

Table 8 – Annual Nominal Class 2 DSM Avoided Costs, No CO₂ Tax Scenario, 2011-2030

		Avoided Cost Values (Nominal \$/MWh)									
Resource	Actual Load Factor	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
EAST											
Residential Cooling	10%	92.59	93.45	98.67	96.34	101.80	98.22	96.60	97.05	98.60	97.21
Residential Lighting	48%	68.52	71.88	75.53	76.95	79.37	77.68	77.26	75.56	75.80	77.67
Residential Whole House	35%	71.53	74.73	78.69	79.45	81.63	80.27	79.94	77.98	78.73	80.67
Commercial Cooling	20%	78.04	80.13	85.32	84.93	89.12	86.45	85.23	85.02	86.60	87.68
Commercial Lighting	48%	69.01	72.91	77.14	77.66	80.19	78.99	78.08	77.13	78.32	79.02
Water Heating	57%	67.18	70.81	74.26	75.81	78.05	76.78	76.36	74.80	75.40	77.29
Plug Loads	59%	67.15	70.61	74.11	75.52	77.67	76.22	76.17	74.64	75.42	76.54
System Load Shape	69%	67.17	70.50	74.01	75.23	77.42	76.31	75.89	74.81	75.50	76.78
WEST											
Residential Cooling	7%	87.50	93.55	98.82	103.91	110.65	110.55	108.64	109.64	113.62	115.96
Residential Heating	25%	70.91	76.58	81.06	84.69	85.77	85.61	85.78	86.51	89.45	91.47
Residential Lighting	48%	69.00	74.09	78.90	83.43	86.40	85.48	84.82	86.34	88.94	90.75
Commercial Cooling	16%	74.58	79.96	84.81	89.76	94.93	94.49	93.23	95.07	97.84	100.16
Residential Whole House	49%	68.87	74.32	78.88	83.14	85.81	85.12	84.74	86.14	88.73	90.75
Commercial Lighting	48%	68.94	74.78	79.90	84.42	87.23	86.57	86.08	87.13	89.46	91.68
Water Heating	56%	67.78	72.97	77.56	82.04	84.79	84.09	83.45	84.93	87.26	89.23
Plug Loads	59%	68.10	73.23	77.85	82.15	84.81	84.20	83.75	85.01	87.57	89.47
System Load Shape	71%	67.69	72.87	77.49	82.00	84.66	84.11	83.54	84.90	87.31	89.41

		Avoided Cost Values (Nominal \$/MWh)									
Resource	Actual Load Factor	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
EAST											
Residential Cooling	10%	102.98	105.51	106.53	109.80	108.14	103.44	102.23	123.84	127.89	137.29
Residential Lighting	48%	79.83	81.78	82.95	82.03	83.11	82.89	81.40	91.99	93.97	100.83
Residential Whole House	35%	82.57	84.72	85.49	86.08	86.83	86.64	83.04	96.68	98.67	106.22
Commercial Cooling	20%	90.70	92.79	94.83	96.95	95.40	93.63	91.82	107.39	110.82	118.31
Commercial Lighting	48%	80.99	83.36	84.90	84.92	85.20	84.32	82.21	94.02	97.11	104.06

		Avoided Cost Values (Nominal \$/MWh)									
Resource	Actual Load Factor	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Water Heating	57%	79.38	81.02	82.00	82.11	83.18	82.88	80.68	92.25	93.94	100.95
Plug Loads	59%	78.87	80.54	81.88	81.80	82.29	82.16	80.79	91.57	93.24	100.38
System Load Shape	69%	78.74	80.98	82.21	82.41	82.97	82.52	80.69	92.46	94.55	101.68
WEST											
Residential Cooling	7%	120.27	123.27	124.84	125.63	125.40	129.01	133.33	138.61	138.61	143.17
Residential Heating	25%	92.80	95.16	97.02	98.79	99.22	104.26	103.19	107.04	108.91	111.73
Residential Lighting	48%	93.08	95.64	97.17	99.10	98.70	102.28	103.77	108.10	109.58	112.83
Commercial Cooling	16%	103.11	105.94	107.30	108.81	108.76	111.45	114.54	119.99	120.88	124.49
Residential Whole House	49%	92.90	95.35	96.83	98.67	98.66	102.84	103.53	107.85	109.37	112.47
Commercial Lighting	48%	93.73	96.29	98.04	99.81	99.82	103.61	104.89	109.10	110.91	114.12
Water Heating	56%	91.56	93.78	95.40	97.39	97.37	100.54	101.92	106.01	107.97	110.79
Plug Loads	59%	91.64	94.06	95.52	97.55	97.30	100.76	102.00	106.38	108.17	110.99
System Load Shape	71%	91.59	93.94	95.49	97.36	97.34	100.84	101.95	106.36	108.06	110.84

