

Net metering ratepayer impacts, NorthWestern Energy customers, 2014

Benefits and Costs	Amount
Benefits	
Exported solar energy value at 2014 Mid-C average [exported solar energy (kWh) x \$0.038/kWh]	\$48,821
Exported wind/hydro energy value at 2014 Mid-C average [exported wind/hydro energy (kWh) x \$0.038/kWh]	\$9,063
Avoided T&D line losses, residential customers. [Line loss rate (8.5%) x residential production behind the meter x residential retail electricity rate]	\$30,021
Avoided T&D line losses, commercial customers. [Line loss rate (7.5%) x total commercial production behind the meter x commercial retail electricity rate]	\$16,758
Unclaimed BPA residential exchange credit, 2014 (NWE estimate)	\$25,668
Excess net metering production sacrificed to utility, 2014-2015 (provided by NWE)	\$20,543
Avoided hazardous and criteria air pollutant control costs	<i>not quantified</i>
Avoided transmission and distribution system capacity, operations and maintenance	<i>not quantified</i>
Avoided load following, regulation and frequency response	<i>not quantified</i>
Avoided power plant operations and maintenance costs	<i>not quantified</i>
Avoided fuel price hedging costs	<i>not quantified</i>
Avoided generation capacity investments or purchases	<i>not quantified</i>
Avoided renewable energy standard compliance costs	<i>not quantified</i>
Costs	
Lost revenue due to net metering (fixed T&D and supply costs, NWE 2013-2014 tracker year data)	(\$110,000)
Integration costs. [\$0.40/MWh x total production] <i>Johns Power</i>	(\$2,683)
Totals	
Total ratepayer benefits	\$150,874
Total ratepayer costs	(\$112,683)
Net ratepayer impact	\$38,191

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Submitted by the Montana Renewable Energy Association
 Energy and Telecommunications Interim Committee, September 11, 2015

Montana Electric Cooperatives' Association

Handout for ETIC

September 11, 2015

Montana Rural Electric Cooperatives Net-Metering Cost Shift Potential

Table F-2

Numbers derived from annual financial reports of each co-op to demonstrate the portion of each kWh charge that recovers fixed costs. The cost of the power itself has been subtracted from this charge. It is based on 1,000 kWh per month fully netted out

A	B	C	D
Revenue per kWh to recover fixed cost per kWh (1st block)	* Monthly cost shift to other member customers (from the kWh unit charge) - per net-metered service if 1,000 kWh normal usage is netted -	**Dollars if 50% of wholesale power is for kW capacity (assumes the service requires the same capacity as prior to net metering, which it would be in winter months.)	*Potential cost shift per month per net-metered service if average 1,000 kWh/ Month
0.0591	\$59.10	\$19.45	\$78.55
0.0528	\$52.80	\$35.75	\$88.55
0.039	\$39.00	\$17.50	\$56.50
0.0383	\$38.30	\$28.35	\$66.65
0.0188	\$18.80	\$26.10	\$44.90
0.0617	\$61.70	\$22.90	\$84.60
0.0321	\$32.10	\$18.45	\$50.55
0.0332	\$33.20	\$20.75	\$53.95
0.0273	\$27.06	\$18.45	\$45.51
0.0414	\$41.40	\$26.30	\$67.70
0.0428	\$42.80	\$34.20	\$77.00
0.0421	\$42.10	\$35.10	\$77.20
0.05826	\$58.26	\$34.85	\$93.11
0.03967	\$39.67	\$17.30	\$56.97
0.01946	\$24.92	\$19.95	\$44.87
0.0413	\$41.30	\$26.85	\$68.15
0.0261	\$26.10	\$19.70	\$45.80
0.02245	\$22.45	\$23.00	\$45.45
0.0586	\$58.60	\$35.20	\$93.80
0.0662	\$66.20	\$21.90	\$88.10
0.031	\$31.00	\$27.50	\$58.50
0.04	\$40.00	\$25.00	\$65.00
0.0448	\$44.80	\$22.95	\$67.75
0.024	\$24.00	\$16.50	\$40.50
Average	\$40.24	\$24.75	\$64.99
Range	\$18.80 - \$66.20	Range	\$40.50 - \$93.80

* Rate structures vary with over half of the co-ops having the same per kWh charge for all kWh. all but two co-ops have the same per unit kWh charge for the first 1,000 kWh per month. The two co-ops have the charge for the fixed cost factored into the cost shift numbers.

** This takes the average cost of power, to the extent residential has a lower load factor, the power costs would be higher. This will vary greatly from co-op to co-op if a co-op has high load factor commercial or industrial loads.

Table F-3		
Central Montana peaks - Nearly 1/3 of MT co-ops		Date and Time of Peak of CP
	Peak	
Coincident Peak	161326	1/5/2014
Peak	170684	18:30
Coincident Peak	166261	2/6/2014
Peak	179526	7:30
Coincident Peak	152163	3/1/2014
Peak	169105	19:00
Coincident Peak	116966	2/4/2015
Peak	133789	7:30
Coincident Peak	107371	5/28/2015
Peak	132861	18:00
Coincident Peak	108459	6/12/2015
Peak	136810	22:00
Coincident Peak	144962	7/10/2015
Peak	176215	18:30
Coincident Peak	147103	8/12/2015
Peak	163690	17:30
Coincident Peak	111545	9/25/2015
Peak	130905	20:00
Coincident Peak	109517	10/28/2015
Peak	124518	7:30
Coincident Peak	151609	11/13/2015
Peak	167547	7:00
Coincident Peak	157231	12/30/2015
Peak	172958	19:30

Table F-4	
Northwestern Energy Transmission 2014 Monthly Peak	
Month	Peak Hour Ending Time
Jan	7:00 p.m.
Feb	8:00 a.m.
Mar	8:00 p.m.
Apr	8:00 a.m.
May	6:00 p.m.
Jun	5:00 p.m.
Jul	5:00 p.m.
Aug	5:00 p.m.
Sep	5:00 p.m.
Oct	8:00 a.m.
Nov	7:00 p.m.
Dec	7:00 p.m.