

# NorthWestern<sup>TM</sup> Energy

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## *Energy Efficiency Programs*

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*Northwest Energy Efficiency Alliance*

*11/12/2008*

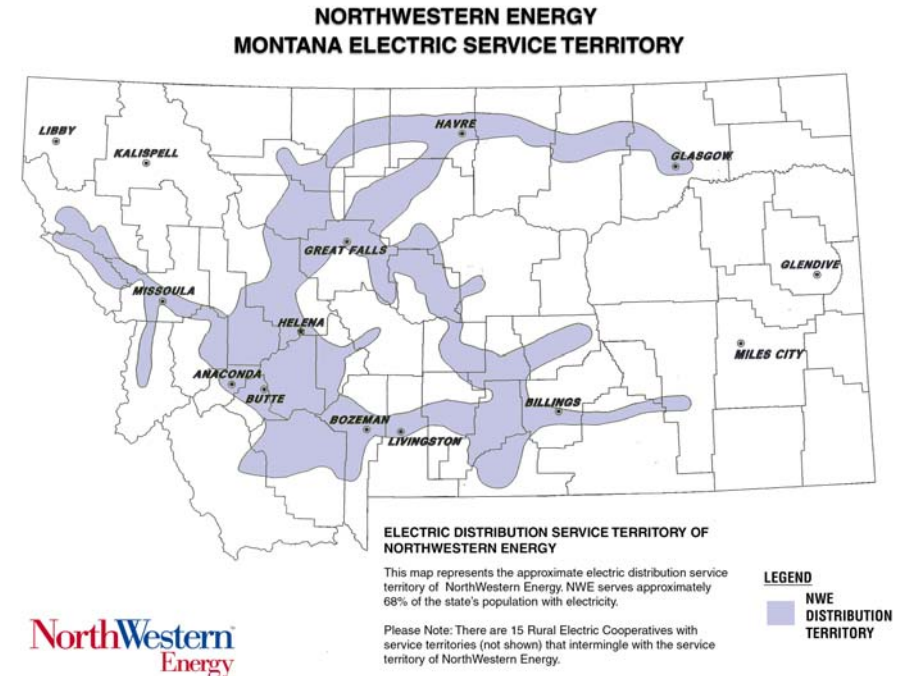
*Deb Young*

*Regulatory Support Services*



# NorthWestern Energy – Montana

- **Electric and Natural Gas Transmission and Distribution Utility**
- **Owns no generation or production**
- **Largest Industrial loads in “Choice”**
- **Montana Renewable Portfolio Standard 5%**
  - **NWE at 8% in 2008**
- **30 Years Conservation**



- **328,000 electric customers—two thirds of Montana**
- **177,000 natural gas customers— one half of Montana**
- **> 107,000 sq. miles service territory**

# ***NorthWestern Energy – Montana***

- **Supply Portfolio includes 800 MWH Baseload Supported with Mix of Fixed Cost and Market Cost Contracts**
- **Supply Costs are pass-through only – Monthly Adjustments to Supply Rates with Annual “True-up” and Filings**
- **DSM Savings Included in Supply Portfolio**
- **Supply Portfolios for Electricity and Natural Gas**

# 2008-09 Electric Supply Portfolio

<b><u>Net Base Fixed Contracts</u></b>		
PPL 7 Year Contract		106,604,190
QF Tier II		27,475,985
QF-1 Tariff		617,962
Montana Generation LLC (CU4 07)		23,776,830
Tiber		810,550
Judith Gap Energy		11,468,246
Wind Ancillary		3,149,498
Wind Other		4,919,970
JP Morgan Auction 36		3,091,600
Powerex to JP Auction 36		5,066,670
<b><u>Net Base Market Contracts</u></b>		
Basin Contract		4,890,190
Basin Creek Fuel		6,156,692
Montana Generation LLC (CU4 08)		10,020,482
Operating Reserves		2,232,000
DSM Program & Labor Costs		3,631,683
DSM Lost T& D Revenues		1,158,857
Imbalance		-
<b>Total Base Contract Transactions</b>		<b>215,071,405</b>

