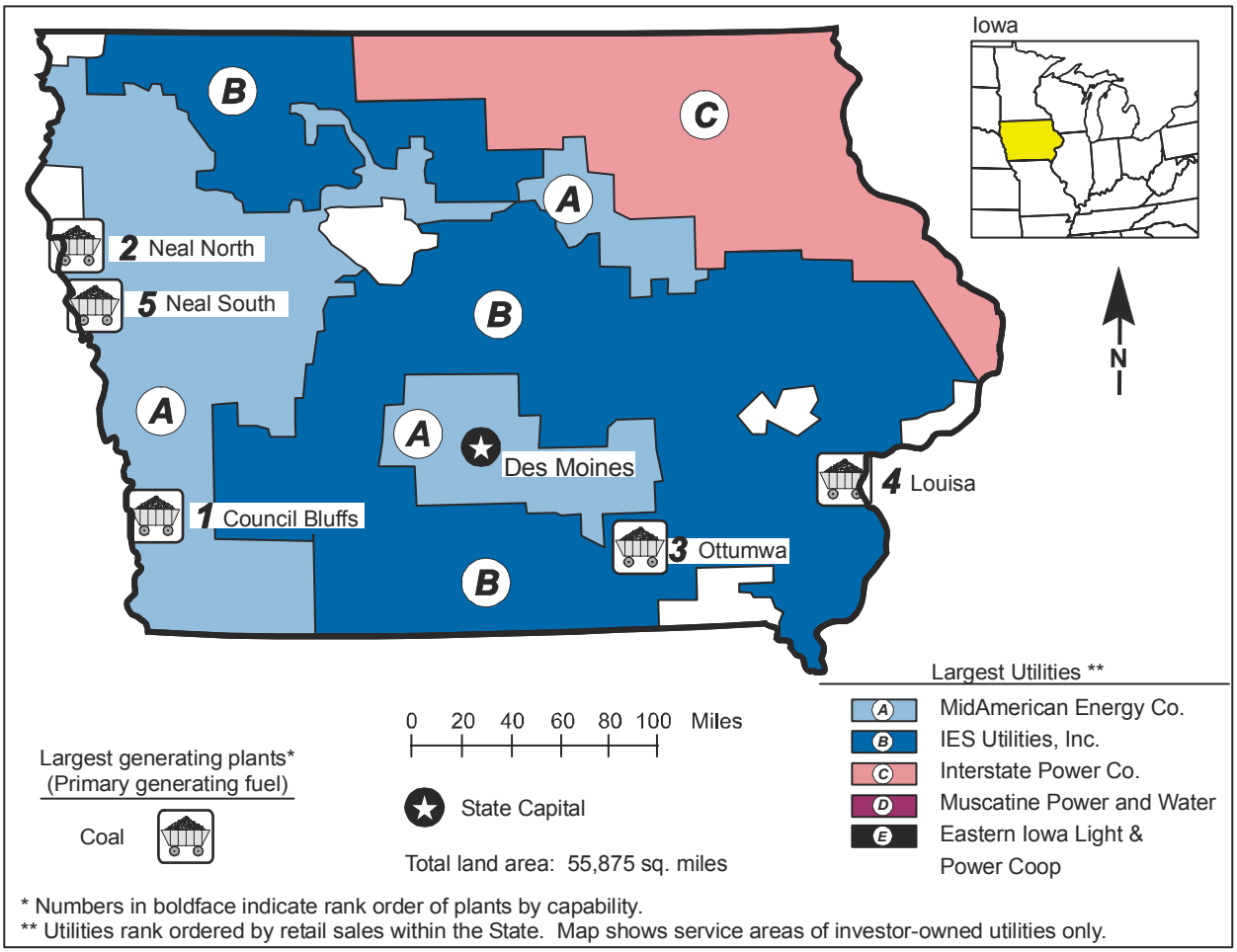
Iowa



* 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)		MAPP
Primary Energy Source		Coal
Net Summer Capability (megawatts)	9,003	31
Utility	8,435	30
Nonutility	568	32
Net Generation (megawatthours)	38,842,106	33
Utility	37,032,053	31
Nonutility	1,810,053	37
Emissions (thousand short tons)		
Sulfur Dioxide	144	21
Nitrogen Oxide	157	18
Carbon Dioxide	37,990	25
Sulfur Dioxide/sq. mile	3	27
Nitrogen Oxide/sq. mile	3	24
Carbon Dioxide/sq. mile	680	29
Electricity Consumption (MWh) (excludes line losses)	39,461,216	31
Utility Retail Electricity Sales (megawatthours)	38,033,812	31
Nonutility Retail Sales and Direct Use (megawatthours)	1,427,404	26
Utility Average Retail Price (cents/kWh)	5.93	29

Table 2. Ten Largest Plants by Generating Capability, 1999

Plant	Primary Energy Source(s)	Operating Company	Net Summer Capability (MW)
1. Council Bluffs	Gas, Petroleum, Coal	MidAmerican Energy Co	972
2. Neal North	Gas, Coal	MidAmerican Energy Co	950
3. Ottumwa	Petroleum, Coal	MidAmerican Energy Co	714
4. Louisa	Petroleum, Gas, Coal	MidAmerican Energy Co	697
5. Neal South	Petroleum, Coal	MidAmerican Energy Co	624
6. Duane Arnold	Nuclear	IES Utilities Inc	520
7. Lansing	Petroleum, Coal	Interstate Power Co	325
8. Burlington	Petroleum, Gas, Coal	IES Utilities Inc	281
9. Muscatine Plant #1	Petroleum, Gas, Coal	Muscatine City of	253
10. M L Kapp	Gas, Coal	Interstate Power Co	235

