



Wyoming Demand-Side Management 2018-2020 Plan

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Executive Summary

The purpose of this Plan is to create transparency, rate stability and certainty, for DSM acquisition levels, budgets, market shifts, and customer participation levels.

Wyoming's Demand-Side Management ("DSM") plan outlines kWh savings targets and budget estimates for years 2018 and 2020 (the "Plan"). The targets reflect Rocky Mountain Power's (the "Company") best estimates based on the available information at the time of the plan development. The Company will continually monitor program kWh savings and budgets and will add, remove and/or modify program offerings, initiatives or specific projects described in this plan in order to manage within kWh savings and budget targets. In the event circumstances arise that would lead to expenditures exceeding 10% of the total Plan budget, such as higher customer participation resulting in increased program costs, then the Company will engage with stakeholders to discuss impacts and the potential need to file Plan modifications with the Commission.

The DSM portfolio is made up of diverse delivery channels that have unique characteristics, such as complexity, lead times, flexibility, customer segments, and cost. A balance between the unique characteristics are taken into consideration while designing and implementing DSM offerings to achieve program portfolio objectives and manage budgets. All delivery channels will be monitored to identify opportunities for continual improvements, including new offerings, retirement of measures, kWh savings, costs, and streamlining customer participation.

2018-2020 Forecast Savings and Budgets

The kWh estimates for the Plan period were guided by the 2017 Integrated Resource Plan (IRP) selections and stakeholder input. The table below provides the planning estimates for kWh savings and expenditures by category after taking into consideration historical and expected future customer participation.

Wyoming 2018-2020 DSM Targets

Category	1 st Year MWH Savings at Gen				DSM Budget			
	2018	2019	2020	Total	2018	2019	2020	Total
Cat 1	11,890	11,840	7,840	31,570	\$ 1,732,895	\$ 1,992,948	\$ 1,198,944	\$ 4,924,787
Cat 2	14,700	15,412	15,412	45,524	\$ 3,855,187	\$ 4,029,891	\$ 4,171,590	\$ 12,056,667
Cat 3	28,100	32,000	32,000	92,100	\$ 6,000,000	\$ 6,000,000	\$ 6,000,000	\$ 18,000,000
Total	54,690	59,252	55,252	169,194	\$ 11,588,082	\$ 12,022,839	\$ 11,370,534	\$ 34,981,454

The IRP plays critical a role in shaping the current and potential future of DSM in Wyoming. The Company's biennial IRP and associated action plan provides the foundation for DSM acquisition targets in each state the Company serves, by identifying cost-effective DSM as compared to supply-side resource alternatives. This Plan utilized IRP targets and stakeholder input as the baseline for development of the forecast savings.

Residential (Category 1)

The Company’s residential delivery is made up of the *wattsmart* Homes, Low Income Weatherization, and Home Energy Reports programs, which include rebates and buy-downs for residential energy efficiency offerings. The residential portfolio maximizes the utilization of residential customers’ energy consumption through education and incentives for energy efficient offerings used in their homes. The residential programs provide a broad framework for more efficient products and services for low income residential customers, and residential customers with an existing single family home, multi-family unit, or manufactured home. Third party contractors administer the program offerings. Delivery channels are provided in four main ways: 1) upstream through manufacturer buy-downs; 2) post-purchase applications; 3) mid-market through retailers, dealers, distributors, or trade allies; and 4) direct to customer.

The 2017 IRP selected a mix of residential lighting and non-lighting measures, with more value being identified for measures that provide both energy savings and peak usage reductions. The program will look for opportunities to achieve targets by balancing the mix of offerings to align with cost-effectiveness and comprehensiveness of offerings for customers. LED lighting technology is rapidly evolving, making it challenging to keep up with appropriate incentive levels. Lighting incentives will be continually monitored and updated to ensure the appropriate levels for incentives. The past few years, residential energy efficiency savings have been flat or declining and have not kept up with IRP selections due to lower participation from residential customers. The Company will continually evaluate and adjust the delivery offerings and incentives to optimize customer participation, cost-effectiveness, and management to budget.

The tables below provide residential energy efficiency offerings currently under consideration in support managing to targets. Specific guidelines for each incentive table are maintained on the Company website. These guidelines include, but are not limited to, specific participation, technology, and project eligibility, and term definitions.