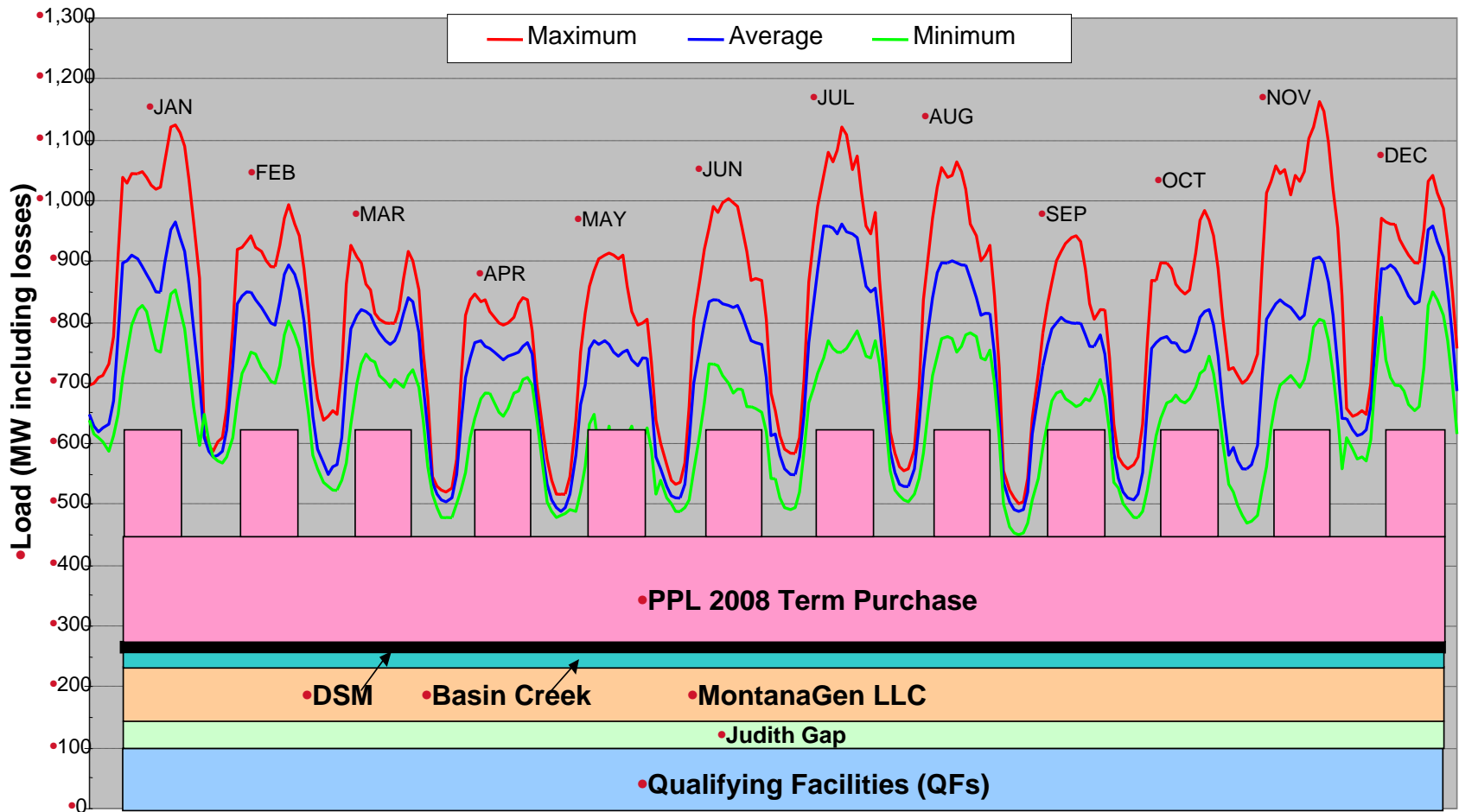
# Electric Power Supply Prices

<b>NWE \$/MWh Average Rates (May 2008)</b>	
<b>Source</b>	<b>12 Mth Avg</b>
Basin Contract	\$125.46
Net Index Market	\$76.71
JP Morgan Auction 36	\$65.50
Net Fixed Price Market	\$61.98
Montana Generation LLC (CU4 08)	\$53.81
Powerex to JP Auction 36	\$52.45
QF-1 Tariff	\$49.90
Judith Gap Energy	\$48.78
PPL 7 Year Contract	\$46.88
Tiber	\$36.12
Montana Generation LLC (CU4 07)	\$35.25
QF Tier II	\$33.89
<b>Demand Side Management</b>	<b>\$20.00</b>

**Electric Supply Portfolio Average = \$56.74/MWH**

# Electric Loads & Resources

## 2008 Monthly Forecast of Supply Load



# ***DSM Snapshot***

- **Mix of Demand Side Management and Universal System Benefits Programs Included in Reported Savings**
- **Annual Target 5 aMW**
- **Lost Revenue Recovery on Distribution and Transmission for both DSM and USB “Savings”**
  - **Included in Supply Rates**

