

Maine

In 1996, most of the utility electricity in Maine was generated at the largest plant in the State, the Maine Yankee nuclear plant in Wicasset. Maine is also very reliant on hydroelectric power. The largest utility is the Central Maine Power Company, which operates four of the five largest plants in the State. The Nation's second highest percentage of nonutility generation was in Maine in 1996 where almost half of the electricity was generated at nonutility sources. Only Rhode Island had a larger share of nonutility capability. Maine has no utility coal capability. The average price of electricity in Maine, 9.46 cents per kilowatt-hour, ranked it as the eleventh most expensive in the Nation. Maine is a net importer of electricity.

Emissions from electricity generators in Maine were relatively low in 1996. Maine's emissions of sulfur dioxide (SO₂), nitrogen oxides (NO_x), and carbon dioxide (CO₂) ranked forty-third, forty-eighth and forty-second, respectively. The concentrations of these pollutants per square mile ranked fortieth, forty-fifth and forty-first, respectively. Emissions of SO₂ in Maine more than doubled between 1986 and 1991. They went down slightly in 1996. NO_x emissions tripled between 1986 and 1991. They declined slightly in 1996. In 1991, CO₂ emissions quadrupled those of 1986. They increased slightly again between 1991 and 1996. Maine is part of the Ozone Transport Commission (OTC).¹ Each of the thirteen States of the OTC is responsible for enacting regulations in order to achieve region-wide NO_x reductions in a consistent, enforceable manner and for allocating its NO_x Budget Program allowances among NO_x sources in the State. The targets in this program are large industrial boilers and all electricity generating

facilities with a rated output of 15 megawatts or more.

The five largest plants in Maine in 1996 were located in the southwest part of the State. Three of the five, Maine Yankee, Mason Steam, and Wyman, were located along the Atlantic coast. In 1986, nuclear units represented just over a quarter of Maine's generating capability and over two-fifths of its net generation. In 1996, the nuclear share of capability had fallen to under a quarter while the net generation share had fallen to just over a third. In 1997, the Maine Yankee Atomic Power Company announced the permanent shutdown of Maine Yankee, citing the rising cost of additional safety measures which made generating electricity too expensive in a market that is opening to deregulation and, therefore, providing no guaranteed customer base. Total nonutility capability and net generation, on the other hand, were just under a quarter and just over a quarter, respectively, in 1986. By 1996, the nonutility shares had risen to over a third and almost half, respectively.

Maine enacted a law in May 1997 that will allow retail competition by March 2000. For large investor-owned utilities, the law features a market share cap of 33 percent in their old service areas, terms for divestiture of generation assets, and the Nation's most aggressive renewables portfolio, requiring 30 percent of generation to be from renewable energy sources (including hydroelectric power). In May 1998, the Public Utility Commission adopted a requirement that, beginning in 1999, utilities must issue bills showing unbundled charges for generation and distribution, offer consumer education, and provide standard offer service for all consumers when competition begins.²

¹ The Ozone Transport Region comprises the States of Maine, New Hampshire, Vermont, Massachusetts, Connecticut, Rhode Island, New York, New Jersey, Pennsylvania, Maryland, Delaware, the northern counties of Virginia, and the District of Columbia.

² Energy Information Administration, Status of State Electric Utility Deregulation Activity, http://www.eia.doe.gov/cneaf/electricity/chg_str/tab5rev.html.

