The background of the slide features a dark blue sky with several bright, jagged lightning bolts striking across it. The bolts are white and yellow at their tips, creating a dramatic and energetic visual.

# Improving Commercial Energy Efficiency in Alaska: Tips and Programs

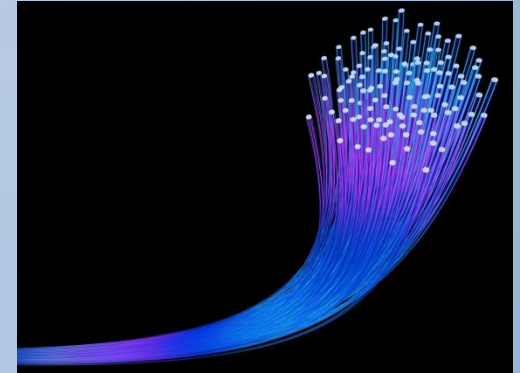
Sean Skaling  
Energy Efficiency & Conservation  
Program Manager  
Alaska Energy Authority

# Today's Journey

1. AEA and Energy Efficiency
2. EE tips and tools
3. Programs and Resources

# Terms

- **Energy Efficiency:** Using less energy to produce the same level of energy service (generally technology).
- **Energy Conservation:** Decreasing the quantity of energy used (generally behavior change, but technically includes efficiency).



# AEA's EE&C Programs

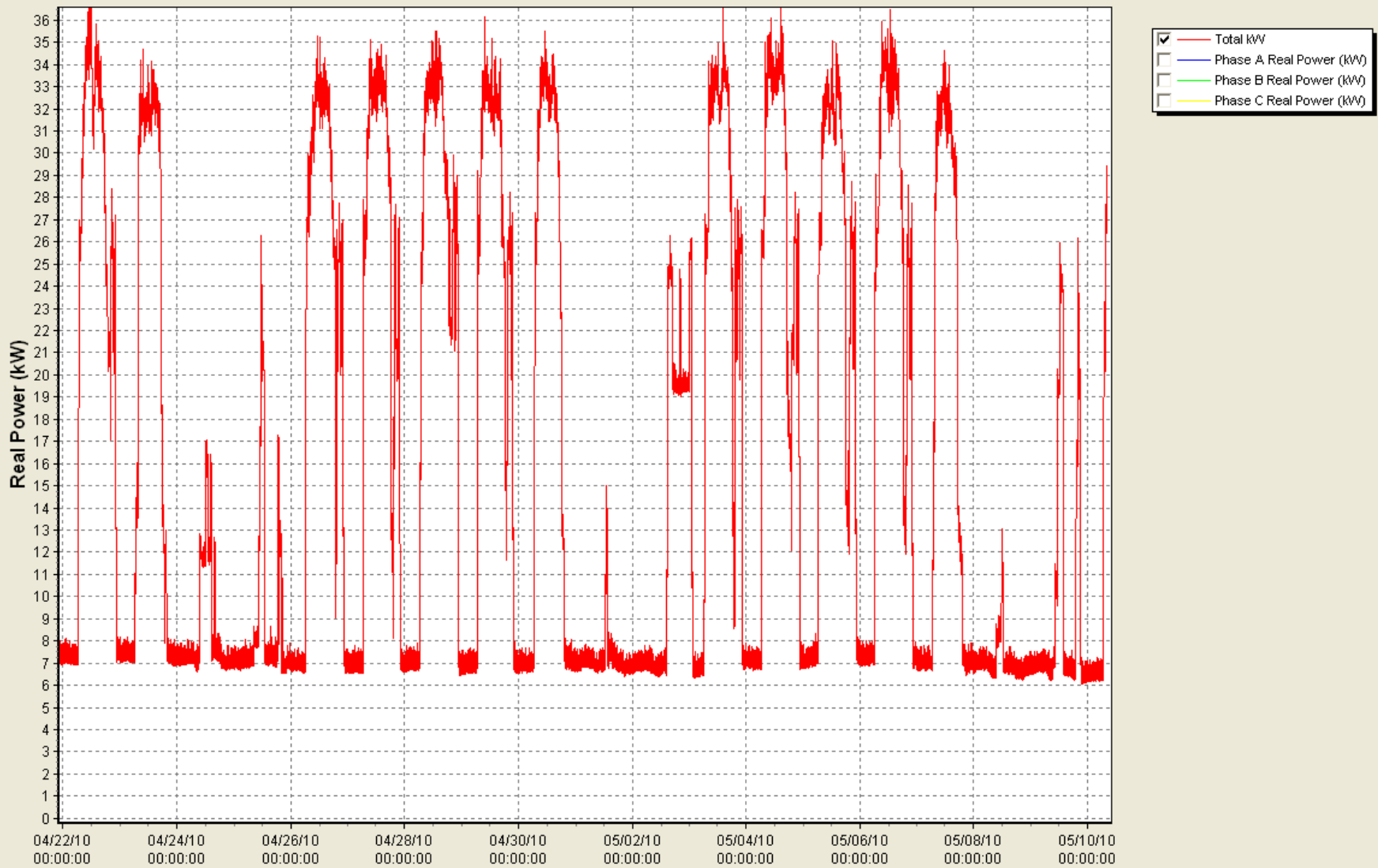
- VEEP (Village Energy Efficiency Program)
- Rural Power Systems Upgrades (RPSU)
- Heat Recovery
- Building Energy Monitor Pilot
- Small City EECBG
- Industrial Efficiency (Fish Processing)
- Baseline Data
- Public Education and Outreach
- Whole Village Retrofit
- Commercial Energy Efficiency Audits & Financing