Table 9 – Annual Nominal Class 2 DSM Avoided Costs, Low to Very High CO₂ Tax Scenario, 2011-2030

		Avoided Cost Values (Nominal \$/MWh)									
Resource	Actual Load Factor	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
EAST											
Residential Cooling	10%	89.02	91.10	92.33	92.16	103.87	104.22	101.20	107.09	108.23	107.72
Residential Lighting	48%	66.01	69.58	70.80	71.90	82.56	83.19	84.43	84.44	85.99	88.06
Residential Whole House	35%	68.62	72.05	73.32	74.41	85.38	85.61	86.07	86.87	88.69	90.57
Commercial Cooling	20%	74.91	78.03	79.48	80.02	92.09	92.05	92.18	94.33	95.64	97.16
Commercial Lighting	48%	66.77	70.07	71.87	72.75	83.71	84.70	85.82	85.88	87.70	90.14
Water Heating	57%	64.81	68.17	69.37	70.79	81.39	82.33	83.15	83.56	85.45	87.50
Plug Loads	59%	64.77	68.02	69.74	70.70	80.96	82.08	83.29	83.18	84.54	87.26
System Load Shape	69%	64.92	67.96	69.35	70.61	81.02	82.00	82.79	83.20	84.55	86.87
WEST											
Residential Cooling	7%	81.27	85.07	86.47	88.00	97.88	100.55	101.45	105.26	108.10	110.90
Residential Heating	25%	65.81	69.58	71.51	72.85	78.56	80.34	82.14	84.17	86.31	89.79

		Avoided Cost Values (Nominal \$/MWh)									
Resource	Actual Load Factor	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Residential Lighting	48%	63.51	66.58	68.62	69.88	77.33	78.88	80.28	82.87	85.31	88.27
Commercial Cooling	16%	69.05	71.80	73.84	75.16	84.02	86.47	87.30	90.75	93.15	95.89
Residential Whole House	49%	63.50	66.85	68.74	69.99	77.15	78.85	80.42	82.88	85.08	88.07
Commercial Lighting	48%	63.63	66.80	68.84	70.10	77.71	79.31	80.95	83.31	85.71	89.06
Water Heating	56%	62.41	65.52	67.55	68.75	75.92	77.70	79.10	81.50	83.84	86.53
Plug Loads	59%	62.69	65.88	67.74	69.05	76.15	77.70	79.31	81.75	84.10	86.86
System Load Shape	71%	62.33	65.60	67.45	68.71	75.84	77.58	79.08	81.44	83.94	86.53

		Avoided Cost Values (Nominal \$/MWh)									
Resource	Actual Load Factor	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
EAST											
Residential Cooling	10%	115.85	123.61	128.08	137.47	142.06	143.42	154.90	180.57	195.11	218.30
Residential Lighting	48%	92.62	98.32	101.69	107.97	114.59	120.87	127.13	145.77	155.11	173.70
Residential Whole House	35%	95.44	101.09	105.17	112.72	118.69	125.05	131.36	153.26	162.52	182.70
Commercial Cooling	20%	104.73	109.14	114.83	123.93	130.80	133.09	140.06	163.32	172.93	200.70
Commercial Lighting	48%	94.91	100.06	105.47	111.87	117.96	124.03	130.47	151.20	162.60	182.58
Water Heating	57%	92.12	96.97	101.95	108.16	114.88	121.02	127.93	146.87	156.64	177.16
Plug Loads	59%	91.66	96.70	101.49	107.16	114.32	120.32	126.73	145.55	154.26	175.57
System Load Shape	69%	91.99	96.97	102.03	107.61	114.12	121.03	127.26	146.11	156.69	177.64
WEST											
Residential Cooling	7%	115.53	122.06	127.58	133.97	141.79	152.37	157.59	170.65	179.22	189.63
Residential Heating	25%	91.99	96.35	102.37	109.15	116.02	131.46	131.07	138.81	148.06	156.39
Residential Lighting	48%	90.78	96.25	101.85	108.30	115.04	127.27	130.17	139.61	148.59	156.89
Commercial Cooling	16%	99.30	104.81	110.54	116.53	123.95	133.70	138.61	150.45	159.46	167.57
Residential Whole House	49%	90.98	95.99	101.64	108.18	115.27	127.79	129.88	139.27	148.30	156.82
Commercial Lighting	48%	91.70	96.89	102.75	109.04	115.95	128.63	131.20	140.77	150.07	158.85
Water Heating	56%	89.26	94.46	100.05	106.42	113.45	125.22	127.93	136.94	146.45	154.84
Plug Loads	59%	89.49	94.60	100.50	106.75	113.61	125.58	128.42	137.40	146.68	155.09
System Load Shape	71%	89.51	94.43	100.23	106.42	113.37	125.63	128.18	137.32	146.53	155.10

