



# Energy Efficiency as a Resource: Putting customers in the driver's seat

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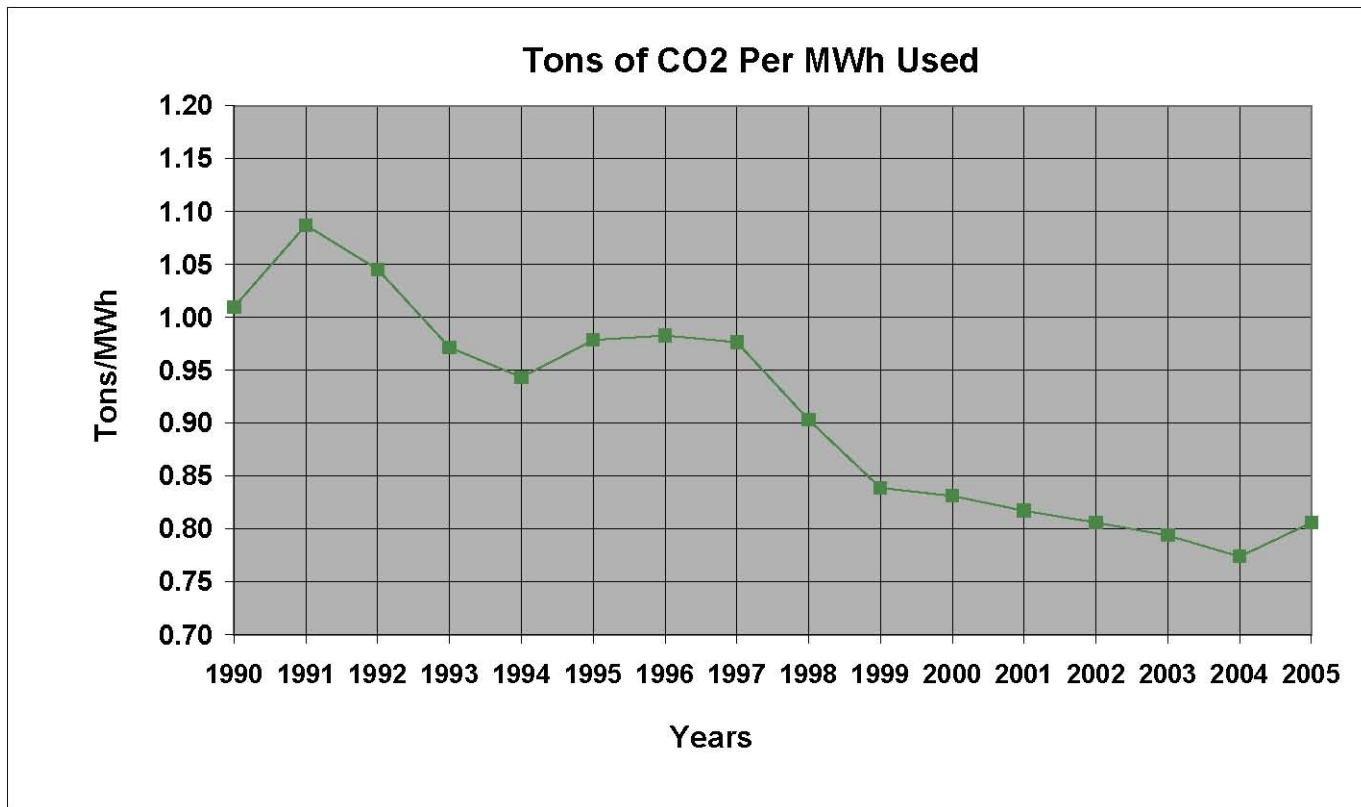
Waverly Light and Power  
Waverly, Iowa



# In Waverly, Iowa

- 4,958 customers
  - ❖ 31 MW System Peak
- 20% renewable energy by 2020 Goal
- IRP: Capacity needed 5 MW
- Board said do it with 3 MW & then use Energy Efficiency to meet needs

# Voluntary Greenhouse Gas Reduction Summary



# Voluntary Greenhouse Gas Reduction Summary

| Source                  | %    |
|-------------------------|------|
| Hydro                   | 7%   |
| Wind                    | 20%  |
| Distribution Upgrade    | 6%   |
| Low Loss Transformers   | 0%   |
| Energy End Use Programs | 62%  |
| HPS Lighting            | 2%   |
| Energy Saving Trees     | 2%   |
| Trees Forever           | 1%   |
| Totals                  | 100% |

