

Analysis of a 10-Percent Renewable Portfolio Standard

Table A1. Key Results

	2001	2010	2010	2010	2020	2020	2020	2025	2025	2025
		Reference	RPS, nominal	RPS, real	Reference	RPS, nominal	RPS, real	Reference	RPS, nominal	RPS, real
Generation (billion kilowatt-hours)										
Coal	1904	2293	2284	2279	2568	2497	2461	2803	2745	2708
Petroleum	125	50	49	49	56	55	54	61	59	57
Natural Gas	618	946	939	943	1441	1379	1365	1637	1578	1564
Nuclear Power	769	790	783	783	793	786	786	793	786	786
Conventional Hydropower	218	305	305	305	304	304	304	305	305	305
Geothermal	14	22	25	25	33	37	41	38	38	42
Municipal Solid Waste/Landfill Gas	22	31	35	35	34	38	39	34	39	39
Dedicated Biomass	36	50	50	50	62	62	63	68	68	68
Biomass Co-firing	2	9	13	14	9	24	49	9	18	40
Solar Thermal	0	1	1	1	1	1	1	1	1	1
Solar Photovoltaic	0	1	1	1	2	2	2	3	3	3
Wind	6	23	37	37	29	141	160	32	141	161
Ocean ¹	--	--	--	--	--	--	--	--	--	--
Other	6	13	13	13	17	17	17	20	19	19
Total	3721	4534	4535	4534	5349	5343	5342	5803	5798	5792
Renewable Portfolio Standard										
Electricity Sales	3382	4080	4079	4078	4820	4810	4808	5214	5203	5197
% Qualifying Renewables	0.0	0.0	3.7	3.7	0.0	6.1	7.1	0.0	5.6	6.5
% Renewables Required	0.0	0.0	3.8	3.8	0.0	8.7	8.7	0.0	8.8	8.8
Capacity (Gigawatts)										
Coal Steam	310	315	315	314	349	341	341	381	375	373
Other Fossil Steam	135	79	79	79	73	74	74	72	73	72
Combined Cycle	66	181	180	181	266	258	259	311	300	300
Combustion Turbine/Diesel	102	132	132	133	153	157	156	170	175	175
Nuclear Power	98	99	98	98	99	98	98	99	98	98
Pumped Storage	20	20	20	20	20	20	20	20	20	20
Conventional Hydropower	79	80	80	80	80	80	80	80	80	80
Geothermal	3	4	4	4	5	6	6	6	6	6
Municipal Solid Waste/Landfill Gas	4	4	5	5	5	5	5	5	5	5
Wood and Other Biomass	6	8	8	8	10	10	10	11	11	11
Solar Thermal	0	0	0	0	0	0	0	0	0	0
Solar Photovoltaic	0	0	0	0	1	1	1	1	1	1
Wind	4	8	12	12	10	41	47	11	41	47
Ocean ¹	--	--	--	--	--	--	--	--	--	--
Other	0	2	2	2	12	11	11	18	17	17
Total	828	933	936	936	1083	1102	1108	1185	1202	1207
Prices (2001 cents per kilowatt-hour)										
Credit Price	0.0	0.0	5.4	5.4	0.0	9.8	14.5	0.0	8.4	14.5
Retail Electricity Price	7.3	6.4	6.4	6.4	6.7	6.7	6.8	6.7	6.8	6.8

	2001	2010 Reference	2010 RPS, nominal	2010 RPS, real	2020 Reference	2020 RPS, nominal	2020 RPS, real	2025 Reference	2025 RPS, nominal	2025 RPS, real
Electric Sector Emissions (million metric tons)										
Nitrogen Oxides	4.75	3.90	3.90	3.90	4.02	3.99	3.97	4.08	4.04	4.04
Sulfur Dioxide	10.63	9.69	9.73	9.69	8.95	8.95	8.95	8.95	8.95	8.95
Carbon Dioxide ²	611.57	697.42	694.33	693.58	802.47	779.69	768.23	867.76	847.67	836.53
Fuel Prices										
Gas Wellhead Price	4.12	3.39	3.38	3.38	3.70	3.71	3.70	3.95	3.89	3.89
Coal Minemouth Price	17.59	15.06	15.03	15.01	14.34	14.28	14.36	14.39	14.42	14.49
1- Ocean energy technologies are not represented in NEMS 2- Million metric tons carbon equivalent Source: EIA Office of Integrated Analysis and Forecasting. National Energy Modeling System (NEMS) runs mlbase.d050303a (Reference case), ml_brpssm.d051203d (RPS nominal case), and ml_brpssmr.d060402b (RPS w/inflation case)										