

# Appendix M. DER forecast results by substation

In **Section 3.5.5.2** we presented the DER adoption forecast across different scenarios (reference case and low and high case sensitivities) at the aggregate system level, as well as depicted select DER adoption results in a map. This appendix contains detailed substation level DER adoption for the year 2030 for each DER type.

**Table 67.** 2030 solar PV adoption by substation (nameplate kW-dc)

**Table 68.** 2030 storage adoption by substation (nameplate kW-dc)

**Table 67. 2030 Solar PV adoption by substation (nameplate kW-dc)**

Substation Name	Low	Reference	High
ABERNETHY	980	1,908	3,169
ALDER	1,356	3,916	5,052
AMITY	506	919	1,219
ARLETA	1,958	8,078	9,711
BANKS	772	1,178	1,674
BARNES	1,671	4,566	5,772
BEAVERTON	936	1,958	2,475
BELL	1,783	5,370	6,556
BETHANY	3,379	5,436	5,856
BETHEL	1,187	3,157	3,922
BLUE LAKE	879	1,235	1,287
BOONES FERRY	699	2,325	2,887
BORING	911	2,027	2,451
BRIGHTWOOD	190	477	978
BROOKWOOD	964	2,073	2,765
CANBY	2,143	2,672	3,139
CANYON	770	1,688	2,268

**Table 69.** 2030 LDV EV adoption by substation

**Table 70.** 2030 MDHDV EV adoption by substation

**Table 71.** 2030 demand response peak demand impacts by substation (MW)

**Table 72.** Energy efficiency savings forecast at substation (Base case, aMW at generation)

Substation Name	Low	Reference	High
CARVER	1,502	3,300	3,756
CEDAR HILLS	1,235	3,238	3,658
CENTENNIAL	1,011	3,789	5,091
CLACKAMAS	870	1,680	2,291
CLAXTAR	697	1,725	2,057
COFFEE CREEK	158	205	439
COLTON	216	607	634
CORNELIUS	1,170	2,933	3,291
CORNELL	1,149	2,417	2,804
CULVER	7	7	7
CURTIS	184	1,016	929
DAYTON	2,274	3,168	3,716
DELAWARE	930	4,130	5,450
DENNY	1,339	3,803	4,768
DILLEY	196	321	329
DUNNS CORNER	231	533	908
DURHAM	1,025	2,162	2,855
E	4,490	5,250	6,700
EAGLE CREEK	376	765	949
EASTPORT	436	1,942	2,602
ELMA	1,981	3,071	3,745
ESTACADA	1,085	2,519	2,812
FAIRMOUNT	953	2,621	2,749
FAIRVIEW	1,655	2,909	3,642
FARGO	278	612	867
GALES CREEK	227	381	568
GARDEN HOME	727	2,328	2,528
GLENCOE	1,144	2,631	3,086
GLENCULLEN	727	2,563	2,809
GLENDOVEER	1,023	4,170	5,035

Substation Name	Low	Reference	High
GRAND RONDE	187	356	396
HARBORTON	287	628	911
HARMONY	2,628	4,447	5,553
HARRISON	677	1,270	1,819
HAYDEN ISLAND	441	563	953
HEMLOCK	1,722	2,577	2,774
HILLCREST	116	242	237
HILLSBORO	3,871	6,413	7,571
HOGAN NORTH	1,722	4,466	5,428
HOGAN SOUTH	2,019	5,950	6,966
HOLGATE	2,123	4,826	5,375
HUBER	2,827	7,325	8,934
INDIAN	1,695	5,149	6,080
ISLAND	1,097	2,701	3,675
JENNINGS LODGE	1,393	3,486	3,939
KELLEY POINT	41	41	80
KELLY BUTTE	1,338	4,631	5,236
KING CITY	1,398	3,196	3,792
LELAND	1,866	3,582	4,556
LENTS	709	2,520	3,349
LIBERAL	305	528	568
LIBERTY	2,077	6,658	7,769
MAIN	1,802	5,112	5,979
MARKET	449	2,032	3,214
MARQUAM	200	257	349
MCCLAIN	506	1,317	1,705
MCGILL	301	1,359	1,825
MERIDIAN	1,710	3,165	4,335
MIDDLE GROVE	2,566	5,041	6,000
MIDWAY	852	3,605	4,318

Substation Name	Low	Reference	High
MILL CREEK	838	991	1,292
MOLALLA	1,526	3,246	4,393
MT ANGEL	755	973	1,055
MT PLEASANT	2,332	5,076	5,623
MULINO	289	719	924
MULTNOMAH	1,265	5,247	6,436
MURRAYHILL	2,287	4,930	5,683
NEWBERG	2,874	6,128	6,914
NORTH MARION	1,051	2,675	3,713
NORTH PLAINS	1,306	2,211	2,662
NORTHERN	578	1,921	2,459
OAK HILLS	2,772	4,142	4,718
ORENCO	2,375	5,322	6,222
ORIENT	1,221	1,688	2,073
OSWEGO	642	1,525	2,053
OXFORD	2,768	4,200	5,129
PENINSULA PARK	283	1,014	1,256
PLEASANT VALLEY	2,408	4,228	5,022
PORTSMOUTH	606	2,869	3,402
PROGRESS	572	1,670	2,218
RALEIGH HILLS	544	1,538	1,857
RAMAPO	945	3,134	3,829
REDLAND	1,120	2,009	2,539
REEDVILLE	2,294	4,810	5,826
RIVERGATE SOUTH	120	491	775
RIVERVIEW	786	2,439	2,943
ROCK CREEK	2,135	3,272	3,733
ROCKWOOD	838	2,001	2,436
ROSEMONT	619	1,260	1,502
ROSEWAY	2,824	5,760	6,602

