-5 sheathing | Average Existing Insulation value (R-8) | 0.76 | | 0.74 | | 281,484 | | 281,484 |
| Insulation (Ceiling) | R-38 (State Code - Southern Iowa) | Average Existing Insulation Value R-19 | 2.49 | 1.15 | 2.4 | 1.2 | 807,336 | 1.2 | 807,336 |
| Insulation (Ceiling) | R-49 (State Code - Northern Iowa) | Average Existing Insulation Value R-19 | 2.15 | 0.96 | 2.08 | 1.01 | 888,946 | 1.01 | 888,946 |
| Insulation (Duct) | R-4 | No Duct Insulation | 3.4 | 2.71 | 3.15 | 2.76 | 234,271 | 2.76 | 234,271 |
| Insulation (Duct) | R-8 | No Duct Insulation | 4.74 | 3.44 | 4.42 | 3.53 | 355,418 | 3.53 | 355,418 |
| Insulation (Floor) | R-25 | Average Existing Insulation Value (R-5) | 2.41 | 0.5 | 2.32 | 0.77 | 2,899,227 | 0.77 | 2,899,227 |
| Insulation (Floor) | R-30 | Average Existing Insulation Value (R-5) | 2.36 | 0.48 | 2.28 | 0.74 | 2,999,848 | 0.74 | 2,999,848 |
| Insulation (Slab) | R-13 | Average Existing Insulation Value (R-5) | 1.14 | 0.24 | 1.1 | 0.25 | 379,603 | 0.25 | 379,603 |
| Insulation (Slab) | R-18 | Average Existing Insulation Value (R-5) | 1.01 | 0.21 | 0.97 | 0.22 | 479,935 | 0.22 | 479,935 |
| Insulation (Wall) 2*4 | R-11 | Average Existing Insulation Value (R-8) | 0.29 | 0.35 | 0.28 | 0.34 | 459,991 | 0.34 | 459,991 |
| Insulation (Wall) 2*4 | R-11 + R-5 sheathing | Average Existing Insulation Value (R-8) | 0.71 | 0.93 | 0.71 | 0.83 | 1,004,034 | 0.83 | 1,004,034 |
| Integrated Space Heating/Water_Heating | High Efficiency Gas Furnace AFUE = 90% | Gas Furnace Standard AFUE = 78% | 2.12 | 1.16 | 2.15 | 1.23 | 346,477 | 1.23 | 346,477 |
| Integrated Space Heating/Water_Heating | High Efficiency Water Heater EF = 0.62 | Standard efficiency Water Heater EF = 0.59 | 0.11 | | | | 20,268 | | 20,268 |
| Integrated Space Heating/Water_Heating | High Efficiency Water Heater EF = 0.63 | Standard efficiency Water Heater EF = 0.59 | | 0.07 | | | 274 | | 274 |
| Integrated Space Heating/Water_Heating | High Efficiency Water Heater EF = 0.64 | Standard efficiency Water Heater EF = 0.59 | | | 0.07 | | 230 | | 230 |