## 2. Energy Efficiency Tips

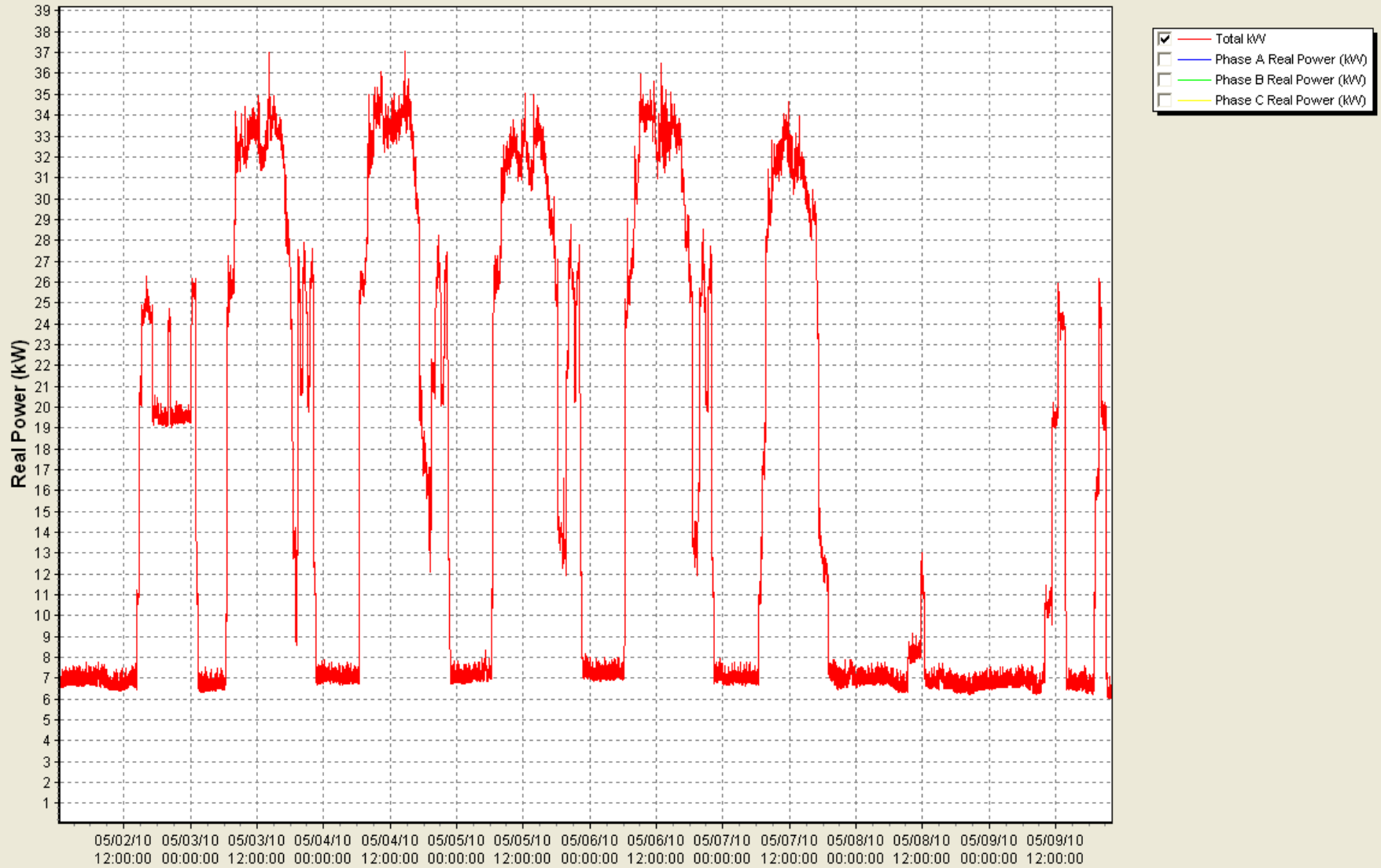


It's hard to improve what you can't see.