Substation Name	Low	Reference	High
RUBY	848	2,158	2,523
SALEM	690	771	947
SANDY	1,437	4,047	4,700
SCHOLLS FERRY	2,253	3,470	3,733
SCOGGINS	277	655	930
SCOTTS MILLS	387	863	1,059
SELLWOOD	1,140	3,231	4,114
SHERIDAN	331	1,039	1,324
SILVERTON	2,611	4,633	5,098
SIX CORNERS	2,511	4,902	6,014
SPRINGBROOK	2,355	3,625	4,284
ST LOUIS	1,548	2,428	2,442
ST MARYS EAST	443	1,166	1,738
SULLIVAN	1,483	3,370	4,283
SUMMIT	3	62	91
SUNSET	1,377	1,377	1,786
SWAN ISLAND	707	707	954
SYLVAN	1,215	2,232	2,656
TABOR	1,789	3,888	4,709
TEKTRONIX	1,481	4,075	5,106
TEMP B	42	42	42
TEMP H	396	410	638
TIGARD	1,183	2,712	3,331
TOWN CENTER	472	1,190	1,744
TUALATIN	1,620	2,963	3,161
TURNER	849	1,298	1,391
TWILIGHT	615	843	945
UNIONVALE	379	502	872
UNIVERSITY	228	1,104	1,215
URBAN	585	1,164	1,505

Substation Name	Low	Reference	High
WACONDA	1,114	1,512	1,813
WALLACE	516	1,110	1,254
WELCHES	85	502	934
WEST PORTLAND	1,568	3,249	3,771
WEST UNION	592	1,826	2,107
WILLAMINA	249	688	783
WILLBRIDGE	73	94	168
WILSONVILLE	2,184	4,713	5,664
WOODBURN	2,223	3,390	4,205
YAMHILL	1,708	2,425	2,955

Table 68. 2030 Storage adoption by substation (nameplate kW-dc)

Substation Name	Low	Reference	High
ABERNETHY	36	281	671
ALDER	184	784	1,221
AMITY	0	90	255
ARLETA	142	1,762	3,054
BANKS	10	110	224
BARNES	45	815	1,451
BEAVERTON	75	320	555
BELL	73	968	1,853
BETHANY	113	523	796
BETHEL	45	585	1,032
BLUE LAKE	30	120	185
BOONES FERRY	87	462	783
BORING	35	295	557
BRIGHTWOOD	0	50	255
BROOKWOOD	95	340	643
CANBY	20	105	295
CANYON	95	325	486

Substation Name	Low	Reference	High
CARVER	107	512	842
CEDAR HILLS	52	522	856
CENTENNIAL	40	720	1,580
CLACKAMAS	108	273	515
CLAXTAR	55	318	598
COFFEE CREEK	59	59	74
COLTON	5	100	170
CORNELIUS	35	455	813
CORNELL	37	372	572
CURTIS	25	235	305
DAYTON	50	300	505
DELAWARE	98	883	1,639
DENNY	50	690	1,254
DILLEY	0	20	38
DUNNS CORNER	9	84	179
DURHAM	97	382	645
E	99	254	623
EAGLE CREEK	20	130	170
EASTPORT	80	500	851
ELMA	176	476	766
ESTACADA	47	377	618
FAIRMOUNT	36	426	604
FAIRVIEW	65	335	770
FARGO	5	100	185
GALES CREEK	13	28	98
GARDEN HOME	39	484	684
GLENCOE	35	415	735
GLENCULLEN	55	470	750
GLENDOVEER	45	835	1,448
GRAND RONDE	0	45	90

Substation Name	Low	Reference	High
HARBORTON	10	95	220
HARMONY	149	634	1,168
HARRISON	15	145	463
HAYDEN ISLAND	0	30	186
HEMLOCK	115	305	435
HILLCREST	55	80	160
HILLSBORO	266	931	1,455
HOGAN NORTH	105	808	1,203
HOGAN SOUTH	143	1,093	1,713
HOLGATE	126	776	1,248
HUBER	110	1,155	2,107
INDIAN	90	1,001	1,516
ISLAND	65	485	801
JENNINGS LODGE	48	560	943
KELLEY POINT	0	0	10
KELLY BUTTE	82	927	1,525
KING CITY	43	578	883
LELAND	106	541	903
LENTS	54	829	1,189
LIBERAL	13	63	73
LIBERTY	130	1,295	2,119
MAIN	65	876	1,543
MARKET	20	420	1,029
MARQUAM	65	80	85
MCCLAIN	10	205	460
MCGILL	25	375	619
MERIDIAN	282	627	981
MIDDLE GROVE	140	922	1,583
MIDWAY	80	825	1,354
MILL CREEK	70	115	291



Substation Name	Low	Reference	High
MOLALLA	50	425	910
MT ANGEL	18	78	118
MT PLEASANT	120	719	1,169
MULINO	60	160	215
MULTNOMAH	82	1,142	1,766
MURRAYHILL	100	625	1,120
NEWBERG	115	891	1,407
NORTH MARION	15	400	926
NORTH PLAINS	65	305	430
NORTHERN	65	380	760
OAK HILLS	80	460	750
ORENCO	115	770	1,135
ORIENT	20	130	283
OSWEGO	72	297	567
OXFORD	85	530	840
PENINSULA PARK	25	220	455
PLEASANT VALLEY	163	608	1,004
PORTSMOUTH	40	720	950
PROGRESS	110	365	725
RALEIGH HILLS	62	352	553
RAMAPO	68	628	1,072
REDLAND	57	277	450
REEDVILLE	63	733	1,289
RIVERGATE SOUTH	13	133	228
RIVERVIEW	40	430	860
ROCK CREEK	50	295	485
ROCKWOOD	30	320	603
ROSEMONT	39	149	389
ROSEWAY	78	713	1,284
RUBY	30	380	619

Substation Name	Low	Reference	High
SALEM	291	296	431
SANDY	71	661	1,046
SCHOLLS FERRY	139	409	539
SCOGGINS	16	121	161
SCOTTS MILLS	17	137	212
SELLWOOD	78	568	988
SHERIDAN	35	245	325
SILVERTON	42	537	707
SIX CORNERS	105	725	1,360
SPRINGBROOK	65	375	710
ST LOUIS	55	320	489
ST MARYS EAST	75	290	580
SULLIVAN	61	506	942
SUMMIT	0	5	5
SUNSET	10	15	218
SWAN ISLAND	60	60	210
SYLVAN	193	448	558
TABOR	43	588	998
TEKTRONIX	46	686	1,406
TEMP B	0	0	5
TEMP H	5	5	25
TIGARD	119	509	854
TOWN CENTER	30	180	387
TUALATIN	160	465	515
TURNER	100	225	308
TWILIGHT	30	85	145
UNIONVALE	18	58	118
UNIVERSITY	115	385	499
URBAN	49	189	322
WACONDA	65	175	395