Gas

| | | | | | | | | | |
|--|--|--|---------|---------|---------|---------|--|--------|-----------|
| Integrated Space Heating/Water Heating | High Efficiency Water Heater EF = 0.65 | Standard efficiency Water Heater EF = 0.59 | | | | 0.13 | | | 4,589 |
| Integrated Space Heating/Water Heating | High Efficiency Water Heater EF = 0.66 | Standard efficiency Water Heater EF = 0.59 | | | | | | 0.07 | 236 |
| Low-Flow Showerheads | 2.0 GPM | Existing Showerhead (4.0 GPM) | 6.66 | 8.96 | 8.5 | 7.54 | | 9.25 | 505,900 |
| Low-Flow Showerheads | 2.5 GPM (Federal Code) | Existing Showerhead (4.0 GPM) | 4.83 | 6.49 | 6.16 | 5.46 | | 6.7 | 329,935 |
| Outlet Gasket | Install Outlet Gasket (Reduce Air Leakage) | No Outlet Gasket | 11.24 | 12.03 | 11.47 | 10.91 | | 12.59 | 994,051 |
| Pool Heaters | Energy Efficient Heaters | Standard Heaters | 0.04 | | | | | | 25,707 |
| Radiant Barrier (Ceiling) | Install Radiant Barrier | No Radiant Barrier | 4.11 | 1.59 | 2.44 | 3.64 | | 1.65 | 2,113,553 |
| Range And Oven | Efficient Range And Oven (self cleaning, window in oven door, heat distribution) | | | | | | | | |
| Spray-On-Foam Insulation | 2*4Wall R-26 | Standard Range And Oven | 0.04 | 0.04 | 0.04 | 0.04 | | 0.04 | 23,425 |
| Storm And Thermal Doors | Install Storm Door (R-1) | 2*4Wall R-13 | 1.25 | 1.85 | 1.33 | 1.23 | | 1.94 | 98,500 |
| Storm And Thermal Doors | Install Thermal Door (R-5) | No Storm Door | 0.55 | 0.22 | 0.51 | 0.56 | | 0.23 | 220,499 |
| Tankless Water_Heater | EF = 0.82, 4.3 gpm | No Thermal Door | 0.67 | 0.26 | 0.6 | 0.68 | | 0.27 | 997,920 |
| Thermostat - Clock/Programmable | Programmable Thermostat | EF = 0.59 (State Code - 40 Gallon Tank) | 1.31 | 0.81 | 0.83 | 1.48 | | 0.84 | 593,516 |
| Thermostat - Multi-Zone | Individual Room Temperature Control for Major Occupied Rooms | Manual Thermostat | 42.54 | 22.59 | 34.91 | 40.59 | | 23.68 | 5,273,892 |
| Vinyl Siding with Foam Backing | Siding with Foam Backing (R-3) | Programmable Thermostat - Central Control Only | 0.86 | 0.46 | 0.71 | 0.82 | | 0.48 | 818,454 |
| Water Heater (Gas) | EF=0.62 | No Siding Insulation (Vinyl siding without foam backing) | 0.68 | 0.53 | 0.79 | 0.68 | | 0.55 | 371,343 |
| Water Heater (Gas) | EF=0.67 | EF = 0.59 (State Code - 40 Gallon Tank) | 1.67 | 1.04 | 1.06 | 1.83 | | 1.04 | - |
| Water Heater (Gas) | EF=0.80 Condensing Water Heater | EF = 0.59 (State Code - 40 Gallon Tank) | 0.79 | 0.49 | 0.5 | 0.86 | | 0.49 | - |
| Water Heater (Gas) | EF=0.86 Condensing Water Heater | EF = 0.59 (State Code - 40 Gallon Tank) | 0.63 | 0.39 | 0.4 | 0.69 | | 0.39 | - |
| Water Heater (Gas) | Water Heater | EF = 0.59 (State Code - 40 Gallon Tank) | 0.53 | 0.33 | 0.34 | 0.58 | | 0.33 | 2,977,279 |
| Water_Heater Tank Blanket/Insulation | Install Insulation (R-5) | No Tank Insulation | 13.57 | 8.44 | 8.65 | 15.35 | | 8.71 | 145,994 |
| Water_Heater Thermostat Setback | 115 degrees | 135 degrees | 2084.33 | 1296.99 | 1329.12 | 2358.97 | | 1338.6 | 69,877 |

RESIDENTIAL GAS

2007 IRIS

Total Participants

19,062

| Measure Type | Efficiency / Description | Rebate | # units | units per participant | Measure Cost per Unit | Savings per unit | Average Savings per Participant | Average Measure Cost per Part | Average rebate per customer | Average ratio of rebate to measure cost |
|-----------------------|--|--------|---------|-----------------------|-----------------------|------------------|---------------------------------|-------------------------------|-----------------------------|---|
| Clock Program. 1-stat | Furnace EndUse | \$20 | 820 | 0.0430 | \$35 | 80.05 | 46 | 589 | 111 | 19% |
| Clock Program. T-stat | Partial Measure, for both fuel types | \$17 | 1,507 | 0.0791 | \$30 | 80.05 | | | | |
| Doors | R5-R10 | \$25 | 318 | 0.0167 | \$346 | 8.80 | | | | |
| Doors | R11+ | \$50 | 35 | 0.0019 | \$210 | 17.47 | | | | |
| NG Boiler | 85% AFUE | \$100 | 1 | 0.0001 | \$1,905 | 50.66 | | | | |
| NG Boiler | 90% AFUE | \$300 | 78 | 0.0041 | \$3,810 | 96.36 | | | | |
| NG Boiler | 94% AFUE | \$400 | 54 | 0.0028 | \$5,333 | 129.15 | | | | |
| | Proper Installation (\$50 to customer, \$50 to contractor) | \$50 | 33 | 0.0017 | \$188 | 77.70 | | | | |
| NG Furnace | 93% AFUE | \$250 | 2,421 | 0.1270 | \$1,567 | 112.26 | | | | |
| NG Furnace | 96% AFUE | \$350 | 1,873 | 0.0983 | \$1,928 | 131.13 | | | | |
| | Proper Installation (\$50 to customer, \$50 to contractor) | \$50 | 1,074 | 0.0563 | \$50 | 62.65 | | | | |
| Water Heater | 0.62 EF | \$50 | 523 | 0.0274 | \$45 | 8.94 | | | | |
| Water Heater | Tankless | \$100 | 58 | 0.0030 | \$1,185 | 74.59 | | | | |
| | clothes wash | \$100 | 3,297 | 0.1730 | \$220 | 15.19 | | | | |
| | dishwasher | \$20 | 3,297 | 0.1730 | \$30 | 7.58 | | | | |
| Windows (replacement) | Split between gas and elec | \$13 | 8,632 | 0.4528 | \$96 | 0.08 | | | | |
| Windows (replacement) | ENERGY STAR rated U Factor .35 or less | \$25 | 6,467 | 0.3393 | \$192 | 0.08 | | | | |