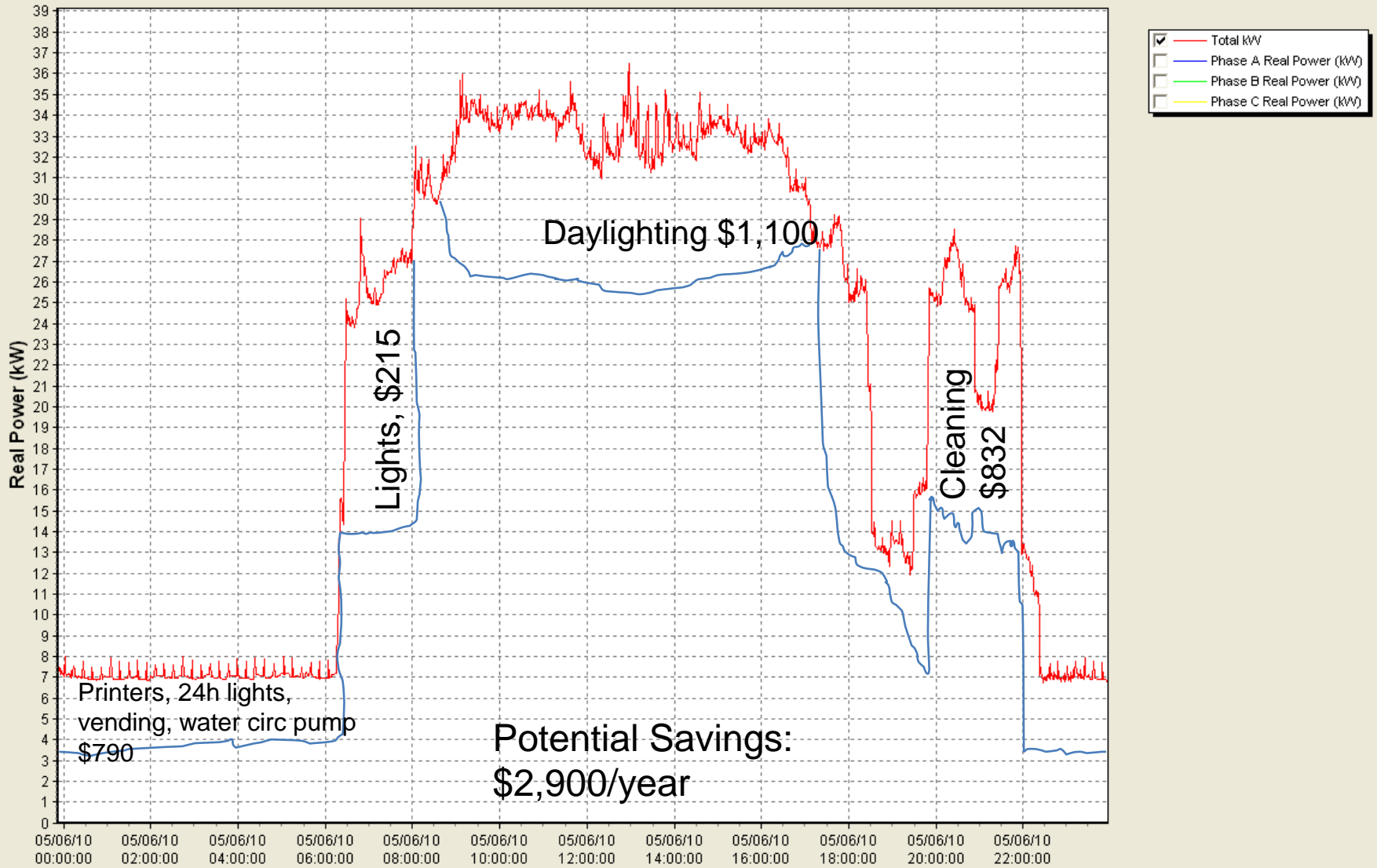
### AEA Building: Lights and Plug Load, May 2010 - Real Power



