

Table A56. Capability to Switch from Residual Fuel Oil to Alternative Energy Sources by Industry Group, Selected Industries, and Selected Characteristics, 1991
(Estimates in Thousand Barrels)

SIC Code ^a	Industry Groups and Industry	Residual Fuel Oil			Alternative Types of Energy ^b							RSE Row Factors
		Total Consumed ^c	Switchable	Not Switchable	Electricity Receipts ^d	Natural Gas	Distillate Fuel Oil	Coal	LPG	Coal Coke and Breeze	Other ^e	
RSE Column Factors:		0.7	0.7	0.9	1.3	0.7	1.0	1.3	1.3	1.2	1.2	
20	Food and Kindred Products	4,317	2,138	1,477	Q	1,583	996	Q	W	321	209	17.1
2011	Meat Packing Plants	170	169	*	*	164	92	*	0	W	W	21.8
2033	Canned Fruits and Vegetables	290	177	114	0	166	50	0	0	W	0	16.6
2037	Frozen Fruits and Vegetables	321	93	201	3	23	Q	3	0	Q	36	31.6
2046	Wet Corn Milling	29	26	0	W	26	0	W	W	W	0	18.4
2051	Bread, Cake and Related Products	*	*	0	0	*	0	0	0	0	0	35.5
2063	Beet Sugar	W	W	W	0	W	0	0	0	0	0	15.6
2075	Soybean Oil Mills	42	19	W	0	18	W	*	0	W	0	7.5
2082	Malt Beverages	419	53	W	0	50	W	*	0	0	1	18.3
21	Tobacco Manufactures	135	75	59	0	W	W	W	0	0	0	6.6
22	Textile Mill Products	1,966	1,021	737	1	716	369	117	W	192	2	13.0
23	Apparel and Other Textile Products	Q	73	Q	0	73	46	27	27	27	44	39.7
24	Lumber and Wood Products	333	157	91	0	157	100	0	0	Q	0	38.8
25	Furniture and Fixtures	184	51	Q	0	Q	26	0	0	Q	Q	50.6
26	Paper and Allied Products	24,883	7,778	16,492	270	3,809	3,627	810	W	260	238	8.2
2611	Pulp Mills	4,500	1,179	2,880	24	808	596	0	0	15	115	23.5
2621	Paper Mills	13,455	3,640	9,775	W	1,542	1,760	W	W	W	18	5.5
2631	Paperboard Mills	W	2,737	W	W	1,298	1,181	W	0	Q	97	10.6
27	Printing and Publishing	50	31	Q	0	31	0	0	0	0	0	32.2
28	Chemicals and Allied Products	7,573	2,546	4,914	W	1,909	536	311	50	321	225	7.6
2812	Alkalies and Chlorine	W	W	0	0	W	0	0	0	0	0	36.9
2813	Industrial Gases	0	0	0	0	0	0	0	0	0	0	0.0
2819	Industrial Inorganic Chemicals, nec	691	339	351	0	322	95	W	0	W	W	13.0
2821	Plastics Materials and Resins	668	167	500	W	158	19	0	W	W	W	9.5
2822	Synthetic Rubber	64	64	0	0	64	W	0	0	W	0	23.2
2823	Cellulosic Manmade Fibers	0	0	0	0	0	0	0	0	0	0	0.0
2824	Organic Fibers, Noncellulosic	W	447	W	W	163	67	W	0	W	0	4.6
2865	Cyclic Crudes and Intermediates	1,299	W	W	0	453	118	W	W	W	W	16.2
2869	Industrial Organic Chemicals, nec	1,747	396	1,332	W	279	71	0	0	W	41	9.1
2873	Nitrogenous Fertilizers	0	0	0	0	0	0	0	0	0	0	0.0
2874	Phosphatic Fertilizers	250	W	W	0	W	W	W	W	W	0	3.9
29	Petroleum and Coal Products	13,862	8,883	4,724	222	6,201	2,844	183	W	3,876	1,228	5.2
2911	Petroleum Refining	10,292	6,175	3,861	221	4,259	2,725	183	0	3,875	1,166	5.2
30	Rubber and Misc. Plastics Products	1,253	1,005	219	W	829	316	46	0	90	97	14.3
3011	Tires and Inner Tubes	506	W	W	W	455	63	0	0	W	0	7.3
308	Miscellaneous Plastic Products, nec	413	273	122	0	252	46	Q	0	0	97	27.5
31	Leather and Leather Products	225	138	85	2	66	72	0	0	0	0	39.7
32	Stone, Clay and Glass Products	1,345	896	447	20	809	65	95	W	124	W	16.0
3211	Flat Glass	W	0	W	0	0	0	0	0	0	0	7.6
3221	Glass Containers	276	276	*	*	276	W	0	0	0	0	14.0
3229	Pressed and Blown Glass, nec	81	W	Q	0	W	0	0	0	W	W	18.3
3241	Cement, Hydraulic	138	89	49	W	11	0	67	0	0	0	26.3
3274	Lime	W	W	0	0	W	W	W	W	0	0	24.5
3296	Mineral Wool	W	W	0	0	W	0	0	0	0	0	2.8
33	Primary Metal Industries	5,285	2,572	2,624	W	1,703	180	W	W	W	W	8.9
3312	Blast Furnaces and Steel Mills	4,986	2,455	2,531	W	1,586	W	W	W	W	W	9.4
3313	Electrometallurgical Products	0	0	0	0	0	0	0	0	0	0	0.0
3321	Gray and Ductile Iron Foundries	4	W	Q	0	W	0	0	0	0	0	34.2
3331	Primary Copper	W	W	0	0	W	W	0	0	0	W	1.2
3334	Primary Aluminum	*	*	*	0	*	*	0	0	0	0	7.6
3339	Primary Nonferrous Metals, nec	1	1	0	0	1	0	0	0	0	0	1.4
3353	Aluminum Sheet, Plate, and Foil	0	0	0	0	0	0	0	0	0	0	0.0
34	Fabricated Metal Products	501	205	175	W	195	W	0	0	Q	0	32.8
35	Industrial Machinery and Equipment	490	191	218	0	148	60	0	0	0	0	27.8
357	Computer and Office Equipment	11	6	Q	0	6	0	0	0	0	0	37.8
36	Electronic and Other Electric Equipment	612	368	183	0	326	63	16	Q	30	0	24.3
37	Transportation Equipment	1,865	728	978	29	636	56	W	0	58	Q	16.5
3711	Motor Vehicles and Car Bodies	408	W	W	W	81	*	0	0	W	0	6.6
3714	Motor Vehicle Parts and Accessories	60	W	W	0	W	W	W	0	W	0	15.0
38	Instruments and Related Products	536	404	101	W	144	285	W	0	Q	10	22.3
3841	Surgical and Medical Instruments	9	9	0	0	0	9	0	0	0	9	40.6
39	Misc. Manufacturing Industries	115	89	18	0	88	44	10	0	10	0	26.5
	Total	65,837	29,349	33,913	1,267	19,511	9,716	2,565	1,756	5,625	2,227	4.3

