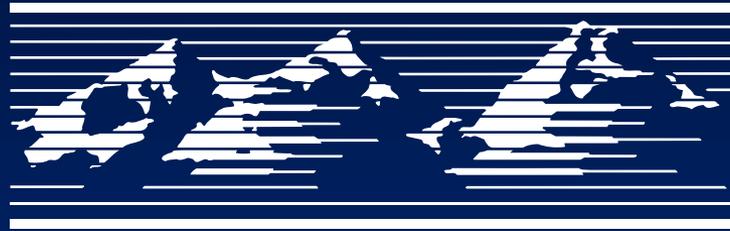




Working with Residential Contractors: Implementing Energy and Cost-Savings Programs

- Mark Tuffo, Energy Management Specialist, Eugene Water & Electric Board
- Steve Brown, Energy Services Coordinator, Okanogan County PUD
- Don Newton, Key Accounts Representative, Flathead Electric Cooperative
- Sarah F. Moore, Residential Sector Lead, BPA Energy Efficiency



EWEB

Eugene Water & Electric Board

RESIDENTIAL CONTRACTOR INFORMATION WEBSITE

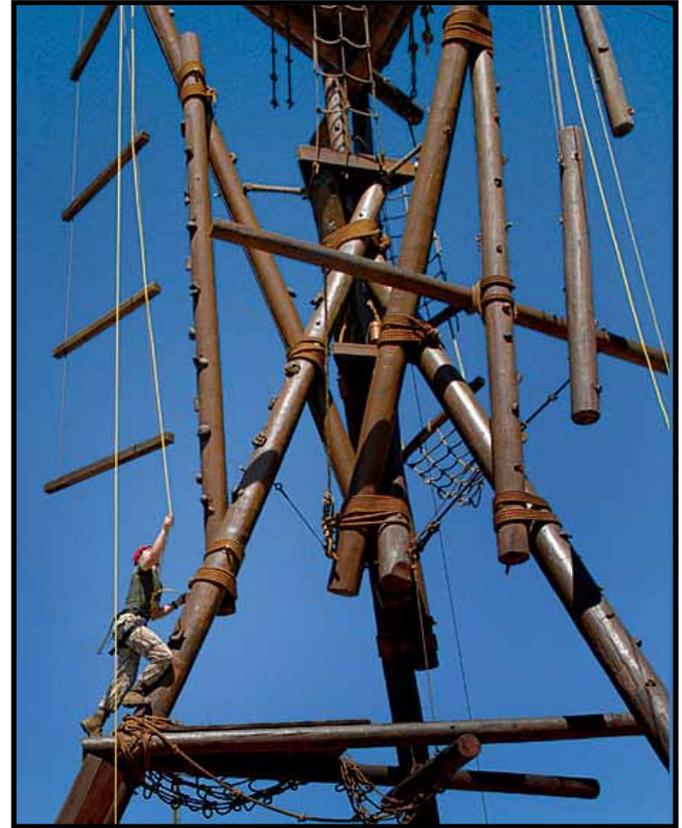
EWEB's Authorized Residential Contractors

- EWEB has created lists of authorized contractors who are authorized to install energy-saving measures in homes. Customers must use a contractor from the list for the specific program they are participating in.
 - Weatherization Program for windows, doors and insulation
 - Ductless Heat Pump Program
 - Ducted Heat Pump Program
 - Duct Testing and Sealing Program
 - HVAC Maintenance Program
 - Solar Thermal Program
- Participating contractors must meet the following requirements:
 - Company / Automobile Liability and Workers' Compensation Insurance
 - Oregon Construction Contractors Board Registration
 - Program-Specific Technical Certifications (PTCS, Proctor CheckMe!, etc.)