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

Utility	Total	Residential	Commercial	Industrial	Other
A. MidAmerican Energy Company	14,226,720	4,264,711	3,335,202	5,647,898	978,909
B. IES Utilities, Inc	10,454,840	2,685,351	2,658,097	5,071,545	39,847
C. Interstate Power Company	4,205,350	854,837	419,825	2,891,362	39,326
D. Muscatine Power and Water	891,533	92,425	170,801	610,764	17,543
E. Eastern Iowa Light&Power Coop	881,263	240,991	31,157	606,092	3,023
Total	30,659,706	8,138,315	6,615,082	14,827,661	1,078,648
Percentage of Utility Sales	81	69	80	90	77

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	7,952	8,217	8,435	0.7	95.7	95.5	93.7
Coal	5,868	5,975	5,702	-0.3	70.6	69.4	63.3
Petroleum	659	755	932	3.9	7.9	8.8	10.4
Gas	771	847	938	2.2	9.3	9.8	10.4
Nuclear	530	515	520	-0.2	6.4	6.0	5.8
Hydroelectric	124	125	131	0.6	1.5	1.4	1.5
Other	0	*	212	0.0	0.0	0.0	2.4
Total Nonutility	354	387	568	5.4	4.3	4.5	6.3
Coal	210	210	292	3.7	2.5	2.4	3.2
Petroleum	W	W	68	W	W	W	0.8
Gas	W	W	0	W	W	W	0.0
Petroleum/Gas Combined	W	W	0	W	W	W	0.0
Hydroelectric	W	W	5	W	W	W	0.1
Other	W	W	202	W	W	W	2.2
Total Industry	8,306	8,604	9,003	0.9	100.0	100.0	100.0
Coal	6,078	6,185	5,994	-0.2	73.2	71.9	66.6
Petroleum	W	W	1,000	W	W	W	11.1
Gas	W	W	938	W	W	W	10.4
Petroleum/Gas Combined	W	W	0	W	W	W	0.0
Nuclear	530	515	520	-0.2	6.4	6.0	5.8
Hydroelectric	W	W	137	W	W	W	1.5
Other	2	7	414	83.5	0.0	0.1	4.6