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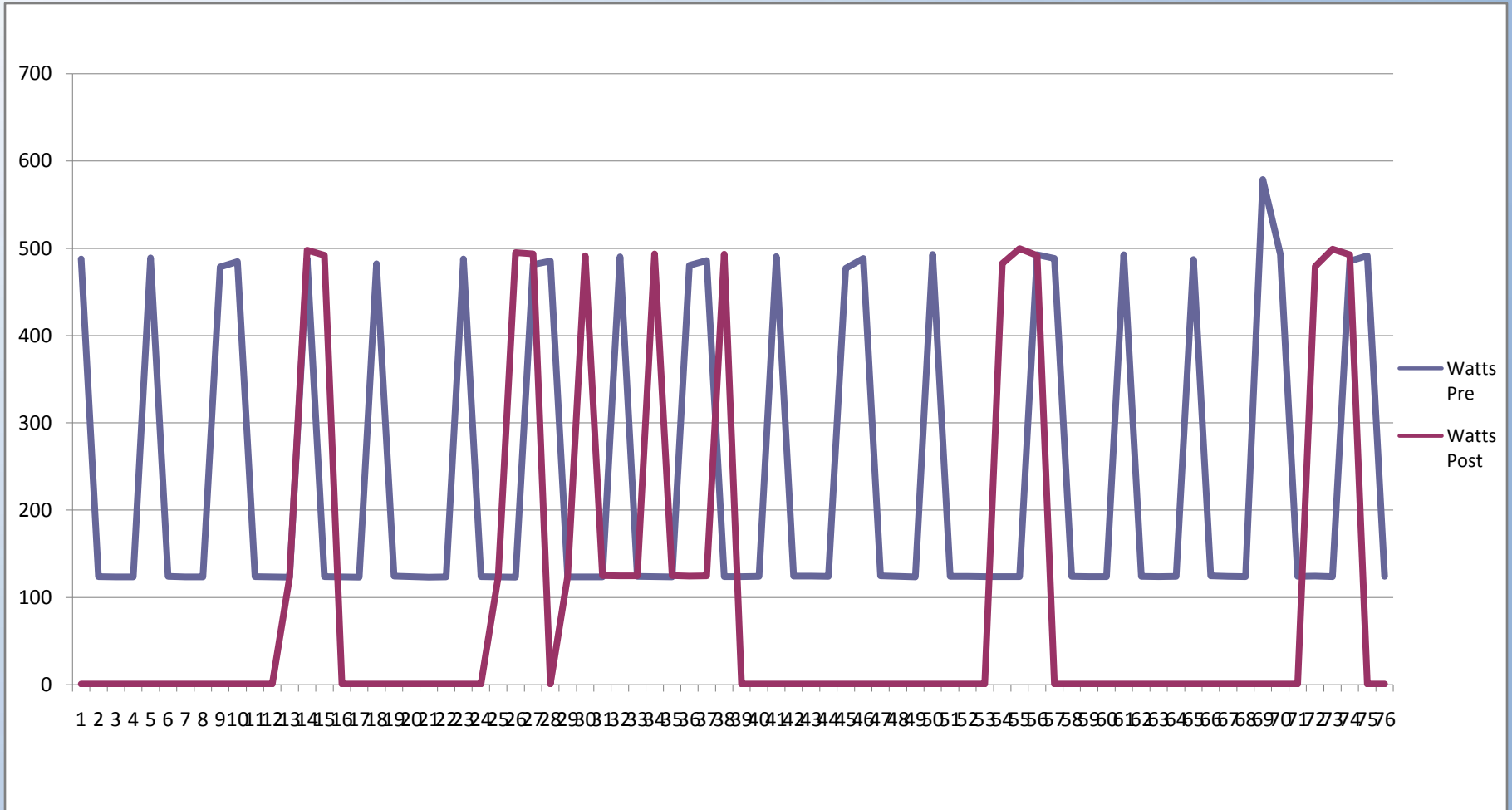