The Challenge

- How to maintain clear and effective communications with the 70 plus contractors who participate in our programs.
- Since each program area maintains its own specifications, testing requirements and inspection checklists it has been very difficult to insure that the contractors have and are using the most current forms and specifications.
- In the past, we would send contractor updates by snail mail and / or e-mail. However, this approach proved to be very cumbersome and ineffective.
- We have heard lots of constructive feedback and recommendations from contractors



The Solution

- Develop a Residential Contractor Information website as an extension to our customer website.
- Use in-house resources including our Web Technologies Analyst, Web Editor, Residential Energy Management Services Supervisor and Program Team Leads.
- Provide secure access as mandated by our internal security requirements.
- Provide administrative support tools to manage contractor user ID's and passwords.
- Use Microsoft's .Net Framework as the development platform.



Find a contractor



EWEB has created lists of contractors who are authorized to install energy-saving measures in your home. You must use a contractor from the list for the specific program you are participating in.

Solar water heaters

See the current list of approved contractors for EWEB's solar water heater program.

Ductless heat pumps

See the current list of approved contractors for EWEB's ductless heat pump program.

Ducted heat pumps

See the current list of approved contractors for EWEB's ducted heat pump program.

Ducted heat pump maintenance

See the current list of approved contractors for EWEB's ducted heat pump maintenance program.

Windows and insulation

See the current list of approved contractors for EWEB's windows and insulation program.

Additional assistance

See the current list of approved contractors for EWEB's program for limited-income households.

Residential contractor website (password required)

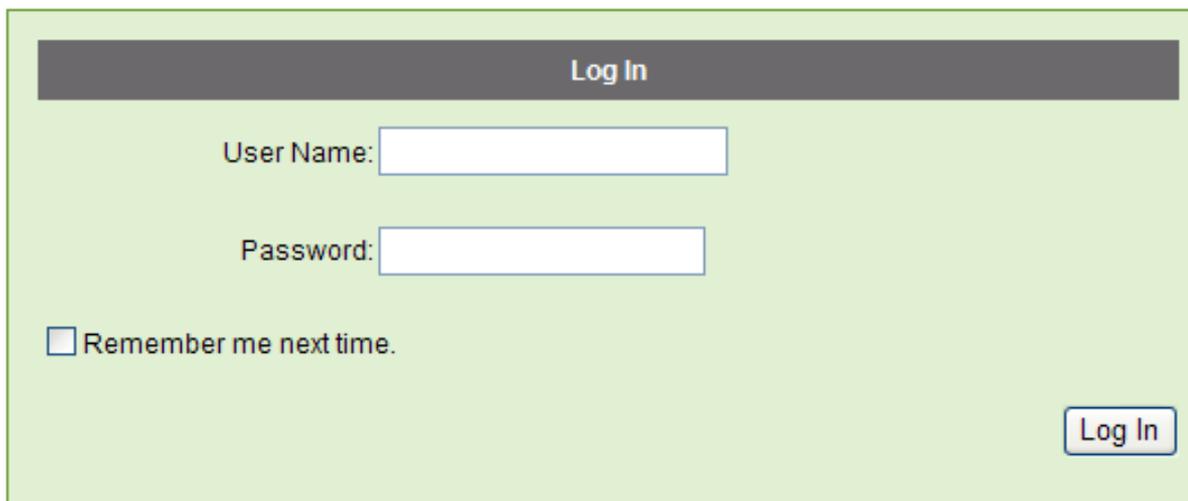
EWEB authorized program contractors can view and download current program specifications, testing requirements and inspection checklists. Visit regularly to get the latest program news and updates.

Contact EWEB Residential Energy Management Services at (541) 685-7000 to become an approved contractor or to ask any access questions.

Residential contractor information

Contractors are an essential part of EWEB's Residential Energy Management Programs. Each program identifies a specialized pool of independent contractors that provide energy efficiency and renewable energy equipment, components and services to homeowners and renters.

Log in to view and download current program specifications, testing requirements and inspection checklists.



The image shows a login form with a light green background. At the top, there is a dark grey header bar with the text "Log In" in white. Below the header, there are two input fields: "User Name:" followed by a white text box, and "Password:" followed by a white text box. Below the password field, there is a checkbox with the text "Remember me next time." to its right. In the bottom right corner of the form, there is a button with the text "Log In" inside it.