Source: K:\2007 Projects\2007-138 (ALE) Planning Support\Material from Alliant\DSM Program History\Iowa Prescriptive Rebate Rpt reg_by_prog_rpt_12_31_2007.pdf

Source: Eli

Source: 2006 NOI Report

Source: 2007 IRIS report

Equipment Data sources: K:\2007 Projects\2007-138 (ALE) Planning Support\Material from Alliant\DSM Program History\IPL 2006 and 2007 Cooling Jan 10 2008.xls

K:\2007 Projects\2007-138 (ALE) Planning Support\Material from Alliant\DSM Program History\IPL 2006 and 2007 Refrig Freezer Types Jan 11 2008.xls

K:\2007 Projects\2007-138 (ALE) Planning Support\Material from Alliant\DSM Program History\IPL 2006 and 2007 heating Jan 16 2008.xls

Data sent from the utility

RESIDENTIAL ELECTRIC
2006 IRIS
58,053

Total Participants

| Measure Type | Efficiency / Description | Rebate | # units | units per participant | Measure Cost Per Unit | Savings per unit | Total Savings | Average Savings per Participant | Average Measure Cost per Part | Average rebate per customer | Average ratio of rebate to measure cost |
|-------------------------|--|--------|---------|-----------------------|-----------------------|------------------|---------------|---------------------------------|-------------------------------|-----------------------------|---|
| Ceiling Fans | | \$20 | 71 | 0.0012 | 110.96 | 180 | 12,798 | 275 | 218 | 60 | 28% |
| CAC unit | SEER 14 | \$100 | 3,581 | 0.0617 | 275 | 119 | 426,819 | | | | |
| CAC unit | SEER 15 | \$200 | 943 | 0.0162 | 550 | 222 | 209,176 | | | | |
| CAC unit | SEER 16 | \$300 | 364 | 0.0063 | 850 | 312 | 113,583 | | | | |
| CAC unit | SEER 17 | \$400 | 33 | 0.0006 | 1200 | 392 | 12,920 | | | | |
| CAC unit | SEER 18 | \$500 | 57 | 0.0010 | 1600 | 462 | 26,325 | | | | |
| CAC unit | SEER 19 (greater than) | \$600 | 70 | 0.0012 | 2050 | 525 | 36,733 | | | | |
| CAC Proper Installation | Proper installation (\$75 to customer, \$75 to contractor) | \$75 | 1,262 | 0.0217 | 188 | 155 | 195,017 | | | | |
| Clock Program. T-stat | Cooling EndUse | \$20 | 2,528 | 0.0436 | 35 | 296 | 748,833 | | | | |
| Clock Program. T-stat | Partial incentive, for houses with both electric and gas | \$2.80 | 245 | 0.0042 | 4.9 | 296 | 72,665 | | | | |
| Clothes Washer | | \$100 | 5,369 | 0.0925 | 220 | 213 | 1,143,624 | | | | |
| CFL | 15w - 50% of cost | \$2 | 65,109 | 1.1215 | 3.59 | 41 | 2,669,469 | | | | |
| CFL | 20w - 50% of cost | \$5 | 65,109 | 1.1215 | 9.59 | 50 | 3,255,450 | | | | |
| CFL | 27w - 50% of cost | \$5 | 65,109 | 1.1215 | 9.59 | 67 | 4,362,303 | | | | |
| Dishwasher | | \$20 | 5,369 | 0.0925 | 30 | 109 | 583,328 | | | | |
| Doors | R5-R10 | \$25 | 1,432 | 0.0247 | 346 | 27 | 38,000 | | | | |
| Doors | R11+ | \$50 | 159 | 0.0027 | 210 | 52 | 8,273 | | | | |
| ECM Motor | Electric Furnace | \$40 | 100 | 0.0017 | 200 | 542 | 54,207 | | | | |
| ECM Motor | Gas Furnace | \$40 | 500 | 0.0086 | 200 | 542 | 271,035 | | | | |
| ECM Motor | CAC | \$40 | 500 | 0.0086 | 200 | 348 | 173,845 | | | | |
| Freezer (new) | | \$25 | 887 | 0.0153 | 40 | 51 | 45,157 | | | | |
| LED Christmas Lighting | fall promotion? | \$0 | - | 0.0000 | | | | | | | |
| Lighting Fixtures | (Can be including ceiling fan kits) | \$20 | 711 | 0.0122 | 46.29 | 80.26 | 57,065 | | | | |
| Occupancy Sensors | | \$30 | 50 | 0.0009 | 53.96 | 70.64 | 3,532 | | | | |
| Refrigerators | | \$50 | 6,056 | 0.1043 | 100 | 67.64 | 409,628 | | | | |
| Room Air Conditioners | | \$20 | 1,069 | 0.0184 | 50 | 78.36 | 83,767 | | | | |
| Water Heater (elec) | | \$50 | 278 | 0.0048 | 95 | 81.75 | 22,727 | | | | |
| Windows (replacement) | Split between gas and elec | \$13 | 8,632 | 0.1487 | 96 | 25.75 | 222,261 | | | | |
| Windows (replacement) | ENERGY STAR rated U Factor .35 or less (\$25 per window) | \$25 | 26,371 | 0.4543 | 192 | 25.75 | 679,053 | | | | |