# Vending Miser





# Tips: Vending Misers



# Vending Miser

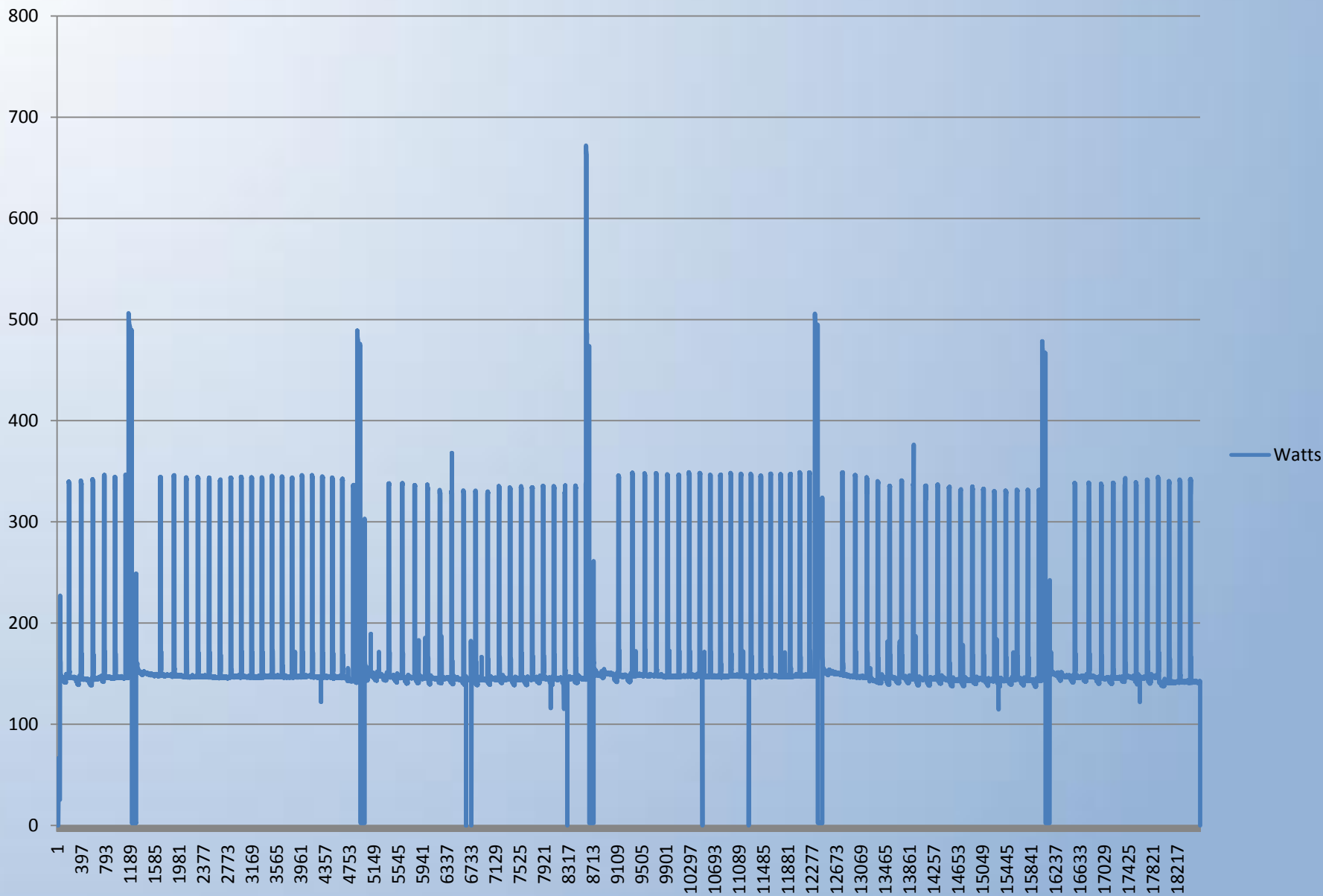
- Pre = 188 kWh/mo
- 50% savings
- Savings = \$225 at NEC rates
- Cost = \$180
- Simple payback = 1.25 yrs
- Alternative: use Energy Star refrigerator and honor system for employee sodas.