# ***DSM Snapshot***

- **DSM Funded as Pass Through in Supply Portfolio**
  - Total Resource Cost Test
  - Avoided Cost -- Currently is \$62/MWH
  - PSC direction – Acquire all Cost Effective DSM
  
- **USB (Separate Public Purpose Charge)**
  - More Generous Cost Test
  - Includes Low Income, Energy Audits, and Small Scale Renewables
  - Electric USBC established at 2.4% 1995 Electric Revenues
    - Conservation, Market Transformation, Renewables, R&D and Low Income
    - Large Customers >1MW Self-Direct
    - Low Income Demands Increased
    - PSC Directed NWE to Shift Cost Effective Programs to Supply Portfolio--DSM

# ***DSM Snapshot***

- **How much does NorthWestern spend on DSM?**
  - **DSM Program Costs (\$4-5 Million/year)**
  - **DSM Lost Transmission & Distribution Revenues (\$1-3 Million/year)**
  - **Life-cycle cost = \$20/MWH = \$0.02/kWh**
  
- **How does NorthWestern get its money back?**
  - **Annual & Monthly Tracking filings ... Regular Rate Adjustments**
  - **DSM Program Costs and Lost Revenues are Added to the Energy Supply Portfolio (ex. \$215,000,000)**

# Regulatory Support Services Team



- **Deb Young – Consultant**
  - 25 years utility experience
  - 20 yrs DSM experience



- **Megan Kujawa – DSM Professional**
  - *NEW* to Utility
  - Engineer



- **Connie Moran – Admin. Specialist**
  - 26 years utility experience
  - 16 yrs DSM experience



- **John Campbell – Engineer**
  - 7 years utility experience
  - 20 years DSM experience



- **Dave Bausch – Engineer**
  - 22 years utility experience
  - 14 years DSM experience



- **Bill Thomas – Manager**
  - 24 years utility experience
  - 13 years DSM experience

# DSM Program Implementation Contractors



18 FTE



6 FTE



0.5 FTE

**Montana Department of Health and Human Services**

**10 Human Resource Development Councils (multiple subcontractors)**

# ***DSM Strategy***

- **Acquire All Cost Effective DSM**
- **Offerings for all Supply Customer Sectors in all Markets**
- **No Disallowance of USB Expenditures**
- **Collaborate with Regional Efforts Where Effective**
- **Cross Market Programs**
- **Incorporate Recommendations from Evaluation**
- **Natural Gas DSM Assessment in Final Stages**
- **Conduct End-Use Survey—all Sectors, Electric and Natural Gas (RFP out now)**
- **Update Electric DSM Assessment**

# ***DSM Programs***

## **USB Programs**

- **E+ Energy Audit for Home**
- **E+ Energy Appraisal for Business**
- **E+ Irrigator Program**
  - doesn't meet TRC
- **E+ Free Weatherization**
  - no cost effectiveness test required
- **E+ Renewable Energy**
  - small scale wind and PV
  - Net-metered
  - >500 Systems since 2000

## **Default Supply DSM Programs**

- **E+ Home Lighting**
- **E+ Commercial Lighting**
- **E+ Residential New Construction**
- **E+ Residential Electric Savings**
- **E+ Electric Motors/Green Motor Rewinds**
- **E+ Business Partners**
- **Northwest Energy Efficiency Alliance (21% of 2007/08 Resource—adjusted to mkt)**
- **E+ Natural Gas Residential Savings**

# Key Programs

- **E+ Lighting**
  - Mail-In Rebate
  - 2 Direct Mail Instant Coupons
  - BPA Manufacturer Buydown
  - Home Show Giveaway
  - Direct Install in E+ Audit
  - Focus on 4L's
  
- **Retailer Relationship/Education**

remember the  
**four L's**

when buying CFLs:



### label:

Look for the ENERGY STAR® label for top performance and satisfaction.



### light:

Buy a CFL that produces at least as much light (lumens) as the incandescent bulb you are replacing. Lumens are the universal way to measure light output and are listed on all lighting packaging.

Incandescent Bulb (Wattage)	Necessary Light Output (Lumens)	Typical CFL Replacement (Wattage)
40 WATTS	400 or more	10-12 WATTS
60 WATTS	800 or more	14-18 WATTS
75 WATTS	1100 or more	21-25 WATTS
100 WATTS	1600 or more	28+ WATTS

### location:

Read the CFL packaging to make sure the bulb is rated for the location where you plan to install it. Most CFLs will not work on dimmer switches.