# Energy Efficiency Analysis 2006

|                                  | 2006<br>Participants | Per Unit<br>Saved kW | 2006 kW<br>Savings | Per Unit<br>Saved kWh | 2006<br>kWh Savings |
|----------------------------------|----------------------|----------------------|--------------------|-----------------------|---------------------|
| <b>Residential</b>               |                      |                      |                    |                       |                     |
| Good Cents New                   | 47                   | 1.5                  | 70.5               | 600                   | 28,200              |
| Good Cents Improved              | 1                    | 1.5                  | 1.5                | 800                   | 800                 |
| Good Cents Totals                | 48                   |                      | 72                 |                       | 29,000              |
| <b>Residential HVAC</b>          |                      |                      |                    |                       |                     |
| A/C Residential Audits (1)       | 43                   | 1.5                  | 64.5               | 847                   | 36,421              |
|                                  | 81                   |                      |                    |                       |                     |
| <b>Residential Heat Pump (6)</b> |                      |                      |                    |                       |                     |
|                                  | 8                    | 1.5                  | 12                 | 847                   | 6,776               |
| <b>Change a Light Program</b>    |                      |                      |                    |                       |                     |
|                                  | 828                  | 0.01                 | 11                 | 78                    | 64,320              |
| <b>Appliance (5)</b>             |                      |                      |                    |                       |                     |
| Refrigerator                     | 92                   | 0.05                 | 4.6                | 497                   | 45,724              |
| Refrigerator removal             | 89                   | 0.15                 | 13.39              | 1,203                 | 107,356             |
| Clothes Washers (4)              | 73                   | 0.00                 | 0                  | 400                   | 29,200              |
| Appliance Totals                 | 165                  |                      | 17.99              |                       | 182,280             |
| <b>Total Residential</b>         | <b>264</b>           |                      | <b>166.49</b>      |                       | <b>254,477</b>      |
| <b>Commercial</b>                |                      |                      |                    |                       |                     |
| Lighting                         | 12                   | 0.01                 | 75.45              |                       | 273,157             |
| HVAC                             | 12                   | 0.01                 | 78.66              |                       | 62,928              |
| Motors                           | 0                    | 0.01                 | 0                  |                       | -                   |
| Other                            | 0                    | 0.01                 | 0                  |                       | -                   |
| <b>Total Commercial</b>          | <b>24</b>            |                      | <b>154.11</b>      |                       | <b>336,085</b>      |
| <b>Totals</b>                    | <b>288</b>           |                      | <b>321</b>         |                       | <b>590,562</b>      |

