NATIONAL PETROLEUM COUNCIL

REPORT OF THE COMMITTEE ON

TRENDS IN PETROLEUM CONSUMING EQUIPMENT

October 31, 1951

ALBERT J. McINTOSH, CHAIRMAN

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COMMITTEE ON TRENDS IN PETROLEUM CONSUMING EQUIPMENT

CHAIRMAN — Albert J. McIntosh
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Institute of Cooking and Heating Appliance Manufacturers

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Chase National Bank

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TRENDS IN PETROLEUM CONSUMING EQUIPMENT

Members of the
National Petroleum Council

Gentlemen:

In response to the request of May 8, 1951, of Mr. H. A. Stewart, Acting Director of the Oil and Gas Division of the Department of the Interior, that a report be made on the trends of the manufacture, sale, installation and uses of petroleum consuming equipment, Chairman Hallanan, acting after unanimous adoption by the Council on May 9th of the recommendation of its Agenda Committee, dated May 8th, appointed this Committee.

It was your Committee's understanding that what was desired was a gathering together in one place of tabulations and other indicators of the trend in the use of the various kinds of equipment which consume petroleum in one form or other. From the outset the Committee felt that since there were available many previously published reports, books or publications containing reliable and acceptable data, it should not attempt to reproduce those records in the detail shown in these original sources. The Committee, therefore, has confined its presentation to United States summaries and has selected those sources which in its opinion present the best available data on the individual series. A portion of these data is also presented in graphic form showing the trends in the accumulated number of oil consuming devices of the more important types.

No adequate data were available showing the number of devices in use which consume kerosene or #1 fuel oil. Therefore, data on factory shipments of these cooking, space and water heating units have been included as an alternative. The Census data on the numbers of dwelling units heated by space heaters shown in Table #8 do not reflect the total number of space heaters, because many homes use more than one space heater and such heaters are also used in buildings other than dwelling units. Informed opinion indicates that the total of space heaters in use is in all probability considerably larger than the Census data indicates. The Census data, however, were plotted on the graph merely to indicate the probable rate of change.

In order that the industry may follow the current and future developments in the trends of these consuming equipments, a bibliography has been included showing the various sources from which basic information may be obtained. These original sources very often give data by states and show many sub-classifications. The Committee hopes that the summary tables included and the bibliography references will provide the Council and the Department of the Interior with useful information and reliable sources from which further analyses can be made.

Some of the data shown in these tables include new information not previously published in source material releases. As an example, the total numbers of passenger cars, buses and trucks registered, including privately and publicly owned, are shown individually for the last 20 years. Previous releases have not

shown complete analysis of these data. Revisions have also been included for the history of oil burners installed so as to make these data homogenous with releases covering recent years. The reports on the registrations of vessels have been assembled from many sources and probably give the first comprehensive listing of these various kinds of craft. There are other parts of the report which give new data which have been assembled with the help of many of the reporting agencies and members of the Committee.

Where data were available showing accumulated number of installations on hand at the end of each year, the Committee felt that sufficient indication would be available in most cases as to the number manufactured, sold or installed during the year, but in several cases information on the installations or factory shipments have also been included. In addition, the bibliography refers to source material on the manufacture, sale or installation for many of the items.

It is interesting to note from the graph and tables presented herewith that the numbers of petroleum consuming equipment in use in the United States have steadily and almost uninterruptedly increased over the last 20 years. The effect of the depression of the 1930's shows up, of course, in automotive equipments, and the effect of the war is also clearly evident, as is the tremendous upsurge since the end of the war. The graph attached has been designed to bring out only the differences in the rates of change between the various kinds of consuming equipment in use. If we had shown these data on a scale giving equal space to equal quantities instead of equal rates of change, it would immediately have become evident that the magnitude of the automotive equipment involved, for instance, would be so great that the relatively more

rapid changes in the rate of such items as diesel engines, aircraft and large (marine) craft would be almost entirely lost in comparison. For this reason tables were also included from which actual changes can easily be calculated.

Respectfully submitted,

The Committee on Trends in
Petroleum Consuming Equipment

Albert J. McIntosh, Chairman
Samuel Dunckel
Robert Gray
Harry B. Hilts
Joseph E. Pogue
Fred Van Covern

Table #1

MOTOR VEHICLES AND TRACTORS IN THE U.S.

(Thousands)

Year (Dec. 31)	Registrations of Privately and Publicly Owned (1) Passenger Cars	Buses	Trucks	Total	Annual Gain (+) or Loss (-) in Total	Tractors On Farms (2)
1930	23 016	47	3 643	26 706		920 (5)
1931	22 371	50	3 613	26 034	- 672	N.A.
1932	20 875	53	3 385	24 313	- 1 721	N.A.
1933	20 642	55	3 409	24 106	- 207	N.A.
1934	21 527	63	3 594	25 184	+ 1 078	N.A.
1935	22 564	72	3 878	26 514	+ 1 330	N.A.
1936	24 179	78	4 215	28 472	+ 1 958	N.A.
1937	25 474	77	4 491	30 042	+ 1 570	N.A.
1938	25 256	88	4 466	29 810	- 232	N.A.
1939	26 229	88	4 693	31 010	+ 1 200	1 545
1940	27 468	102	4 893	32 463	+ 1 453	1 675
1941	29 621	120	5 113	34 854	+ 2 391	1 890
1942	27 973	139	4 887	32 999	- 1 855	2 100
1943	26 009	152	4 727	30 888	- 2 111	2 210
1944	25 566	153	4 760	30 479	- 409	2 422
1945	25 793	162	5 080	31 035	+ 556	2 585
1946	28 213	174	5 986	34 373	+ 3 338	N.A.
1947	30 846	187	6 808	37 841	+ 3 468	3 150
1948	33 385	197	7 555	41 137	+ 3 296	3 500
1949	36 434	209	8 028	44 671	+ 3 534	N.A.
1950	40 315	224	8 604	49 143	+ 4 472	(3)
1951 Est.	42 846	239	9 114	52 199	+ 3 056	4 266 (4)

(1) Source: U.S. Bureau of Public Roads. Publicly Owned include federal, state, county and municipal vehicles; vehicles owned by the military services are not included. For years 1930-1936 the separation between publicly owned passenger cars and buses included above are estimated, as published totals did not show this desired separation.

(2) Source through 1948: U.S. Department of Agriculture (B.A.E.). Figures include garden tractors.

(3) The 1950 Census figures are now coming in. The U.S. total should be available by November.

(4) Estimated by "Farm Implement News". July 1, 1951.

(5) For this year only number is for January 1st.