# Tips: Refrigerators

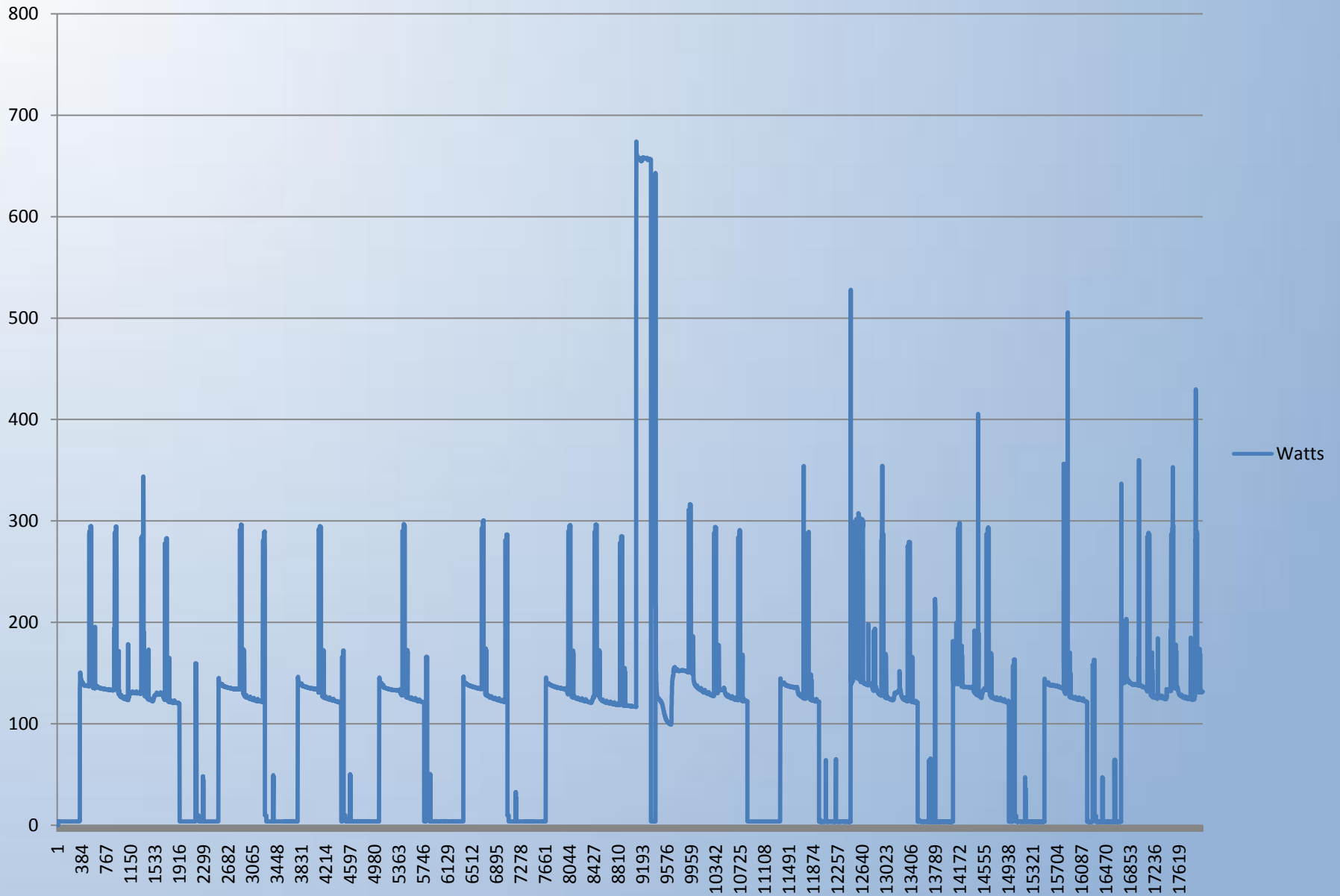
- Replace older models with Energy Star
- [energystar.gov](http://energystar.gov) to calculate savings
- Clean coils several times per year
- Check seals