*USE 2007 COSTS and 2006 Participation for Res Prescriptive

Source: K:\2007 Projects\2007-138 (ALE) Planning Support\Material from Alliant\DSM Program History\Iowa Prescriptive Rebate Rpt reg_by_prog_jpt_12_31_2007.pdf

Source: Eli

Source: 2006 NOI Report

Source: 2007 IRIS report

Equipment Data sources:

K:\2007 Projects\2007-138 (ALE) Planning Support\Material from Alliant\DSM Program History\IPL 2006 and 2007 Cooling Jan 10 2008.xls

K:\2007 Projects\2007-138 (ALE) Planning Support\Material from Alliant\DSM Program History\IPL 2006 and 2007 Refrig Freezer Types Jan 11 2008.xls

K:\2007 Projects\2007-138 (ALE) Planning Support\Material from Alliant\DSM Program History\IPL 2006 and 2007 heating Jan 16 2008.xls

2005 Database, Eli finds these with SAS

Data Sent by utility

| Measure Name | Measure Description | Base Equipment | Current Rebate Level | TRC Costs | NPV Benefits over life of measure | Rebate Included in Business EE Programs |
|---|--|---|--|-----------|-----------------------------------|---|
| Air Conditioner - Central (2.5 ton unit) | SEER 14 | SEER 13 (Federal Code) | \$200 | \$275 | \$48 | 1 |
| Air Conditioner - Central (2.5 ton unit) | SEER 15 | SEER 14 (Federal Code) | \$300 | \$275 | \$45 | 1 |
| Air Conditioner - Central (2.5 ton unit) | SEER 16 | SEER 15 (Federal Code) | \$400 | \$300 | \$39 | 1 |
| Air Conditioner - Central (2.5 ton unit) | SEER 17 | SEER 16 (Federal Code) | \$500 | \$325 | \$35 | 1 |
| Air Conditioner - Central (2.5 ton unit) | SEER 18 | SEER 17 (Federal Code) | \$600 | \$375 | \$31 | 1 |
| Air Conditioner - Central (2.5 ton unit) | SEER 19 | SEER 18 (Federal Code) | \$700 | \$400 | \$28 | 1 |
| Air Conditioner - Central (3.0 ton unit) | SEER 14 | SEER 13 (Federal Code) | \$200 | \$275 | \$89 | 1 |
| Air Conditioner - Central (3.0 ton unit) | SEER 15 | SEER 14 (Federal Code) | \$300 | \$275 | \$78 | 1 |
| Air Conditioner - Central (3.0 ton unit) | SEER 16 | SEER 15 (Federal Code) | \$400 | \$300 | \$68 | 1 |
| Air Conditioner - Central (3.0 ton unit) | SEER 17 | SEER 16 (Federal Code) | \$500 | \$350 | \$60 | 1 |
| Air Conditioner - Central (3.0 ton unit) | SEER 18 | SEER 17 (Federal Code) | \$600 | \$400 | \$53 | 1 |
| Air Conditioner - Central (3.0 ton unit) | SEER 19 | SEER 18 (Federal Code) | \$700 | \$450 | \$52 | 1 |
| Air Conditioner - Room (Individual Rooms) (10,000 BTU/HR) | EER = 10.2 | EER = 9.8 (Federal Code) | \$50 | \$30 | \$13 | 1 |
| Air Conditioner - Room (Individual Rooms) (10,000 BTU/HR) | EER = 10.8 | EER = 9.8 (Federal Code) | \$50 | \$20 | \$23 | 1 |
| Air Conditioner - Room (Individual Rooms) (10,000 BTU/HR) | EER = 11 | EER = 9.8 (Federal Code) | \$50 | \$160 | \$2 | 1 |
| Air Conditioner - Room (Individual Rooms) (10,000 BTU/HR) | EER = 11.7 | EER = 9.8 (Federal Code) | \$50 | \$120 | \$29 | 1 |
| Air Source Heat_Pump | 14 SEER, 8.5 HSPF | 13 SEER, 7.7 HSPF (Federal Code) | \$150 | \$350 | \$387 | 1 |
| Air Source Heat_Pump | 16 SEER, 8.8 HSPF | 14 SEER, 7.7 HSPF (Federal Code) | \$150 | \$700 | \$629 | 1 |
| Air Source Heat_Pump | 18 SEER, 9.0 HSPF | 15 SEER, 7.7 HSPF (Federal Code) | \$150 | \$750 | \$485 | 1 |
| Ceiling Fan | Ceiling Fan | No Ceiling Fan | \$20 | \$111 | \$199 | 1 |
| Clothes Washer | Energy Star MEF = 1.72 (top Load) | Standard Clothes Washer (1.26) (Federal Code) | \$50 / vert. axis; \$100 / horiz. Axis | \$220 | \$139 | 1 |
| Compact Fluorescent Fixtures | Energy Star CFL Fixture 11 W CFL | Standard Fixture 40 W Incandescent | \$20 | \$51 | \$46 | 1 |
| Compact Fluorescent Fixtures | Energy Star CFL Fixture 15 W CFL | Standard Fixture 60 W Incandescent | \$20 | \$46 | \$69 | 1 |
| Compact Fluorescent Fixtures | Energy Star CFL Fixture 20 W CFL | Standard Fixture 75 W Incandescent | \$20 | \$81 | \$85 | 1 |
| Compact Fluorescent Fixtures | Energy Star CFL Fixture 27 W CFL | Standard Fixture 100 W Incandescent | \$20 | \$81 | \$112 | 1 |
| Compact Fluorescent Lamps | 11 W CFL | 40 W Incandescent | \$2 | \$4 | \$14 | 1 |
| Compact Fluorescent Lamps | 15 W CFL | 60 W Incandescent | \$2 | \$4 | \$22 | 1 |
| Compact Fluorescent Lamps | 20 W CFL | 75 W Incandescent | \$2 | \$10 | \$25 | 1 |
| Compact Fluorescent Lamps | 27 W CFL | 100 W Incandescent | \$2 | \$10 | \$33 | 1 |
| Desuperheater (Ground-Source Heat_Pump) system | Desuperheater with Standard Water_Heater | Standard Water_Heater - EF = 0.92 | \$200 | \$600 | \$427 | 1 |
| Door - Retrofit of Existing | Weatherstripping And Adding Door Sweeps | Existing Non-Efficient door | for Wx stripping only - variable rebate | \$23 | \$24 | 1 |
| Doors | R-11 (Steel Doors with foam core) | R-2 (Wood Doors) | \$25 | \$2 | \$289 | 1 |
| Faucet Aerators | 0.5 GPM | Existing Faucet Aerator (3.0 GPM) | 100% of cost, 2 included per Home Energy Audit | \$7 | \$59 | 1 |

