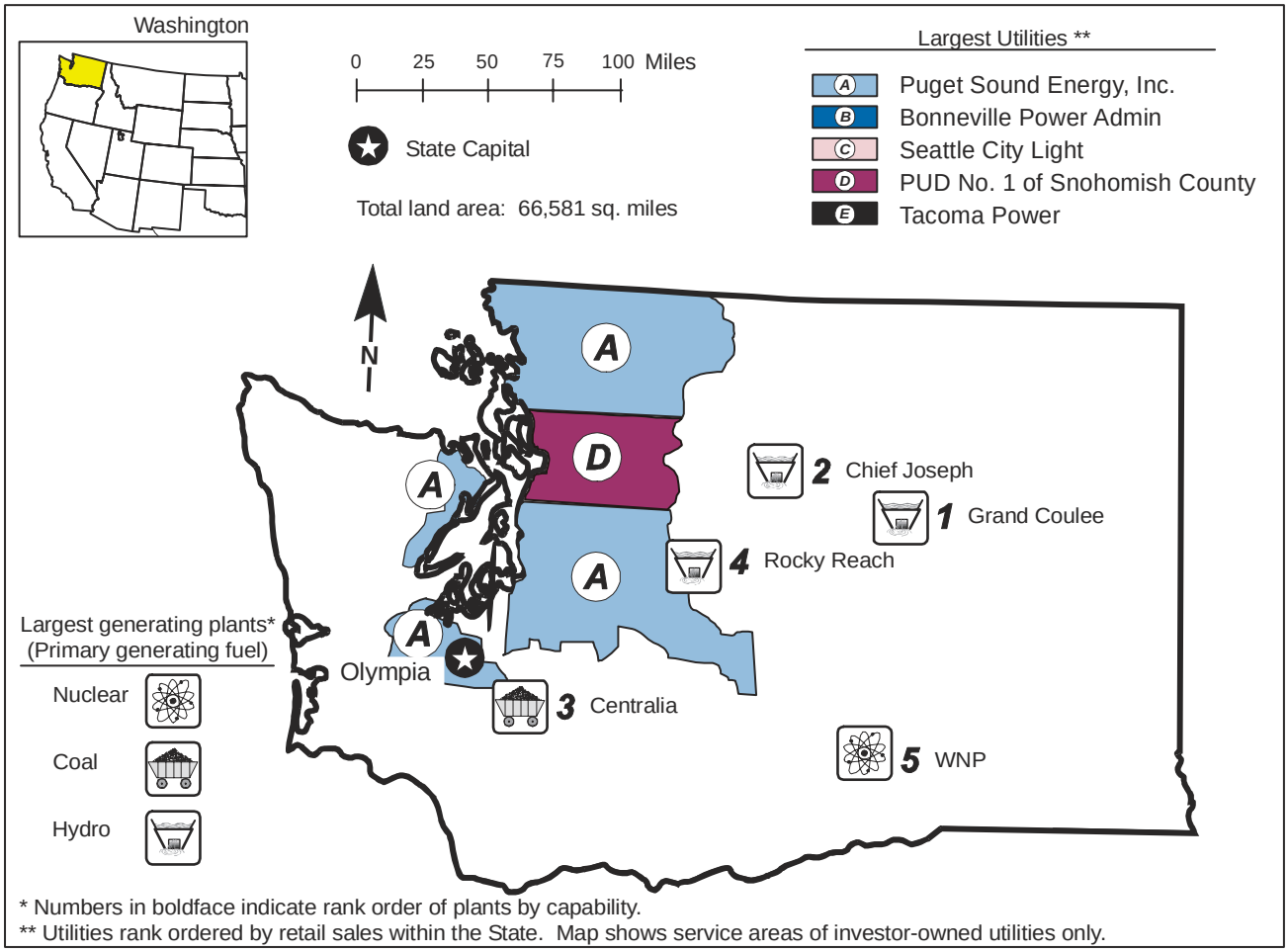
Washington



* Numbers in boldface indicate rank order of plants by capability.
** Utilities rank ordered by retail sales within the State. Map shows service areas of investor-owned utilities only.