STATE MOTOR-VEHICLE REGISTRATIONS - 1950 1/

COMPILED FOR CALENDAR YEAR FROM REPORTS OF STATE AUTHORITIES 2/

TABLE MV-1, 1950
ISSUED APRIL 1951

STATE	MOTOR VEHICLES															MOTORCYCLES		STATE
	AUTOMOBILES			BUSSES			TRUCKS			ALL MOTOR VEHICLES			COMPARISON OF TOTAL MOTOR-VEHICLE REGISTRATIONS, 1949-1950					
	PRIVATE AND COMMERCIAL (INCLUDING TAXICABS)	PUBLICLY OWNED 3/	TOTAL	PRIVATE AND COMMERCIAL 4/	PUBLICLY OWNED 3/	TOTAL	PRIVATE AND COMMERCIAL 5/	PUBLICLY OWNED 3/	TOTAL	PRIVATE AND COMMERCIAL	PUBLICLY OWNED 3/	TOTAL	TOTAL 1949 REGISTRATIONS	INCREASE, 1950	PERCENTAGE INCREASE	PRIVATE AND COMMERCIAL	PUBLICLY OWNED 3/	
ALABAMA	509,698	1,676	511,374	2,577	2,995	5,572	162,630	6,236	168,866	674,905	10,907	685,812	596,846	88,966	14.9	6,984	112	ALABAMA
ARIZONA	204,935	1,802	206,737	682	661	1,343	58,737	3,982	62,719	264,354	6,445	270,799	240,359	30,440	12.7	3,617	56	ARIZONA
ARKANSAS	319,008	700	319,708	1,388	2,574	3,962	150,007	3,588	153,595	470,403	6,862	477,265	434,395	42,870	9.9	2,326	48	ARKANSAS
CALIFORNIA	3,936,759	18,592	3,955,351	11,737	913	12,650	615,060	37,017	652,077	4,563,556	56,522	4,620,078	4,161,109	458,969	11.0	54,988	2,267	CALIFORNIA
COLORADO	430,306	1,915	432,221	2,009	407	2,416	123,713	5,860	129,573	556,028	8,182	564,210	510,222	53,988	10.6	4,587	82	COLORADO
CONNECTICUT	620,582	3,014	623,596	2,991	111	3,102	85,345	3,892	89,237	708,918	7,017	715,935	663,205	52,730	8.0	3,764	465	CONNECTICUT
DELAWARE	85,944	657	86,601	545	18	563	20,346	762	21,108	106,835	1,437	108,272	96,497	11,775	12.2	623	98	DELAWARE
FLORIDA	798,502	3,215	801,717	2,440	2,426	4,866	170,541	7,714	178,255	971,483	13,355	984,838	867,510	117,328	13.5	15,662	335	FLORIDA
GEORGIA	692,409	1,412	693,821	3,644	1,831	5,475	191,893	6,329	198,222	887,946	9,572	897,518	792,391	105,127	13.3	8,021	271	GEORGIA
IDAHO	195,648	762	196,410	166	464	630	71,683	3,639	75,322	267,497	4,865	272,362	243,749	28,613	11.7	2,764	17	IDAHO
ILLINOIS	2,281,759	5,175	2,286,934	6,240	2,416	8,656	343,717	11,661	355,378	2,631,716	19,252	2,650,968	2,414,354	236,614	9.8	26,039	683	ILLINOIS
INDIANA	1,187,809	3,050	1,190,859	6,753	994	7,747	229,833	6,446	236,279	1,424,395	10,490	1,434,885	1,339,914	94,971	7.1	20,543	223	INDIANA
IOWA	878,606	1,999	880,605	1,299	2,888	4,187	180,449	7,049	187,498	1,060,354	11,936	1,072,290	988,924	83,366	8.4	11,502	80	IOWA
KANSAS	646,743	2,291	649,034	850	848	1,698	195,922	6,808	202,730	843,515	9,947	853,462	815,821	37,641	4.6	8,113	-	KANSAS
KENTUCKY	602,933	1,540	604,473	2,863	1,324	4,187	168,236	6,828	175,064	774,032	9,692	783,724	692,370	91,354	13.2	7,597	-	KENTUCKY
LOUISIANA	548,202	2,289	550,491	3,604	575	4,179	147,336	4,727	152,063	699,142	7,591	706,733	608,196	98,537	16.2	6,106	78	LOUISIANA
MAINE	208,998	913	209,911	1,004	302	1,306	6/ 62,300	2,904	65,204	272,302	4,119	276,421	253,035	23,386	9.2	2,555	26	MAINE
MARYLAND	573,482	2,620	576,102	4,063	233	4,296	101,515	2,835	104,350	679,060	5,688	684,748	616,217	68,531	11.1	6,337	50	MARYLAND
MASSACHUSETTS	1,098,770	4,609	1,103,379	5,431	58	5,489	162,040	9,421	171,461	1,266,241	14,088	1,280,329	1,176,919	103,410	8.8	5,553	-	MASSACHUSETTS
MICHIGAN	2,114,572	5,405	2,119,977	5,348	3,347	8,695	288,891	15,121	304,012	2,408,811	23,873	2,432,684	2,204,643	228,041	10.3	19,559	292	MICHIGAN
MINNESOTA	962,629	1,910	964,539	3,315	2,020	5,335	192,160	6,853	199,013	1,158,104	10,783	1,168,887	1,066,992	101,895	9.5	11,633	132	MINNESOTA
MISSISSIPPI	328,816	612	329,428	2,210	2,162	4,372	145,918	4,656	150,574	476,944	7,430	484,374	438,412	45,962	10.5	2,289	1	MISSISSIPPI
MISSOURI 7/	990,264	1,891	992,155	4,525	1,377	5,902	257,082	6,281	263,363	1,251,871	9,549	1,261,420	1,194,899	66,521	5.6	8,150	22	MISSOURI 7/
MONTANA	180,307	1,260	181,567	702	222	924	78,274	4,127	82,401	259,283	5,609	264,892	246,009	18,883	7.7	1,223	-	MONTANA
NEBRASKA	441,541	1,293	442,834	798	278	1,076	121,122	4,465	125,587	563,461	6,036	569,497	544,017	25,480	4.7	4,822	48	NEBRASKA
NEVADA	58,566	582	59,148	207	108	315	16,023	1,656	17,679	74,796	2,346	77,142	69,119	8,023	11.6	572	17	NEVADA
NEW HAMPSHIRE	136,624	865	137,489	567	28	595	31,597	2,658	34,255	168,788	3,551	172,339	167,327	5,012	3.0	1,832		NEW HAMPSHIRE
NEW JERSEY	1,347,275	5,406	1,352,681	7,134	254	7,388	209,246	9,866	219,112	1,563,655	15,526	1,579,181	1,440,773	138,408	9.6	9,438	503	NEW JERSEY
NEW MEXICO	172,005	1,260	173,265	1,654	135	1,789	59,597	3,090	62,687	233,256	4,485	237,741	204,713	33,028	16.1	2,567	7	NEW MEXICO
NEW YORK	3,240,425	12,831	3,253,256	11,161	5,503	16,664	441,491	23,702	465,193	3,693,077	42,036	3,735,113	3,437,439	297,674	8.7	24,733	1,153	NEW YORK
NORTH CAROLINA	830,526	2,651	833,177	2,776	8,695	11,471	201,781	9,880	211,661	1,035,083	21,226	1,056,309	921,498	134,811	14.6	11,690	141	NORTH CAROLINA
NORTH DAKOTA	191,137	667	191,804	276	112	388	82,016	1,819	83,835	273,429	2,598	276,027	259,803	16,224	6.2	1,050	10	NORTH DAKOTA
OHIO	2,427,145	5,902	2,433,047	4,635	7,285	11,920	336,380	13,726	350,106	2,768,160	26,913	2,795,073	2,589,031	206,042	8.0	25,154	422	OHIO
OKLAHOMA	616,412	2,156	618,568	1,693	3,798	5,491	201,160	6,149	207,309	819,265	12,103	831,368	753,724	77,644	10.3	7,240		OKLAHOMA
OREGON	545,959	2,959	548,918	1,252	1,380	2,632	130,979	6,918	137,897	678,190	11,257	689,447	632,109	57,338	9.1	7,742	6	OREGON
PENNSYLVANIA	2,528,682	9,981	2,538,663	9,892	1,047	10,939	439,654	20,564	460,218	2,978,228	31,592	3,009,820	2,752,985	256,835	9.3	26,522	570	PENNSYLVANIA
RHODE ISLAND	216,363	847	217,210	811	45	856	31,247	1,556	32,803	248,421	2,448	250,869	236,687	14,182	6.0	1,728	88	RHODE ISLAND
SOUTH CAROLINA	462,357	1,199	463,556	2,189	1,894	4,083	105,540	5,623	111,163	570,086	8,716	578,802	527,439	51,363	9.7	5,506	93	SOUTH CAROLINA
SOUTH DAKOTA	215,485	708	216,193	391	359	750	70,692	2,445	73,137	286,568	3,512	290,080	272,545	17,535	6.4	1,976	23	SOUTH DAKOTA
TENNESSEE	669,215	3,751	672,966	2,507	1,585	4,092	169,771	11,282	181,053	841,493	16,618	858,111	750,160	107,951	14.4	7,761	9	TENNESSEE
TEXAS	2,311,284	8,276	2,319,560	6,785	8,556	15,341	610,777	22,465	633,242	2,928,846	39,297	2,968,143	2,568,491	399,652	15.6	27,118	572	TEXAS
UTAH	196,614	1,391	198,005	453	520	973	46,117	2,222	48,339	243,184	4,133	247,317	223,763	23,554	10.5	1,596	39	UTAH
VERMONT	8/ 104,206	285	104,491	467	250	717	8/ 14,637	753	15,390	119,310	1,288	120,598	114,729	5,869	5.1	982	-	VERMONT
VIRGINIA	734,362	3,727	738,089	3,199	2,153	5,352	167,945	6,358	174,303	905,506	12,238	917,744	823,620	94,124	11.4	11,136	193	VIRGINIA
WASHINGTON	746,281	5,304	751,585	1,190	2,381	3,571	155,708	13,356	169,064	903,179	21,041	924,220	858,522	65,698	7.7	6,486	217	WASHINGTON
WEST VIRGINIA	361,586	1,888	363,474	1,397	1,292	2,689	111,883	4,229	116,112	474,866	7,409	482,275	438,493	43,782	10.0	3,952	36	WEST VIRGINIA
WISCONSIN	961,122	2,096	963,218	2,618	1,333	3,951	222,361	11,658	234,019	1,186,101	15,087	1,201,188	1,124,641	76,547	6.8	10,152	362	WISCONSIN
WYOMING	83,985	811	84,796	764	267	1,031	38,639	2,541	41,180	123,388	3,619	127,007	114,206	12,801	11.2	1,047	-	WYOMING
DISTRICT OF COLUMBIA	169,892	9/ 2,300	172,192	2,004	22	2,026	18,641	2,099	20,740	190,537	4,421	194,958	181,766	13,192	7.3	799	153	DISTRICT OF COLUMBIA
TOTAL	40,166,730	148,445	40,315,175	143,206	80,446	223,652	8,238,632	365,816	8,604,448	48,548,568	594,707	49,143,275	44,670,588	4,472,687	10.0	443,954	9,920	TOTAL

1/ FOR ADDITIONAL DETAILS OF PUBLICLY-OWNED VEHICLES AND OF TRUCKS, BUSSES, AND TRAILERS REGISTERED, SEE TABLES MV-7, 9, 10, AND 11, RESPECTIVELY.

2/ REGISTRATION PERIODS ENDING NOT EARLIER THAN NOVEMBER 30 AND NOT LATER THAN JANUARY 31 ARE CONSIDERED CALENDAR-YEAR PERIODS. IN STATES WHERE THE REGISTRATION PERIOD IS DEFINITELY REMOVED FROM THE CALENDAR YEAR, REGISTRATIONS GIVEN ARE FOR THE TWELVE CONSECUTIVE MONTHS OF THE CALENDAR YEAR.

3/ INCLUDES FEDERAL, STATE, COUNTY, AND MUNICIPAL VEHICLES. VEHICLES OWNED BY THE MILITARY SERVICES ARE NOT INCLUDED. IN INSTANCES WHERE STATE, COUNTY, AND MUNICIPAL VEHICLES ARE NOT SEGREGATED FROM THOSE PRIVATELY OWNED, THE SEGREGATION HAS BEEN APPROXIMATED FROM OTHER DATA AVAILABLE.

4/ FOR STATES THAT DID NOT SEGREGATE BUSSES FROM OTHER VEHICLES, THE SEGREGATION HAS BEEN APPROXIMATED FROM OTHER DATA AVAILABLE.