Substation Name	Low	Reference	High
WALLACE	18	168	213
WELCHES	20	90	313
WEST PORTLAND	75	545	862
WEST UNION	15	330	445
WILLAMINA	18	118	218
WILLBRIDGE	0	5	10
WILSONVILLE	58	553	953
WOODBURN	39	413	769
YAMHILL	40	195	436

Table 69. 2030 LDV EV adoption by substation

Substation Name	Low	Reference	High
ABERNETHY	1,702	2,282	2,646
ALDER	2,304	3,038	3,523
AMITY	1,124	1,535	1,894
ARLETA	3,594	4,754	5,557
BANKS	949	1,288	1,496
BARNES	3,664	4,828	5,567
BEAVERTON	1,088	1,460	1,754
BELL	2,627	3,392	4,061
BETHANY	4,960	6,217	7,207
BETHEL	2,579	3,498	4,211
BLUE LAKE	605	811	1,001
BOONES FERRY	3,392	4,322	4,970
BORING	1,970	2,635	3,064
BRIGHTWOOD	658	898	1,038
BROOKWOOD	1,031	1,327	1,556
CANBY	1,718	2,256	2,720
CANYON	1,651	2,066	2,342
CARVER	3,556	4,670	5,431

Substation Name	Low	Reference	High
CEDAR HILLS	2,728	3,449	4,054
CENTENNIAL	2,146	2,914	3,679
CLACKAMAS	1,087	1,442	1,650
CLAXTAR	1,290	1,682	2,004
COFFEE CREEK	188	245	282
COLTON	878	1,181	1,428
CORNELIUS	1,998	2,642	3,192
CORNELL	2,070	2,581	2,834
CULVER	52	72	77
CURTIS	438	584	650
DAYTON	1,950	2,587	2,975
DELAWARE	2,112	2,713	3,336
DENNY	2,015	2,651	3,230
DILLEY	396	535	644
DUNNS CORNER	894	1,157	1,416
DURHAM	1,116	1,442	1,746
E	1,823	2,311	2,734
EAGLE CREEK	893	1,202	1,472
EASTPORT	1,079	1,388	1,649
ELMA	1,873	2,521	2,936
ESTACADA	2,156	2,855	3,437
FAIRMOUNT	1,813	2,384	2,818
FAIRVIEW	1,321	1,760	2,082
FARGO	977	1,270	1,487
GALES CREEK	445	595	661
GARDEN HOME	1,716	2,224	2,696
GLENCOE	1,602	2,057	2,413
GLENCULLEN	1,723	2,186	2,506
GLENDOVEER	2,312	3,114	3,815
GRAND RONDE	404	542	677

Substation Name	Low	Reference	High
HARBORTON	566	756	992
HARMONY	2,090	2,803	3,414
HARRISON	617	808	968
HAYDEN ISLAND	274	378	421
HEMLOCK	716	968	1,129
HILLCREST	66	83	119
HILLSBORO	3,670	4,790	5,734
HOGAN NORTH	3,287	4,301	5,089
HOGAN SOUTH	3,319	4,532	5,374
HOLGATE	2,491	3,173	3,700
HUBER	4,499	5,824	6,924
INDIAN	4,354	5,801	6,923
ISLAND	1,692	2,230	2,728
JENNINGS LODGE	2,513	3,359	3,994
KELLEY POINT	12	16	19
KELLY BUTTE	2,369	3,076	3,792
KING CITY	1,957	2,600	3,239
LELAND	3,125	4,145	4,956
LENTS	1,495	1,976	2,412
LIBERAL	619	842	997
LIBERTY	4,656	6,269	7,412
MAIN	2,821	3,762	4,475
MARKET	1,681	2,335	2,932
MARQUAM	146	185	215
MCCLAIN	857	1,129	1,303
MCGILL	912	1,232	1,499
MERIDIAN	2,684	3,587	4,115
MIDDLE GROVE	4,144	5,564	6,456
MIDWAY	2,057	2,770	3,374
MILL CREEK	758	1,019	1,086

Substation Name	Low	Reference	High
MOLALLA	3,290	4,384	5,152
MT ANGEL	574	761	961
MT PLEASANT	3,113	4,099	4,896
MULINO	606	802	923
MULTNOMAH	3,175	4,118	4,813
MURRAYHILL	3,587	4,640	5,411
NEWBERG	4,324	5,674	6,814
NORTH MARION	2,371	3,209	3,827
NORTH PLAINS	1,442	1,883	2,264
NORTHERN	820	1,081	1,256
OAK GROVE	10	10	10
OAK HILLS	1,996	2,609	3,056
ORENCO	2,633	3,473	4,193
ORIENT	1,408	1,886	2,256
OSWEGO	2,212	2,782	3,325
OXFORD	1,504	2,026	2,412
PENINSULA PARK	503	652	822
PLEASANT VALLEY	4,459	5,767	6,914
PORTSMOUTH	1,196	1,582	1,956
PROGRESS	840	1,102	1,242
RALEIGH HILLS	1,475	1,903	2,208
RAMAPO	2,173	2,890	3,520
REDLAND	2,420	3,190	3,787
REEDVILLE	2,195	2,932	3,480
RIVERGATE SOUTH	260	330	431
RIVERVIEW	1,366	1,722	1,968
ROCK CREEK	2,299	2,905	3,371
ROCKWOOD	996	1,375	1,603
ROSEMONT	2,286	2,881	3,247
ROSEWAY	3,042	4,009	4,709