| Measure Name | Measure Description | Base Equipment | Current Rebate Level | TRC Costs | NPV Benefits over life of measure | Rebate Included in Business EE Programs |
|---|---|---|--|---------------|-----------------------------------|---|
| Faucet Aerators | 1.5 GPM | Existing Faucet Aerator (3.0 GPM) | 100% of cost; 2 included per Home Energy Audit | \$6 | \$28 | 1 |
| Freezer - Stand-Alone Hot Water Pipe Insulation | Energy Star Freezer Install Insulation (R-4) | Standard Freezer No Pipe Insulation | 100% of cost; included in Home Energy Audit | \$40 \$110 | \$29 \$73 | 1 |
| Infiltration Control (Caulk, Weather Strip, etc.) Blower-Door test | Install Caulking And Weatherstripping | Existing Infiltration Conditions | variable rebate | \$337 | \$785 | 1 |
| Insulation (Basement - Wall) 2*4 | R-13 | Average Existing Insulation value (R-8) | variable rebate | \$592 | \$398 | 1 |
| Insulation (Basement - Wall) 2*4 | R-13 + R-5 sheathing | Average Existing Insulation value (R-8) | variable rebate | \$1,005 | \$749 | 1 |
| Insulation (Ceiling) | R-38 (State Code - Southern Iowa) | Average Existing Insulation Value R-19 | variable rebate | \$250 | \$449 | 1 |
| Insulation (Ceiling) | R-49 (State Code - Northern Iowa) | Average Existing Insulation Value R-19 | variable rebate | \$367 | \$564 | 1 |
| Insulation (Duct) | R-4 | No Duct Insulation | variable rebate | \$227 | \$731 | 1 |
| Insulation (Duct) | R-8 | No Duct Insulation | variable rebate | \$248 | \$1,092 | 1 |
| Insulation (Floor) | R-25 | Average Existing Insulation Value (R-5) | variable rebate | \$680 | \$1,199 | 1 |
| Insulation (Floor) | R-30 | Average Existing Insulation Value (R-5) | variable rebate | \$752 | \$1,291 | 1 |
| Insulation (Rim And Band Joist) | R-10 | No Rim And Band Joist Insulation | variable rebate | \$112 | \$337 | 1 |
| Insulation (Rim And Band Joist) | R-19 | No Rim And Band Joist Insulation | variable rebate | \$124 | \$787 | 1 |
| Insulation (Slab) | R-13 | Average Existing Insulation Value (R-5) | variable rebate | \$996 | \$734 | 1 |
| Insulation (Slab) | R-18 | Average Existing Insulation Value (R-5) | variable rebate | \$1,438 | \$934 | 1 |
| Insulation (Wall) 2*4 | R-11 | Average Existing Insulation Value (R-8) | variable rebate | \$1,753 | \$460 | 1 |
| Insulation (Wall) 2*4 | R-11 + R-5 sheathing | Average Existing Insulation Value (R-8) | variable rebate | \$1,446 | \$921 | 1 |
| Insulation (wall) 2*6 | R-16.7 | Average Existing Insulation Value (R-8) | variable rebate | \$2,487 | \$1,218 | 1 |
| Insulation (wall) 2*6 | R-16.7 + R5 Sheathing | Average Existing Insulation Value (R-8) | variable rebate | \$1,682 | \$1,607 | 1 |
| Low-Flow Showerheads | 2.0 GPM | Existing Showerhead (4.0 GPM) | 100% of cost; included in Home Energy Audit | \$18 | \$143 | 1 |
| Low-Flow Showerheads | 2.5 GPM (Federal Code) | Existing Showerhead (4.0 GPM) | 100% of cost; included in Home Energy Audit | \$38 | \$219 | 1 |
| Ref./Freezer - Early Replacement | Standard Refrigerator | Existing Refrigerator | \$35 | \$329 | \$193 | 1 |
| Refrigerator/Freezer | Energy Star Refrigerator | Standard Refrigerator | \$50 | \$100 | \$52 | 1 |
| Removal of Secondary Refrigerator/Freezer | Proper Disposal of Refrigerator/Freezer | Existing Non-Efficient Refrigerator/Freezer | \$35 | 100 | 763.38 | 1 |
| Thermostat - Clock/Programmable | Programmable Thermostat | Manual Thermostat | \$25 | \$25 | \$980 | 1 |
| Water_Heater (Electric) | EF = 0.95 | EF = 0.92 (State Code - 40 gallon tank) | \$50 | \$95 | \$55 | 1 |
| Water_Heater Tank Blanket/Insulation | Install Insulation (R-5) | No Tank Insulation | 100% of cost; included in Home Energy Audit | \$6 | \$88 | 1 |
| Windows | U = 0.19, SHGC 0.25 | U = 0.35 (State Code), SHGC 0.32 | \$25 | \$6,264 | \$300 | 1 |
| Windows | U = 0.29, SHGC 0.22 | U = 0.35 (State Code), SHGC 0.32 | \$25 | \$4,129 | \$319 | 1 |
| Gas Boiler | AFUE=85% | AFUE=80% (State Code) | \$100 | \$870 | \$527 | 1 |
| Gas Boiler | AFUE=90% | AFUE=80% (State Code) | \$300 | \$1,080 | \$420 | 1 |
| Gas Boiler | AFUE=94% | AFUE=80% (State Code) | \$400 | \$1,370 | \$393 | 1 |
| Gas Furnace | AFUE = 93% (Condensing Furnace) | AFUE = 78% (State Code) | \$250 | \$33 | \$198 | 1 |