5/ FARM TRUCKS REGISTERED AT A NOMINAL FEE AND RESTRICTED TO USE IN THE VICINITY OF THE OWNER'S FARM WERE INCLUDED IN THE COMPARABLE COLUMN OF TABLE MV-1 FOR PRIOR YEARS BUT ARE NOT INCLUDED FOR 1950. THE EXCLUDED REGISTRATIONS WERE AS FOLLOWS: CONNECTICUT 5,991; NEW HAMPSHIRE 3,703; NEW JERSEY 8,744; NEW YORK 13,249; RHODE ISLAND 1,834.

6/ COMMERCIAL FULL TRAILERS ARE INCLUDED WITH TRUCKS.

7/ THE REGISTRATION SYSTEM IS UNDERGOING CHANGE. REVISION OF DATA MAY BE NECESSARY.

8/ TRUCKS UNDER 1,500 POUNDS CAPACITY ARE INCLUDED WITH AUTOMOBILES.

9/ INCLUDES 1,224 AUTOMOBILES OF THE DIPLOMATIC CORPS.

Table #3

DOMESTIC OILBURNERS INSTALLED AND NUMBER IN USE (1) - TOTAL U.S.

Year	Installations: Total	Installations: Replacing Old Oil Burners	Installations: New Users: New Homes	Installations: New Users: Previously Using Other Fuels	Installations: New Users: Total (2)	Oil Burners Replaced by Other Fuels	Net New Users	Number In Use (End of Yr.)
1930	126 400	N.A.	N.A.	N.A.	N.A.			648 500
1931	104 000	5 200	"	"	98 800	(2)	98 800	747 300
1932	89 200	5 380	"	"	83 820	"	83 820	831 120
1933	88 600	5 440	15 100	68 060	83 160	"	83 160	914 280
1934	108 290	9 700	8 660	89 930	98 590	"	98 590	1 012 870
1935	150 510	11 255	15 200	124 055	139 255	"	139 255	1 152 125
1936	220 075	31 525	28 400	160 150	188 550	"	188 550	1 340 675
1937	210 740	20 870	40 500	149 370	189 870	"	189 870	1 530 545
1938	179 360	42 160	33 400	103 800	137 200	"	137 200	1 667 745
1939	236 140	41 555	43 400	151 185	194 585	"	194 585	1 862 330
1940	302 210	29 415	59 000	213 795	272 795	"	272 795	2 135 125
1941	333 250	56 400	81 000	195 850	276 850	9 915	266 935	2 402 060
1942	99 514	33 200	42 500	23 814	66 314	(2)	(3)	(3)
1943	33 445	13 900	17 400	2 145	19 545	"	"	"
1944	49 915	38 300	450	11 165	11 515	"	"	"
1945	145 596	44 100	6 400	95 096	101 496	"	"	"
1946	492 593	39 400	58 100	395 093	453 193	"	418 984	2 821 044
1947	888 083	58 613	283 210	546 260	829 470	"	829 470	3 650 514
1948	455 245	89 042	193 462	172 741	366 203	40 944	325 259	3 975 773
1949	614 712	61 700	187 846	365 166	553 012	38 250	514 762	4 490 535
1950	846 815	96 960	315 834	434 021	749 855	68 256	681 599	5 172 134

(1) Source: "Fueloil and Oil Heat", New York, N. Y.

(2) The "Oil Burners Replaced by Other Fuels" are not known for the years indicated; consequently "Total New Users" are too low by these unknown quantities for those years. It is believed that this difference is negligible in the pre-war years.

(3) During the four war years the actual number in use was hard to determine due to the conversions from oil to coal and subsequent reconversions to oil. At midsummer of 1945 the number in use was approximately 2,280,225 as shown in the table by states.

Note: The term "Domestic Oilburner" includes not only burners installed in residences but also those in small commercial or apartment applications where the same type of burner and oil are used and where firing capacities are under 6 gallons per hour.

Burners with firing rates above 6 gallons per hour are included in the commercial-industrial classification, regardless of whether they burn distillate or residual fuels.

NUMBER OF DOMESTIC CENTRAL HEATING OILBURNERS OPERATING

showing postwar growth

	JULY 1, 1945*	JANUARY 1, 1951**	% RISE
MAINE	26,930	63,495	136
NEW HAMPSHIRE	22,945	61,199	167
VERMONT	9,505	17,365	83
MASSACHUSETTS	261,102	485,747	86
RHODE ISLAND	37,820	65,226	72
CONNECTICUT	101,988	220,000	116
TOTAL NEW ENGLAND	460,290	913,032	98
NEW YORK	419,242	940,302	124
NEW JERSEY	216,683	472,022	118
PENNSYLVANIA	174,282	437,500	151
DELAWARE	14,858	33,648	126
MARYLAND	114,943	213,516	86
DIST. OF COLUMBIA	37,772	60,290	60
TOTAL MID-ATLANTIC	977,780	2,157,278	121
VIRGINIA	50,273	121,102	141
WEST VIRGINIA	363	1,667	359
NORTH CAROLINA	14,489	58,096	301
SOUTH CAROLINA	4,826	17,682	266
GEORGIA	3,837	11,173	191
FLORIDA	13,572	41,073	203
TOTAL SOUTH ATLANTIC	87,360	250,793	187
MICHIGAN	74,744	234,415	214
OHIO	24,158	94,027	289
INDIANA	21,660	85,513	295
ILLINOIS	99,980	236 375	136
WISCONSIN	56,661	167,540	196
MINNESOTA	85,223	183,460	115
IOWA	31,485	82,214	161
MISSOURI	28,416	74,779	163
KANSAS	4,488	8,426	88
NEBRASKA	22,638	42,786	89
SOUTH DAKOTA	7,928	23,592	198
NORTH DAKOTA	7,204	24,072	234
TOTAL MIDWEST	464,585	1,257,199	171
KENTUCKY	2,166	7,606	251
TENNESSEE	3,528	12,172	245
ALABAMA	2,822	7,647	171
MISSISSIPPI	940	1,382	47
ARKANSAS	1,646	2,323	41
LOUISIANA	6,469	9,452	46
OKLAHOMA	1,176	1,688	44
TEXAS	12,936	28,201	118
TOTAL SOUTH CENTRAL	31,683	70,471	122
MONTANA	2,429	6,408	164
IDAHO	3,614	12,555	247
WYOMING	1,248	2,831	127
COLORADO	6,503	10,079	55
UTAH	2,096	9,224	340
NEVADA	4,958	9,744	97
NEW MEXICO	1,839	2,600	41
ARIZONA	5,095	13,250	160
TOTAL MOUNTAIN STATES	27,782	66,691	141
WASHINGTON	79,859	166,855	109
OREGON	36,028	106,774	196
CALIFORNIA	114,858	183,041	59
TOTAL PACIFIC	230,745	456,670	98
TOTAL UNITED STATES	2,280,225	5,172,134	127%

* *Based on count of rations, slightly adjusted.*

** *Of these about 48% on East Coast, 27% for Mid-West and approximately 38% for total U.S. oil burners have water heaters attached which require additional oil.*
In addition some 134,000 separate water heater units burning No. 2 fuel oil were in operation on 1/1/51 located mostly in mid-west and far-west states.

SOURCE: "Fueloil and Oil Heat", New York, N.Y.

VESSELS REGISTERED OR IN USE IN THE U.S.

Table #5

Year (Dec.31)	SMALL CRAFT: Outboard (1) Motor Boats	SMALL CRAFT: Un-Numbered Inboards	SMALL CRAFT: Numbered Inboards (3)	SMALL CRAFT: Documented Yachts and Commercial Boats (5) — Gasoline: 0-249 H.P.	SMALL CRAFT: Documented Yachts and Commercial Boats (5) — Gasoline: 250 H.P. and Over	SMALL CRAFT: Documented Yachts and Commercial Boats (5) — Diesel: 0-249 H.P.	SMALL CRAFT: Documented Yachts and Commercial Boats (5) — Diesel: 250 H.P. and Over	LARGE CRAFT: Steam, Oil-Fired: 0-249 H.P.	LARGE CRAFT: Steam, Oil-Fired: 250 H.P. and Over
1930	357 000	N.A.	248 000		11 062 (6)		2 877 (6)		2 005 (6)
1931	359 000	"	259 000		11 160 (6)		3 230 (6)		1 983 (6)
1932	354 000	"	265 000		11 166 (6)		3 421 (6)		2 018 (6)
1933	357 000	"	291 000		11 303 (6)		3 551 (6)		1 956 (6)
1934	365 000	"	299 000		11 444 (6)		3 838 (6)		1 947 (6)
1935	385 000	"	N.A.(4)		11 558 (6)		4 085 (6)		1 926 (6)
1936	414 000	"	"		11 725 (6)		4 440 (6)		1 880 (6)
1937	487 000	"	201 000		11 890 (6)		4 966 (6)		1 838 (6)
1938	554 000	"	240 000		11 628 (6)		5 546 (6)		1 800 (6)
1939	633 000	"	279 000	11 662	992	4 832	1 145	51	1 733
1940	709 000	"	315 000	10 555	1 005	5 168	1 265	54	1 551
1941(7)	820 000	"	347 000	7 986	152	4 885	1 097	49	1 502
1942(7)	786 000	"	358 000	8 059	181	4 945	1 231	40	1 791
1943(7)	772 000	"	364 000	8 206	186	5 136	1 369	36	2 985
1944(7)	760 000	"	377 000	8 301	214	5 415	1 450	34	3 896
1945	745 000	"	390 000	10 380	834	6 355	1 873	38	4 522
1946	972 000	"	420 000	10 630	971	7 143	2 230	42	4 395
1947	1 554 000	"	430 000	10 908	1 090	8 068	2 648	42	3 796
1948	2 004 000	320 000 (2)	440 000	11 090	1 164	8 848	3 079	38	3 643
1949	2 254 000	N.A.	449 000	11 350	1 223	9 463	3 341	39	3 482
1950	2 567 000	"	457 000	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.