Substation Name	Low	Reference	High
RUBY	1,318	1,740	2,086
SALEM	112	151	168
SANDY	2,842	3,797	4,579
SCAPPOOSE	2	4	1
SCHOLLS FERRY	3,146	4,022	4,450
SCOGGINS	678	904	1,028
SCOTTS MILLS	994	1,321	1,586
SELLWOOD	1,535	1,998	2,377
SHERIDAN	1,350	1,861	2,299
SILVERTON	3,332	4,458	5,238
SIX CORNERS	4,075	5,292	6,163
SPRINGBROOK	2,136	2,832	3,481
ST LOUIS	1,367	1,824	2,177
ST MARYS EAST	942	1,278	1,506
STEPHENS			1
SULLIVAN	3,478	4,466	5,186
SUMMIT	61	76	100
SUNSET	124	160	170
SWAN ISLAND	161	216	247
SYLVAN	2,153	2,609	3,010
TABOR	1,670	2,138	2,488
TEKTRONIX	2,026	2,669	3,079
TEMP B	5	5	5
TEMP H	96	132	156
TIGARD	2,210	2,912	3,486
TOWN CENTER	648	854	1,066
TUALATIN	3,858	5,113	6,035
TURNER	1,058	1,393	1,618
TWILIGHT	653	886	1,009
UNIONVALE	661	888	1,070

Substation Name	Low	Reference	High
UNIVERSITY	662	899	1,074
URBAN	770	980	1,150
WACONDA	1,135	1,484	1,843
WALLACE	1,182	1,584	1,992
WELCHES	773	1,007	1,169
WEST PORTLAND	1,916	2,518	3,068
WEST UNION	1,055	1,441	1,769
WILLAMINA	748	989	1,156
WILLBRIDGE	29	47	58
WILSONVILLE	3,863	5,002	5,807
WOODBURN	2,496	3,422	4,198
YAMHILL	2,544	3,313	4,040

Table 70. 2030 MDHDV EV adoption by substation

Substation Name	Low	Reference	High
ABERNETHY	48	104	140
ALDER	58	98	121
AMITY	20	44	70
ARLETA	14	30	36
BANKS	17	32	42
BARNES	64	119	166
BEAVERTON	29	59	83
BELL	31	59	77
BETHANY	10	14	18
BETHEL	23	34	49
BLUE LAKE	54	121	170
BOONES FERRY	13	18	20
BORING	29	44	67
BRIGHTWOOD	8	10	13
BROOKWOOD	7	12	16



Substation Name	Low	Reference	High
CANBY	92	182	245
CANYON	35	61	80
CARVER	85	154	217
CEDAR HILLS	16	31	42
CENTENNIAL	30	44	60
CLACKAMAS	52	95	127
CLAXTAR	54	102	149
COFFEE CREEK	70	115	155
COLTON	11	23	35
CORNELIUS	38	79	102
CORNELL	11	14	19
CULVER	7	8	13
CURTIS	5	10	13
DAYTON	59	126	205
DELAWARE	16	23	32
DENNY	29	54	83
DILLEY	10	14	24
DUNNS CORNER	24	37	60
DURHAM	44	95	137
E	112	192	251
EAGLE CREEK	14	36	43
EASTPORT	11	16	20
ELMA	16	37	46
ESTACADA	30	65	86
FAIRMOUNT	17	32	49
FAIRVIEW	31	49	60
FARGO	43	76	106
GALES CREEK	8	13	20
GARDEN HOME	1	6	7
GLENCOE	5	7	10

Substation Name	Low	Reference	High
GLENCULLEN	2	4	5
GLENDOVEER	23	44	54
GRAND RONDE	19	35	46
HARBORTON	17	30	37
HARMONY	52	77	115
HARRISON	26	48	65
HAYDEN ISLAND	19	26	36
HEMLOCK	79	142	190
HILLCREST	7	17	25
HILLSBORO	86	152	211
HOGAN NORTH	89	119	138
HOGAN SOUTH	29	46	59
HOLGATE	77	142	196
HUBER	25	54	86
INDIAN	77	131	198
ISLAND	19	31	41
JENNINGS LODGE	19	37	50
KELLEY POINT	7	13	22
KELLY BUTTE	13	29	35
KING CITY	18	31	54
LELAND	46	95	131
LENTS	22	31	43
LIBERAL	23	41	54
LIBERTY	25	47	64
MAIN	7	19	38
MARKET	56	157	252
MARQUAM	6	10	13
MCCLAIN	16	26	34
MCGILL	5	10	12
MERIDIAN	38	70	103

Substation Name	Low	Reference	High
MIDDLE GROVE	152	270	392
MIDWAY	20	42	53
MILL CREEK	23	43	65
MOLALLA	79	151	226
MT ANGEL	11	23	32
MT PLEASANT	36	70	86
MULINO	8	25	32
MULTNOMAH	22	32	38
MURRAYHILL	4	7	13
NEWBERG	83	125	168
NORTH MARION	68	142	193
NORTH PLAINS	31	62	88
NORTHERN	10	12	13
OAK HILLS	10	16	19
ORENCO	32	59	74
ORIENT	26	53	90
OSWEGO	8	23	24
OXFORD	112	222	296
PENINSULA PARK	1	5	6
PLEASANT VALLEY	12	30	48
PORTSMOUTH	7	13	16
PROGRESS	14	22	25
RALEIGH HILLS	6	16	19
RAMAPO	4	16	19
REDLAND	47	72	101
REEDVILLE	49	90	119
RIVERGATE SOUTH	26	35	54
RIVERVIEW	44	54	65
ROCK CREEK	20	31	37
ROCKWOOD	37	72	108

Substation Name	Low	Reference	High
ROSEMONT	5	13	20
ROSEWAY	83	158	209
RUBY	44	84	116
SALEM	11	20	36
SANDY	64	112	133
SCAPPOOSE		1	1
SCHOLLS FERRY	23	42	68
SCOGGINS	7	16	25
SCOTTS MILLS	20	32	40
SELLWOOD	32	62	80
SHERIDAN	32	65	100
SILVERTON	84	150	212
SIX CORNERS	68	116	157
SPRINGBROOK	36	53	76
ST LOUIS	60	108	146
ST MARYS EAST	17	24	31
SULLIVAN	25	34	40
SUMMIT	6	6	6
SUNSET	16	34	50
SWAN ISLAND	108	167	211
SYLVAN	36	41	49
TABOR	5	10	13
TEKTRONIX	24	36	49
TEMP H	19	32	44
TIGARD	89	136	210
TOWN CENTER	23	40	55
TUALATIN	544	943	1,297
TURNER	23	44	56
TWILIGHT	8	18	35
UNIONVALE	29	60	80