Rebate
Included in
Business EE
Programs

| Measure Name | Measure Description | Base Equipment | Current Rebate Level | TRC Costs | NPV Benefits over life of measure |
|--------------------|---------------------------------|---|----------------------|-----------|-----------------------------------|
| Gas Furnace | AFUE = 96% (Condensing Furnace) | AFUE = 78% (State Code) | \$350 | \$104 | \$233 |
| Water Heater (Gas) | EF=0.62 | EF = 0.59 (State Code - 40 Gallon Tank) | \$50 | \$45 | \$60 |
| Water Heater (Gas) | EF=0.67 | EF = 0.59 (State Code - 40 Gallon Tank) | \$50 | \$140 | \$88 |
| Water Heater (Gas) | EF=0.80 Condensing Water Heater | EF = 0.59 (State Code - 40 Gallon Tank) | \$50 | \$350 | \$176 |
| Water Heater (Gas) | EF=0.86 Condensing Water Heater | EF = 0.59 (State Code - 40 Gallon Tank) | \$50 | \$150 | \$78 |

| Measure Name | Measure Description | Updated Base | Low Carbon | High Carbon | Current Rebate |
|---|---|--------------|------------|-------------|----------------|
| Air Conditioner - Central - 2 Stage | 2 Levels of Output - Lower Settings for Milder Climate | | | X | X |
| Clothes Washer | Energy Star MEF = 1.72 (top Load) | | | X | X |
| Compact Fluorescent Fixtures | Energy Star CFL Fixture 11 W CFL | X | X | X | X |
| Desuperheater (Ground-Source Heatt Pump) system | Desuperheater with Standard Water Heater | | X | X | X |
| Desuperheater for Central Air Conditioner (Air-Source Heat Pump) system | Desuperheater with Standard Water Heater | | X | X | X |
| Heat Exchanger - Air-to-Air | Air-to-Air Heat Exchanger | | X | X | |
| Heat Pump Water Heater | EF = 2.0 | X | X | X | |
| Hot Water Pipe Insulation | Install Insulation (R-4) | | X | X | X |
| Insulation (Basement - Wall) 2*4 | R-13 | | | X | X |
| Insulation (Basement - Wall) 2*4 | R-13 + R-5 sheathing | | X | X | X |
| Insulation (Ceiling) | R-49 (State Code - Northern Iowa) | X | X | X | X |
| Insulation (Slab) | R-18 | | | X | X |
| Insulation (Wall) 2*4 | R-11 + R-5 sheathing | X | X | X | X |
| Insulation (wall) 2*6 | R-16.7 | | | X | X |
| Storm And Thermal Doors | Install Storm Door (R-1) | | | X | |
| Storm And Thermal Doors | Install Thermal Door (R-5) | | X | X | X |
| Tune-up/Maintenance - New Central Air Conditioner | Checking Air Flow, Proper Charge, Clean Filters etc. (Verifying That Unit Is Running at Correct Efficiency Level) | X | X | X | X |
| VSD Fan | Variable Speed Fan - Electric Furnace | | X | X | |
| VSD Fan | Variable Speed Fan - Gas Furnace | | X | X | |
| Vinyl Siding with Foam Backing | Siding with Foam Backing (R-3) | | X | X | |