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

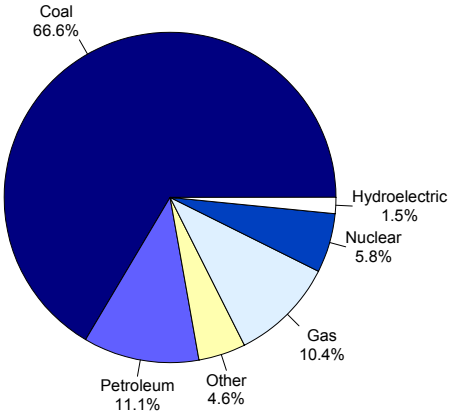


Figure 2. Industry Generation by Energy Source, 1999

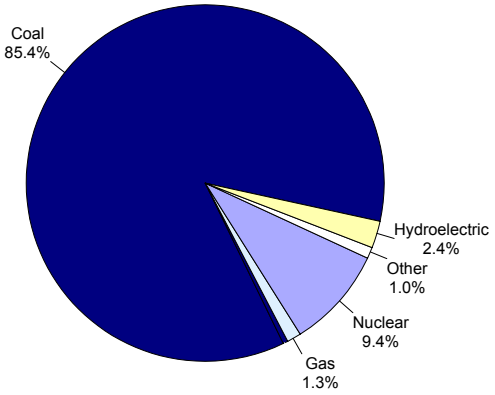


Table 5. Electric Power Industry Generation of Electricity by Energy Source, 1990, 1994, and 1999
(Megawatthours)

Fuel	1990	1994	1999	Average Annual Rate of Change (Percent)	Percentage Share 1990	Percentage Share 1994	Percentage Share 1999
Total Utility	29,047,940	31,963,757	37,032,053	2.7	97.3	97.0	95.3
Coal	24,879,567	26,497,930	31,946,304	2.8	83.3	80.4	82.2
Petroleum	51,315	78,291	128,220	10.7	0.2	0.2	0.3
Gas	231,263	199,272	364,434	5.2	0.8	0.6	0.9
Nuclear	3,011,572	4,107,383	3,640,258	2.1	10.1	12.5	9.4
Hydroelectric	856,848	1,052,870	931,073	0.9	2.9	3.2	2.4
Other	17,375	28,011	21,764	2.5	0.1	0.1	0.1
Total Nonutility	818,340	983,186	1,810,053	9.2	2.7	3.0	4.7
Coal	753,026	825,270	1,228,611	5.6	2.5	2.5	3.2
Petroleum	1,982	22,880	40,379	39.8	0.0	0.1	0.1
Gas	39,303	76,454	145,727	15.7	0.1	0.2	0.4
Hydroelectric	W	W	14,549	W	W	W	0.0
Other	W	W	380,787	W	W	W	1.0
Total Industry	29,866,280	32,946,943	38,842,106	3.0	100.0	100.0	100.0
Coal	25,632,593	27,323,200	33,174,915	2.9	85.8	82.9	85.4
Petroleum	53,297	101,171	168,599	13.7	0.2	0.3	0.4
Gas	270,566	275,726	510,161	7.3	0.9	0.8	1.3
Nuclear	3,011,572	4,107,383	3,640,258	2.1	10.1	12.5	9.4
Hydroelectric	W	W	945,622	W	W	W	2.4
Other	W	W	402,551	W	W	W	1.0