Substation Name	Low	Reference	High
UNIVERSITY	17	34	47
URBAN	6	10	11
WACONDA	67	144	200
WALLACE	34	59	74
WELCHES	18	38	50
WEST PORTLAND	72	126	179
WEST UNION	18	43	53
WILLAMINA	14	36	47
WILLBRIDGE	29	56	78
WILSONVILLE	118	217	310
WOODBURN	67	115	158
YAMHILL	79	142	209

Table 71. 2030 demand response peak demand impacts by substation (MW)

Substation Name	Summer MW	Winter MW
ABERNETHY	-2.1	-1.6
ALDER	-3.4	-2.7
AMITY	-0.9	-0.6
ARLETA	-3.6	-2.0
BANKS	-0.7	-0.5
BARNES	-3.1	-2.1
BEAVERTON	-1.6	-1.6
BELL	-3.0	-1.8
BETHANY	-3.2	-1.9
BETHEL	-1.8	-1.1
BLUE LAKE	-1.6	-1.3
BOONES FERRY	-3.4	-2.4
BORING	-1.7	-1.2
BRIGHTWOOD	-0.6	-0.3
BROOKWOOD	-1.2	-1.0

Substation Name	Summer MW	Winter MW
CANBY	-1.1	-0.8
CANYON	-5.1	-5.0
CARVER	-4.2	-3.0
CEDAR HILLS	-2.8	-2.3
CENTENNIAL	-2.5	-1.8
CLACKAMAS	-1.9	-1.5
CLAXTAR	-1.6	-1.4
COFFEE CREEK	-0.7	-0.7
COLTON	-0.5	-0.4
CORNELIUS	-1.6	-0.9
CORNELL	-1.6	-1.2
CULVER	-0.1	-0.1
CURTIS	-0.4	-0.2
DAYTON	-1.7	-1.3
DELAWARE	-2.1	-1.1
DENNY	-2.2	-1.5
DILLEY	-0.3	-0.2
DUNNS CORNER	-0.5	-0.4
DURHAM	-2.7	-2.0
E	-4.4	-4.6
EAGLE CREEK	-0.7	-0.5
EASTPORT	-1.0	-0.6
ELMA	-1.7	-1.1
ESTACADA	-1.5	-1.2
FAIRMOUNT	-1.4	-0.9
FAIRVIEW	-1.6	-1.3
FARGO	-0.6	-0.4
GALES CREEK	-0.3	-0.2
GARDEN HOME	-1.7	-1.1
GLENCOE	-1.6	-1.1

Substation Name	Summer MW	Winter MW
GLENCULLEN	-1.5	-1.0
GLENDOVEER	-2.7	-1.9
GRAND RONDE	-0.4	-0.3
HARBORTON	-0.8	-0.6
HARMONY	-2.7	-1.7
HARRISON	-1.1	-1.0
HAYDEN ISLAND	-0.9	-0.8
HEMLOCK	-1.5	-1.3
HILLCREST	-0.7	-0.5
HILLSBORO	-3.0	-1.8
HOGAN NORTH	-3.4	-2.6
HOGAN SOUTH	-3.5	-2.3
HOLGATE	-2.8	-2.2
HUBER	-4.3	-2.7
INDIAN	-3.3	-1.9
ISLAND	-2.3	-1.4
JENNINGS LODGE	-2.5	-1.7
KELLEY POINT	-0.2	-0.2
KELLY BUTTE	-2.9	-2.2
KING CITY	-2.6	-1.9
LELAND	-2.2	-1.7
LENTS	-1.9	-1.2
LIBERAL	-0.5	-0.3
LIBERTY	-3.7	-2.3
MAIN	-2.7	-1.6
MARKET	-1.6	-1.1
MARQUAM	-0.9	-0.9
MCCLAIN	-1.0	-0.7
MCGILL	-1.0	-0.5
MERIDIAN	-3.0	-2.0

Substation Name	Summer MW	Winter MW
MIDDLE GROVE	-3.1	-2.5
MIDWAY	-2.2	-1.7
MILL CREEK	-0.9	-0.7
MOBILE 6	-3.3	-2.4
MOLALLA	-2.2	-1.5
MT ANGEL	-0.6	-0.4
MT PLEASANT	-2.8	-1.9
MULINO	-0.5	-0.3
MULTNOMAH	-2.7	-1.7
MURRAYHILL	-3.1	-2.4
NEWBERG	-3.2	-2.1
NORTH MARION	-2.0	-1.4
NORTH PLAINS	-1.2	-0.8
NORTHERN	-1.0	-0.8
OAK GROVE	-0.1	-0.1
OAK HILLS	-1.9	-1.5
ORENCO	-4.2	-3.8
ORIENT	-1.1	-0.8
OSWEGO	-1.8	-1.2
OXFORD	-2.0	-1.4
PENINSULA PARK	-0.6	-0.4
PLEASANT VALLEY	-3.5	-2.2
PORTSMOUTH	-1.6	-1.0
PROGRESS	-1.5	-1.1
RALEIGH HILLS	-1.3	-0.9
RAMAPO	-2.0	-1.5
REDLAND	-1.4	-1.1
REEDVILLE	-3.4	-2.1
RIVERGATE SOUTH	-0.7	-0.5
RIVERVIEW	-1.5	-1.1