(1) Calculated from original production figures based on those P. Tanner, Johnson Motors Co. Socony-Vacuum estimates average life of motor to be 12 years.
(2) Press release of National Association of Engine and Boat Manufacturers, November 26, 1949.
(3) Proceedings of Merchant Marine Council, U.S. Coast Guard, April 1951, pp. 96-99.
(4) The number system was changed.
(5) Source: "U.S. Treasury, Merchant Marine Statistics". Year ending June 30th through 1939; from 1940 on, date is December 31st. Virgin Islands, Puerto Rico, Alaska and Hawaiian Islands are not included.
(6) Does not specify horsepower. Deductions for non-contiguous possessions estimated prior to 1939.
(7) Data on yachts not available for this period.

VESSELS REGISTERED OR IN USE IN THE U. S.

Year (Dec.31)	SMALL CRAFT							LARGE CRAFT		
				Documented Yachts and Commercial Boats (5)						
				Gasoline		Diesel			Steam, Oil-Fired	
	Outboard(1) Motor Boats	Un-Numbered Inboards	Numbered Inboards(3)	0-249 H.P.	250 H.P. and Over	0-249 H.P.	250 H.P. and Over		0-249 H.P.	250 H.P. and Over
1930	357 000	N.A.	248 000		10 811 (6)				N.A.	N.A.
1931	359 000	"	259 000		10 985 (6)				"	"
1932	354 000	"	265 000		11 069 (6)				"	"
1933	357 000	"	291 000		11 331 (6)				"	"
1934	365 000	"	299 000		11 609 (6)				"	"
1935	385 000	"	N.A.(4)		11 894 (6)				"	"
1936	414 000	"	"		12 296 (6)				"	"
1937	487 000	"	201 000		13 000 (6)				"	"
1938	554 000	"	240 000	8 350 (7)		4 926 (7)			1 794 (7)	
1939	633 000	"	279 000	8 225	153	4 377	868		51	1 725
1940	709 000	"	315 000	8 060	139	4 658	987		46	1 540
1941	820 000	"	347 000	7 986	152	4 885	1 097		49	1 502
1942	786 000	"	358 000	8 059	181	4 945	1 231		40	1 791
1943	772 000	"	364 000	8 206	186	5 136	1 369		36	2 985
1944	760 000	"	377 000	8 301	214	5 415	1 450		34	3 896
1945	745 000	"	390 000	8 457	242	5 975	1 728		38	4 520
1946	972 000	"	420 000	8 734	284	6 691	1 979		42	4 392
1947	1 554 000	"	430 000	9 019	359	7 579	2 302		41	3 791
1948	2 004 000	320 000 (2)	440 000	9 216	413	8 351	2 678		38	3 641
1949	2 254 000	N.A.	449 000	9 452	478	8 952	2 890		39	3 480
1950	2 567 000	"	457 000	N.A.	N.A.	N.A.	N.A.		N.A.	N.A.

(1) Calculated from original production figures based on those P. Tanner, Johnson Motors Co. Socony-Vacuum estimates average life of motor to be 12 years.

(2) Press release of National Association of Engine and Boat Manufacturers, November 26, 1949.

(3) Proceedings of Merchant Marine Council, U.S. Coast Guard, April 1951, pp. 96-99.

(4) The number system was changed.

(5) Source: "U.S. Treasury, Merchant Marine Statistics". Year ending June 30th through 1939; from 1940 on, date is December 31st.

(6) Does not specify horsepower or gasoline or diesel.

(7) Does not specify horsepower.

COMMERCIAL-INDUSTRIAL OILBURNERS

Year	Installations	Number Operating (End of Year)
1935	14 990	176 240
1936	18 435	192 830
1937	19 380	210 275
1938	13 955	222 880
1939	16 445	237 680
1940	20 710	256 320
1941	34 750	287 595
1942	55 360	293 120
1943	44 470	285 045
1944	30 705	286 680
1945	30 515	288 812
1946	40 498	325 310
1947	48 780	369 210
1948	28 433	393 550
1949	25 220	414 310
1950	33 853	444 778

Commercial-Industrial oilburners are those with firing rates of 6 gallons or more per hour, regardless of the type of oil used. In 1950 the division was: for residual fuel 54%; for distillate fuel 46%. Over a period of years the ratio was probably about 50-50.

The distillate burners in this group have an average consumption of about 7,000 gallons per season, mostly for heating. The geographic distribution is similar to that of domestic oilburners.

Source: "Fueloil and Oil Heat", January 1951 issue.

AIRCRAFT AND RAILROAD PETROLEUM CONSUMING UNITS - U.S.

Year (Dec.31)	Numbers of Aircraft in Service (1)				Locomotive Units In Use (6)	
	Scheduled Airlines			Civil (8)		
	Domestic Service(2)	International Service	Total Scheduled	Aircraft Certified	Diesel Electric Units*	Oil-Fired Steam Locomotives**
1930	497	103	600	9 818	77	7 472
1931	490	100	590	10 680	80	7 466
1932	456	108	564	10 324	80	7 268
1933	418	86	504	9 284	85	7 163
1934	423	99	522	8 322	104	6 792
1935	363	101	464	9 072	130	6 632
1936	280	94	374	9 229	175	6 551
1937	291	92	383	10 836	293	6 548
1938	260(3)	73	333	11 159	403	6 459
1939	276(4)	84	360	13 772	639	6 415
1940	369	68	437	17 928	967	6 338
1941	370	83	453	26 013	1 517	6 480
1942	186	68	254	27 170	1 978	6 701
1943	204	70	274	27 180	2 476	6 774
1944	288	70	358	27 919	3 432	6 906
1945	421	97	518	37 789	4 301	6 921
1946	674	147	821	81 002(5)	5 008	6 878
1947	810	154	964	94 821(5)	6 495	6 537
1948	878	175	1 053	95 997(5)	8 981	6 124
1949	913	177	1 090	92 622	12 025	5 531
1950	960	160	1 120	92 809	15 340(7)	5 225

(1) Source: "Statistical Handbook for Civil Aviation", C.A.A., excl. military.

(2) Includes territorial lines.

(3) Does not include Colonial and Marine

(4) Does not include Marine.

(5) Includes gliders (estimated as less than 1,000).

(6) Source through 1949: "Statistics of the Railroads", I.C.C.

(7) "Railway Age", May 14, 1951, p. 129.

* Classes I, II and III Railroads, Switching and Terminal Companies.

** Class I Railroads

(8) Includes scheduled airlines and all private.

CHARACTERISTICS OF OCCUPIED DWELLING UNITS
CENSUS OF HOUSING* - U. S. TOTALS

Table #8

A. Number of Central Heating Plants by Principal Fuel Types

Fuel Type	1940 Units	1940 % Total	1950 Units	1950 % Total	1950 % Chg. from 1940
Liquid Fuel(and other fuel)	1 765 952	12.5	5 130 000(1)	24.8	+ 190.5
Gas	1 109 587	7.8	5 914 000(2)	28.5	+ 433.0
Coal or Coke	10 903 163	77.1	9 430 000	45.5	- 13.5
Wood	373 322	2.6	250 000	1.2	- 33.0
Total-Reporting Fuel	14 152 024	100.0	20 724 000	100.0	+ 46.4

B. Numbers of Space Heaters by Principal Fuel Types

Liquid Fuel	1 706 722(3)	8.8	4 437 000(3)	22.1	+ 160.0
Gas	2 728 381	14.0	5 880 000(4)	29.3	+ 115.5
Coal or Coke	7 622 427	39.2	5 127 000	25.6	- 32.7
Wood	7 362 155	37.8	3 969 000	19.8	- 46.0
Electric	N.A.	-	272 000	1.4	-
Other Fuel	50 022	0.2	368 000	1.8	+ 635.7
Total-Reporting Fuel	19 469 707	100.0	20 053 000	100.0	+ 3.0

C. Numbers of Cooking Stoves by Principal Fuel Types

Liquid Fuel(and other fuel)	3 522 664	10.3	3 087 000	7.4	- 12.4
Gas	16 776 077	48.8	24 656 000(5)	58.8	+ 47.0
Coal and Coke	3 961 550	11.5	3 647 000	8.7	- 7.9
Wood	8 101 610	23.6	4 252 000	10.1	- 47.5
Electric	1 837 503	5.4	6 132 000	14.6	+ 233.7
None	142 907	0.4	148 000	0.4	+ 3.6
Total-Reporting	34 342 311	100.0	41 922 000	100.0	+ 22.0

D. Total Occupied Dwelling Units

34 854 532	42 520 000

(1) Includes 452,000 units designated as using "Other Fuels". This table counts dwelling units, therefore it is not the same data as "Domestic Oilburners". The latter table counts burners and includes non-dwelling users of distillate burners.

(2) Liquified petroleum gas installations as of 1950 are estimated at 195,000 units, or approximately 0.9% of U.S. total. These are included in above.

(3) Based on principal fuel used in each dwelling unit. The number of oil-fired space heaters in use probably is substantially higher because of homes using more than a single heater, other buildings (not dwellings) using space heaters and dwelling units using oil as a supplementary fuel.

(4) L.P.G. installations estimated at 676,000 units, approximately 3% of U.S. total.

(5) L.P.G. installations estimated at 3,254,000 units, approximately 8% of U.S. total.

* Source: Sixteenth Census of the United States and a preliminary report from the 1950 Census of Housing. The figures do not necessarily represent total installations, because no allowance has been made for installations which serve more than a single dwelling unit.