Become an EWEB approved contractor

To become one of EWEB's authorized program contractors contact Energy Management Services at (541) 685-7000.

Questions

Email [EWEB Residential Energy Management Services](#) or call us at (541) 685-7000.

Residential contractor information

Visit the information pages below to view and download current program specifications, testing requirements and inspection checklists.

Windows and insulation

The Home Comfort program helps residential customers upgrade their homes with insulation and energy-efficient windows through an EWEB zero-interest loan.

Ducted heat pumps

The Centsible Heat™ program offers advice and an EWEB zero-interest loan for installing a ducted heat pump in homes.

Ductless heat pumps

The ductless heat pump program offers either a rebate or an EWEB zero-interest loan for installing a ductless heat pump in homes.

Get connected with EWEB

Follow EWEB on [Twitter](#) or become a fan on [Facebook](#) to get useful tips and timely news.

Questions?

Email [EWEB Residential Energy Management Services](#) or call us at (541) 685-7000.

[Logout](#)

EWEB's Ductless Heat Pump Program

- EWEB participated in the NEEA/BPA-sponsored Ductless Heat Pump (DHP) pilot and on October 1, 2009 we transitioned from the pilot phase to a permanent DHP program for our residential customers.
- 2009 DHP program results:
 - **521 total installations**
 - **517 installations claimed through CRC**
 - **2,042,150 kWh in deemed savings**
- We had **15 participating HVAC contractors** in this program during 2009 and they realized over **\$2,619,221 in DHP sales**.
- The DHP program has been one of the most successful new program in EWEB's 30 plus years of energy conservation.



RESIDENTIAL
CONTRACTORS

WINDOWS &
INSULATION

DUCTED HEAT
PUMPS

DUCTLESS
HEAT PUMPS

Ductless heat pumps

See the following list for the most recent program specifications, testing requirements and inspection checklists for the ductless heat program.

[New Insulation Requirements](#)

Revision Date: September 22, 2009

[Step by Step Instructions for Contractors](#)

Revision Date: February 10, 2010

[Proposal Form, Exhibit B](#)

Revision Date: February 10, 2010

[Heating and Cooling Load \(Btu/hr\) Calculation and Scaled Drawing Examples Using Right-Suite® Universal Software and Based on EWEB's Minimum Insulation Requirements](#)

Revision Date: September 28, 2009

- [Example for Single Head System Providing Whole House Load Calculations](#)
- [Example for Multi Head System Providing Zone Load Calculations](#)

[AHRI Directory of Certified Variable-Speed Mini-Split \(Ductless\) Heat Pumps](#)

Revision Date: N/A

[Homeowner Participation Form](#)

Revision: Version 7

[Contractor Invoice Form](#)

Revision: Version 7

[Getting the Most Out of Your Ductless Heat Pump — A Homeowner's Guide](#)

Revision: Version 1

[Northwest Ductless Heat Pump Project \(website for utilities, manufacturers/distributors and contractors\)](#)

Revision Date: N/A

[Ductless Heating and Cooling Systems \(website for potential customers\)](#)

Revision Date: N/A



Eugene Water & Electric Board

500 East 4th Avenue
PO Box 10148
Eugene OR 97440-2148
541-685-7000
www.eweb.org

Ductless Heat Pump Program Step by Step Instructions for Contractors

For any questions that you have regarding these instructions or required paperwork, please contact the assigned EWEB account manager or the Ductless Heat Pump program team lead at 685-7000. The current version of all EWEB forms can be downloaded from the Residential Contractor Information website at <http://ems-res-contractors.eweb.org>.

When an EWEB customer has decided to participate in the Ductless Heat Pump (DHP) program, the EWEB account manager will:

- ❑ Notify the customer in writing that they have been either approved or denied participation in the program. If necessary, the account manager may schedule a site visit with the customer.