Substation Name	Summer MW	Winter MW
ROCK CREEK	-1.5	-0.9
ROCKWOOD	-1.4	-1.1
ROSEMONT	-1.5	-0.9
RUBY	-1.6	-1.2
SALEM	-1.4	-1.1
SANDY	-2.4	-1.6
SCAPPOOSE	-0.1	-0.1
SCHOLLS FERRY	-3.0	-2.0
SCOGGINS	-0.7	-0.5
SCOTTS MILLS	-0.6	-0.5
SELLWOOD	-1.2	-0.9
SHERIDAN	-0.9	-0.7
SILVERTON	-2.4	-1.7
SIX CORNERS	-3.5	-2.2
SPRINGBROOK	-1.9	-1.3
ST HELENS	-0.1	0.0
ST LOUIS	-1.3	-0.9
ST MARYS EAST	-2.1	-1.6
STEPHENS	-0.5	-0.4
SULLIVAN	-2.2	-1.2
SUMMIT	-0.5	-0.5
SUNSET	-0.8	-0.7
SWAN ISLAND	-1.2	-1.1
SYLVAN	-1.7	-1.1
TABOR	-1.5	-1.0
TEKTRONIX	-3.6	-2.7
TEMP A	-0.1	-0.1
TEMP B	0.0	0.0
TEMP H	-0.3	-0.3
TIGARD	-2.5	-1.9

Substation Name	Summer MW	Winter MW
TOWN CENTER	-2.6	-2.4
TUALATIN	-2.9	-2.3
TURNER	-0.7	-0.6
TWILIGHT	-0.8	-0.6
UNIONVALE	-0.4	-0.3
UNIVERSITY	-1.0	-0.5
URBAN	-1.7	-1.8
WACONDA	-1.0	-0.7
WALLACE	-0.9	-0.5
WELCHES	-0.7	-0.6
WEST PORTLAND	-2.3	-1.7
WEST UNION	-1.2	-0.9
WILLAMINA	-1.5	-0.9
WILLBRIDGE	-1.0	-0.7
WILSONVILLE	-3.9	-3.1
WOODBURN	-1.2	-0.7
YAMHILL	-1.3	-0.9

**Table 72. Energy efficiency savings forecast at substation (Base case, aMW at generation)**

Substation Name	2022	2023	2024	2025	2026	2027	2028	2029	2030
ABERNETHY	0.17	0.18	0.13	0.12	0.14	0.15	0.17	0.18	0.20
ALDER	0.28	0.31	0.21	0.21	0.23	0.25	0.28	0.31	0.33
AMITY	0.07	0.07	0.05	0.05	0.06	0.06	0.07	0.07	0.08
ARLETA	0.25	0.27	0.18	0.18	0.20	0.22	0.24	0.27	0.29
BANKS	0.07	0.08	0.05	0.05	0.06	0.06	0.07	0.08	0.08
BARNES	0.23	0.25	0.17	0.17	0.19	0.21	0.23	0.25	0.27
BEAVERTON	0.18	0.19	0.13	0.13	0.14	0.16	0.17	0.19	0.20
BELL	0.33	0.36	0.24	0.24	0.27	0.30	0.33	0.36	0.38
BETHANY	0.20	0.22	0.15	0.15	0.16	0.18	0.20	0.22	0.23
BETHEL	0.12	0.13	0.09	0.09	0.10	0.11	0.12	0.13	0.14

Substation Name	2022	2023	2024	2025	2026	2027	2028	2029	2030
BLUE LAKE	0.16	0.18	0.12	0.12	0.13	0.15	0.16	0.18	0.19
BOONES FERRY	0.24	0.26	0.18	0.17	0.19	0.21	0.23	0.26	0.27
BORING	0.14	0.16	0.11	0.10	0.12	0.13	0.14	0.16	0.17
BRIGHTWOOD	0.04	0.05	0.03	0.03	0.04	0.04	0.04	0.05	0.05
BROOKWOOD	0.19	0.20	0.14	0.14	0.16	0.17	0.19	0.21	0.22
CANBY	0.12	0.13	0.09	0.08	0.10	0.11	0.12	0.13	0.14
CANYON	0.45	0.49	0.34	0.33	0.38	0.41	0.45	0.49	0.53
CARVER	0.33	0.36	0.24	0.24	0.27	0.30	0.33	0.36	0.38
CEDAR HILLS	0.26	0.28	0.19	0.19	0.21	0.23	0.25	0.28	0.30
CENTENNIAL	0.21	0.23	0.16	0.15	0.17	0.19	0.21	0.23	0.25
CLACKAMAS	0.20	0.22	0.15	0.15	0.17	0.18	0.20	0.22	0.23
CLAXTAR	0.13	0.14	0.10	0.10	0.11	0.12	0.13	0.14	0.15
COFFEE CREEK	0.09	0.10	0.07	0.07	0.07	0.08	0.09	0.10	0.10
COLTON	0.05	0.05	0.03	0.03	0.04	0.04	0.05	0.05	0.05
CORNELIUS	0.14	0.16	0.11	0.10	0.12	0.13	0.14	0.16	0.17
CORNELL	0.15	0.16	0.11	0.11	0.12	0.14	0.15	0.16	0.17
CULVER	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
CURTIS	0.03	0.04	0.02	0.02	0.03	0.03	0.03	0.04	0.04
DAYTON	0.12	0.13	0.09	0.08	0.10	0.10	0.11	0.13	0.14
DELAWARE	0.16	0.18	0.12	0.12	0.13	0.15	0.16	0.18	0.19
DENNY	0.20	0.21	0.15	0.14	0.16	0.18	0.19	0.21	0.23
DILLEY	0.03	0.03	0.02	0.02	0.02	0.02	0.03	0.03	0.03
DUNNS CORNER	0.08	0.09	0.06	0.06	0.07	0.07	0.08	0.09	0.09
DURHAM	0.23	0.25	0.17	0.17	0.19	0.21	0.23	0.25	0.27
E	0.56	0.61	0.42	0.41	0.46	0.51	0.55	0.61	0.65
EAGLE CREEK	0.06	0.07	0.05	0.05	0.05	0.06	0.06	0.07	0.07
EASTPORT	0.11	0.11	0.08	0.08	0.09	0.09	0.10	0.11	0.12
ELMA	0.21	0.23	0.16	0.15	0.17	0.19	0.21	0.23	0.25
ESTACADA	0.16	0.18	0.12	0.12	0.13	0.15	0.16	0.18	0.19
FAIRMOUNT	0.11	0.12	0.08	0.08	0.09	0.10	0.11	0.12	0.12