Table #9

DOMESTIC OIL-FIRED COOKING, SPACE HEATING, AND WATER HEATING APPLIANCES

ANNUAL FACTORY SHIPMENTS IN UNITS (4)

	1944	1945	1946	1947	1948	1949	1950
DOMESTIC COOKING APPLIANCES							
Kerosene, Gasoline and Fuel Oil							
Kerosene ranges	202 843	323 567	322 545	341 972	299 396	108 638	108 319
Cook stoves	178 144	190 103	193 763	217 607	167 381	77 301	82 457
Miscellaneous Cooking Appliances							
Needle-Valve stoves	253 248	325 866	648 299	757 164	589 183	597 499	596 540
Miscellaneous kerosene, gasoline, and fuel oil stoves (1)				262 231	322 767	210 565	N.A.
Total Cooking Appliances	634 235	839 536	1 164 607	1 578 974	1 378 727	994 003	787 316(2)
DOMESTIC HEATING STOVES							
Kerosene, Gasoline and Fuel Oil							
Flue-connected circulators and radiant-circulators with vap. pot-type burners.				1 884 311	962 559	579 050	729 053
Flue-connected radiant heaters (w/o casing), and trailer heaters, equipped with vap. pot-type burners.					223 048	129 582	148 246
Flue-connected heaters equipped with sleeve burners				50 442	49 258	32 895	
Sub Total-Flue-connected	127 005	357 831	1 006 174	1 934 753	1 234 865	741 527	877 299
Unvented portable kerosene heaters	209 806	221 294	312 878	415 967	704 828	524 338	434 247
Total Heating Stoves	336 811	579 125	1 319 052	2 350 720	1 939 693	1 265 865	1 311 546
FLOOR FURNACES	N.A.	N.A.	N.A.	141 100	N.A.	55 966	65 069
WATER HEATERS							
Underfired storage	N.A.	75 182	179 837	221 903	41 541	29 897	44 041
Sidearm	N.A.	20 232	70 864	60 520	27 873	10 844	13 594
Total Water Heaters		95 414(3)	250 701	282 423	69 414	40 741	57 635

(1) Includes gasoline pressure, camp stoves, cabin stoves, solus stoves, pocket stoves, etc.
(2) Not including miscellaneous kerosene, gasoline and fuel oil stoves.
(3) Production.
(4) Source: The Institute of Cooking and Heating Appliance Manufacturers, The Shoreham Hotel, Washington 8, D. C.

DISTRIBUTION BY STATES OF 1950 FACTORY SHIPMENTS (1)
VAPORIZING POT-TYPE OIL BURNING EQUIPMENT

SPACE HEATER SAMPLE REPRESENTS 72% OF INDUSTRY TOTAL

SPACE HEATERS

DISTRICT ONE	Calendar Year 1946 UNITS	% OF U.S. TOTAL	Calendar Year 1947 UNITS	% OF U.S. TOTAL	Calendar Year 1948 UNITS	% OF U.S. TOTAL	Calendar Year 1949 UNITS	% OF U.S. TOTAL	Calendar Year 1950 UNITS	% OF U.S. TOTAL
Maine	3,784	.73%	10,069	.75%	8,146	.90%	4,037	.76%	3,908	.68%
New Hampshire	2,167	.42	3,314	.25	3,862	.43	2,334	.44	2,497	.43
Vermont	1,720	.33	4,080	.30	4,257	.47	2,804	.53	3,111	.54
Massachusetts	10,321	2.00	19,352	1.45	11,149	1.24	4,304	.81	4,380	.76
Rhode Island	2,506	.48	5,755	.43	3,971	.44	2,158	.41	2,330	.40
Connecticut	5,253	1.02	10,062	.75	7,396	.82	3,133	.59	3,058	.53
New York	26,176	5.06	49,750	3.72	46,374	5.15	23,456	4.43	21,423	3.71
New Jersey	9,636	1.86	16,748	1.25	16,007	1.78	6,246	1.18	5,455	.94
Pennsylvania	13,562	2.62	32,722	2.45	30,191	3.35	15,901	3.01	17,248	2.98
Delaware	1,896	.37	4,867	.36	4,009	.45	1,924	.37	3,324	.58
Maryland	7,573	1.46	19,462	1.45	27,209	3.02	12,597	2.38	11,977	2.07
District of Col.	1,861	.36	*12,223	.91	4,387	.49	1,915	.36	2,439	.42
Virginia	12,045	2.33	33,174	2.48	38,393	4.26	23,890	4.52	24,876	4.30
West Virginia	1,675	.32	5,715	.43	3,358	.37	2,707	.51	2,231	.39
North Carolina	15,158	2.93	56,599	4.23	44,086	4.89	44,049	8.33	55,317	9.57
South Carolina	4,097	.79	19,020	1.42	15,849	1.76	18,415	3.48	23,603	4.08
Georgia	8,450	1.63	27,725	2.07	18,149	2.01	10,742	2.03	12,648	2.19
Florida	13,384	2.59	31,924	2.39	25,381	2.82	11,027	2.09	14,439	2.50
DISTRICT ONE TOTAL	141,264	27.30%	362,561	27.09%	312,174	34.65%	191,639	36.23%	214,264	37.07%

* Probably includes a large Government purchase

(1) Source: The Institute of Cooking and Heating Appliance Manufacturers, The Shoreham Hotel, Washington 8, D.C. Applies to tables 10-18.

(Continued next page)

SPACE HEATERS

SPACE HEATER SAMPLE REPRESENTS 72% OF INDUSTRY TOTAL

DISTRICT TWO	Calendar Year 1946		Calendar Year 1947		Calendar Year 1948		Calendar Year 1949		Calendar Year 1950	
	UNITS	% OF U.S. TOTAL	UNITS	% OF U.S. TOTAL	UNITS	% OF U.S. TOTAL	UNITS	% OF U.S. TOTAL	UNITS	% OF U.S. TOTAL
Ohio	21,485	4.15%	60,258	4.50%	41,282	4.58%	24,761	4.68%	22,645	3.92%
Kentucky	6,846	1.32	18,626	1.39	14,329	1.59	6,676	1.26	6,082	1.05
Tennessee	22,551	4.36	50,964	3.81	15,619	1.73	11,221	2.12	11,486	1.99
Indiana	16,380	3.17	51,953	3.88	41,088	4.56	33,651	6.36	40,831	7.06
Michigan	40,407	7.81	99,044	7.40	57,723	6.41	29,961	5.66	33,096	5.73
Illinois	32,083	6.20	113,852	8.51	81,223	9.02	46,010	8.70	56,429	9.76
Wisconsin	13,878	2.68	51,959	3.88	31,548	3.50	22,178	4.19	21,810	3.77
Minnesota	17,471	3.38	70,213	5.25	43,860	4.87	28,664	5.42	29,287	5.07
Iowa	15,025	2.90	53,488	4.00	38,210	4.24	28,631	5.41	32,346	5.60
Missouri	26,798	5.18	76,887	5.75	38,623	4.29	21,221	4.01	21,726	3.76
Oklahoma	6,779	1.31	9,557	.71	2,021	.22	1,645	.31	1,600	.28
Kansas	5,764	1.11	22,303	1.67	13,603	1.51	4,570	.86	3,957	.68
Nebraska	7,993	1.55	30,329	2.27	16,557	1.84	7,240	1.37	8,385	1.45
South Dakota	3,463	.67	15,640	1.17	10,880	1.21	7,748	1.47	7,691	1.33
North Dakota	2,515	.49	14,157	1.06	9,588	1.06	6,818	1.29	5,311	.92
DISTRICT TWO TOTAL	239,438	46.28%	739,230	55.25%	456,154	50.63%	280,995	53.11%	302,682	52.37%

(Continued on next page)

SPACE HEATER SAMPLE REPRESENTS 72% OF INDUSTRY TOTAL

SPACE HEATERS

DISTRICT THREE	Calendar Year 1946 UNITS	% OF U.S. TOTAL	Calendar Year 1947 UNITS	% OF U.S. TOTAL	Calendar Year 1948 UNITS	% OF U.S. TOTAL	Calendar Year 1949 UNITS	% OF U.S. TOTAL	Calendar Year 1950 UNITS	% OF U.S. TOTAL
Alabama	6,649	1.28%	21,205	1.58%	10,978	1.22%	4,325	.82%	4,034	.70%
Mississippi	2,465	.48	7,623	.57	7,086	.79	1,722	.33	1,142	.20
Louisiana	5,481	1.06	4,886	.36	1,257	.14	386	.07	319	.05
Arkansas	7,583	1.47	13,292	.99	5,049	.56	2,254	.43	2,480	.43
Texas	28,586	5.52	17,745	1.33	8,569	.95	1,026	.19	585	.10
New Mexico	2,509	.48	4,827	.36	2,392	.27	701	.13	822	.14
DISTRICT THREE TOTAL	53,273	10.29%	69,578	5.19%	35,331	3.93%	10,414	1.97%	9,382	1.62%
DISTRICT FOUR										
Montana	3,645	.70%	11,820	.88%	6,420	.71%	3,455	.65%	1,935	.33%
Wyoming	1,666	.32	4,841	.36	1,881	.21	1,035	.20	678	.11
Colorado	8,872	1.72	21,829	1.63	7,276	.81	2,027	.38	1,887	.33
Utah	3,297	.64	11,178	.84	4,177	.46	1,201	.23	1,010	.17
Idaho	2,623	.51	11,221	.83	6,324	.70	2,807	.53	3,318	.57
DISTRICT FOUR TOTAL	20,103	3.89%	60,889	4.54%	26,078	2.89%	10,525	1.99%	8,828	1.51%
DISTRICT FIVE										
Arizona	3,365	.65%	2,990	.22%	1,101	.12%	885	.17%	643	.11%
California	26,628	5.15	33,152	2.48	10,045	1.11	3,666	.69	3,622	.63
Nevada	2,269	.44	3,594	.27	1,626	.18	859	.16	978	.17
Oregon	12,590	2.43	27,084	2.02	27,944	3.10	12,890	2.44	14,253	2.47
Washington	18,491	3.57	39,292	2.94	30,530	3.39	17,142	3.24	23,412	4.05
DISTRICT FIVE TOTAL	63,343	12.24%	106,112	7.93%	71,246	7.90%	35,442	6.70%	42,908	7.43%
U.S. TOTAL	517,421	100.00%	1,338,370	100.00%	900,983	100.00%	529,015	100.00%	578,064	100.00%