When the customer has decided to have a system installed, the contractor will:

- ❑ Submit a completed **EWEB Proposal Form, Exhibit B** to the account manager for review and authorization prior to installation of the ductless heat pump system. EWEB authorization is required before the installation begins regardless of the payment method (i.e. EWEB loan or rebate). The contractor shall provide the following information with the Exhibit B:
 1. Heating and cooling load (Btu/hr) calculations using an EWEB-approved calculation method based on ACCA's Manual J and EWEB's minimum insulation requirements. For single head systems, provide whole house load calculations. For multi-head systems, provide zone load calculations. Note that the primary living area shall be served by at least one indoor unit. Refer to the examples shown on the EWEB Contractor Information website.
 2. Detailed and scaled floor plan drawing showing dimensions and locations of windows, doors, etc.



Eugene Water & Electric Board

500 East 4th Avenue
PO Box 10148
Eugene OR 97440-2148
541-685-7000
www.eweb.org

**Ductless Heat Pump Program
Proposal Form
Exhibit B**

Contact Information:

Property Owner _____ Phone _____(H) _____(W)
Mailing Address _____ Zip _____

Occupant at Installation Address _____ Phone _____(H) _____(W)
Installation Address _____ Zip _____

Contractor Business Name _____ Phone _____(W)
Mailing Address _____ Zip _____

Description of System:

Outdoor Unit Make _____
Outdoor Unit Model # _____

Indoor Unit #1 Model # _____
Indoor Unit #2 Model # _____
Indoor Unit #3 Model # _____

Cooling Capacity (Btu/hr) _____
Heating Capacity (Btu/hr) at 47° F _____
Heating Capacity (Btu/hr) at 17° F _____
Percent Heating Capacity at 17° F _____

EER Rating (Cooling) _____
SEER Rating (Cooling) _____
HSPF Rating (Heating) _____
Estimated Installation Date _____

Attach to Exhibit B:

- Heating and cooling load (Btu/hr) calculations using an EWEB-approved calculation method based on ACCA's Manual J and EWEB's minimum insulation requirements. For single head system, provide whole house load calculations. For multi-head system, provide zone load calculations.
- Detailed and scaled floor plan drawing showing dimensions and locations of windows, doors, etc.



Design Conditions

Location:

Eugene_AP, OR, US
 Elevation: 0 ft
 Latitude: 44°N

Indoor:

Indoor temperature (°F)
 Design TD (°F)
 Relative humidity (%)
 Moisture difference (gr/lb)

Heating

70
 48
 5
 -7.9

Cooling

75
 14
 50
 0.0

Outdoor:

Dry bulb (°F)
 Daily range (°F)
 Wet bulb (°F)
 Wind speed (mph)

Heating

22
 -
 -
 15.0

Cooling

89
 31 (H)
 66
 7.5

Infiltration:

Method
 Construction quality
 Fireplaces

Simplified
 Average
 1 (Average)

Construction descriptions

| | Or | Area ft ² | U-value Btu/ft ² ·°F | Insul R ft ² ·°F/Btu | Htg HTM Btu/ft ² | Loss Btu/h | Clg HTM Btu/ft ² | Gain Btu/h |
|--|-----|-------------------------|------------------------------------|------------------------------------|--------------------------------|---------------|--------------------------------|---------------|
| Walls | | | | | | | | |
| 12C0: Wood fr, R-11, ½" gypsum,R0.5 | | 685 | 0.090 | 11.0 | 4.32 | 2960 | 1.13 | 777 |
| Partitions | | | | | | | | |
| 13C0: Wd fr part, R-11, ½" gypsum,R0.5 sheathing | | 188 | 0.090 | 11.0 | 4.32 | 810 | 0.36 | 68 |
| Windows | | | | | | | | |
| 800: SG door, metal frame, 2 pane; clear | n | 39 | 0.725 | 0.0 | 34.8 | 1357 | 20.6 | 803 |
| 3F0: 2 pane, metal frame, low e glass | n | 29 | 0.475 | 0.0 | 22.8 | 661 | 17.8 | 516 |
| | s | 68 | 0.475 | 0.0 | 22.8 | 1550 | 30.8 | 2094 |
| | all | 97 | 0.475 | 0.0 | 22.8 | 2212 | 26.9 | 2611 |
| 3E0: 2 pane, TIM frame, low e glass | n | 3 | 0.399 | 0.0 | 19.2 | 52 | 17.8 | 48 |
| 8C0: SG door, metal frame, 1 pane; clear | w | 34 | 1.155 | 0.0 | 55.4 | 1857 | 84.2 | 2821 |
| Doors | | | | | | | | |
| 10D0: Wood door, solid core, no storm | | 20 | 0.460 | 0.0 | 22.1 | 444 | 5.80 | 116 |
| Ceilings | | | | | | | | |
| 81N: R-49 W / Attic Ceiling Cable | | 1140 | 0.032 | 49.0 | 1.54 | 1751 | 1.06 | 1204 |
| Floors | | | | | | | | |
| 19I0: Floor over basement, carpet, R-19 | | 1140 | 0.048 | 19.0 | 1.15 | 1313 | 0.00 | 0 |