Table 1. 1999 Summary Statistics

Item	Value	U.S. Rank
NERC Region(s)		WSCC
Primary Energy Source		Hydro
Net Summer Capability (megawatts)	26,106	8
Utility	25,189	5
Nonutility	917	26
Net Generation (megawatthours)	117,135,248	12
Utility	112,071,721	8
Nonutility	5,063,527	21
Emissions (thousand short tons)		
Sulfur Dioxide	73	30
Nitrogen Oxide	48	39
Carbon Dioxide	11,907	40
Sulfur Dioxide/sq. mile	1	33
Nitrogen Oxide/sq. mile	1	44
Carbon Dioxide/sq. mile	179	45
Electricity Consumption (MWh) (excludes line losses)	100,436,978	12
Utility Retail Electricity Sales (megawatthours)	94,155,336	12
Unregulated Retail Electricity Sales (megawatthours)	4,874,988	4
Nonutility Retail Sales and Direct Use (megawatthours)	1,406,654	27

Table 2. Ten Largest Plants by Generating Capability, 1999

Plant	Primary Energy Source(s)	Operating Company	Net Summer Capability (MW)
1. Grand Coulee	Hydro	Bureau of Reclamation	7,079
2. Chief Joseph	Hydro	USCE-North Pacific Division	2,337
3. Centralia	Petroleum, Coal	PacifiCorp	1,340
4. Rocky Reach	Hydro	PUD No 1 of Chelan County	1,280
5. WNP	Nuclear	Energy Northwest	1,117
6. Boundary	Hydro	Seattle City of	1,050
7. Wanapum	Hydro	PUD No 2 of Grant County	969
8. Little Goose	Hydro	USCE-North Pacific Division	932
9. Lower Monumental	Hydro	USCE-North Pacific Division	932
10. Lower Granite	Hydro	USCE-North Pacific Division	932

Table 3. Five Largest Utilities by Retail Sales within the State, 1999
(Megawatthours)

Utility	Total	Residential	Commercial	Industrial	Other
A. Puget Sound Energy, Inc	21,292,035	9,787,382	7,461,482	3,968,240	74,931
B. Bonneville Power Admin	15,954,451	0	0	15,169,801	784,650
C. Seattle City Light	9,397,893	3,314,126	3,742,142	1,341,721	999,904
D. PUD No 1 of Snohomish County	6,532,893	3,436,872	2,082,247	991,553	22,221
E. Tacoma Power	5,564,551	1,881,640	322,465	2,816,612	543,834
Total	58,741,823	18,420,020	13,608,336	24,287,927	2,425,540
Percentage of Utility Sales	62	56	59	70	65

Table 4. Electric Power Industry Generating Capability by Primary Energy Source, 1990, 1994, and 1999
(Megawatts)

Plant Type	1990	1994	1999	Average Annual Rate of Growth (Percent)	Percentage Share 1990	Percentage Share 1994	Percentage Share 1999
Total Utility	24,173	24,255	25,189	0.5	98.1	96.3	96.5
Coal	1,310	1,390	1,340	0.3	5.3	5.5	5.1
Petroleum	173	88	4	-34.8	0.7	0.3	0.0
Gas	590	590	955	5.5	2.4	2.3	3.7
Nuclear	1,100	1,086	1,117	0.2	4.5	4.3	4.3
Hydroelectric	20,954	21,054	21,680	0.4	85.0	83.6	83.0
Other	46	47	93	8.2	0.2	0.2	0.4
Total Nonutility	479	935	917	7.5	1.9	3.7	3.5
Coal	W	W	11	W	W	W	0.0
Petroleum	10	0	0	-100.0	0.0	0.0	0.0
Gas	41	216	314	25.4	0.2	0.9	1.2
Petroleum/Gas Combined	80	400	222	12.0	0.3	1.6	0.8
Hydroelectric	90	93	107	2.0	0.4	0.4	0.4
Other	257	225	264	0.3	1.0	0.9	1.0
Total Industry	24,652	25,189	26,106	0.6	100.0	100.0	100.0
Coal	W	W	1,351	W	W	W	5.2
Petroleum	183	88	4	-35.2	0.7	0.3	0.0
Gas	631	806	1,269	8.1	2.6	3.2	4.9
Petroleum/Gas Combined	80	400	222	12.0	0.3	1.6	0.8
Nuclear	1,100	1,086	1,117	0.2	4.5	4.3	4.3
Hydroelectric	21,044	21,147	21,787	0.4	85.4	84.0	83.5
Other	303	272	357	1.9	1.2	1.1	1.4