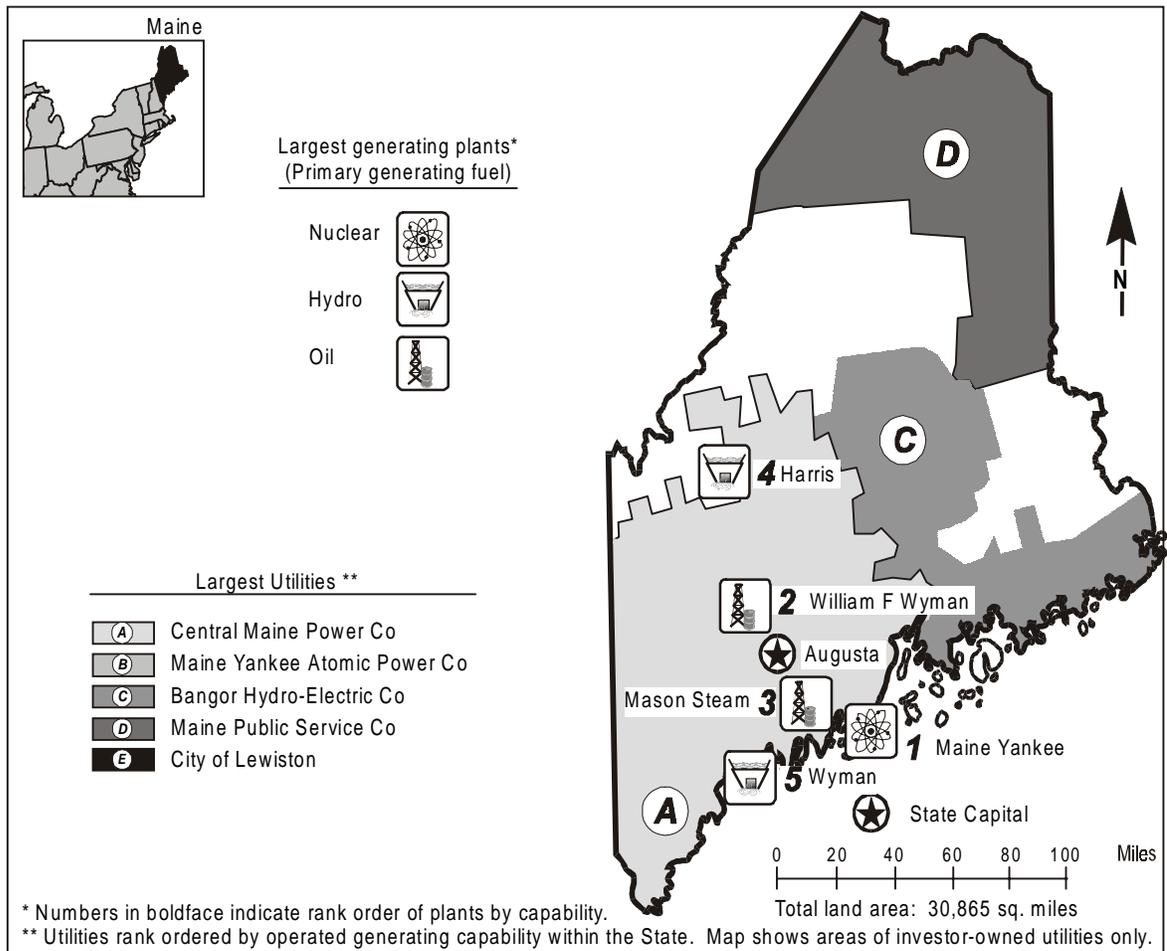


Table 1. 1996 Summary Statistics

Item	Value	U.S. Rank	Item	Value	U.S. Rank
NERC Region(s)		NPCC	Utility		
Net Exporter or Importer		Importer	Capability (MWe)	2,387	45
State Primary Generating Fuel		Nuclear	Generation (MWh)	7,800,149	46
Population (as of 7/96)	1,238,566	39	Average Age of Coal Plants	--	
Average Revenue (cents/kWh)	9.46	^a 41	Average Age of Oil-fired Plants	26 years	
Industry			Average Age of Gas-fired Plants	--	
Capability (MWe)	3,747	^b 36	Average Age of Nuclear Plants	24 years	
Generation (MWh)	15,158,958	^b 37	Average Age of		
Capability/person			Hydroelectric Plants	47 years	
(KWe/person)	3.03	^b 22	Average Age of Other Plants . . .	2 years	
Generation/person			Nonutility^c		
(MWh/person)	12.24	^b 25	Capability (MWe)	1,360	13
Sulfur Dioxide Emissions			Percentage Share		
(Thousand Short Tons)	27	43	of Capability	36.3	2
Nitrogen Oxide Emissions			Generation (MWh)	7,358,809	12
(Thousand Short Tons)	11	48	Percentage Share of Generation	48.5	2
Carbon Dioxide Emissions					
(Thousand Short Tons)	9,355	42	-- = Not applicable.		
Sulfur Dioxide/sq. mile (Tons)	0.87	40			
Nitrogen Oxides/sq. mile (Tons)	0.36	45			
Carbon Dioxide/sq. mile (Tons)	303.69	41			

Table 2. Five Largest Utility Plants, 1996

Plant Name	Type	Operating Utility	Net Capacity (MWe)
1. Maine Yankee	Nuclear	Maine Yankee Atomic Power Co	870
2. William F Wyman	Oil	Central Maine Power Co	838
3. Mason Steam	Oil	Central Maine Power Co	97
4. Harris	Hydro	Central Maine Power Co	88
5. Wyman	Hydro	Central Maine Power Co	80