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)	135.5	108.1	82.1	-5.4
Average heat value (Btu per pound)	8,892	8,783	8,581	-0.4
Average sulfur Content(percent)	0.7	0.6	0.4	-6.0
Petroleum (cents per million Btu) (1999 dollars)	628	428.3	398.8	-4.9
Average heat value (Btu per gallon)	137,943	137,859	139,341	0.1
Gas (cents per million Btu) (1999 dollars)	369.1	345.2	313.7	-1.8
Average heat value (Btu per cubic foot)	1,006	1,006	1,004	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	171	154	139	-2.3
Petroleum	*	11	5	62.9
Other	*	*	*	11.2
Total	171	166	144	-1.9
Nitrogen Oxide				
Coal	136	136	155	1.5
Petroleum	*	1	1	29.9
Gas	1	*	1	4.5
Other	*	*	*	14.6
Total	137	137	157	1.5
Carbon Dioxide				
Coal	27,761	30,075	37,111	3.3
Petroleum	55	400	320	21.6
Gas	217	1,072	427	7.8
Other	35	54	132	16.0
Total	28,068	31,602	37,990	3.4

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

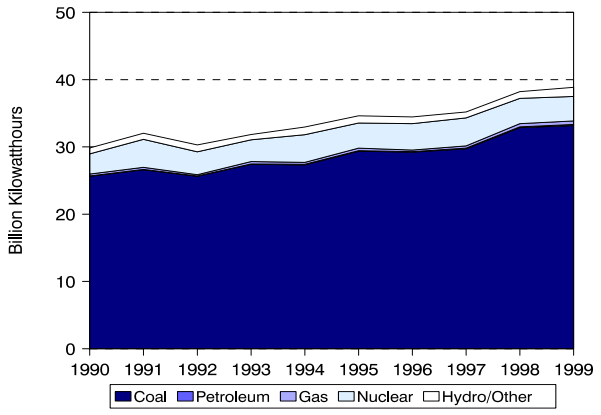


Figure 4. Utility Delivered Fuel Costs for Coal, Petroleum, and Gas, 1990-1999 (1999 Dollars)