### less energy:

Install CFLs in high use locations and cut the electricity usage and the associated costs by up to 75 percent. Don't wait for incandescent bulbs to burn out. Install CFLs now to start saving electricity and money.



Use your NorthWestern Energy Change a Light, Change the World instant savings coupon when you buy ENERGY STAR® light bulbs!\*

\*Coupon valid October 1 through November 30, 2008. Coupon limited to NorthWestern Energy residential electric customers. Not valid with any other offer from NorthWestern Energy. No duplicate coupons available. CFLs contain a small amount of mercury, always dispose of CFLs responsibly. Visit [www.northwesternenergy.com](http://www.northwesternenergy.com) for information from the EPA regarding mercury and CFLs.



# Key Programs

- **E+ Audit for the Home**
  - **Free On-site for Space or Water Heat Customers**
  - **Blower Door Test**
  - **Direct Install of Measures**
  - **DHW Wrap, Pipe, Aerators**
  - **CFLs in High Use Locations**
  - **Leave Behind Air Sealing Materials As Appropriate**
  - **Cross-market DSM Offerings**
  - **Free Mail-in Survey for Electric Baseload customers and Free CFL**
  - **Recommendations for Action**



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## Electrical Analysis

L.M. Fishing  
Tracking Number: sample

This table shows you where your energy dollars are being spent. We analyzed your past electric bills together with the information gathered during your audit to produce estimates of electricity usage for this period. The accuracy of this information and recommendations in this report depends on the accuracy of the answers you provided. All major appliances are listed, however small household appliances are grouped into a category entitled All Other Uses.

The term kWh (kiloWatt hour) is a measure of electrical energy. Your electrical bill is based on how many of these units your appliances use.



Your Estimated Annual Electric Use (July 15, 2006 - July 10, 2007)			
Appliance	Total Cost	Total Use kWh	Percentage of Total Use
Laundry	\$144.58	1,538	22.3%
Refrigerators	\$129.13	1,374	19.9%
Lights	\$89.68	954	13.8%
Freezers	\$86.18	917	13.3%
All Other Uses	\$32.08	341	4.9%
Heating Fans/Pumps	\$31.93	340	4.9%
Cooking	\$27.83	296	4.3%
Block Heaters	\$26.53	282	4.1%
Televisions	\$20.84	222	3.2%
Dishwasher	\$17.53	186	2.7%
Stereoes	\$14.29	152	2.2%
Computers	\$11.45	122	1.8%
Fans	\$10.15	108	1.6%
Microwave Oven	\$6.88	73	1.1%
<b>TOTAL</b>	<b>\$649.08</b>	<b>6,905</b>	<b>100.0%</b>

www.northwesternenergy.com  
Form No. 0801 06/07

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# ***Commercial/Industrial Challenges***

- **E+ Commercial Lighting—Prescriptive Rebates**
  - **Limited Vendor/Trade Ally**
  - **Strategies —Contract for one-on-one Trade Ally Outreach & with Evergreen Consulting to Implement Trade Ally Network**
  - **Strategy—Maximize Use of Integrated Design Lab, Seattle Lighting Design Lab Training**
- **E+ Business Partners—Custom Incentives for Electric Savings**
  - **Limited Participation and Process Intensive for Customer**
  - **Strategies—Increase one-on-one Outreach with Customers and Trade Allies through DSM Staff and Contractors**
  - **Contract for Project Support—NCAT**
  - **Promote NEEA training – Tuition Waivers (time and money to attend barrier)**

# *Commercial/Industrial Challenges*

- **E+ Motors/Rewinds**
  - **Strategy—Green Motor Training for Electricians**
- **Customer Interest in Natural Gas Savings**
  - **Strategy—Natural Gas DSM Assessment in Final Stages**

# ***Montana Challenges--General***

- **Rural Markets**
  - **Many Miles Between Opportunities (Customer or Trade Ally)**
  - **Limited Savings Potential per Project**
  - **End of the Distribution Chain**
- **Limited Trade Allies with Technical and Market Knowledge**
- **Cold Climate Limits Cost Effective Electric Technologies**
- **Many of the Largest Loads are “In Choice” so are not part of DSM**

# ***Demand Response***

- **Demand Response/Time Of Use**
  - **Directed by PSC to Study with Potential Pilot**
  - **End Use Survey will Feed**
  - **Market Differences—Less A/C, Less Population Density**
  - **AMR Already in Place—Reduces Savings**

# Questions & Comments

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