# Watts: Older Medium-Sized Refrigerator, 2 days



# Watts: Newer Large Refrigerator, 2 days



# Refrigerator Comparison

- Newer = 37 kWh/mo
- Older = 115 kWh/mo (Vend= 188 kWh/mo)
- The older (smaller) uses 3 times as much energy as the newer model.
- Newer = \$45 to operate per year (at 10 cents)
- Older = \$138 per year
- Savings = \$93 per year
- Cost of new ??

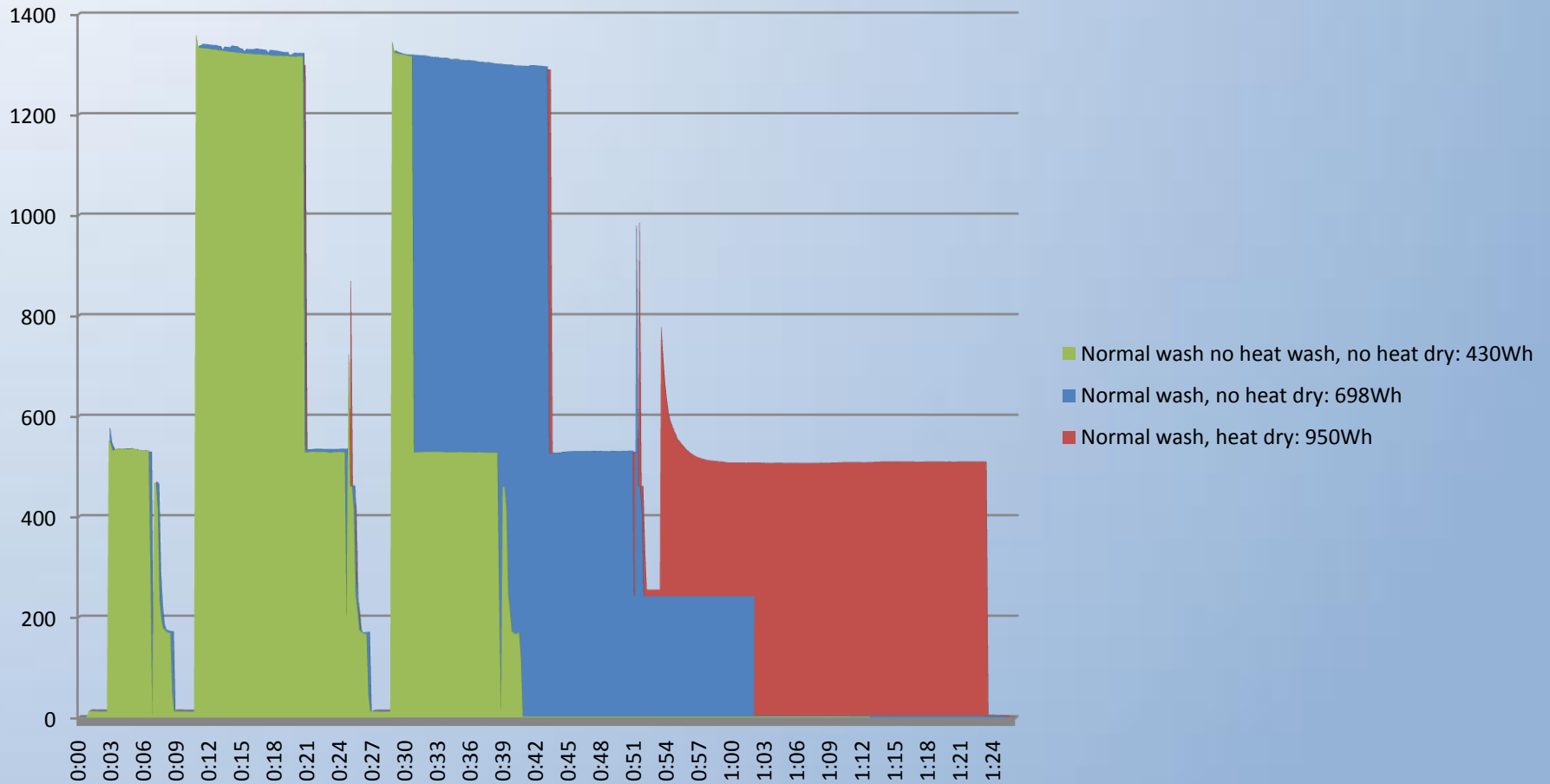
# Refrigerator Savings Potential

**Savings over 5 years at Nushagak Prices  
(July 09 pre-PCE: \$.4630/kWh)**

<b>Age of Refrigerator</b>	<b>Side-by-Side</b>	<b>Bottom Freezer</b>	<b>Top Freezer</b>	<b>Refrigerator only</b>	<b>Chest Freezer</b>
Before 1980	\$5,345	\$4,616	\$4,179	\$4,216	\$2,623
1980-89	\$3,845	\$3,278	\$3,007	\$3,232	\$2,007
1990-92	\$2,584	\$2,239	\$2,026	\$1,817	\$1,120
1993-2000	\$1,294	\$991	\$1,035	\$863	\$451
2001-2008	\$382	\$343	\$294	\$262	\$178
2009 Energy Star	\$0	\$0	\$0	\$0	\$0

# Tip 6: Dishwashers

## Dishwasher Energy Use: Three Program Settings



# Phantom Load

- Rule of Thumb:
  - **1 Watt** (on 24/7) = **\$1/yr** (@ \$.11 electric rate)
  - 25 W at \$.33 = \$75 per year
  - What is your electric rate?
  - What is your phantom load?



# How can AEA Help?

- Think BIG...what programs would help achieve more efficient communities/businesses?
- What are your hurdles to becoming more efficient?

# Thank you!

Sean Skaling

Energy Efficiency & Conservation Program Manager

Alaska Energy Authority

(907) 771-3079

[sskaling@aidea.org](mailto:sskaling@aidea.org)