Table 1 – Residential Lighting Incentives

Offering	Equipment Type	Customer/Mid-Market Incentive “up to”
LED	LED General Purpose	\$1.50/lamp
	LED Specialty	\$2/lamp
	LED Fixtures	\$7/fixture

Table 2 – Residential Appliance Incentives

Equipment Type	Customer/Mid-Market Incentive “up to”
Clothes Washer	\$50
Refrigerator	\$50
Room Air Conditioner	\$20
Freezer	\$20
Heat Pump Water Heater	\$800
Low Flow Showerhead	\$31
Low Flow Aerator	\$5
Advanced Power Strip	\$32

Table 3 – Residential Building Envelope Incentives

Offering	Customer/Mid-Market Incentive “up to”
Windows	\$1.00/square foot

Table 4 – Residential HVAC Incentives

Offering	Sub-Category	Customer/Mid-Market Incentive “up to”
Gas Furnace	New Gas Furnace with ECM	\$175
	ECM on Existing Furnace	\$150
Evaporative Cooler	--	\$250
Central Air Conditioner	--	\$125
Heat Pump	--	\$1,900
Duct Sealing	--	\$800
Smart Thermostat	--	\$150

Table 5 – Residential New Construction Incentives

Measure Type	Sub-Category	Customer/Mid-Market Incentive “up to”
New Homes Whole Home Performance Path	Ducted Heat Pump	\$400
	Ductless Heat Pump	\$1000
	Gas Furnace	\$200
New Homes Lighting	--	\$100

Table 6 – Residential Insulation Incentives

Offering	Equipment Type	Customer/Mid-Market Incentive “up to”
Insulation	Attic/Ceiling Insulation	\$0.50/square foot
	Wall Insulation	\$0.75/square foot
	Floor Insulation	\$0.50/square foot

Table 7a – Low Income Weatherization Financial Assistance

Measure Type	Requirements	Dwelling Units	Maximum Administrative Payment “up to”
Administrative Payment	1. Company will reimburse Agency up to 50% of the installed cost of all major measures and supplemental measures installed. These reimbursements will be calculated after property owner contributions are deducted. Financial assistance will be provided one time only on any individual major or supplemental measure, and up to two times per dwelling. 2. Company will reimburse Agency for administrative costs based on 10% of the Company’s rebate on installed measures.	1 to 4	\$350
		5 to 10	\$800
		11 to 15	\$1200
		16 to 20	\$1400
		21 to 25	\$1600
		26 to 30	\$1800
		31+	\$2100

Table 7b – Low Income Weatherization Measures

Measure Category	Measure Type	Sub-Category	Requirements
Major	Ceiling Insulation	Electrically Heated Homes	Up to R-48 for ceilings with less than R-30 in place. R-30 or better in attics will not be further insulated
	Floor Insulation		Floor insulation over unheated spaces up to R-30
	Wall Insulation		Up to R-26 for walls with no insulation installed
Supplemental	Windows		Low E vinyl replacement with U-value of 0.30 or lower
	Attic Ventilation		Excludes power ventilators, whole house mechanical ventilation, and spot ventilation for kitchen and baths
	Ground Cover		Must be installed with floor insulation; other vapor barrier materials as required when installed with floor or ceiling insulation
	Duct Insulation & Sealing		Forced air electric space heating in unheated spaces
	Weather Stripping and/or Caulking		Includes blower door assisted air sealing and duct sealing
	Thermal Doors		---
	Timed Thermostats		Centrally controlled multi-room heating/cooling systems except when used with heat pumps and smart thermostats with occupancy sensors. Heat anticipating type thermostats for zonal electric resistance heating systems. Zonal thermostats must be separate from the heating unit and must be calibrated per the manufacturer’s specifications.
Supplemental	Showerheads, Aerators, & Pipe Insulation	No Electric Heating System Requirement	Electric water heaters must be present
	LEDs & LED Fixtures		Must be installed in fixtures that are on 2 hours or more per day
	Refrigerators		Refrigerators with monitored results or listed in the Weatherization Assistance Program Technical Assistance Center database with a savings-to-investment ratio of 1.0 or greater may be replaced with an ENERGY STAR model. Replaced refrigerators must be removed and recycled in accordance with EPA guidelines.
	Window Air Conditioner		Replacement of inefficient window air conditioning units eligible when audit results determine this to be cost-effective. Existing units must have been operated during the past 12 months. Replacements must be ENERGY STAR rated.

