

# **Demand-Side Management Technology Workshop: Advances in Water Heating**

*Sponsored by  
Basin Electric Power Cooperative  
with Western Area Power Administration*

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Bismarck, ND



# ***Developing a Successful Water Heating Program***

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# DSM Strategies

- **Energy Efficiency:**  
Reduce energy use overall
- **Peak Load Reduction:**  
Reduce peak load consumption
- **Load Shifting:**  
Move load to cheaper times
- **Load Building:**  
Increase consumption to off-peak hours or  
increase overall consumption




# Water Heating Cost Calculator

[www.nppd.com/my\\_home/services/additional\\_files/waterheater\\_calculator.asp](http://www.nppd.com/my_home/services/additional_files/waterheater_calculator.asp)



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## Water Heating Cost Calculator

Energy Efficiency - Information, Calculators, and Recommendations

By entering the "input" information below, you can perform a simple comparison of the operating costs associated with various water heating options. It is assumed that the average household uses 65 gallons of hot water a day.

**Inputs**

**Enter the Price of Energy**

Electric Charge per kWh	=	<input type="text" value="0.0581"/>
Natural Gas Charge per Therm	=	<input type="text" value="1.10"/>
Propane Charge per Gallon	=	<input type="text" value="1.60"/>

**Water Heating Options**

Size	Gallons of Hot Water Used Per Day
50 Gallon	= <input type="text" value="65"/>
75 Gallon	= <input type="text" value="98"/>

Click on the button below to view the operating cost chart:

This estimate is to provide a "ball park" operating cost comparison between the available water heating options. This is an estimate and assumes average operating practices and an average hot water consumption in gallons per day.

Energy Solutions For Your Home

Air Conditioning Cost Calculator

Heating Cost Calculator

Water Heating Cost Calculator

North American Technician Excellence (NATE)

Energy Efficiency Contacts

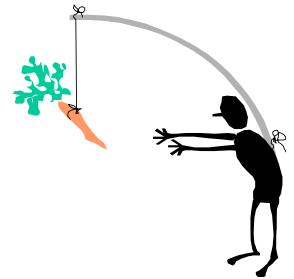
Newsletter (Winter 2009)

# Successful Water Heater Program Tactics

- Best Practices in Program Design
- Marketing and Outreach
- Customer Participation
- Implementation
- Program Evaluation

# Best Practices in Program Design

- Enlist trade ally support in program delivery.
- Use targeted incentives. These encourage trade allies strategies that increase customers' adoption of recommended practices.
- Ensure proper installation
- Develop a sound program plan; have a clearly articulated program theory
- Leverage national efforts to increase efficient product availability



# Program Management

- Clarify requirements for implementation through the application process
- Articulate the data requirements needed to measure success
- Conduct regular checks of the tracking reports
- Use databases that fully integrate with cross-program energy-efficiency program information systems
- Develop program databases that anticipate requests for key information



# Program Management: Quality Control and Verification

- Develop inspection and verification procedures during the program design phase
- Consider administrative cost in designing the verification strategy





# Program Implementation: Participation Process

- Publish program application documents on the Internet
- Provide assistance in preparing and submitting program applications through outreach events and workshops and online tools
- Minimize documentation requirements
- Offer incentives, particularly to upstream market actors
- Try to maintain some availability of program funds throughout the program year
- Successful programs also ensure adequate product availability prior to program launch



# Program Implementation: Marketing & Outreach



- Cooperate with contractors to get message out
- Communicate with customers via multiple media
- Leverage marketing dollars through cooperative marketing efforts, sponsorship by manufacturers and through coordination with national or regional efforts to promote similar products
- Keep contractors and providers well informed about program features and changes



# Program Evaluation

- Periodically review and update algorithms for calculating projected savings
- Perform market assessments routinely
- Present actionable findings to program managers at the conclusion of study
- Conduct both process and impact evaluations routinely
- Include estimation of free-ridership and spillover



# Leasing Options for Water Heaters

*Many utilities use rental or leasing programs*

## **Customer Benefits:**

- Hot water now with no upfront cash.
- Hot water at lowest possible cost to own and operate.
- Plentiful supply of hot water at competitive rates.
- Peace of mind - if anything ever goes wrong, all they have to do is call and the utility will fix it.
- Professional, responsive service staff.

## **Utility Benefits**

- Profitable new business opportunity.
- Steady incremental income stream from water heater rental payments.
- Satisfied customers today with long term contracts for tomorrow.
- Way to halt erosion of water heating market share to gas companies.
- Opportunity to lock up to 30% of household energy use by reducing market switch to gas
- Way to build profitable off-peak load and kWh sales.
- Flexibility to adjust the program's risk/return ratio to suit your strategy.

# Leasing Program Providers

- **Vaughn Turnkey**

- Turnkey program tailored to specific utility needs



- **American Water Heater Rentals**

- Has 100,000 customers nationwide and offers Lifetime Water Heater Plan.
- Have Authorized Dealers install top-of-the-line water heaters and service them whenever needed – all for a low monthly fee
- Great Lakes Co-op has a water heating sales program- more information available at:



[www.johnsonconsults.com/case\\_great\\_lakes.pdf](http://www.johnsonconsults.com/case_great_lakes.pdf)

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