Figure 1. Industry Generating Capability by Primary Energy Source, 1999

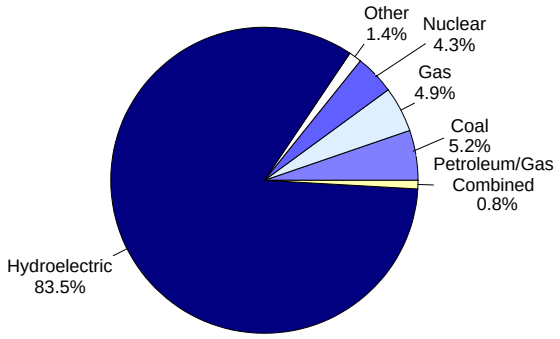


Figure 2. Industry Generation by Energy Source, 1999

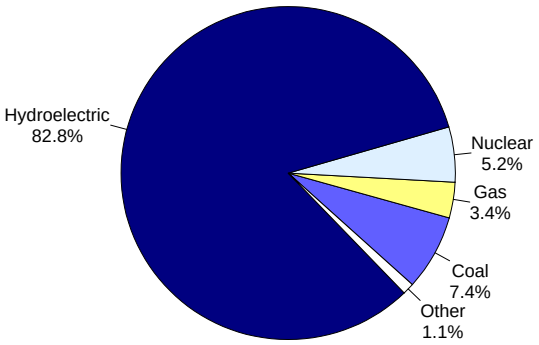


Table 5. Electric Power Industry Generation of Electricity by Energy Source, 1990, 1994, and 1999
(Megawatthours)

Fuel	1990	1994	1999	Average Annual Rate of Change (Percent)	Percentage Share 1990	Percentage Share 1994	Percentage Share 1999
Total Utility	100,478,861	82,347,668	112,071,721	1.2	97.6	92.7	95.7
Coal	7,351,520	9,800,260	8,655,652	1.8	7.1	11	7.4
Petroleum	14,290	5,728	9,688	-4.2	0	0	0
Gas	15,501	206,234	578,069	49.5	0	0.2	0.5
Nuclear	5,742,027	6,739,749	6,085,893	0.6	5.6	7.6	5.2
Hydroelectric	87,022,217	65,200,038	96,472,455	1.2	84.5	73.4	82.4
Other	333,306	395,659	269,964	-2.3	0.3	0.4	0.2
Total Nonutility	2,521,071	6,481,493	5,063,527	8.1	2.4	7.3	4.3
Coal	W	W	47,431	W	W	W	0
Petroleum	W	W	42,807	W	W	W	0
Gas	982,565	5,130,545	3,390,151	14.8	1	5.8	2.9
Hydroelectric	444,492	376,032	516,927	1.7	0.4	0.4	0.4
Other	W	W	1,066,211	W	W	W	0.9
Total Industry	102,999,932	88,829,161	117,135,248	1.4	100	100	100
Coal	W	W	8,703,083	W	W	W	7.4
Petroleum	W	W	52,495	W	W	W	0
Gas	998,066	5,336,779	3,968,220	16.6	1	6	3.4
Nuclear	5,742,027	6,739,749	6,085,893	0.6	5.6	7.6	5.2
Hydroelectric	87,466,709	65,576,070	96,989,382	1.2	84.9	73.8	82.8
Other	W	W	1,336,175	W	W	W	1.1

Table 6. Utility Delivered Fuel Costs and Quality for Coal, Petroleum, and Gas, 1990, 1994, and 1999

Fuel	1990	1994	1999	Average Annual Rate of Change (Percent)
Coal (cents per million Btu) (1999 dollars)	191.0	149.0	156.0	-2.2
Average heat value (Btu per pound)	8,135	8,400	8,224	0.1
Average sulfur Content (percent)	0.7	0.6	0.8	0.8
Petroleum (cents per million Btu) (1999 dollars)	619.4	515.3	478.8	-2.8
Average heat value (Btu per gallon)	140,948	139,934	140,000	-0.1
Average sulfur Content (percent)	2.0	0.0	0.0	-100.0
Gas (cents per million Btu) (1999 dollars)	0.0	514.4	0.0	0.0
Average heat value (Btu per cubic foot)	0	1,050	0	0.0