Audit measures

| Technology | Qualification | 2008 Audit measure | 2009 Audit measure | Comments | Current Rebate Level | Incremental Cost | Societal Benefits |
|--|--------------------------|--------------------|--------------------|---|--|------------------|-------------------|
| Faucet Aerators | 0.5 GPM | yes | yes | | 100% of cost; 2 included per Home Energy Audit | \$7 | \$59 |
| Low-Flow Showerheads | 2.0 GPM | yes | yes | | 100% of cost; included in Home Energy Audit | \$18 | \$143 |
| Water Heater Tank Blanket/Insulation | Install Insulation (R-5) | yes | yes | | 100% of cost; included in Home Energy Audit | \$6 | \$88 |
| Hot Water Pipe Insulation | | yes | yes | Install Insulation (R-4) | 100% of cost; included in Home Energy Audit | \$110 | \$73 |
| Outlet Gaskets | | no | yes | Leave behind measure | | | |
| Compact Fluorescent Light Bulbs (CFLs) | ENERGY STAR rated | yes | yes | assuming 15 W CFL replacing a 60 W incandescent; measure list includes other CFLs with different wattages | \$2 | \$4 | \$22 |
| Clock-Programmable Thermostats | ENERGY STAR rated | yes | yes | | \$25 | \$25 | \$980 |

Prescriptive measures

| Technology | Qualification | 2008 rebate | 2009 rebate | b/c | Current Rebate Level | 2009 PROPOSED | 50% Incremental | Incremental Cost | Societal Benefits |
|---|--|-------------|-------------|--------|----------------------|----------------------------------|-----------------|------------------|-------------------|
| Central Air Conditioning & Air-Source Heat Pumps (< 65,000 Btu) | Minimum SEER 14 (single and multi-speed) | | | | varies | \$100 per SEER | | | |
| Central Air Conditioning and Air-Source Heat Pumps (for units > to 65,000 and < to 135,000 Btu) | Minimum EER 12 | yes | yes | | | \$150 per EER | | | |
| Central Air Conditioner (< 65,000)- properly installed | good air flow, proper sizing, refrigerant charge | | | | | \$50 customer \$50 contractor | | | |
| Central Air Conditioner (> 65,000 and < 135,000) - properly installed | good air flow, proper sizing, refrigerant charge | | | | | \$75 customer \$75 contractor | | | |
| Attic Fan | | no | yes | 1.49 | | \$50 | \$43 | \$87 | \$129 |
| Blinds - Fixed Angle/Automatic | Install Blinds (Reduce Window SHGC by 50%) | no | no | 2.05 | | | \$108 | \$217 | \$325 |
| Canned Lighting Air Tight Sealing | Canned Lighting Air Tight Sealing | no | yes | 10.42 | | infiltration rebate | | \$48 | \$447 |
| Ceiling Fans | ENERGY STAR® rated | yes | yes | 1.93 | \$20 | \$20 | \$56 | \$111 | \$199 |
| Clock-Programmable Thermostats | ENERGY STAR rated | yes | yes | 43.05 | \$25 | \$20 | \$13 | \$25 | \$980 |
| Clothes Washers (High-Efficiency) | ENERGY STAR rated | yes | yes | 0.64 | \$100 | \$100 | \$110 | \$220 | \$139 |
| Compact Fluorescent Light Bulbs (CFLs) | ENERGY STAR rated | yes | yes | 2.50 | \$2 | 50% | \$2 | \$4 | \$22 |
| Cool Roofs | Lighter Colored Shingles (White) | no | no | 8.61 | | | \$23 | \$46 | \$379 |
| Cordless Phone | Energy Star Cordless Phone | no | no | 13.60 | | | \$1 | \$1 | \$5 |
| Dehumidifiers | Energy Star Dehumidifiers | no | yes | 1.40 | | | \$3 | \$6 | \$8 |
| Dishwasher | EF = 0.65 (ENERGY STAR) | no | yes | 2.25 | \$20 | \$20 | \$15 | \$30 | \$65 |
| Doors | R-11 (Steel Doors with foam core) | yes | yes | 181.46 | \$25 | \$25 | \$1 | \$2 | \$289 |
| Duct Repair And Sealing | Repair And Sealing | no | yes | 2.27 | | HPWES only? | \$190 | \$379 | \$864 |
| Duhumidifier Removal | environmental disposal of working unit | no | yes | | | | | | |
| ECM Motor | ECM Motor for Forced Air Electric Furnace | no | yes | 5.35 | | \$40 | \$38 | \$76 | \$386 |
| ECM Motor | ECM Motor for Forced Air Gas Furnace | no | yes | 5.35 | | \$40 | \$38 | \$76 | \$382 |
| ECM Motor | ECM motor for Central Air Conditioner | no | yes | 2.35 | \$40 | \$40 | \$63 | \$125 | \$278 |
| Fluorescent Torchieres | 55 W CFL Based Lamp | no | no | 2.72 | | | \$2 | \$2 | \$12 |
| Freezer (new) | ENERGY STAR rated | yes | yes | 0.74 | \$50 | \$25 | \$20 | \$40 | \$29 |
| Freezer Removal | environmental disposal of working unit | yes | yes | 7.49 | \$35 | \$50 | \$165 | \$329 | \$193 |