WATER HEATER SAMPLE REPRESENTS 90% OF INDUSTRY TOTAL

WATER HEATERS

DISTRICT ONE	Calendar Year 1946 UNITS	% OF U.S. TOTAL	Calendar Year 1947 UNITS	% OF U.S. TOTAL	Calendar Year 1948 UNITS	% OF U.S. TOTAL	Calendar Year 1949 UNITS	% OF U.S. TOTAL	Calendar Year 1950 UNITS	% OF U.S. TOTAL
Maine	561	.59%	1,595	.97%	235	.93%	196	.99%	335	1.13%
New Hampshire	214	.22	389	.24	291	1.16	271	1.37	490	1.65
Vermont	181	.19	756	.46	252	1.00	207	1.05	495	1.67
Massachusetts	2,316	2.41	6,162	3.73	2,522	10.02	3,487	17.68	5,040	17.00
Rhode Island	572	.60	939	.57	183	.73	325	1.65	622	2.10
Connecticut	876	.91	2,611	1.58	691	2.75	707	3.59	1,036	3.49
New York	5,775	6.02	8,491	5.14	1,079	4.29	2,067	10.48	2,006	6.77
New Jersey	1,765	1.84	2,057	1.25	334	1.33	418	2.12	575	1.94
Pennsylvania	6,600	6.88	11,648	7.06	734	2.92	588	2.98	791	2.67
Delaware	430	.45	397	.24	117	.47	84	.43	124	.42
Maryland	1,153	1.20	2,203	1.33	268	1.07	126	.64	217	.73
District of Col.	353	.37	379	.23	38	.15	22	.11	28	.09
Virginia	3,615	3.77	6,232	3.78	1,163	4.62	693	3.51	703	2.37
West Virginia	223	.23	278	.17	15	.06	16	.08	42	.14
North Carolina	5,876	6.12	10,945	6.63	2,011	7.99	1,281	6.50	2,097	7.07
South Carolina	1,649	1.72	2,446	1.48	696	2.77	374	1.90	1,003	3.38
Georgia	1,981	2.06	2,829	1.71	157	.62	142	.72	156	.53
Florida	3,729	3.89	4,020	2.44	448	1.78	505	2.56	826	2.79
DISTRICT ONE TOTAL	37,869	39.47%	64,377	39.01%	11,234	44.66%	11,509	58.36%	16,586	55.94%

(Continued on next page)

WATER HEATER SAMPLE REPRESENTS 90% OF INDUSTRY TOTAL

WATER HEATERS

DISTRICT TWO	Calendar Year 1946		Calendar Year 1947		Calendar Year 1948		Calendar Year 1949		Calendar Year 1950	
	UNITS	% OF U.S. TOTAL	UNITS	% OF U.S. TOTAL	UNITS	% OF U.S. TOTAL	UNITS	% OF U.S. TOTAL	UNITS	% OF U.S. TOTAL
Ohio	5,133	5.35%	11,583	7.02%	1,135	4.51%	471	2.39%	774	2.61%
Kentucky	1,256	1.31	2,616	1.58	249	.99	43	.22	84	.28
Tennessee	1,764	1.84	2,410	1.46	78	.31	79	.40	91	.31
Indiana	3,290	3.43	6,964	4.21	682	2.71	436	2.21	486	1.64
Michigan	11,277	11.75	19,853	12.03	2,541	10.10	2,504	12.70	3,261	11.00
Illinois	3,501	3.65	7,840	4.75	1,332	5.29	921	4.67	1,389	4.68
Wisconsin	3,769	3.93	9,145	5.54	1,442	5.73	1,034	5.24	1,740	5.87
Minnesota	3,268	3.41	9,829	5.95	986	3.92	723	3.67	1,648	5.56
Iowa	3,636	3.79	7,175	4.35	1,276	5.07	580	2.94	1,220	4.11
Missouri	4,138	4.31	5,244	3.18	671	2.67	308	1.56	527	1.78
Oklahoma	358	.37	32	.02	25	.10	4	.02	14	.05
Kansas	803	.84	1,111	.67	173	.69	50	.25	32	.11
Nebraska	2,042	2.13	2,830	1.71	542	2.15	172	.87	174	.59
South Dakota	1,160	1.21	1,456	.88	338	1.34	150	.76	281	.95
North Dakota	504	.52	2,055	1.25	665	2.64	100	.51	302	1.02
DISTRICT TWO TOTAL	45,899	47.84%	90,143	54.60%	12,135	48.22%	7,575	38.41%	12,023	40.56%

(Continued on next page)

WATER HEATER SAMPLE REPRESENTS 90% OF INDUSTRY TOTAL

WATER HEATERS

DISTRICT THREE	Calendar Year 1946 UNITS	% OF U.S. TOTAL	Calendar Year 1947 UNITS	% OF U.S. TOTAL	Calendar Year 1948 UNITS	% OF U.S. TOTAL	Calendar Year 1949 UNITS	% OF U.S. TOTAL	Calendar Year 1950 UNITS	% OF U.S. TOTAL
Alabama	1,222	1.27%	748	.45%	56	.22%	7	.03%	8	.02%
Mississippi	643	.67	386	.23	47	.19	28	.14	2	--
Louisiana	365	.38	263	.16	7	.03	2	.01	13	.04
Arkansas	549	.57	483	.29	52	.21	59	.30	65	.22
Texas	1,448	1.51	854	.52	57	.23	51	.26	23	.08
New Mexico	561	.59	385	.23	25	.10	7	.04	9	.03
DISTRICT THREE TOTAL	4,788	4.99%	3,119	1.88%	244	.98%	154	.78%	120	.39%
DISTRICT FOUR										
Montana	475	.50%	552	.33%	117	.47%	54	.27%	47	.16%
Wyoming	184	.19	253	.15	46	.18	17	.09	21	.07
Colorado	1,535	1.60	1,269	.77	297	1.18	85	.43	124	.42
Utah	679	.71	756	.46	26	.10	4	.02	35	.12
Idaho	418	.44	316	.19	27	.11	5	.03	7	.02
DISTRICT FOUR TOTAL	3,291	3.44%	3,146	1.90%	513	2.04%	165	.84%	234	.79%
DISTRICT FIVE										
Arizona	366	.38%	161	.10%	19	.08%	2	.01%	13	.04%
California	1,754	1.83	2,301	1.39	606	2.41	117	.59	165	.56
Nevada	181	.19	276	.17	31	.12	18	.09	46	.16
Oregon	1,014	1.06	891	.54	108	.43	30	.15	13	.04
Washington	769	.80	686	.41	266	1.06	151	.77	451	1.52
DISTRICT FIVE TOTAL	4,084	4.26%	4,315	2.61%	1,030	4.10%	318	1.61%	688	2.32%
U.S. TOTAL	95,931	100.00%	165,100	100.00%	25,156	100.00%	19,721	100.00%	29,651	100.00%

FLOOR FURNACE SAMPLE REPRESENTS 88% OF INDUSTRY TOTAL

FLOOR FURNACES

DISTRICT ONE	Calendar Year 1946 UNITS	% OF U.S. TOTAL	Calendar Year 1947 UNITS	% OF U.S. TOTAL	Calendar Year 1948 UNITS	% OF U.S. TOTAL	Calendar Year 1949 UNITS	% OF U.S. TOTAL	Calendar Year 1950 UNITS	% OF U.S. TOTAL
Maine	106	.40%	535	.43%	463	.80%	457	.90%	651	1.18%
New Hampshire	147	.55	351	.28	300	.52	558	1.10	246	.44
Vermont	61	.23	171	.14	221	.38	105	.21	147	.27
Massachusetts	359	1.35	1,114	.90	1,103	1.91	1,350	2.67	1,272	2.30
Rhode Island	190	.71	356	.29	202	.35	306	.60	244	.44
Connecticut	457	1.71	1,150	.92	856	1.48	523	1.03	357	.64
New York	1,491	5.60	5,594	4.50	2,904	5.02	2,408	4.76	2,476	4.47
New Jersey	543	2.04	2,259	1.82	1,502	2.60	1,758	3.47	2,127	3.84
Pennsylvania	729	2.74	2,833	2.28	1,551	2.68	1,097	2.17	1,134	2.05
Delaware	225	.84	465	.37	258	.45	233	.46	304	.55
Maryland	78	.29	2,856	2.30	2,316	4.01	1,224	2.42	1,929	3.48
District of Col.	144	.54	628	.50	230	.40	196	.39	330	.60
Virginia	1,569	5.89	5,672	4.56	4,219	7.30	4,437	8.76	5,143	9.29
West Virginia	32	.12	253	.20	272	.47	287	.57	458	.83
North Carolina	2,200	8.26	12,748	10.25	6,763	11.70	6,801	13.43	8,218	14.84
South Carolina	384	1.44	1,720	1.38	1,139	1.97	1,082	2.14	1,815	3.28
Georgia	687	2.58	4,695	3.77	1,675	2.90	2,020	3.99	3,499	6.32
Florida	1,200	4.50	3,171	2.55	2,271	3.93	1,418	2.80	2,282	4.12
DISTRICT ONE TOTAL	10,602	39.79%	46,571	37.44%	28,245	48.87%	26,260	51.87%	32,632	58.94%

(Continued on next page)