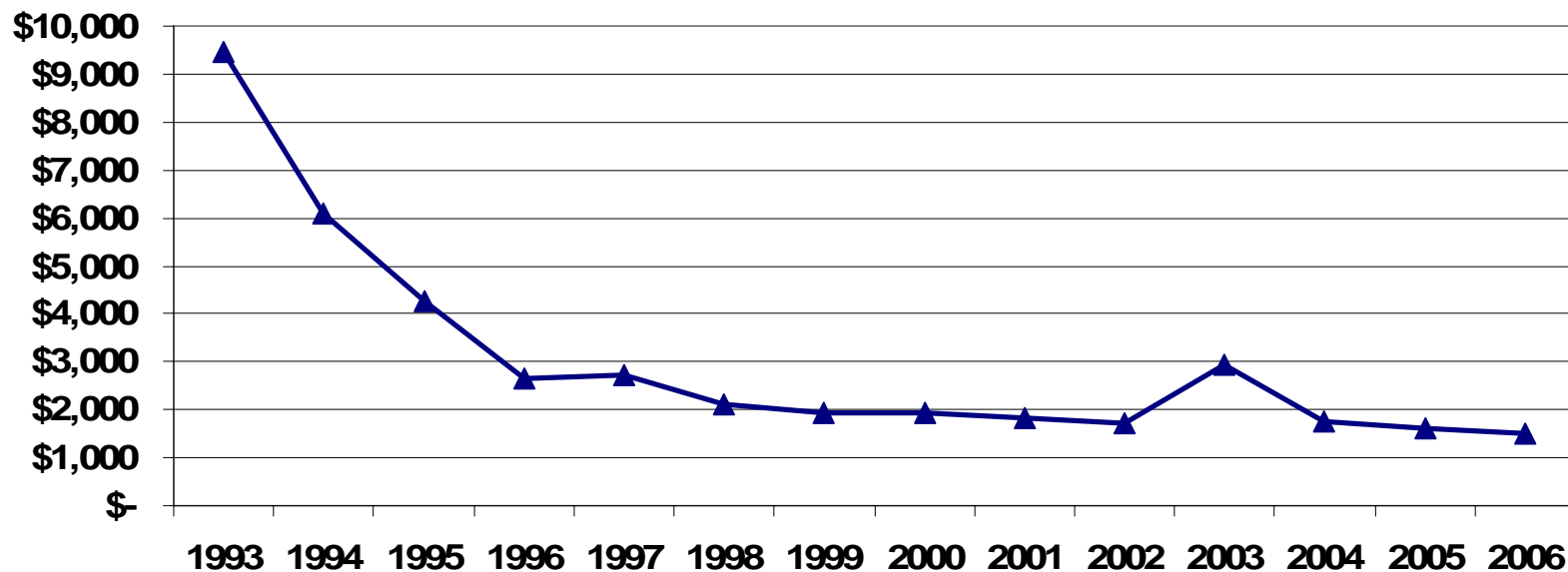


# Energy Efficiency Analysis 2006

|                                  | <b>WLP<br/>Savings</b> | <b>2006<br/>Costs</b> | <b>2006 (Costs)<br/>Savings</b> |
|----------------------------------|------------------------|-----------------------|---------------------------------|
| <b>Residential</b>               |                        |                       |                                 |
| Good Cents New                   | \$ 155,100             |                       |                                 |
| Good Cents Improved              | \$ 3,300               |                       |                                 |
| Good Cents Totals                | \$ 158,400             | \$ 55,673             | \$ 102,727                      |
| <b>Residential HVAC</b>          | \$ 141,900             | \$ 15,434             | \$ 126,466                      |
| A/C Residential Audits (1)       |                        |                       |                                 |
| <b>Residential Heat Pump (6)</b> | \$ 26,400              | \$ 10,434             | \$ 15,966                       |
| <b>Change a Light Program</b>    | \$ 24,200              | \$ 2,687              | \$ 21,513                       |
| <b>Appliance (5)</b>             |                        |                       |                                 |
| Refrigerator                     | \$ 10,120              | \$ 13,734             | \$ (3,614)                      |
| Refrigerator removal             | \$ 29,449              |                       | \$ 29,449                       |
| Clothes Washers (4)              | \$ -                   | \$ 17,484             | \$ (17,484)                     |
| Appliance Totals                 | \$ 39,569              | \$ 31,218             | \$ 8,351                        |
| <b>Total Residential</b>         | \$ 366,269             | \$ 115,447            | \$ 275,022                      |
| <b>Commercial</b>                |                        |                       |                                 |
| Lighting                         | \$ 165,990             | \$ 29,523             | \$ 136,467                      |
| HVAC                             | \$ 173,052             | \$ 30,432             | \$ 142,620                      |
| Motors                           | \$ -                   | \$ 6,834              | \$ (6,834)                      |
| Other                            | \$ -                   | \$ 6,834              | \$ (6,834)                      |
| <b>Total Commercial</b>          | \$ 339,042             | \$ 73,624             | \$ 265,418                      |
| <b>Totals</b>                    | \$ 705,311             | \$ 189,070            | \$ 540,441                      |
|                                  |                        | \$ 55,173             |                                 |
|                                  |                        | \$ 55,173             |                                 |
| Total Costs                      |                        | \$ 299,416            |                                 |
| <b>NET SAVINGS</b>               |                        |                       | \$ 241,024                      |



