

Appendix D

Demand Side Management

Draft 2020 WA IRP

Appendix D - Introduction

The purpose of this document is to provide all relevant information regarding Demand Side Management. A list of items included in this appendix can be found in the Table of Contents on the following page. Due to the large file size of Appendix D, the appendix had to be broken out in six different files. Those files are described below:

Appendix D – Volume 1 includes Ramp Rates, Residential DSM Forecast Highlights, Commercial DSM Forecast Highlights, Industrial DSM Forecast Highlights, Carbon DSM Scenarios, Residential Equipment, and Residential Non-Equipment

Appendix D – Volume 2 includes Commercial Equipment and Commercial Non-Equipment

Appendix D – Volume 3 includes more Commercial Non-Equipment

Appendix D – Volume 4 includes Industrial Equipment and Industrial Non-Equipment

Appendix D – Volume 5 includes more Industrial Non-Equipment

Appendix D – Volume 6 includes the CPA Phase 1 update

Appendix Demand Side Management (DSM)

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Ramp Rates

Residential DSM Forecast Highlights

Commercial DSM Forecast Highlights

Industrial DSM Forecast Highlights

Carbon DSM Scenarios

Residential Equipment

Residential Non-Equipment

Commercial Equipment Commercial

Non-Equipment Industrial Equipment

Industrial Non-Equipment

Residential DSM Highlights

Summary of Natural Gas Savings (therms), Selected

Years	2021	2022	2023	2025	2030	2040
Baseline Forecast (therms)	131,264,375	132,685,926	134,141,789	136,500,212	143,497,442	158,860,700
Cumulative Savings (therms)						
UCT Achievable Economic Potential	471,164	974,111	1,578,956	2,844,476	10,067,040	22,120,024
TRC Achievable Economic Potential	263,853	532,719	833,344	794,225	2,463,959	5,641,270
RVT Achievable Economic Potential	283,539	574,417	907,519	995,320	3,244,406	7,722,114
Achievable Technical Potential	846,386	1,720,245	2,714,206	5,181,093	16,624,936	36,292,986
Technical Potential	1,965,083	3,822,166	5,733,270	8,807,569	23,069,363	44,073,761
Energy Savings (% of Baseline)						
UCT Achievable Economic Potential	0.4%	0.7%	1.2%	2.1%	7.0%	13.9%
TRC Achievable Economic Potential	0.2%	0.4%	0.6%	0.6%	1.7%	3.6%
RVT Achievable Economic Potential	0.2%	0.4%	0.7%	0.7%	2.3%	4.9%
Achievable Technical Potential	0.6%	1.3%	2.0%	3.8%	11.6%	22.8%
Technical Potential	1.5%	2.9%	4.3%	6.5%	16.1%	27.7%
Incremental Savings (therms)						
UCT Achievable Economic Potential	471,164	504,604	608,734	1,196,694	1,746,689	796,499
TRC Achievable Economic Potential	263,853	269,611	302,506	287,341	418,404	218,132
RVT Achievable Economic Potential	283,539	291,824	335,405	370,692	566,516	331,436
Achievable Technical Potential	846,386	879,618	1,006,218	2,008,572	2,903,395	1,226,072
Technical Potential	1,965,083	1,865,852	1,929,655	2,761,348	3,483,955	1,278,434