Non-Residential (Categories 2 & 3)

The Company's non-residential offerings are made up of the *wattsmart* Business program, which includes incentives and energy analysis services for commercial, industrial, and agricultural customers' retrofit, new construction, and major renovation projects. The program provides a broad framework of efficiency options for all business customers. The small and mid-market offerings are primarily delivered through the Trade Ally network and small business direct install. The large commercial and industrial program offerings include investment-grade energy analysis, energy project manager co-funding, and incentives or bill credits.

The primary method of achieving cost-effective savings is a hybrid of in-house delivery by a focused project management team for large customers combined with the outsourcing of small and mid-market customers' projects to specialized contractors. The program will look for opportunities by balancing the mix of offerings to align with cost-effectiveness, comprehensiveness of offerings, and simplifying customer participation. The Company will continually evaluate and adjust the delivery offerings and incentives to optimize customer participation, cost-effectiveness, and management to budget.

Wyoming customers have been turning to energy efficiency more than ever before to help their businesses be more competitive. Many oil and gas companies in Wyoming are investing in energy efficiency because they want to reduce their operating costs and keep their fields producing. These customers have actively reached out to the Company for help in identifying their most energy intensive pumps and proactively worked to reduce energy and maintenance costs. Customers have also been worried about keeping production running in the increasingly cost competitive environment. In several cases, businesses have contacted the Company for assistance in lowering their operating costs. Energy efficiency incentives have successfully bridged the economic gap to help customers lower operational costs, keeping their businesses viable in the marketplace.

Energy managers have also been able to retain employment during lay off periods due to the Energy Project Manager Co-funding offered by the *wattsmart* Business program, which provides up to the full salary of a customer employee if documented energy savings are achieved through the DSM program.

LED lighting technology is rapidly evolving, making it challenging to keep up with appropriate incentive levels. Lighting incentives will be continually monitored and updated to ensure the appropriate levels for incentives during the Plan period. In 2016, LEDs made up 96 percent of lighting savings that came into the *wattsmart* Business program, and 99 percent of lighting savings in the first quarter of 2017. Of those savings, 20 percent were from lamp change-outs, with the remainder coming from various types of fixture retrofits. For 2018-2019, the *wattsmart* Business program will offer a new structure of lighting incentives allowing the program to evolve incentives with the LED market and move away from primarily incenting bulb and fixture replacements, placing more emphasis on lighting controls. Common replacement bulbs, which have made up 20 percent of the lighting savings over the last year, will transition over time to be incented at the commercial lighting distributor point of purchase, rather than custom lighting project calculations provided by lighting contractors. Lighting contractors will be incented to evolve project installations to include lighting controls previously unavailable prior to the mainstream acceptance of LED technology. This transition is expected to increase cost-effectiveness by incenting lighting projects with higher levels of efficiency.

The tables below provide non-residential energy efficiency offerings currently under consideration in support of managing to targets and budgets. The tables below provide residential energy efficiency offerings currently under consideration in support of the Plan. Specific guidelines for each incentive table are maintained on the Company website. These guidelines include, but are not limited to, specific participation, technology, and project eligibility, and term definitions.

Table 8 – Non-Residential Incentive Categories

Category	Customer Incentive “up to”
Custom incentives for qualifying measures not on the prescriptive list.	\$0.15 per annual kWh savings + \$50 per average monthly kW reduction
Energy Management	\$0.02 per kWh annual savings
Energy Project Manager Co-Funding	\$0.025 per kWh annual savings
Bill Credit	80% of eligible project costs

Table 9A – Non-Residential Lighting System Retrofits

Lighting	Category	Customer Incentive “up to”
Interior Lighting	Lighting Retrofits	\$0.15/kWh
	TLED Relamp	\$6/lamp
	Fluorescent Relamp	\$1/lamp
Exterior Lighting	Lighting Retrofits	\$0.15/kWh
	Street/Pole	\$0.15/kWh

*This table and its associated incentive structure for lighting system retrofits will no longer be effective after December 31, 2018.

Table 9B – Non-Residential Lighting System Retrofits

Measure	Category	Maximum Incentive “up to”
Lighting System Retrofits	Interior Lighting	\$0.20/kWh
	Exterior Lighting	\$0.15/kWh
	Custom Lighting	\$0.05/kWh

*This table and its associated incentive structure for lighting system retrofits will become effective January 1, 2019.