Table 3. Top Five Utilities with Largest Generating Capability, and Type, Within the State, 1996
(Megawatts Electric)

Utility	Net Summer Capability	Net Coal Capability	Net Oil Capability	Net Gas Capability	Net Nuclear Capability	Net Hydro/Other Capability
A. Central Maine Power Co	1,366	--	969	--	--	397
B. Maine Yankee Atomic Power Co	870	--	--	--	870	--
C. Bangor Hydro-Electric Co	111	--	65	--	--	46
D. Maine Public Service Co	37	--	34	--	--	2
E. City of Lewiston	2	--	--	--	--	2
Total	2,386	--	1,068	--	870	447
Percentage of Industry Capability	63.7	--	--	--	--	--

-- = Not applicable.

Figure 1. Utility Generating Capability by Primary Energy Source, 1996

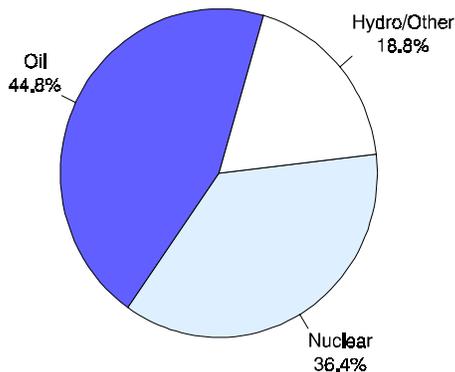


Figure 2. Utility Generation by Primary Energy Source, 1996

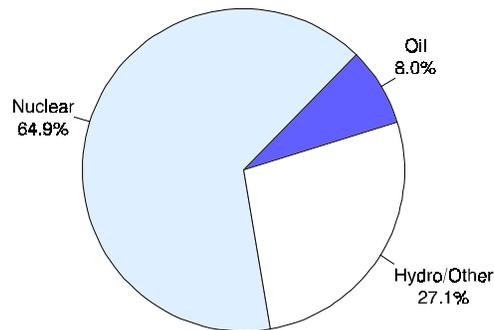


Figure 3. Energy Consumed at Electric Utilities by Primary Energy Source, 1996

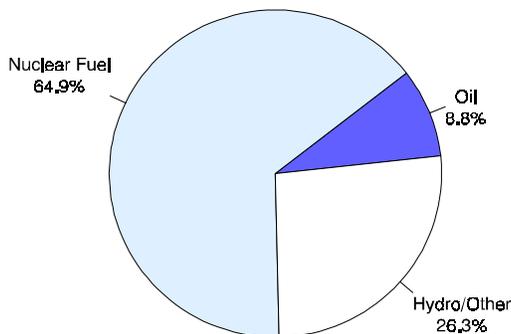


Table 4. Electric Power Industry Generating Capability by Primary Energy Source, 1986, 1991, and 1996
(Megawatts Electric)

Fuel	1986	1991	1996	Percentage Share 1986	Percentage Share 1991	Percentage Share 1996
Coal	--	--	--	--	--	--
Oil	1,144	1,126	1,069	36.3	30.4	28.5
Gas	--	--	--	--	--	--
Nuclear	845	870	870	26.8	23.5	23.2
Hydro/Other	414	420	448	13.1	11.3	12.0
Total Utility	2,403	2,417	2,387	76.3	65.2	63.7
Total Nonutility	746	1,289	1,360	23.7	34.8	36.3
Industry	3,149	3,706	3,747	100.0	100.0	100.0

-- = Not applicable.

Table 5. Electric Power Industry Generation of Electricity by Primary Energy Source, 1986, 1991, and 1996
(Thousand Kilowatthours)

Fuel	1986	1991	1996	Percentage Share 1986	Percentage Share 1991	Percentage Share 1996
Coal	--	--	--	--	--	--
Oil	2,615,462	1,268,988	621,755	17.8	7.5	4.1
Gas	--	--	--	--	--	--
Nuclear	6,241,756	6,264,366	5,062,017	42.4	37.3	33.4
Hydro/Other	2,033,212	1,985,152	2,116,377	13.8	11.8	14.0
Total Utility	10,890,430	9,518,506	7,800,149	74.0	56.6	51.5
Total Nonutility	3,821,476	7,292,478	7,358,809	26.0	43.4	48.5
Industry	14,711,906	16,810,984	15,158,958	100.0	100.0	100.0

-- = Not applicable.