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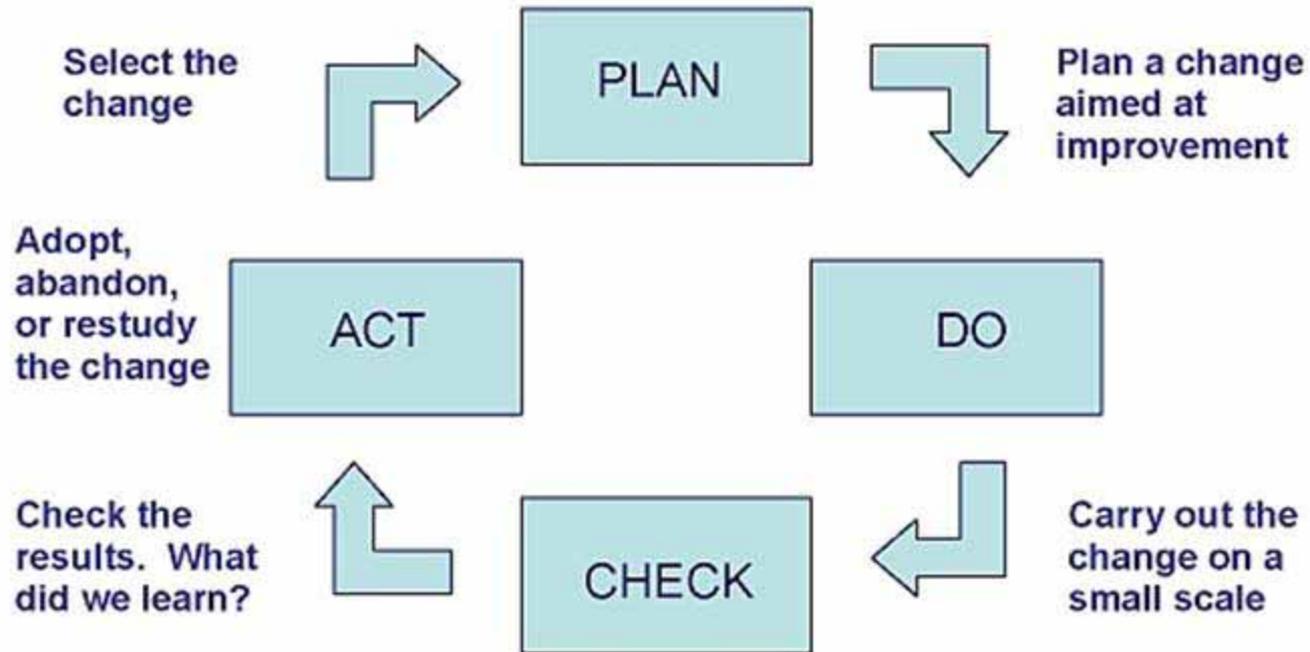
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Revision Date: N/A

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Revision Date: N/A

Continuous Improvement Process = Success!





Mark Tuffo

Eugene Water & Electric Board

Residential Energy Management Services

541-685-7415

Mark.Tuffo@eweb.org

Rely on us.