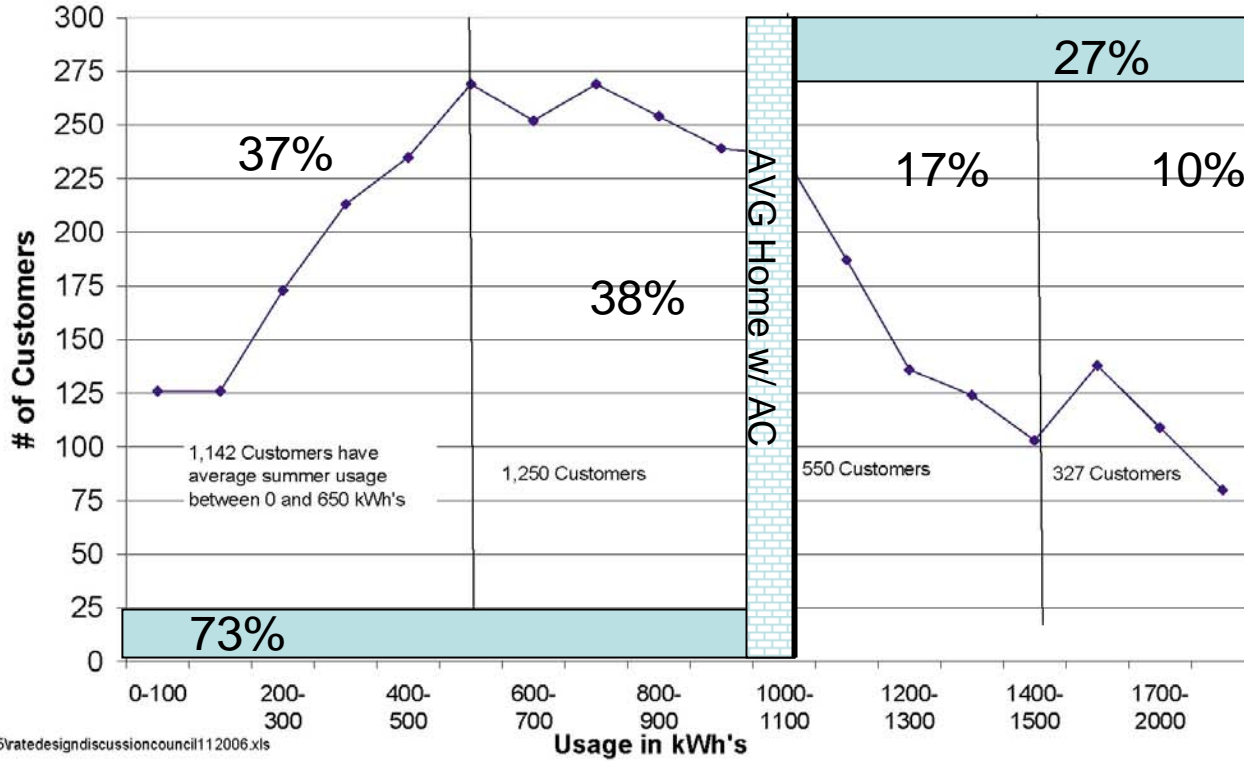
# Energy Efficiency cost per kW



# Design Inverted Rate

- Send price signal “Energy Efficiency Counts”
- Put Customers in the Driver’s Seat
- Reduce Greenhouse Gas emissions
  - ❖ Customers drive for themselves as well as Utility
- Move Customers closer to cost of service
  - ❖ Reduce intra-class subsidies
  - ❖ Reward those with low usage

### Residential Service Monthly Average Electrical Usage Summer June through September



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# Send the price signal

- . . . and pay WLP's bills!
- Be aware what revenue is at risk
  - ❖ Max = \$50,000
  - ❖ We can handle that!
- Take it slow, find out if customers will respond to signal with reduced usage
- We can tweak over the years