Table 7. Electric Power Industry Emissions Estimates by Fuel, 1990, 1994, and 1999
(Thousand Short Tons)

Emission Type	1990	1994	1999	Average Annual Rate of Change (Percent)
Sulfur Dioxide				
Coal	59	67	73	2.5
Petroleum	*	*	0	-21.7
Other	0	0	0	0.0
Total	59	67	73	2.5
Nitrogen Oxide				
Coal	37	46	43	1.8
Petroleum	*	*	*	-5.1
Gas	*	1	4	68.5
Other	0	1	1	0.0
Total	37	48	48	3.0
Carbon Dioxide				
Coal	8,183	10,615	9,511	1.7
Petroleum	15	46	51	15.0
Gas	15	1,327	2,191	73.6
Other	0	320	154	0.0
Total	8,212	12,307	11,907	4.2

Figure 3. Industry Generation of Electricity by Primary Energy Source, 1990-1999

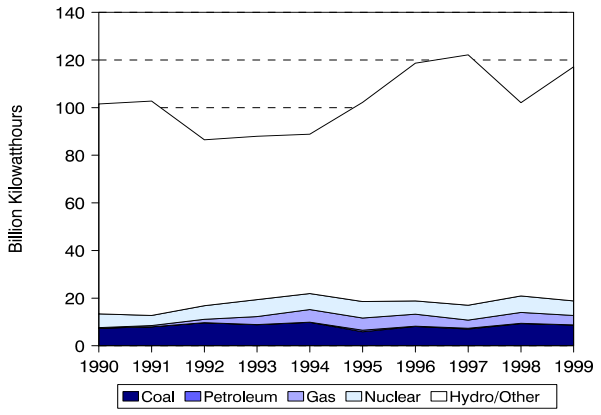


Figure 4. Utility Delivered Fuel Costs for Coal, Petroleum, and Gas, 1990-1999 (1999 Dollars)