Working with Residential Contractors

Implementing Energy and Cost–Savings Programs

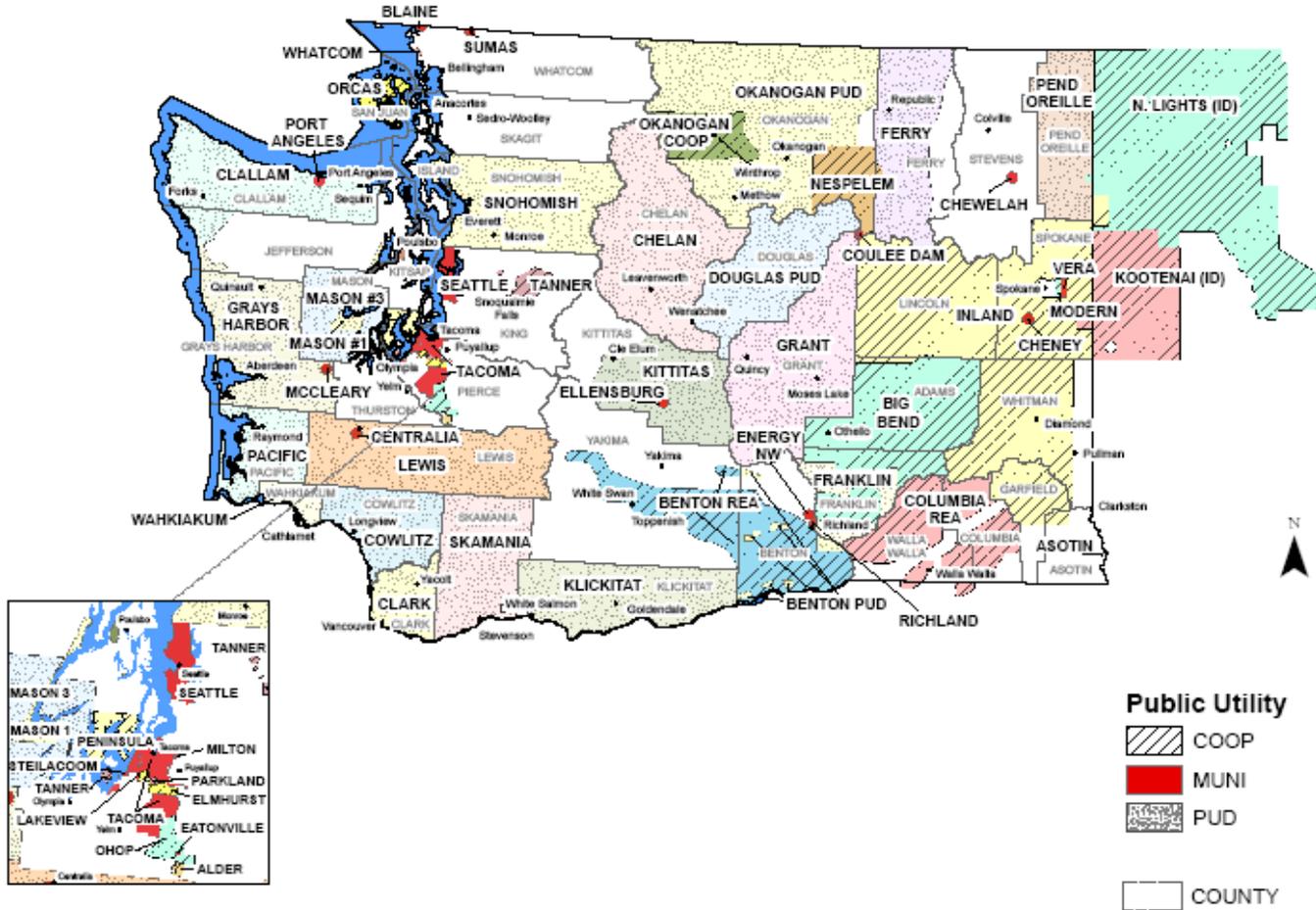
Presented by:

Steve Brown, Energy Services Coordinator
Okanogan County PUD



BPA CUSTOMER UTILITIES IN WASHINGTON

Cooperative, Municipal or Public (or Peoples) Utility District



Okanogan County Statistics

- Total area -- 5,315 miles² (3,388,800 acres)
- Bigger than Connecticut, Delaware or Rhode Island
- Population (2008) -- 40,033
- Population density -- 8 per mile²

Okanogan PUD Statistics

- Total Number of Customers -- 20,106
- Total Residential Customers -- 16,395
- Miles of Distribution Line Owned -- 1710
- Customers per Mile -- 12
- Windshield Time -- 3 hrs +

Residential Conservation Programs

- CRC Program:
 - Insulation
 - Windows
 - Energy Star Appliances
 - Refrigerator & Freezer Recycling

- Loan Program:
 - Any cost-effective conservation measure

Documentation Requirements

- Bid Sheets
- Cut Sheets
- Pre and Post Inspection whenever possible
- Digital pictures in lieu of one or the other if necessary to expedite payment process
- Usually followed up by an inspection at some point to confirm pictures

Contractor Requirements

- Average Number of Contractors -- 10
- What do we require in a contractor:
 - ✓ Valid L & I License
 - ✓ Honesty
 - ✓ Integrity
 - ✓ A Team Player - We're looking for partners

Program Elements

- KISS
- Word-of-Mouth Advertising
- Minimal Documentation
- No Contract
- No Preferred Contractor List
- No Formal Grievance Process

Why Does it Work?

- Simple
- Win – Win – Win
- People Talk - Bad News is Shared
- Good Contractors are Rewarded
- Bad Contractors are Forgotten
- Trust Your Partners
- Utilize “Good Management” Principals

For more information, contact:

Steve Brown

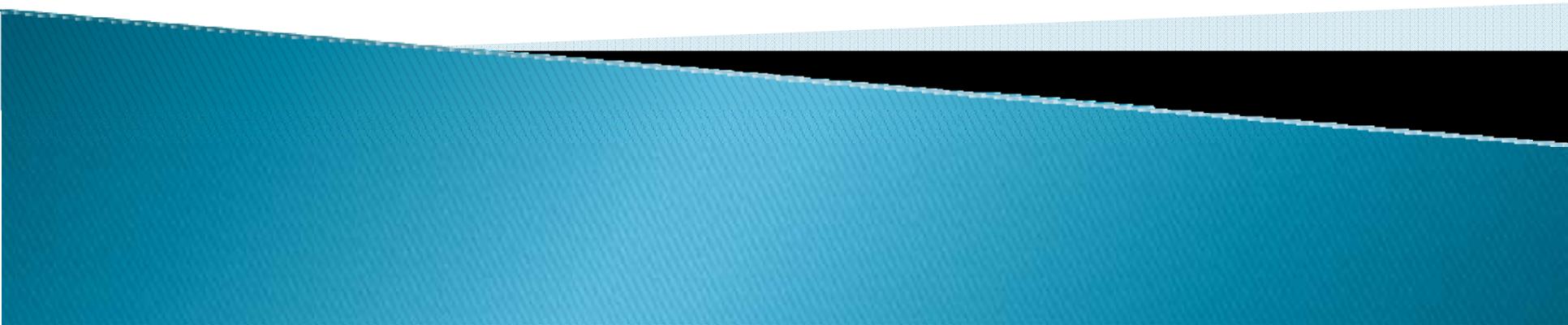
Energy Services Coordinator

steveb@okpud.org

509.422.8428

Working with Residential Contractors Implementing Energy and Cost-Savings Programs

Don Newton, Key Accounts Representative
Flathead Electric Cooperative



B. S. Government program



- ▶ Not a Climate change Issue.
- ▶ NRECA CEO Glen English's speech – keep your eye on the ball (members bills).
- ▶ Green Makes Sense for All of Members.
- ▶ Build or buy Green is Quality.
- ▶ Your choice how to spin your business promotion.

Not worth my time !