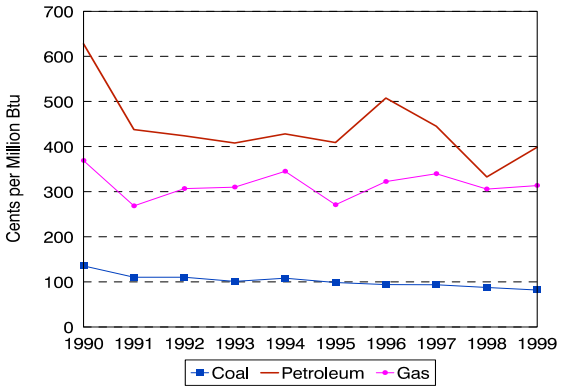


Figure 5. Estimated Sulfur Dioxide Emissions, 1990-1999

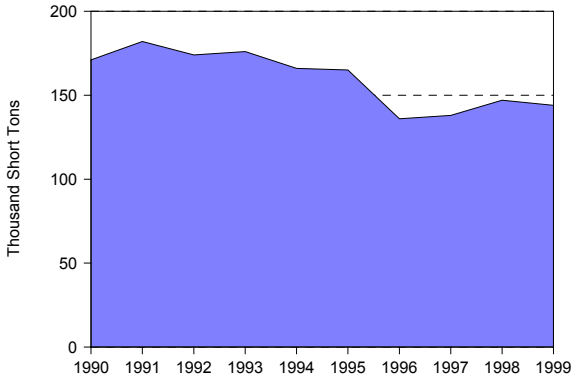


Figure 6. Estimated Nitrogen Oxide Emissions, 1990-1999

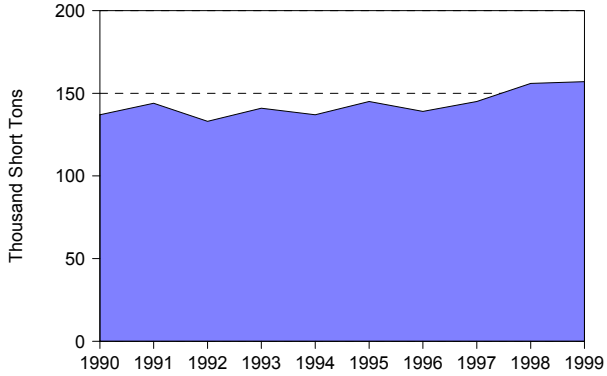


Figure 7. Estimated Carbon Dioxide Emissions, 1990-1999

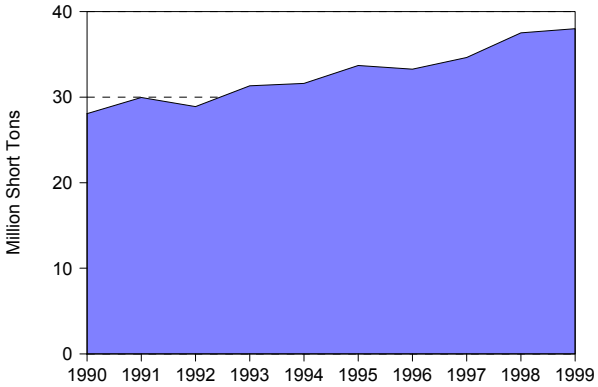


Figure 8. Nuclear Power Capacity Factor Comparison, 1990-1999

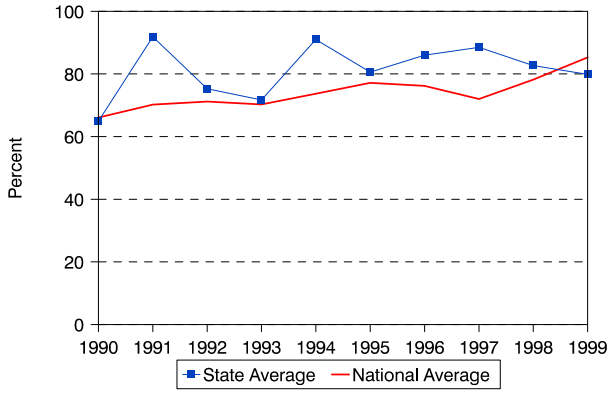


Table 8. Utility Retail Sales, Revenue, and Average Revenue per Kilowatthour by Sector, 1990, 1994, and 1999

	1990	1994	1999	Average Annual Rate of Change (Percent)	Percentage Share 1990	Percentage Share 1994	Percentage Share 1999
Utility Retail Sales							
(thousand megawatthours)							
Residential	10,513	11,062	11,867	1.3	35.7	33.5	31.2
Commercial	6,727	7,477	8,269	2.3	22.8	22.6	21.7
Industrial	11,392	13,224	16,499	4.2	38.7	40.0	43.4
Other	804	1,276	1,399	6.3	2.7	3.9	3.7
Total	29,437	33,039	38,034	2.9	100.0	100.0	100.0
Retail Sales Revenue							
(million 1999 dollars)							
Residential	995	977	991	*	47.1	45.7	43.9
Commercial	511	516	533	0.5	24.2	24.1	23.7
Industrial	549	560	642	1.8	26.0	26.2	28.5
Other	59	83	88	4.6	2.8	3.9	3.9
Total	2,113	2,136	2,255	0.7	100.0	100.0	100.0
Average Revenue per Kilowatthour							
(cents/kWh) (1999 dollars)							
Residential	9.46	8.83	8.35	NA	NA	NA	NA
Commercial	7.59	6.9	6.45	NA	NA	NA	NA
Industrial	4.82	4.24	3.89	NA	NA	NA	NA
Other	7.32	6.5	6.3	NA	NA	NA	NA
Total	7.18	6.47	5.93	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	4	138	0	43	185
Number of Retail Customers	1,030,060	194,462	0	192,165	1,416,687
Retail Sales (thousand megawatthours)	28,979	4,769	0	4,285	38,034
Percentage of Retail Sales	76.2	12.5	0.0	11.3	100.0
Revenue from Retail Sales (million dollars)	1,706	258	0	292	2,255
Percentage of Revenue	75.6	11.4	0.0	12.9	100.0
Average Revenue per Kilowatthour (cents/kWh)	5.89	5.40	0.00	6.81	5.93