FLOOR FURNACES

FLOOR FURNACE SAMPLE REPRESENTS 88% OF INDUSTRY TOTAL

DISTRICT TWO	Calendar Year 1946		Calendar Year 1947		Calendar Year 1948		Calendar Year 1949		Calendar Year 1950	
	UNITS	% OF U.S. TOTAL	UNITS	% OF U.S. TOTAL	UNITS	% OF U.S. TOTAL	UNITS	% OF U.S. TOTAL	UNITS	% OF U.S. TOTAL
Ohio	1,133	4.25%	7,546	6.07%	1,840	3.18%	1,361	2.69%	1,354	2.45%
Kentucky	323	1.21	2,172	1.75	708	1.22	600	1.19	703	1.27
Tennessee	471	1.77	4,010	3.22	1,163	2.01	876	1.73	851	1.54
Indiana	904	3.39	4,939	3.97	1,919	3.32	2,706	5.34	1,956	3.53
Michigan	1,186	4.45	5,858	4.71	3,439	5.95	2,914	5.76	2,526	4.56
Illinois	995	3.74	8,552	6.87	2,927	5.06	3,308	6.53	3,281	5.93
Wisconsin	621	2.33	2,519	2.03	1,055	1.83	759	1.50	603	1.09
Minnesota	270	1.01	2,449	1.97	1,163	2.01	1,366	2.70	1,083	1.96
Iowa	756	2.84	4,838	3.89	2,163	3.74	1,521	3.00	1,591	2.87
Missouri	693	2.60	2,795	2.25	1,000	1.73	1,112	2.20	895	1.62
Oklahoma	33	.12	--	--	36	.06	65	.13	42	.08
Kansas	291	1.09	1,718	1.38	516	.89	280	.55	257	.46
Nebraska	497	1.87	1,558	1.25	578	1.00	398	.79	339	.61
South Dakota	184	.69	1,097	.88	636	1.10	554	1.09	499	.90
North Dakota	74	.28	786	.63	378	.65	300	.59	208	.38
DISTRICT TWO TOTAL	8,431	31.64%	50,837	40.87%	19,521	33.75%	18,120	35.79%	16,188	29.25%

(Continued on next page)

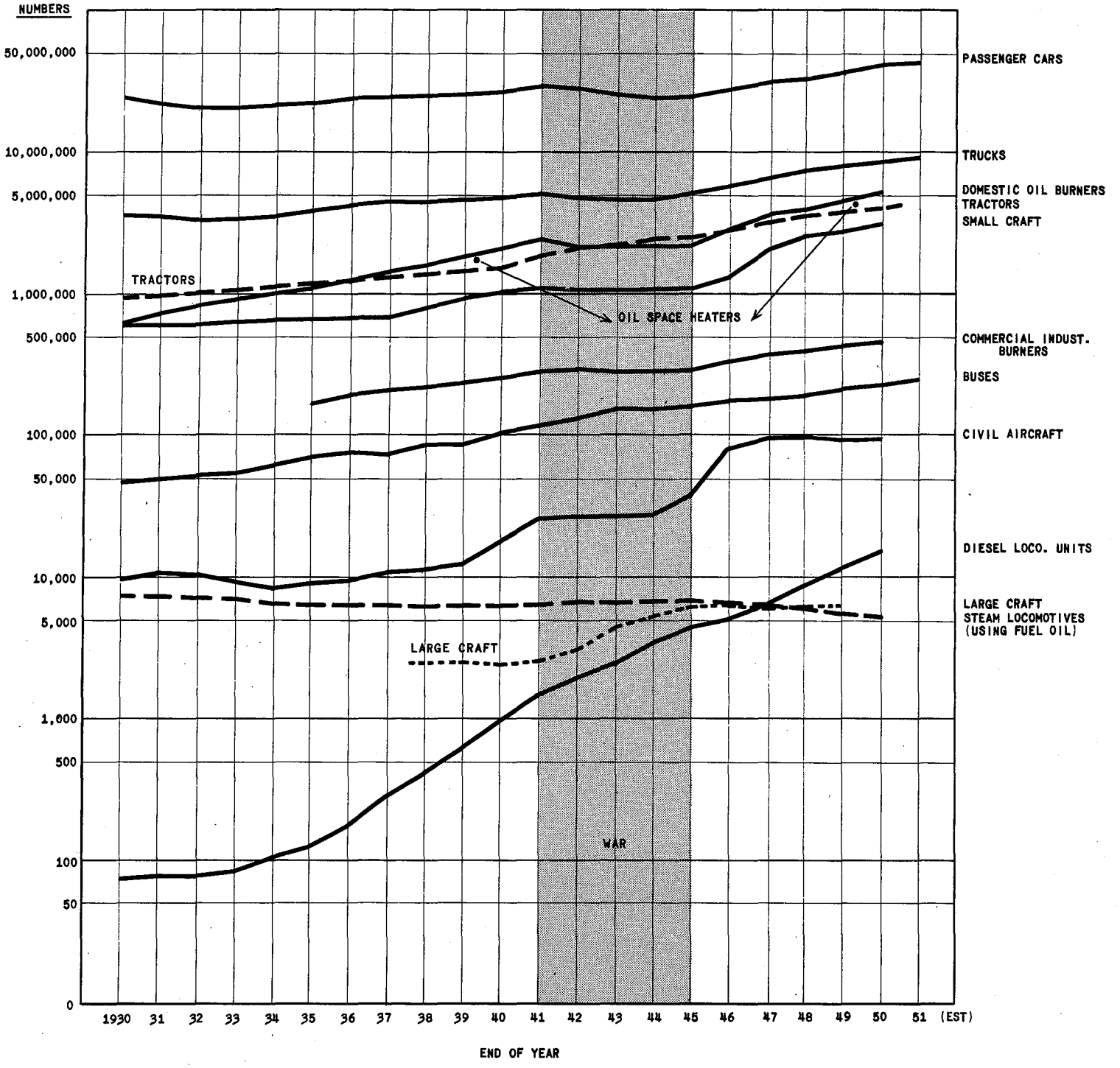
FLOOR FURNACE SAMPLE REPRESENTS 88% OF INDUSTRY TOTAL

FLOOR FURNACES

DISTRICT THREE	Calendar Year 1946 UNITS	% OF U.S. TOTAL	Calendar Year 1947 UNITS	% OF U.S. TOTAL	Calendar Year 1948 UNITS	% OF U.S. TOTAL	Calendar Year 1949 UNITS	% OF U.S. TOTAL	Calendar Year 1950 UNITS	% OF U.S. TOTAL
Alabama	342	1.28%	1,960	1.58%	1,118	1.93%	557	1.10%	905	1.64%
Mississippi	40	.15	491	.39	143	.25	40	.08	48	.09
Louisiana	--	--	12	.01	26	.04	46	.09	52	.09
Arkansas	108	.41	487	.39	181	.31	263	.52	168	.30
Texas	128	.48	77	.06	128	.22	116	.23	158	.29
New Mexico	80	.30	237	.19	31	.05	34	.07	33	.06
DISTRICT THREE TOTAL	698	2.62%	3,264	2.62%	1,627	2.80%	1,056	2.09%	1,364	2.47%
DISTRICT FOUR										
Montana	147	.55%	1,945	1.56%	573	.99%	255	.50%	224	.40%
Wyoming	79	.30	538	.43	97	.17	23	.05	34	.06
Colorado	1,063	3.99	2,740	2.20	464	.80	212	.42	153	.28
Utah	169	.63	1,817	1.46	370	.64	64	.13	94	.17
Idaho	535	2.01	1,632	1.31	591	1.02	429	.85	501	.90
DISTRICT FOUR TOTAL	1,993	7.48%	8,672	6.96%	2,095	3.62%	983	1.95%	1,006	1.81%
DISTRICT FIVE										
Arizona	74	.28%	309	.25%	45	.08%	42	.08%	30	.05%
California	1,748	6.56	3,311	2.66	656	1.13	303	.60	210	.38
Nevada	189	.71	515	.41	283	.49	297	.59	209	.38
Oregon	1,466	5.50	5,191	4.17	2,657	4.60	1,298	2.56	1,163	2.10
Washington	1,443	5.42	5,744	4.62	2,696	4.66	2,264	4.47	2,558	4.62
DISTRICT FIVE TOTAL	4,920	18.47%	15,070	12.11%	6,337	10.96%	4,204	8.30%	4,170	7.53%
U.S. TOTAL	26,644	100.00%	124,414	100.00%	57,825	100.00%	50,623	100.00%	55,360	100.00%

NUMBERS OF MAJOR PETROLEUM CONSUMING UNITS IN USE IN THE U. S.

INDICATING COMPARATIVE RATES OF CHANGES



SOURCES OF DATA ON THE MANUFACTURE, SALE, INSTALLATION AND USE OF PETROLEUM CONSUMING EQUIPMENT

Gasoline Consuming Equipment

Passenger Cars)
Trucks)
Buses)
Motorcycles)

Total Registrations
By States (Private and Commercial)
(Publicly Owned)

Source: U.S. Bureau of Public Roads, Table MV-1 complete for 1949 and 1950. For earlier years Table MV-7 necessary for complete breakdown for Publicly Owned.

Table MV-10 classified by (a) School and Other (b) Commercial Buses further broken down into Gasoline and Other for some states.

Average Vehicles in Use (For calculating average consumption data)

Passenger Cars
"Automotive News" 1951 Almanac Issue, p.28, 1949 to 1924

Trucks
"Automotive News" 1951 Almanac Issue, p.28, 1949 to 1924
American Trucking Association, Inc. publishes inter-city tonnages by motor carriers currently.

Buses
"Automobile Facts and Figures", p.8, 1950 Edition, 1949 to 1941. Operating Statistics on Class I Buses - see "Auto Industries," March 15, 1951, pp. 148, 149 and 151.