- ▶ Three ways to make it worth contractor's time

1. Pay them!

- Incentive back to contractor on NEEM homes, ASHPs, Ductless HPs

2. Member demands it from them

- Direct marketing to membership by bill stuffers, news papers and radio

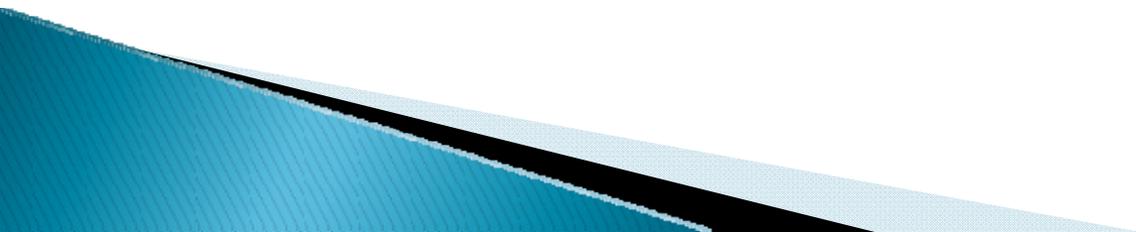
3. Make it easy and quick to implement

- Paperwork and training

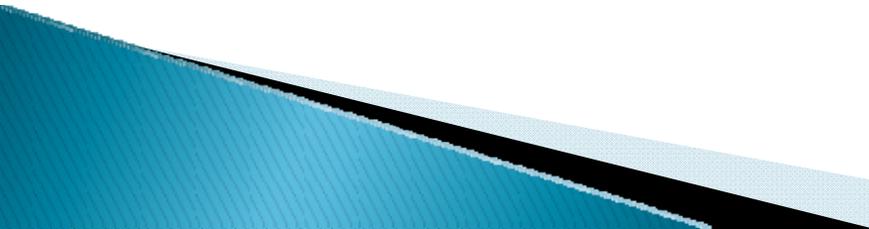


The Paperwork

- ▶ Use the KISS principle – Keep it simple
- ▶ Forms, Templates and Checklists.
- ▶ Web site information and documentation.
<http://www.flatheadelectric.com/energy/Rebates.html>
- ▶ “How To” documentation where appropriate
(be careful telling a craftsman how to do his job)
- ▶ Do it for them – time and personnel
- ▶ Contact information available for when they want help – building shows, fairs, information trees in lobbies and the latest a bus wrap



TRAINING

- ▶ BPAs third party contractors training
 - Trade Allies, NEEA, NRECA, NWPPA, Trade groups
 - ▶ Contractor Office visits to train staff
 - Lunch box safety meeting type of training
 - Computer training for office staff
 - Marketing materials for business owners
 - ▶ One on One in your office – turn the phone off and close the door if needed!
 - ▶ Trial and Error – some people just have to do it their way. Reject it and retrain or do it yourself.
- 



Working with Residential Contractors: Implementing Energy and Cost-Savings Programs

Presented by:

Sarah F. Moore – BPA Residential Lead



BPA support for your programs

Opportunities for improvement

- Specifications
- Forms and process
- Marketing support
- Program oversight

Specifications

- Clean-up outdated specs
- Facilitate utility feedback
 - with a reasonable timeline (months not days)
- Consider tiered opportunities
- Foster alignment in sub-regions where possible
- Connect with product reference resources
- Communicate updates on code changes/impacts

Forms and process

- Minimize the differences in forms
 - (but make them utility logo customizable)
- Streamline paperwork process
- Create optional online submission opp
- Align online option with hardcopy option
 - (to minimize confusion)
- Minimize annual changes

Marketing support

- Create marketing templates
 - (especially for contractor driven measures)
- Collaborate on sub-regional marketing plans
 - (leverage opportunities)
- Share data on marketing results
 - (which mediums are tracking success)
- Leverage BPA's residential segmentation work

Program oversight

- Research regional/national best practices
 - (oversight, M&V, etc.)
- Share what other NW utilities are doing
- Provide clarity on utility oversight models
 - meeting M&V, measure specification, documentation, and minimum inspection requirements

Contact

For more information, contact:

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