Commercial DSM Forecast Highlights

Summary of Energy Savings (therms), Selected Years	2021	2022	2023	2025	2030	2040
Baseline Forecast (therms)	99,157,616	99,868,648	100,573,087	102,029,513	106,126,979	115,759,671
Potential Forecasts (therms)						
UCT Achievable Economic Potential	98,658,711	98,938,038	99,153,053	98,641,736	95,343,111	95,908,984
TRC Achievable Economic Potential	98,733,730	99,086,519	99,375,620	99,042,177	96,174,758	97,160,303
Achievable Technical Potential	97,974,932	97,583,430	97,133,836	95,282,580	89,325,978	88,526,181
Technical Potential	96,700,595	95,440,347	94,134,159	90,548,483	81,033,147	78,022,662
Cumulative Savings (therms)						
UCT Achievable Economic Potential	498,905	930,610	1,420,034	3,387,777	10,783,868	19,850,688
TRC Achievable Economic Potential	423,886	782,129	1,197,467	2,987,336	9,952,220	18,599,368
Achievable Technical Potential	1,182,684	2,285,218	3,439,251	6,746,933	16,801,001	27,233,491
Technical Potential	2,457,021	4,428,301	6,438,927	11,481,030	25,093,831	37,737,009
Energy Savings (% of Baseline)						
UCT Achievable Economic Potential	0.5%	0.9%	1.4%	3.3%	10.2%	17.1%
TRC Achievable Economic Potential	0.4%	0.8%	1.2%	2.9%	9.4%	16.1%
Achievable Technical Potential	1.2%	2.3%	3.4%	6.6%	15.8%	23.5%
Technical Potential	2.5%	4.4%	6.4%	11.3%	23.6%	32.6%
Incremental Savings (therms)						
UCT Achievable Economic Potential	498,905	433,871	495,025	1,394,162	1,742,926	856,591
TRC Achievable Economic Potential	423,886	359,721	419,559	1,288,804	1,642,804	799,895
Achievable Technical Potential	1,371,608	1,235,569	1,311,167	2,293,078	2,461,117	1,219,608
Technical Potential	2,457,021	2,011,277	2,048,958	3,078,509	2,981,568	1,523,488

Industrial DSM Forecast Highlights

Summary of Energy Savings (therms), Selected Years	2021	2022	2023	2025	2030	2040
Baseline Forecast (therms)	32,823,316	33,529,775	34,241,951	35,672,248	39,080,320	45,041,889
Potential Forecasts (therms)						
UCT Achievable Economic Potential	32,743,738	33,374,557	33,987,792	35,192,313	38,004,958	43,307,517
TRC Achievable Economic Potential	32,744,875	33,376,842	33,991,235	35,198,100	38,016,716	43,329,110
RVT Achievable Economic Potential	32,743,853	33,374,798	33,988,174	35,193,012	38,006,640	43,311,244
Achievable Technical Potential	32,738,028	33,363,341	33,971,400	35,166,475	37,960,422	43,238,878
Technical Potential	32,645,526	33,235,771	33,805,972	34,925,109	37,557,594	42,702,095
Cumulative Savings (therms)						
UCT Achievable Economic Potential	79,578	155,218	254,159	479,934	1,075,362	1,734,372
TRC Achievable Economic Potential	78,441	152,933	250,715	474,148	1,063,604	1,712,780
RVT Achievable Economic Potential	79,463	154,977	253,777	479,236	1,073,680	1,730,646
Achievable Technical Potential	85,288	166,434	270,551	505,772	1,119,898	1,803,011
Technical Potential	177,790	294,004	435,979	747,138	1,522,725	2,339,794
Energy Savings (% of Baseline)						
UCT Achievable Economic Potential	0.2%	0.5%	0.7%	1.3%	2.8%	3.9%
TRC Achievable Economic Potential	0.2%	0.5%	0.7%	1.3%	2.7%	3.8%
RVT Achievable Economic Potential	0.2%	0.5%	0.7%	1.3%	2.7%	3.8%
Achievable Technical Potential	0.3%	0.5%	0.8%	1.4%	2.9%	4.0%
Technical Potential	0.5%	0.9%	1.3%	2.1%	3.9%	5.2%
Incremental Savings (therms)						
UCT Achievable Economic Potential	79,578	75,770	99,265	127,801	115,286	64,165
TRC Achievable Economic Potential	78,441	74,618	98,099	126,606	114,028	62,778
RVT Achievable Economic Potential	79,463	75,643	99,125	127,636	115,064	63,846
Achievable Technical Potential	92,679	84,254	108,182	136,833	124,212	71,101
Technical Potential	177,790	116,502	142,755	171,654	149,557	86,582

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