Table 10 – Non-Residential Non-General Illuminance Incentives (Retrofit Only)

Measure	Category	Customer Incentive “up to”
Non-General Illuminance	Exit Sign	\$15/Sign
	LED Message Center Sign	\$5/Lamp
	LED Channel Letter Sign	\$5/Linear Foot
	LED Marquee/Cabinet Sign	\$5/Linear Foot
	LED Case Lighting – Refrigerated Case	\$10/linear foot
	LED Case Lighting – Freezer Case	\$10/linear foot
	Refrigerated Case Occupancy	\$1/linear foot
Custom	Custom	\$0.15/kWh annual energy savings

Table 11 – Non-Residential New Construction/Major Renovation Lighting Incentives

Measure	Category	Customer Incentive “up to”
Interior Lighting	Lighting and Lighting Control	\$0.08/kWh annual energy saved
Exterior Lighting	LED Outdoor Pole/Roadway, decorative	\$75/fixture
	LED Outdoor Pole/Roadway	\$400/fixture
	LED Canopy/Soffit	\$125/fixture
	LED Wall Pack	\$75/fixture
	LED Flood Lights	\$150/fixture
	Custom LED	\$0.08/kWh annual energy savings
	Exterior Dimming Control	\$0.34/Watt controlled

Table 12 – Non-Residential Motor Incentives

Equipment Type	Sub-Category	Customer Incentive “up to”
Electronically Commutated Motor	Refrigeration application	\$0.50/watt
	HVAC application	\$50/horsepower
Variable-Frequency Drives (HVAC fans and pumps)	HVAC fans and pumps	\$65/horsepower
Green Motor Rewinds	--	\$1/horsepower

Table 13 – Non-Residential HVAC Equipment and Controls Incentives

Equipment Type	Customer Incentive “up to”
Unitary Commercial Air Conditioners	\$75/ton
Packaged Terminal Air Conditioners (PTAC)	\$25/ton
Packaged Terminal Heat Pumps (PTHP) (Heating & Cooling Mode)	\$50/ton
VRF Heat Pumps	\$75/ton
Unitary Commercial Heat Pumps	\$75/ton
Heat Pump Loop	\$25/ton
Evaporative Cooling	\$0.06/CFM
Indirect-Direct Evaporative Cooling (IDEC)	\$0.15/kWh + \$50/kW
Chillers	\$0.15/kWh + \$50/kW
365/366 day Programmable or Occupancy –based Thermostat	\$150/thermostat
Occupancy Based PTHP/PTAC control	\$50/controller
Evaporative Pre-cooler (Retrofit Only)	\$75/ton of attached cooling capacity
Advanced Rooftop Unit Control	\$4,500

Table 14 – Non-Residential Building Envelope (Retrofit) Incentives

Equipment Type	Customer Incentive “up to”
Cool Roof	\$0.10/square foot
Roof/Attic Insulation	\$0.09/square foot
Wall Insulation	\$0.07/square foot
Windows	\$0.35/square foot
Window Film	\$0.15/kWh annual energy savings

**Table 15 – Non-Residential Building Envelope Incentives
(New Construction/Major Renovations)**

Equipment Type	Customer Incentive “up to”
Cool Roof	\$0.10/square foot
Roof/Attic Insulation	\$0.09/square foot
Wall Insulation	\$0.07/square foot
Windows	\$0.35/square foot

Table 16 – Non-Residential Office Equipment Incentives

Equipment Type	Customer Incentive “up to”
Smart Plug Strip	\$15/qualifying unit

Table 17 – Non-Residential Appliance Incentives

Equipment Type	Equipment Category	Customer Incentive “up to”
High-Efficiency Clothes Washer	Residential (used in a business)	See Table 2
	Commercial (must have electric water heating)	\$100
Heat Pump Water Heater	Residential (used in a business)	See Table 2

Table 18 – Non-Residential Food Service Equipment Incentives

Equipment Type	Customer Incentive “up to”
Commercial Dishwasher (High Temperature models w/ Electric boosters Only)	\$1,000
Electric Insulated Holding Cabinet	\$300
Electric Steam Cooker	\$300
Electric Convection Oven	\$350
Electric Griddle	\$150
Electric Combination Oven	\$1,000
Electric Commercial Fryer	\$300
Ice Machines (Air-Cooled Only)	\$400
Demand Controlled Kitchen Ventilation Exhaust Hood (Retrofit Only)	\$0.15/kWh Annual Energy Savings
Anti-Sweat Heater Controls (Retrofit Only)	\$20/linear foot (case length)