Table 6. Electric Power Industry Consumption by Primary Energy Source, 1986, 1991, and 1996
(Quadrillion Btu)

Fuel	1986	1991	1996	Percentage Share 1986	Percentage Share 1991	Percentage Share 1996
Coal	--	--	--	--	--	--
Oil	0.028	0.015	0.007	10.2	6.2	3.2
Gas	--	--	--	--	--	--
Nuclear	0.067	0.067	0.054	24.9	28.5	23.4
Hydro/Other	0.021	0.021	0.022	7.9	8.7	9.5
Total Utility	0.116	0.102	0.083	43.0	43.4	36.1
Total Nonutility	0.154	0.133	0.147	57.0	56.6	63.9
Industry	0.270	0.236	0.229	100.0	100.0	100.0

-- = Not applicable.

Figure 4. Utility Generation of Electricity by Primary Energy Source, 1986-1996

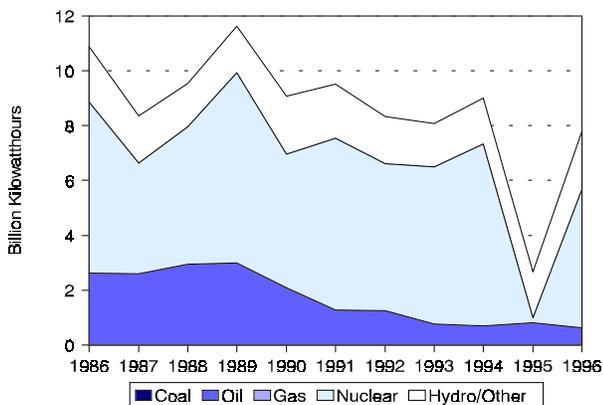


Figure 5. Utility Delivered Fuel Prices for Coal, Oil, and Gas, 1986-1996
(1996 Dollars)

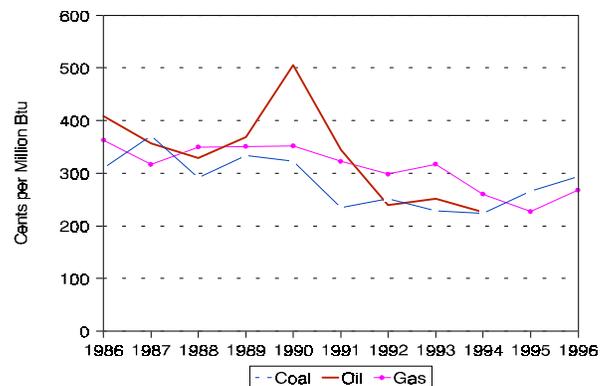


Table 7. Utility Delivered Fuel Prices for Coal, Oil, and Gas, 1986, 1991, and 1996
(Cents per Million Btu, 1996 Dollars)

Fuel	1986	1991	1996	Annual Growth Rate 1986-1996 (Percent)
Coal	--	--	--	--
Oil	309.0	234.3	293.6	-0.5
Gas	--	--	--	--

-- = Not applicable.

Table 8. Electric Power Industry Emissions Estimates, 1986, 1991, and 1996
(Thousand Short Tons)

Emission Type	1986	1991	1996	Annual Growth Rate 1986-1996 (Percent)
Sulfur Dioxide	14	30	27	6.7
Nitrogen Oxides ^d . .	4	12	11	11.3
Carbon Dioxide ^d . . .	2,270	9,324	9,355	15.2

