

Energy Market Impacts of a Clean Energy Portfolio Standard

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Table E-S1. Key CEPS Analysis Results, 2010, 2020, 2030

	2004	2010		2020		2030	
		REF	CEPS	REF	CEPS	REF	CEPS
Generation (billion kilowatthours)							
Coal	1977	2218	2220	2505	2401	3381	3206
Petroleum	120	105	105	107	107	115	114
Natural Gas	702	774	773	1103	1100	993	974
Nuclear Power	789	809	809	871	893	871	1033
Pumped Storage/Other	8	7	7	7	7	8	8
Conventional Hydropower	269	301	301	303	302	303	303
Geothermal	14	18	18	34	34	53	42
Municipal Solid Waste/Landfill Gas	22	27	27	29	30	30	33
Dedicated Biomass	36	42	43	51	47	77	55
Biomass Co-Firing	1	34	33	36	114	26	63
Solar ¹	1	2	2	3	3	6	6
Wind	14	51	51	60	67	65	90
Total	3955	4388	4389	5108	5106	5926	5926
Clean Energy Portfolio Standard Compliance							
Electricity Sales (billion kilowatthours)	3567	3978	3978	4629	4626	5341	5342
% Qualifying Generation	2.5	4.2	4.1	5.4	7.7	5.5	9.2
% Qualifying Credits	0.0	0.0	4.1	0.0	7.7	0.0	9.2
% Clean Energy Required ²	0.0	0.0	0.7	0.0	7.9	0.0	9.3
Generating Capacity (gigawatts)							
Coal Steam	310	319	319	345	340	457	437
Other Fossil Steam	124	122	122	80	81	75	74
Combined Cycle	159	184	184	214	210	231	229
Combustion Turbine/Diesel	130	139	139	149	152	174	177
Nuclear Power	100	101	101	109	112	109	129
Pumped Storage	21	21	21	21	21	21	21
Other	0.0	0	0	1	1	6	6
Conventional Hydropower	78	78	78	79	78	79	79
Geothermal	2	3	3	5	5	7	5
Municipal Solid Waste/Landfill Gas	4	4	4	4	4	4	5
Wood and Other Biomass	6	7	7	9	8	12	9
Solar ¹	1	1	1	2	2	3	3
Wind	7	16	16	19	21	20	27
Total	936	988	989	1027	1027	1186	1191
Prices (2004 cents per kilowatt-hour)							
Credit Price	0.0	0.0	0.0	0.0	1.0	0.0	0.5
Retail Electricity Price	7.6	7.3	7.3	7.2	7.3	7.5	7.5
Electric Sector Emissions (Million Metric Tons)							
Carbon Dioxide	2299	2533	2535	2835	2735	3318	3182
Fuel Prices							
Natural Gas Wellhead Price (2004 dollars per thousand cubic feet)	5.49	5.03	5.03	4.90	4.89	5.92	5.89
Coal Minemouth Price (2004 dollars per ton)	20	22	22	20	20	22	21

¹Includes solar thermal power, utility-owned photovoltaics, and distributed photovoltaics.

²Incremental legislative target with 10 percent prior-year limit expressed as share of total same-year sales, accounting for exempt small retail suppliers.

Source: National Energy Modeling System runs AEO2006.D111905A and AEO06_COLE.D050906A.