All Types Autos

Factory Sales
"Automotive Industries", March 15, 1951, pp. 84-86
Also "Automobile Facts and Figures", p.6, 1950 Edition, 1921-1949

New Cars Registered (Indicated manufactured - used)

Passenger Cars
"Automotive News" 1951 Almanac Issue, pp.36-46 by States, 1950 back to 1938
"Automotive News" 1951 Almanac Issue, p.24 by States, 1950 back to 1940, p.28 Total U.S. only, 1950 to 1937.

Note: These are somewhat lower than indicated new vehicles based upon factory sales to Domestic Market. Changes in dealers' stocks would be included in this series but even though allowance were made for this factor, the new cars registered by states would be a lower total than the factory sales data and this would indicate that the new car series should be increased proportionately to agree in total.

Aircraft

All data on numbers of aircraft in use, etc. as well as consumption originate with CAA and CAB and their publications are available, "Statistical Handbook for Civil Aviation" an annual publication and "CAA Journal",

Aircraft (cont'd)

a monthly publication. The only difficulty in using these data is to try and break down the use of fuels and oil by american overseas airlines into countries of origin or loading. Non-scheduled airlines and foreign flag airline consumption must be added, but as far as we know no data is published in regard to these. Consumption data available appears in "Petroleum Facts and Figures", 1950 Edition, pp. 96-97. Current data on some items can be found in the "CAA Journal" which shows:

Passengers	(Miles, Seats)	Domestic, International and Overseas
Ton-miles	(Express, Freight, Mail)	Domestic, International and Overseas

Number of Civil Aircraft - Total in Use
Number of Scheduled Aircraft in Use
Number of Civil Aircraft Production - By Model
Number of Civil Aircraft Engines and H.P. Shipments

Tractors

Total Registrations
Not available

Average in Use
"Farm Implement News", July 10, 1951 (and earlier years) by states for prior year. Includes garden tractors separately. Also appears in August "Supplement".

Factory Sales
"Petroleum Facts and Figures", 1950 Edition, p.95 Original source Dept. of Agriculture 1949-1929. Also "Automotive Industries" which shows Farm, Non-Farm and Export, 1940-1949, p.87, March 15, 1951.

Vessels

Numbered Boats
"Petroleum Facts and Figures" 1950 Edition, p.114, 1949 to 1937 and by registered districts for 1 year. (Original source U.S. Coast Guard Merchant Marine Council).

Commercial Gasoline and Document Yachts
Merchant Marine Statistics - U.S. Treasury Dept., Bureau of Customs

Diesel Powered and Documented Yachts
Same as next above.

Outboard Motor Boats
Based on private estimate that number in use equals total last 12 years production. Production data from Johnson Motor Co.

Gasoline Consuming Equipment (Cont'd)

Unnumbered Inboards	Estimate of National Association of Engine and Boat Manufacturers, 420 Lexington Avenue, New York City, press release of November 26, 1949.
Stationary Engines	Number in use on farms in 1945, Bureau of Agricultural Economics release FM-73 issued 1949, "Farm Consumption of Liquid Petroleum Fuels".
Railroad Motor Cars and Locomotives	Gasoline consumption data available in "Statistics of Railroads, Class I for U.S.", Association of American Railroads and from M 230 from ICC.

Kerosene Consuming Equipment

Range Burners	Factory Shipments from "Domestic Cooking Stoves and Ranges" M 51E, Dept. of Commerce, or from "Heating and Cooking Equipment" M 51N, Dept. of Commerce. 1947 (Census year) from MC 34B, Dept. of Commerce.
Cook Stoves	Factory Shipments from same source.
Portable Heaters	Factory Shipments from same source.
Combination Ranges (Oil and Gas)	Factory Shipments from same source.
Needle Valve Stoves	Factory Shipments from same source.
Space Heaters	Factory Shipments from same source.
Trailer Heaters	Factory Shipments from same source.
Sleeve Type Heaters	Factory Shipments from same source.
Floor Furnaces	Factory Shipments from same source also from "Warm Air Furnaces", M 51C, Dept. of Commerce.
Floor Furnaces	Factory Shipments from ICHAM data which results in somewhat larger number.
Water Heaters	Factory Shipments from "Water Heaters, Range Boilers and Hot Water Storage Tanks", M 51F, Dept. of Commerce. Figures too large, probably include distillate burners.
Water Heaters	Factory Shipments from ICHAM data.

Kerosene Consuming Equipment (Cont'd)

Central Heating Plants

Factory Shipments from ICHAM data but also covered by Dept. of Commerce, included in all central heating burners which data are generally used as distillate burners.

These shipments include exports, which data are not available in satisfactory form on government export releases. Estimates for 1946, 1947, 1948 were made by ICHAM and published in a release headed "Study of Estimated New Uses of Kerosene and #1 Fuel Oil".

Lighting Equipment (Gasoline & Kerosene)

Number in Use

Housing-Vol. 2 Part I, U.S. Summary as of April 1, 1940, Bureau of Census, Table 44 - Shows number of dwellings so lighted. Also each state series shows number of rooms lighted by kerosene or gasoline.

Heating Equipment (Without Central Heating)

Shows in same volume, Table 60, number of dwellings heating without central plant by fuel oil, kerosene and gasoline - 1944 data published by OPA based upon ration coupons issued. This information has been published for groups of states, from the 1950 Census.

Cooking Equipment

Table 56 (1940 Census) shows number of dwellings with kerosene or gasoline cook stoves. The 1950 Census data has been published for groups of states.

Tractors

There is no reliable data on number of tractors using kerosene because a large number of them use two or more fuels. Dept. of Agriculture and Ethyl Corp. have published surveys on estimated percentage of fuels used and assigning kerosene its share. Data is available for farm states. Also kerosene sold for tractors is reported each year by Bureau of Mines (Coumbes report). These data are reported by selling companies, but end use is often unknown.

Distillate Consuming Equipment

Domestic Central Heating Burners (Homes)

Shipments

Dept. of Commerce as adjusted and published by "Fueloil and Oil Heat". These show replacements and abandonments so that total additional users can be estimated. They also note number in new homes versus conversions.

Number in Use

Same source. Also "Census of Housing", Table 60 - 1940 issue. Also OPA reports on coupons issued 1944. These show data by states but in the opinion of some both are low.

Distillate Consuming Equipment (Cont'd)

Diesels (Railroad)

Shipments

Number of units installed on Class I Railways: see table p.7 of "Statistics of Railways Class I", Association of American Railroads and "Statistics of the Railroads" by ICC. Current data "Railway Age", May 14, 1951.

Number in Use

"Statistics of Railways Class I" 1929 and 1939 through 1949. Table p.7 same as above. Also "Statistics of the Railroads", ICC, for all classes of railroads. Current data see "Railway Age", May 14, 1951; this includes estimate of Classes II and III and switching and terminal companies.

Vessels (Small)

See Gasoline section as same sources give whatever data is available for diesel craft.

Vessels (Large)

Same sources show large craft as the data is arranged by horsepower groups.

Tractors

Same sources as for Kerosene.

Diesel Trucks

Bureau of Public Roads, Form MV 9 shows Private and Commercial for some states but includes Butane trucks also.

Factory Sales

"Automobile Facts and Figures" 1950, p.7, shows 1947-49 details and prior years from Automobile Manufacturers Association, Detroit 2, Michigan.

Number in Use

"Diesel Power and Diesel Transportation", February 1951, 192 Lexington Avenue, New York 16, New York

Diesel Buses

Same sources as for Diesel Trucks

Diesel Engine Horsepower

Production and In Use - Total All Classes

"Petroleum Facts and Figures" 1950 Edition, p.113. Many questions as to coverage of data have been raised.

Electric Utilities

Numbers and names of plants using distillate fuel oil are available in Federal Power Commission files, but they are not published. The kilowatt capacity of internal combustion engines for generation of electrical power from Federal Power Commission in "Production of Electric Energy and Capacity of Generating Plants". Horsepower can be derived by conversion.

Distillate Consuming Equipment (Cont'd)

Gas Utilities

American Gas Association publishes consumption of fuel oil separated between light and heavy. The numbers of plants would be in their files but not published.

Residual Consuming Equipment

Central Heating Burners

Factory Shipments

From Facts for Industry "Heating and Cooking Equipment", Table 2, M 51N. Since July 1948 these are shown and prior years can be approximated by using percentage of total distillate and residual burners shipped. Also "Fueloil and Oil Heat", January 1951 issue.

Number in Use

Indications of these by states were calculated by "Fueloil and Oil Heat", October 1947, p.88. Data for years 1935-1950 from same source, January 1951 issue.

Railroads

Same sources as shown for diesel locomotives. Data is available for Class I Railroads only, but this covers almost all of them.

Diesel Engine Horse Power

Same sources as shown under Distillates.

Vessels

Same source as shown under Diesel Vessels.

Electric Utilities

Same source as shown under Distillates.

Gas Utilities

Same source as shown under Distillates.

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UNITED STATES
DEPARTMENT OF THE INTERIOR
OIL AND GAS DIVISION
Washington 25, D. C.

May 8, 1951

Mr. Walter S. Hallanan, Chairman
National Petroleum Council
1625 K Street, N. W.
Washington, D. C.

Dear Mr. Hallanan:

It would be of material assistance to the Department of the Interior in connection with studies with respect to petroleum to have as complete information as possible regarding trends in the manufacture, sale, installation, and use of equipment which consume petroleum products.

Therefore, it is requested that the National Petroleum Council study and report on trends in the manufacture, sale, installation, and use of petroleum consuming equipment, together with such recommendations with respect thereto as it may deem appropriate.

Sincerely yours,

/s/ H. A. Stewart

H. A. Stewart
Acting Director