Figure 6. Estimated Sulfur Dioxide Emissions, 1986-1996

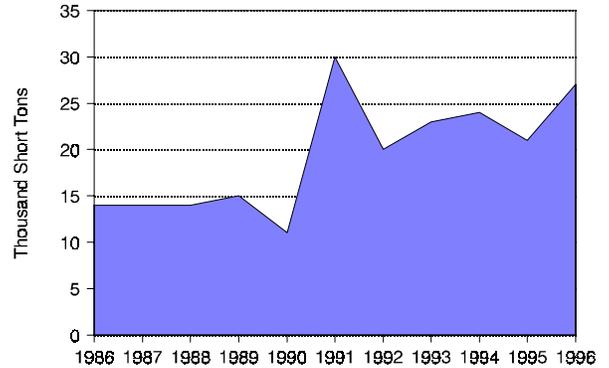


Figure 7. Estimated Nitrogen Oxide Emissions, 1986-1996

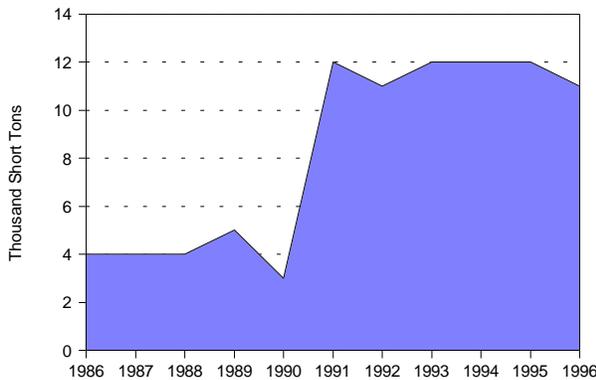


Figure 8. Estimated Carbon Dioxide Emissions, 1986-1996

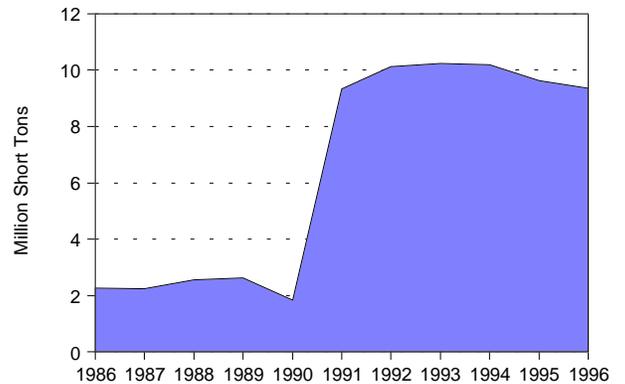


Table 9. Utility Retail Sales by Sector, 1986, 1991, and 1996
(Megawatthours)

Sector	1986	1991	1996	Annual Growth Rate 1986-1996 (Percent)	Percentage Share 1986	Percentage Share 1991	Percentage Share 1996
Residential . .	3,577,640	3,817,137	3,679,190	0.3	35.1	33.5	31.4
Commercial	2,295,026	2,685,496	3,211,822	3.4	22.5	23.6	27.4
Industrial . . .	4,135,335	4,708,841	4,771,700	1.4	40.5	41.4	40.7
Other	194,981	171,310	63,719	-10.6	1.9	1.5	0.5
Total	10,202,983	11,382,784	11,726,431	1.4	100.0	100.0	100.0

Figure 9. Nuclear Power Capacity Factor Comparison, 1986-1996

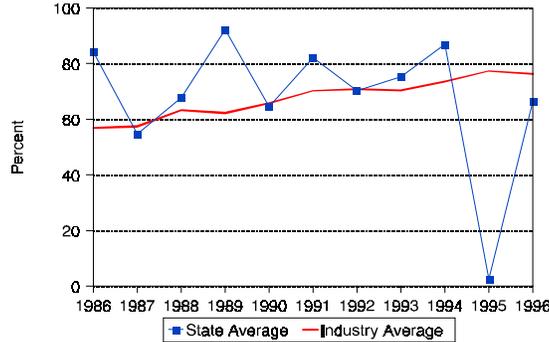


Table 10. Utility Retail Sales Statistics, 1986, 1991, and 1996

Item	Investor-Owned Utility	Public	Federal	Cooperative	Total
	1986				
Number of Utilities	4	6	--	4	14
Number of Retail Customers	571,038	13,240	--	12,878	597,156
Retail Sales (MWh)	9,935,825	181,995	--	85,163	10,202,983
Percentage of Retail Sales	97.4	1.8	--	0.8	100.0
Revenue from Retail Sales (thousand 1996 \$) ^e	868,949	14,108	--	10,442	893,499
Percentage of Revenue	97.3	1.6	--	1.2	100.0
1991					
Number of Utilities	3	5	--	4	12
Number of Retail Customers	637,669	13,132	--	15,896	666,697
Retail Sales (MWh)	11,073,224	203,020	--	106,540	11,382,784
Percentage of Retail Sales	97.3	1.8	--	0.9	100.0
Revenue from Retail Sales (thousand 1996 \$) ^e	1,068,064	19,301	--	12,877	1,100,242
Percentage of Revenue	97.1	1.8	--	1.2	100.0
1996					
Number of Utilities	3	5	--	3	11
Number of Retail Customers	672,938	14,052	--	13,696	700,686
Retail Sales (MWh)	11,233,163	387,647	--	105,621	11,726,431
Percentage of Retail Sales	95.8	3.3	--	0.9	100.0
Revenue from Retail Sales (thousand 1996 \$) ^e	1,073,915	22,471	--	12,361	1,108,747
Percentage of Revenue	96.9	2.0	--	1.1	100.0

-- = Not applicable.