Substation Name	2022	2023	2024	2025	2026	2027	2028	2029	2030
FAIRVIEW	0.19	0.21	0.14	0.14	0.16	0.18	0.19	0.21	0.23
FARGO	0.06	0.07	0.05	0.05	0.05	0.06	0.06	0.07	0.07
GALES CREEK	0.02	0.02	0.01	0.01	0.01	0.02	0.02	0.02	0.02
GARDEN HOME	0.11	0.12	0.08	0.08	0.09	0.10	0.11	0.12	0.12
GLENCOE	0.11	0.12	0.08	0.08	0.09	0.10	0.11	0.12	0.12
GLENCULLEN	0.09	0.10	0.07	0.06	0.07	0.08	0.09	0.10	0.10
GLENDOVEER	0.21	0.22	0.15	0.15	0.17	0.19	0.20	0.22	0.24
GRAND RONDE	0.06	0.07	0.05	0.04	0.05	0.06	0.06	0.07	0.07
HARBORTON	0.06	0.06	0.04	0.04	0.05	0.05	0.06	0.06	0.07
HARMONY	0.29	0.32	0.22	0.21	0.24	0.27	0.29	0.32	0.34
HARRISON	0.22	0.23	0.16	0.16	0.18	0.19	0.21	0.23	0.25
HAYDEN ISLAND	0.12	0.13	0.09	0.09	0.10	0.11	0.12	0.13	0.14
HEMLOCK	0.18	0.19	0.13	0.13	0.15	0.16	0.18	0.19	0.21
HILLCREST	0.05	0.05	0.04	0.04	0.04	0.04	0.05	0.05	0.06
HILLSBORO	0.26	0.28	0.19	0.19	0.21	0.23	0.25	0.28	0.30
HOGAN NORTH	0.26	0.28	0.19	0.19	0.21	0.23	0.25	0.28	0.30
HOGAN SOUTH	0.28	0.31	0.21	0.21	0.23	0.26	0.28	0.31	0.33
HOLGATE	0.23	0.25	0.17	0.17	0.19	0.21	0.23	0.25	0.27
HUBER	0.30	0.33	0.22	0.22	0.25	0.27	0.30	0.33	0.35
INDIAN	0.27	0.30	0.20	0.20	0.23	0.25	0.27	0.30	0.32
ISLAND	0.22	0.24	0.16	0.16	0.18	0.20	0.22	0.24	0.26
JENNINGS LODGE	0.21	0.23	0.15	0.15	0.17	0.19	0.21	0.23	0.24
KELLEY POINT	0.10	0.11	0.08	0.07	0.08	0.09	0.10	0.11	0.12
KELLY BUTTE	0.26	0.28	0.19	0.19	0.21	0.23	0.26	0.28	0.30
KING CITY	0.20	0.22	0.15	0.15	0.17	0.18	0.20	0.22	0.23
LELAND	0.20	0.21	0.15	0.14	0.16	0.18	0.19	0.21	0.23
LENTS	0.15	0.17	0.11	0.11	0.13	0.14	0.15	0.17	0.18
LIBERAL	0.07	0.08	0.05	0.05	0.06	0.07	0.07	0.08	0.08
LIBERTY	0.26	0.28	0.19	0.19	0.22	0.24	0.26	0.28	0.30
MAIN	0.43	0.47	0.32	0.31	0.35	0.39	0.42	0.47	0.50

Substation Name	2022	2023	2024	2025	2026	2027	2028	2029	2030
MARKET	0.16	0.17	0.12	0.12	0.13	0.14	0.16	0.17	0.18
MARQUAM	0.18	0.19	0.13	0.13	0.15	0.16	0.17	0.19	0.21
MCCLAIN	0.09	0.09	0.06	0.06	0.07	0.08	0.09	0.10	0.10
MCGILL	0.08	0.09	0.06	0.06	0.07	0.07	0.08	0.09	0.10
MERIDIAN	0.30	0.33	0.22	0.22	0.25	0.27	0.30	0.33	0.35
MIDDLE GROVE	0.28	0.30	0.21	0.20	0.23	0.25	0.27	0.30	0.32
MIDWAY	0.19	0.21	0.14	0.14	0.16	0.17	0.19	0.21	0.22
MILL CREEK	0.11	0.12	0.08	0.08	0.09	0.10	0.11	0.12	0.13
MOLALLA	0.24	0.26	0.17	0.17	0.19	0.21	0.23	0.26	0.27
MT ANGEL	0.07	0.08	0.05	0.05	0.06	0.06	0.07	0.08	0.08
MT PLEASANT	0.23	0.25	0.17	0.17	0.19	0.21	0.23	0.25	0.27
MULINO	0.04	0.05	0.03	0.03	0.03	0.04	0.04	0.05	0.05
MULTNOMAH	0.19	0.21	0.14	0.14	0.16	0.17	0.19	0.21	0.22
MURRAYHILL	0.24	0.26	0.17	0.17	0.19	0.21	0.23	0.26	0.27
NEWBERG	0.26	0.28	0.19	0.19	0.21	0.23	0.26	0.28	0.30
NORTH MARION	0.15	0.17	0.11	0.11	0.13	0.14	0.15	0.17	0.18
NORTH PLAINS	0.10	0.10	0.07	0.07	0.08	0.09	0.10	0.10	0.11
NORTHERN	0.08	0.08	0.06	0.06	0.06	0.07	0.08	0.08	0.09
OAK GROVE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OAK HILLS	0.24	0.26	0.18	0.17	0.20	0.22	0.24	0.26	0.28
ORENCO	0.41	0.44	0.30	0.30	0.34	0.37	0.40	0.44	0.47
ORIENT	0.09	0.10	0.07	0.07	0.07	0.08	0.09	0.10	0.11
OSWEGO	0.17	0.18	0.13	0.12	0.14	0.15	0.17	0.18	0.20
OXFORD	0.18	0.20	0.14	0.13	0.15	0.17	0.18	0.20	0.21
PENINSULA PARK	0.08	0.09	0.06	0.06	0.07	0.07	0.08	0.09	0.09
PLEASANT VALLEY	0.25	0.27	0.19	0.18	0.21	0.23	0.25	0.27	0.29
PORTSMOUTH	0.16	0.18	0.12	0.12	0.14	0.15	0.16	0.18	0.19
PROGRESS	0.23	0.25	0.17	0.16	0.19	0.20	0.22	0.25	0.26
RALEIGH HILLS	0.13	0.14	0.10	0.09	0.11	0.12	0.13	0.14	0.15
RAMAPO	0.15	0.17	0.11	0.11	0.13	0.14	0.15	0.17	0.18