See footnotes at end of table.

Table A56. Capability to Switch from Residual Fuel Oil to Alternative Energy Sources by Industry Group, Selected Industries, and Selected Characteristics, 1991 (Continued)
(Estimates in Thousand Barrels)

Selected Characteristics	Residual Fuel Oil			Alternative Types of Energy ^b							RSE Row Factors
	Total Consumed ^c	Switchable	Not Switchable	Electricity Receipts ^d	Natural Gas	Distillate Fuel Oil	Coal	LPG	Coal Coke and Breeze	Other ^e	
RSE Column Factors:	0.6	0.6	0.9	1.7	0.7	1.0	1.6	1.5	0.9	1.3	
Census Region											
Northeast	29,245	11,683	16,692	397	8,103	2,689	W	W	2,574	1,106	6.4
Midwest	8,134	4,630	2,923	W	3,694	1,144	W	W	1,039	249	6.9
South	23,114	9,603	12,408	632	5,747	3,853	1,547	280	896	446	7.2
West	5,344	3,432	1,890	W	1,968	2,030	22	W	1,115	426	7.5
Total	65,837	29,349	33,913	1,267	19,511	9,716	2,565	1,756	5,625	2,227	4.3
Value of Shipments and Receipts^f (million dollars)											
Under 20	4,049	1,994	1,531	Q	1,398	1,021	W	W	468	Q	20.7
20-49	6,055	2,420	3,181	28	1,749	830	323	80	340	292	16.4
50-99	10,337	5,030	4,935	20	3,483	1,014	W	W	305	116	9.1
100-249	13,803	5,862	7,349	28	3,519	2,752	636	29	619	404	8.7
250-499	15,370	5,681	9,665	403	3,506	2,232	487	W	1,222	388	4.9
500 and Over	16,223	8,363	7,252	621	5,855	1,867	991	W	2,671	931	4.8
Total	65,837	29,349	33,913	1,267	19,511	9,716	2,565	1,756	5,625	2,227	4.3
Employment Size^f											
Under 50	960	589	167	Q	320	376	0	0	191	Q	37.7
50-99	3,986	1,731	1,994	16	1,316	644	190	W	436	35	24.7
100-249	11,764	6,333	4,749	W	4,488	1,904	293	W	1,162	464	5.8
250-499	11,882	5,768	5,271	151	3,274	2,594	497	75	869	385	7.7
500-999	13,051	5,997	6,898	58	4,032	2,246	86	W	1,535	1,094	6.5
1,000 and Over	24,193	8,930	14,834	824	6,082	1,952	1,498	W	1,433	187	4.9
Total	65,837	29,349	33,913	1,267	19,511	9,716	2,565	1,756	5,625	2,227	4.3

^a See Appendices B and F for descriptions of the Standard Industrial Classification system.

^b "Alternative Types of Energy" consist of those energy sources that could have been substituted for residual fuel oil during 1991. The quantities are expressed in thousands of barrels, and therefore represent the quantity of residual fuel oil that could have been displaced by the given alternative type of energy.

^c "Total Consumed" represents those quantities of residual fuel oil that were ascertained switchable or not switchable, plus an additional quantity for which the switching status was not ascertained.

^d "Electricity Receipts" represents those quantities of electricity generated off the manufacturing establishment site and available at the site for consumption. It includes those quantities for which payment was made, quantities transferred in, quantities purchased and paid for by a central purchasing entity, and quantities for which payment was made in kind. It does not include electricity generated onsite. "Electricity Receipts" has not been adjusted to account for any quantities that might have been resold or transferred out. The estimates include those quantities that were ascertained switchable or not switchable, plus an additional quantity for which the switching status was not ascertained.

^e "Other" includes all other types of energy not already identified that respondents indicated could have been consumed in place of residual fuel oil.

^f Value of Shipments and Receipts and Employment Size categories were supplied by the Bureau of the Census. See Appendix B.

* Estimate less than 0.5. Data are included in higher level totals.

W=Withheld to avoid disclosing data for individual establishments. Data are included in higher level totals.

Q=Withheld because Relative Standard Error is greater than 50 percent. Data are included in higher level totals.

Notes: • To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. • Totals may not equal sum of components because of independent rounding.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use Division, Form EIA-846, "1991 Manufacturing Energy Consumption Survey."