

Analysis of a 10-Percent Renewable Portfolio Standard

Table 3. Key RPS Results, 2010, 2020, 2025

	2001	2010		2020		2025	
		Reference	RPS	Reference	RPS	Reference	RPS
Generation (billion kilowatt-hours)							
Coal	1904.1	2293.0	2284.3	2567.9	2496.8	2802.8	2745.2
Petroleum	125.4	50.0	49.1	56.4	55.3	61.5	58.7
Natural Gas	618.3	946.3	939.0	1440.9	1379.1	1637.0	1578.0
Nuclear Power	768.8	789.8	782.6	792.9	785.6	792.9	785.6
Conventional Hydropower	218.1	305.1	305.1	304.3	304.3	304.6	304.6
Geothermal	13.8	22.0	25.2	33.4	37.1	38.1	37.7
Municipal Solid Waste/Landfill Gas	22.0	31.4	34.6	33.8	38.4	34.0	38.5
Dedicated Biomass	36.3	50.0	50.1	61.6	62.2	68.1	67.8
Biomass Cofiring	1.7	9.0	13.3	8.8	23.6	8.7	18.2
Solar Thermal	0.5	0.8	0.8	0.9	0.9	1.0	1.0
Solar Photovoltaic	0.0	1.1	1.1	2.0	2.0	2.9	2.9
Wind	5.8	22.9	36.7	29.2	140.7	32.0	140.7
Ocean ¹	--	--	--	--	--	--	--
Other	6	13	13	17	17	20	19
Total	3721.3	4534.4	4534.7	5349.2	5342.6	5803.1	5797.8
Renewable Portfolio Standard							
Electricity Sales (billion kilowatt-hours)	3414	4104	4102	4848	4838	5246	5234
% Qualifying Renewables	N/A	N/A	3.7	N/A	6.1	N/A	5.6
% Renewables Required	N/A	N/A	3.8	N/A	8.7	N/A	8.8
Capacity (gigawatts)							
Coal Steam	310.5	315.3	314.8	348.6	341.1	380.8	374.9
Other Fossil Steam	135.0	79.0	79.5	73.0	74.1	72.2	72.8
Combined Cycle	65.7	181.3	180.2	265.9	257.8	311.1	299.8
Combustion Turbine/Diesel	102.2	131.7	132.1	153.3	156.6	169.5	175.1
Nuclear Power	98.2	98.7	97.7	99.0	98.0	99.0	98.0
Pumped Storage	19.9	20.3	20.3	20.3	20.3	20.3	20.3
Conventional Hydropower	79.2	79.8	79.8	79.7	79.7	79.7	79.7
Geothermal	2.8	3.8	4.2	5.2	5.6	5.8	5.7
Municipal Solid Waste	3.5	4.4	4.8	4.7	5.3	4.7	5.3
Wood and Other Biomass	6.2	8.0	8.0	10.0	10.0	11.1	10.9
Solar Thermal	0.3	0.4	0.4	0.5	0.5	0.5	0.5
Solar Photovoltaic	0.0	0.5	0.5	0.9	0.9	1.3	1.3
Wind	4.3	8.2	12.1	10.0	40.9	10.8	40.9
Ocean ¹	--	--	--	--	--	--	--
Other	0.0	1.8	1.7	11.9	10.8	17.9	16.6
Total	827.8	933.2	936.1	1083.1	1101.6	1184.7	1201.8

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	2001	2010		2020		2025	
		Reference	RPS	Reference	RPS	Reference	RPS
Prices (2001 cents per kilowatt-hour)							
Credit Price	N/A	N/A	0.54	N/A	0.96	N/A	0.83
Retail Electricity Price	7.3	6.4	6.4	6.7	6.7	6.7	6.8
Electric Sector Emissions (Million Metric Tons)							
Nitrogen Oxides	4.75	3.90	3.90	4.02	3.99	4.08	4.04
Sulfur Dioxide	10.63	9.69	9.73	8.95	8.95	8.95	8.95
Carbon Dioxide ²	611.57	697.42	694.33	802.47	779.69	867.76	847.67
Fuel Prices							
Gas Wellhead Price(2001 \$ per thousand cubic feet)	4.12	3.39	3.38	3.70	3.71	3.95	3.89
Coal Minemouth Price (2001 \$ per ton)	17.59	15.06	15.03	14.34	14.28	14.39	14.42
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) and ml_brpssm.d051203d (RPS case)							