Substation Name	2022	2023	2024	2025	2026	2027	2028	2029	2030
REDLAND	0.12	0.13	0.09	0.08	0.10	0.11	0.12	0.13	0.14
REEDVILLE	0.46	0.50	0.34	0.33	0.38	0.41	0.45	0.50	0.53
RIVERGATE SOUTH	0.16	0.18	0.12	0.12	0.13	0.15	0.16	0.18	0.19
RIVERVIEW	0.14	0.15	0.10	0.10	0.12	0.13	0.14	0.15	0.16
ROCK CREEK	0.10	0.11	0.08	0.07	0.08	0.09	0.10	0.11	0.12
ROCKWOOD	0.35	0.38	0.26	0.26	0.29	0.32	0.35	0.38	0.41
ROSEMONT	0.10	0.11	0.08	0.07	0.08	0.09	0.10	0.11	0.12
ROSEWAY	0.13	0.14	0.10	0.09	0.11	0.12	0.13	0.14	0.15
RUBY	0.13	0.14	0.10	0.09	0.11	0.12	0.13	0.14	0.15
SALEM	0.10	0.11	0.08	0.08	0.09	0.09	0.10	0.11	0.12
SANDY	0.23	0.25	0.17	0.17	0.19	0.21	0.23	0.25	0.27
SCAPPOOSE CRPUD	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SCHOLLS FERRY	0.11	0.12	0.08	0.08	0.09	0.10	0.11	0.12	0.13
SCOGGINS	0.04	0.04	0.03	0.03	0.03	0.04	0.04	0.04	0.05
SCOTTS MILLS	0.04	0.05	0.03	0.03	0.04	0.04	0.04	0.05	0.05
SELLWOOD	0.17	0.18	0.13	0.12	0.14	0.15	0.17	0.18	0.20
SHERIDAN	0.09	0.10	0.07	0.06	0.07	0.08	0.09	0.10	0.10
SILVERTON	0.19	0.21	0.14	0.14	0.16	0.17	0.19	0.21	0.22
SIX CORNERS	0.27	0.30	0.20	0.20	0.22	0.25	0.27	0.30	0.32
SPRINGBROOK	0.21	0.22	0.15	0.15	0.17	0.19	0.20	0.22	0.24
ST HELENS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ST LOUIS	0.13	0.14	0.09	0.09	0.10	0.11	0.12	0.14	0.15
ST MARYS EAST	0.19	0.20	0.14	0.14	0.15	0.17	0.18	0.20	0.22
STEPHENS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SULLIVAN	0.34	0.37	0.25	0.25	0.28	0.31	0.34	0.37	0.40
SUMMIT	0.03	0.04	0.03	0.03	0.03	0.03	0.03	0.04	0.04
SUNSET	3.83	4.16	2.84	2.79	3.16	3.46	3.79	4.16	4.45
SWAN ISLAND	0.19	0.21	0.14	0.14	0.16	0.17	0.19	0.21	0.22
SYLVAN	0.14	0.15	0.10	0.10	0.12	0.13	0.14	0.15	0.16
TABOR	0.17	0.18	0.12	0.12	0.14	0.15	0.16	0.18	0.19

Substation Name	2022	2023	2024	2025	2026	2027	2028	2029	2030
TEKTRONIX	0.37	0.40	0.28	0.27	0.31	0.34	0.37	0.40	0.43
TEMP B	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TIGARD	0.18	0.19	0.13	0.13	0.15	0.16	0.18	0.19	0.21
TOWN CENTER	0.29	0.31	0.21	0.21	0.24	0.26	0.28	0.31	0.33
TUALATIN	0.38	0.41	0.28	0.27	0.31	0.34	0.37	0.41	0.44
TURNER	0.06	0.06	0.04	0.04	0.05	0.05	0.06	0.06	0.07
TWILIGHT	0.04	0.04	0.03	0.03	0.03	0.04	0.04	0.04	0.05
UNIONVALE	0.04	0.04	0.03	0.03	0.03	0.04	0.04	0.04	0.05
UNIVERSITY	0.12	0.13	0.09	0.08	0.10	0.10	0.11	0.13	0.13
UNKNOWN	0.02	0.02	0.01	0.01	0.02	0.02	0.02	0.02	0.02
URBAN	0.34	0.37	0.25	0.25	0.28	0.30	0.33	0.37	0.39
WACONDA	0.13	0.14	0.10	0.10	0.11	0.12	0.13	0.14	0.16
WALLACE	0.07	0.07	0.05	0.05	0.05	0.06	0.07	0.07	0.08
WELCHES	0.07	0.07	0.05	0.05	0.06	0.06	0.07	0.07	0.08
WEST PORTLAND	0.22	0.23	0.16	0.16	0.18	0.19	0.21	0.23	0.25
WEST UNION	0.23	0.25	0.17	0.16	0.19	0.20	0.22	0.25	0.26
WILLAMINA	0.10	0.10	0.07	0.07	0.08	0.09	0.09	0.10	0.11
WILLBRIDGE	0.06	0.07	0.05	0.04	0.05	0.06	0.06	0.07	0.07
WILSONVILLE	0.44	0.48	0.33	0.32	0.36	0.40	0.44	0.48	0.51
WOODBURN	0.20	0.22	0.15	0.15	0.17	0.18	0.20	0.22	0.23
YAMHILL	0.11	0.11	0.08	0.08	0.09	0.10	0.10	0.11	0.12