Prescriptive measures

| Technology | Qualification | 2008 rebate | 2009 rebate | b/c | Current Rebate Level | 2009 PROPOSED | 50% Incremental | Incremental Cost | Societal Benefits |
|--|--|-------------|-------------|----------|----------------------|--|-----------------|------------------|-------------------|
| Natural Gas Boiler | min AFUE 85% | | | 0.55 | \$300 | \$100 AFUE 85%-86% \$200 AFUE 87% - 88% \$300 AFUE 89% - 90% \$400 AFUE >= 91% | \$705 | \$1,409 | \$613 |
| Natural Gas Boilers - proper installation | good flow and proper sizing | | | | | \$50 customer \$50 contractor | | | |
| Natural Gas Furnace | min AFUE 92% | | | 5.76 | \$250 | \$250 AFUE 92% - 93% \$300 AFUE 94% - 95% \$350 AFUE >= 96% | \$110 | \$220 | \$1,160 |
| Natural Gas Furnaces - proper installation | good air flow and proper sizing | | | | | \$50 customer \$50 contractor | | | |
| Ground-Source Heat Pumps (240,000 Btu or less) | Closed loop: min EER = 14.1, COP 3.3 Open loop: min EER = 16.2, COP 3.6 | yes | yes | | \$200 | \$1,000 per home plus \$150 per EER over 14.1 (closed loop) \$150 per EER over 16.2 (open loop) \$200 for Desuperheater | \$2,500 | \$5,000 | \$2,377 |
| Halogen Cap Lights (Indoor) | 42 - 72 W Halogen Capsylyte | no | yes | 2.18 | | | | variable | variable |
| Infiltration Control | Must have home energy audit | yes | yes | 2.32 | variable rebate | 70% up to \$150 | \$169 | \$337 | \$785 |
| Insulation | Must have home energy audit | yes | yes | .29-2.49 | variable rebate | 70% maximum for rebate type | | variable | variable |
| Interior Shades or Thermal Drapes | Install Thermal Drapes (Reduce SHGC by 80) | no | no | 18.31 | | | \$15 | \$30 | \$526 |
| LED Christmas Lighting | LED Christmas Lighting | no | yes | 0.53 | | fall promotion? | \$5 | \$9 | \$5 |
| LED Lamps | 2.5 - 13 W LED | no | yes | 1.38 | | | | variable | variable |
| Lighting Fixtures (including ceiling fan kits) | ENERGY STAR rated | yes | yes | 1.04 | \$20 | | \$23 | \$46 | \$69 |
| Occupancy Sensors | Wall-Switch Occupancy Sensors | no | yes | 5.51 | | | \$27 | \$54 | \$284 |
| Radiant Heating | environmental disposal of working unit | no | yes | 1.95 | | NHC only? | \$984 | \$1,968 | \$3,729 |
| Refrigerator Removal | ENERGY STAR rated | yes | yes | 7.49 | \$35 | | \$165 | \$329 | \$193 |
| Refrigerators | ENERGY STAR rated | yes | yes | 0.52 | \$50 | | \$50 | \$100 | \$52 |
| Replacement Windows/Sashes | Windows < 0.35 U-Factor | yes | no | 0.26 | | HPwES only | | | |

Prescriptive measures

| Technology | Qualification | 2008 rebate | 2009 rebate | b/c | Current Rebate Level | 2009 PROPOSED | 50% incremental | Incremental Cost | Societal Benefits |
|-----------------------------|---|-------------|-------------|----------|----------------------|---------------|-----------------|------------------|-------------------|
| Room Air Conditioners | ENERGY STAR rated | yes | yes | .02-1.51 | \$50 | \$20 | \$10 | \$20 | \$23 |
| Room Air Removal | environmental disposal of working unit | yes | yes | | | | | | |
| Water Heater (elec) | > 40 gallons tank-type Energy Factor 0.93 or greater | yes | yes | 0.59 | \$50 | \$50 | \$48 | \$95 | \$55 |
| Water Heater (gas) | > 40 gallons tank-type Energy Factor 0.62 or greater | yes | yes | .79-1.67 | \$50 | \$50 | \$23 | \$45 | \$60 |
| Water Heater Tankless (gas) | EF = 0.82, 4.3 gpm | no | yes | 1.31 | | \$50 | \$343 | \$685 | \$886 |
| Whole-House Fan | Whole-House Fan | no | yes | 1.56 | | \$100 | \$152 | \$305 | \$474 |