Table 19 – Agricultural Irrigation Incentives

Irrigation Measure	Customer Incentive “up to”
Cut and press or weld repair of leaking wheel line, hand line, or portable mainline	\$10/repair
New rotating sprinkler replacing worn or leaking impact or rotating sprinkler	\$2.50
New gasket replacing leaking gasket, including mainline valve or section gasket, seal, or riser cap (dome disc)	\$2 each
New drain replacing leaking drain	\$3 each
New flow-control nozzle for impact sprinkler replacing existing nozzle or worn flow-control nozzle of same design flow or less	\$2.75 each
New nozzle replacing worn nozzle of same design flow or less on existing sprinkler	\$0.50 each
New Thunderbird wheel line hub replacing leaking wheel line hub	\$10 each
New or rebuilt impact sprinkler replacing worn or leaking impact sprinkler	\$2.25 each
New or rebuilt wheel line leveler replacing leaking or malfunctioning leveler	\$3 each
New or rebuilt wheel line feed hose replacing leaking wheel line feed hose	\$12 each
Pressure regulator	\$3 each
Low pressure sprinkler (e.g. rotating, wobbling, multi-trajectory spray) replacing impact sprinkler	\$3 each
Low pressure sprinkler (e.g. rotating, wobbling, multi-trajectory spray) replacing worn low pressure sprinkler	\$1.50 each
Gooseneck as part of conversion to low pressure system	\$0.50 per outlet
Drop tube (3 ft. minimum length)	\$2 per drop tube
New center pivot base boot gasket replacing leaking base boot gasket	\$125 each
New tower gasket replacing leaking tower gasket	\$4 each
Irrigation pump VFD	\$0.15/kWh annual energy savings

Table 20 – Non-Residential Farm and Dairy Equipment Incentives

Equipment Type	Customer Incentive “up to”
Automatic Milker Takeoff (Retrofit Only)	\$235 each
Agricultural Engine Block Heater Timer	\$10 each
High-efficiency Circulating Fan	\$75/fan
Heat Recovery	\$0.15/kWh annual energy savings
High Efficiency Livestock Waterer	\$165 each
High-efficiency Ventilation Fan	\$150/fan
Milk Pre-cooler (Retrofit Only)	\$0.15/kWh + \$50/kW
Programmable Ventilation Controller	\$20/fan controlled
Variable Frequency Drives for Dairy Vacuum Pump (Retrofit Only)	\$165/hp

Table 21 – Non-Residential Compressed Air Incentives (System Size ≤ 75 Horsepower)

Equipment Category	Customer Incentive “up to”
Low-Pressure Drop Filter	\$2/scfm
Receiver Capacity Addition	\$3/gallon above 2 gal/scfm
Cycling Refrigerated Dryer	\$2/scfm
VFD Controlled Compressor	\$0.15/kWh annual energy savings
Zero Loss Condensate Drain	\$100 each
Outside Air Intake	\$6/hp
Compressed air end use reduction	\$0.15/kWh annual energy savings

Table 22 – Non-Residential Incentives for Wastewater, Oil and Gas, and Other Refrigeration Energy Efficiency Measures

Equipment Type	Customer Incentive “up to”
Adaptive refrigeration control	\$0.15/kWh annual energy savings
Fast acting door	\$0.15/kWh annual energy savings
Oil and gas pump off controller	\$1,500 per controller
Oil and gas electric submersible pump	\$0.15/kWh annual energy savings
Wastewater – low power mixer	\$0.15/kWh annual energy savings

Table 23 – Non-Residential Incentives for Small Business Direct Installation (Retrofit only)

Eligible Customer Rate Schedules	Customer Incentive “up to”	Customer Co-pay “up to”
Schedule 25	\$7,500 per facility	50%
Schedule 28	\$7,500 per facility	50%

Table 24 – Non-Residential Mid-Market Incentives

Measure	Category	Customer Incentive “up to”
LED	A-Lamp, Medium Base	\$10/Lamp
	PAR Reflector Lamp	\$15/Lamp
	BR Reflector Lamp	\$13/Lamp
	MR16 Reflector Lamp	\$10/Lamp
	Candelabra/Globe Lamp	\$10/Lamp
	PLC Pin-based Lamp	\$15/Lamp
	PLL Pin-based Lamp	\$15/Lamp
	Decorative Lamp	\$10/Lamp
	Recessed Downlight Kit	\$15/Fixture
	Tubular LED “TLED”	\$25/Lamp
	HID Replacement Lamp	\$110/Lamp
Wallpack Fixture	\$75/Fixture	
Fluorescent	Reduced Wattage Lamp	\$1.00/Lamp