Table 10 – Annual Nominal Class 2 DSM Avoided Costs, Medium CO₂ Tax Scenario, 2011-2030

		Avoided Cost Values (Nominal \$/MWh)									
Resource	Actual Load Factor	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
EAST											
Residential Cooling	10%	92.01	91.50	95.47	90.41	116.85	114.75	113.45	116.39	118.93	120.59
Residential Lighting	48%	66.61	69.53	71.34	70.94	92.99	93.51	93.38	93.64	94.83	97.91
Residential Whole House	35%	69.58	72.28	74.46	73.30	95.62	95.85	95.98	96.54	97.25	101.50
Commercial Cooling	20%	76.46	77.82	81.97	78.94	103.42	103.58	102.17	102.89	105.32	109.07
Commercial Lighting	48%	67.25	70.38	73.04	71.88	93.98	95.26	95.04	95.71	96.77	100.30
Water Heating	57%	65.18	68.06	69.97	69.89	91.92	92.64	92.97	92.54	93.96	97.41
Plug Loads	59%	65.16	67.97	70.05	69.56	91.40	92.10	92.42	92.15	94.08	96.67
System Load Shape	69%	65.12	68.04	70.00	69.38	91.26	92.30	92.18	92.08	94.11	97.25
WEST											
Residential Cooling	7%	85.37	92.78	94.94	97.51	122.94	126.87	122.17	124.77	130.24	132.77
Residential Heating	25%	71.42	77.64	79.39	81.76	97.95	99.54	99.23	100.19	104.18	106.21
Residential Lighting	48%	66.78	72.50	74.85	76.94	97.90	99.53	97.51	99.69	103.47	106.07
Commercial Cooling	16%	71.77	78.06	80.78	83.07	107.22	109.27	105.19	108.42	112.10	116.03
Residential Whole House	49%	67.45	73.49	75.67	77.80	97.76	99.54	97.56	99.55	103.43	106.03
Commercial Lighting	48%	67.07	73.49	75.70	78.00	98.68	100.19	97.82	100.18	103.92	107.07
Water Heating	56%	65.47	71.34	73.54	75.71	96.26	97.73	95.86	98.04	101.70	104.37
Plug Loads	59%	65.86	71.77	73.90	75.96	96.54	97.84	96.18	98.14	101.85	104.85
System Load Shape	71%	65.66	71.57	73.79	75.85	96.25	97.78	96.04	98.12	101.86	104.56

		Avoided Cost Values (Nominal \$/MWh)									
Resource	Actual Load Factor	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
EAST											
Residential Cooling	10%	125.57	131.25	133.34	142.19	141.47	131.18	130.37	153.07	158.43	171.00
Residential Lighting	48%	101.70	104.18	106.66	109.14	110.57	108.57	107.94	118.67	123.53	130.43
Residential Whole House	35%	104.62	107.48	110.95	114.02	114.98	111.90	110.68	123.55	128.44	136.13
Commercial Cooling	20%	114.81	117.06	121.00	125.42	125.90	119.41	117.43	135.09	140.99	152.28

		Avoided Cost Values (Nominal \$/MWh)									
Resource	Actual Load Factor	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Commercial Lighting	48%	104.02	105.75	110.04	112.67	114.01	110.31	109.83	121.35	126.81	136.27
Water Heating	57%	101.05	103.59	106.94	109.61	111.00	108.15	107.17	118.92	122.52	131.34
Plug Loads	59%	100.36	102.51	106.08	108.83	109.89	107.38	106.80	117.64	121.95	130.47
System Load Shape	69%	100.75	102.91	106.59	109.26	109.93	107.93	107.42	118.90	123.86	131.88
WEST											
Residential Cooling	7%	135.63	140.77	146.35	152.81	150.62	149.83	147.88	158.04	160.17	168.14
Residential Heating	25%	108.12	111.39	116.14	120.47	120.99	123.05	119.50	123.79	127.27	131.90
Residential Lighting	48%	108.09	111.69	117.11	121.96	121.47	121.70	119.29	125.50	129.29	133.97
Commercial Cooling	16%	117.95	122.18	128.59	133.56	132.06	130.80	128.51	137.31	140.79	146.76
Residential Whole House	49%	107.89	111.61	116.71	121.52	121.45	121.57	119.04	125.02	128.36	133.51
Commercial Lighting	48%	108.95	112.32	117.74	122.87	122.05	122.48	120.08	126.55	130.75	135.41
Water Heating	56%	106.22	109.93	114.91	120.15	119.37	119.33	116.97	123.06	126.97	131.66
Plug Loads	59%	106.36	110.07	115.23	119.84	119.50	119.33	117.21	123.24	127.08	131.90
System Load Shape	71%	106.46	109.92	115.12	119.93	119.67	119.41	117.23	123.11	127.20	131.91