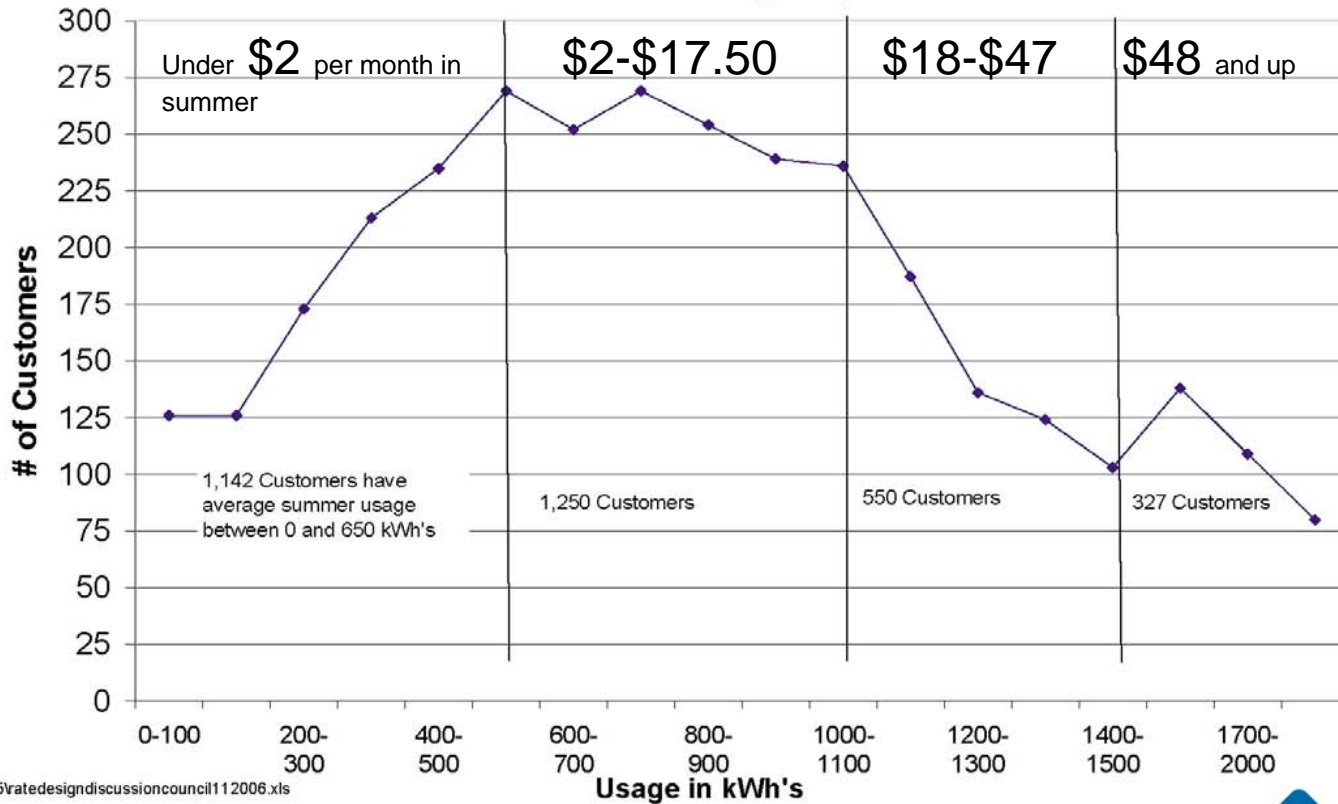
# The tricky wickets

- Summer peaking Utility
  - ❖ Differentiate between seasons
    - Move to 4 tier inverted rate during summer months
    - Maintain flat rate balance of year
- Don't penalize low income customers
  - ❖ Lowered 1<sup>st</sup> tier rate from \$.087 to \$.085 all year
  - ❖ Meant to reward low usage vs. low income

# New Rate Design July 2007

- Customer Charge \$10 a month all months
- Winter Flat Rate \$0.085 all kWh's used
- Summer June through September:
  - ❖ First 600 kWh used \$0.0850
  - ❖ Next 500 kWh used \$0.1201
  - ❖ Next 400 kWh used \$0.1600
  - ❖ Over 1,500 kWh used \$0.1701

## Residential Service Monthly Average Electrical Usage Summer June through September



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# Board puts money in beliefs

- November Board meeting
  - ❖ 8 decision makers
  - ❖ 5 Board, 1 Guest Board, 2 City Council Liaisons
- Orally presented personal usage habits
  - ❖ 1 = 2<sup>nd</sup> Tier customer
  - ❖ 7 = 4<sup>th</sup> Tier customers
    - With one of the 7 using the 8<sup>th</sup> largest average on system in this rate class

GO FOR IT!

# The Drivers Seat Campaign

- Send Key Account budget letters NOV '06
- On Board agenda 3 times NOV '06, MAR, APR '07
- Key Accounts Newsletter MAR, APR '07, JUNE '07
- Press Releases MAR, APR '07
- Employee Mtgs MAR, APR '07, JUNE '07
- Set date for public hearing MAR '07
- Hold public hearing APR '07
- 60 day notice by direct mail APR '07
- Internal Utility and City distribution NOV '06 & Each Month
- New rate schedules mailed APR '07

# The Drivers Seat Campaign (con't)

- Website postings MAR-JULY '07
- Public speaking engagements MONTHLY
- Driver's manual direct mail MAR '07
- Commercial Newsletter MAY '07
- Post card-direct mail MID JUNE '07
- Radio JUN-AUG '07

# Reaction (so far)

- During speeches customers cheered!
  - ❖ (They all thought they were low tier)

# Reaction (so far)

- Phone calls during spring mailing
  - ❖ 22 customers called asking for Energy Audits
  - ❖ 48 total phone calls with questions, not complaints
  - ❖ 1 letter to editor about Electric Water Heater
- Calls received during August & September
  - ❖ 7 calls logged as complaints
  - ❖ 24 calls to billing department, oh yeah I forgot



Put Customers in the Driver's Seat!

[www.waverlyia.com](http://www.waverlyia.com)