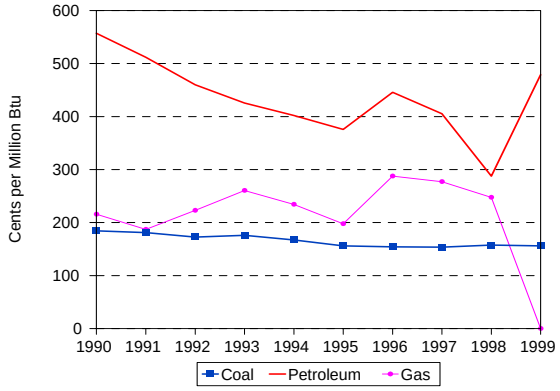


Figure 5. Estimated Sulfur Dioxide Emissions, 1990-1999

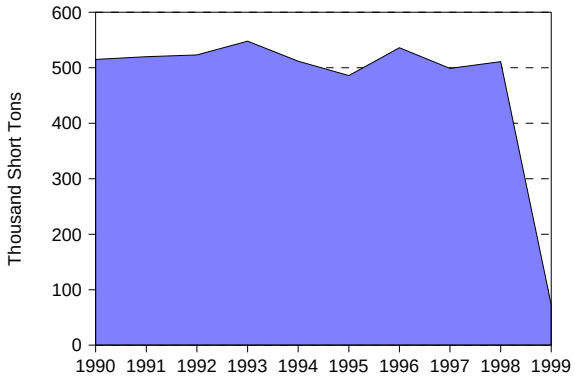


Figure 6. Estimated Nitrogen Oxide Emissions, 1990-1999

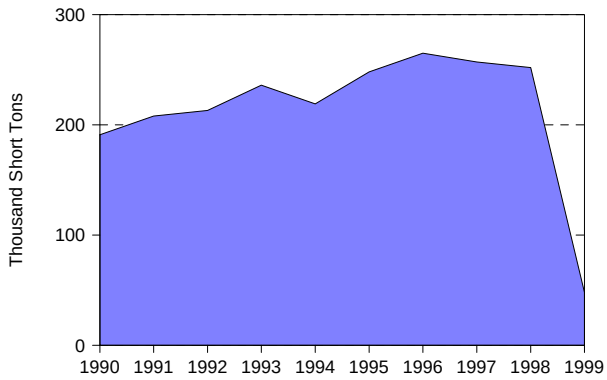


Figure 7. Estimated Carbon Dioxide Emissions, 1990-1999

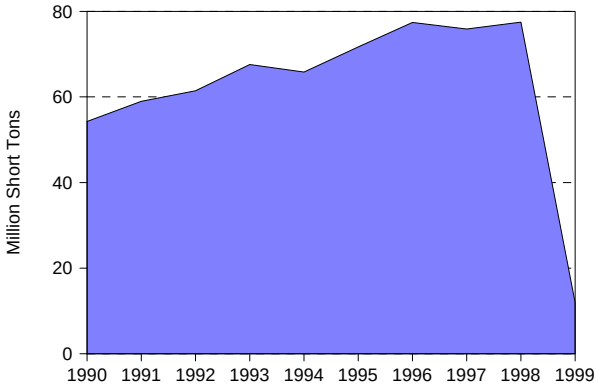


Figure 8. Nuclear Power Capacity Factor Comparison, 1990-1999

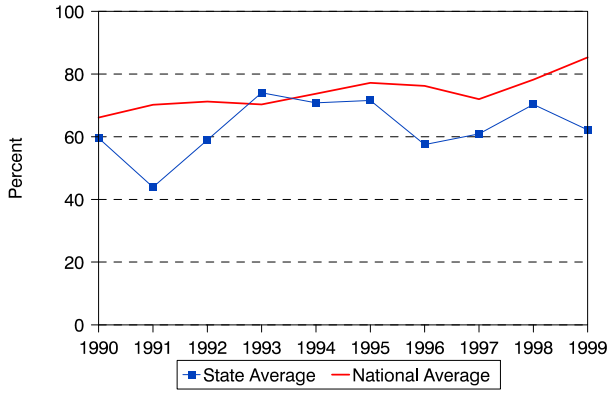


Table 8. Utility Retail Sales, Revenue, and Average Revenue per Kilowatthour by Sector, 1990, 1994, and 1999

	1990	1994	1999	Average Annual Rate of Change (Percent)	Percentage Share 1990	Percentage Share 1994	Percentage Share 1999
Utility Retail Sales							
(thousand megawatthours)							
Residential	28,809	29,673	32,817	1.5	31.6	34	34.8
Commercial	17,683	19,752	23,009	3.0	19.4	22.7	24.4
Industrial	40,712	34,065	34,624	-1.8	44.7	39.1	36.8
Other	3,842	3,643	3,706	-0.4	4.2	4.2	3.9
Total	91,046	87,133	94,155	0.4	100	100	100
Retail Sales Revenue							
(million 1999 dollars)							
Residential	1,533	1,610	1,673	1.0	40.9	42.2	43.3
Commercial	888	1,017	1,119	2.6	23.7	26.6	29
Industrial	1,177	1,038	936	-2.5	31.4	27.2	24.2
Other	146	152	136	-0.8	3.9	4	3.5
Total	3,745	3,818	3,864	0.3	100	100	100
Average Revenue per Kilowatthour							
(cents/kWh) (1999 dollars)							
Residential	5.32	5.43	5.1	NA	NA	NA	NA
Commercial	5.02	5.15	4.86	NA	NA	NA	NA
Industrial	2.89	3.05	2.7	NA	NA	NA	NA
Other	3.79	4.18	3.66	NA	NA	NA	NA
Total	4.11	4.38	4.1	NA	NA	NA	NA

Table 9. Utility Retail Sales, Revenue, and Number of Customers by Type of Utility, 1999

Item	Investor-Owned	Public	Federal	Cooperative	Total
Number of Utilities	3	42	1	18	64
Number of Retail Customers	1,221,366	1,351,087	16	134,763	2,707,232
Retail Sales (thousand megawatthours)	30,287	44,460	15,954	3,454	94,155
Percentage of Retail Sales	32.2	47.2	16.9	3.7	100.0
Revenue from Retail Sales (million dollars)	1,696	1,679	329	160	3,864
Percentage of Revenue	43.9	43.5	8.5	4.2	100.0
Average Revenue per Kilowatthour (cents/kWh)	5.60	3.78	2.06	4.64	4.10