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PRODUCTS OF PETROLEUM AND COAL

General Review

1954

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NOTICE

The annual reports prepared by the Industry and Merchandising Division of the Bureau of Statistics are divided into 3 volumes, as follows: **Volume I** — The Primary Industries, including mining, forestry and fisheries; **Volume II** — Manufacturing; **Volume III** — Merchandising and Services. The volumes are made up of parts, and the parts in turn are subdivided according to the industries or provinces which they comprise.

Volume II consists of the following parts, the first two of which deal with manufacturing as a whole and the balance with the major manufacturing groups.

- I — General Review of the Manufacturing Industries, \$1.50
- II — The Manufacturing Industries of Canada, (7 sections, as follows:)
 - Section A. Summary for Canada, 25¢
 - Section B. Atlantic Provinces, 50¢
 - Section C. Quebec, 25¢
 - Section D. Ontario, 25¢
 - Section E. Prairie Provinces, 40¢
 - Section F. British Columbia, 25¢
 - Section G. The Manufacturing Industries of Canada, Regional Distribution, 75¢
- III — Foods and Beverages
- IV — Tobacco and Tobacco Products
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- XII — Iron and Steel Products
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- XV — Electrical Apparatus and Supplies
- XVI — Non-metallic Mineral Products
- XVII — Products of Petroleum and Coal
- XVIII — Chemicals and Allied Products
- XIX — Miscellaneous Manufactures

The present report belongs in Part XVII, Products of Petroleum and Coal. It is punched to permit of filing in a ring binder along with others of the group. The reports in this group are:

- A — General Review, 25¢
- B — The Coke and Gas Industry, 25¢
- C — The Petroleum Products Industry, 25¢
- D — The Miscellaneous Products of the Petroleum and Coal Industry, 25¢

PRODUCTS OF PETROLEUM AND COAL

General Review

1954

The Standard Industrial Classification, which has been used by the Dominion Bureau of Statistics in its compilations since 1949, provides for a separate "Products of Petroleum and Coal" group. This major division includes the petroleum products industry, the coke and gas industry and a miscellaneous industry which were classified, in earlier years, to the Manufactures of the Non-Metallic Mineral Products Group.

The gross value of production from the industries in this group was \$1,020,911,348 in 1954 or 24 per cent more than in 1953, see footnote 2. Employment increased to 17,559 from 17,112 in 1953 and payments in salaries and wages advanced to \$70 millions. Materials for manufacturing cost \$625 millions in 1954 and fuel and electricity cost \$37 millions; in the previous year the corresponding amounts were \$576 millions and \$35 millions.

Note 1. In 1952 the gross value of production was replaced by value of factory shipments f.o.b. plant for all of the industries classified to this group except for Petroleum Refining and Coke and Gas. As no information on inventory change is available for 1953, value added figures for this year were obtained by subtracting from the value of factory shipments (Production in the case of Petroleum Refining and Coke and Gas) the cost of materials, fuel and electricity. In 1954 information on the value of year-end inventory holdings at plant and plant warehouses was collected as part of the annual Census of Industry and except for Petroleum Refining and Coke and Gas, the information thus made available was taken into account in calculating the value added figures for 1954.

2. The apparent advance shown in gross selling value of products at works in 1954 over 1953 by the petroleum products portion of this group was due, in part, to an actual gain in physical volume of output reported by the petroleum refining industry segment of this group, but the major factor contributing to this increase was a change in accounting procedure used by some firms in calculating the value of products made. Prior to 1954 several different methods were used in arriving at a selling value of products at works; however, in 1954 all firms reported on a uniform basis, namely, "tank wagon prices, f.o.b. refinery" for all products except heavy fuel oil for which pipeline price was used. The net result of this change in reporting procedure was to exaggerate the gain in gross selling value of products in 1954 over 1953 beyond that which would have been normal had the old basis been in effect. It is estimated that the 1954 gross selling value at works for this portion of the group, using the old basis, would have been about \$770.3 millions instead of the \$909.3 millions indicated in Table 1. On the other hand, the 1953 total, using the new basis, would have been \$822 millions instead of the \$695.0 millions actually reported. Naturally, these changes have affected the figure for "value added by manufacture". The latter varies directly with the gross selling value of products; accordingly, any change in method for deriving the gross value of products is directly reflected in the "Value added by manufacture".

TABLE 1. Principal Statistics for the Products of Petroleum and Coal Group, by Industries and by Provinces, 1953 and 1954

Industry and province	Number of plants	Number of employees	Salaries and wages for year	Cost of fuel and electricity at works	Cost of materials at works	Gross selling value of products at works	Value added by manufacture ¹
			\$	\$	\$	\$	\$
By industries:							
1953							
Coke and gas	28	4,955	16,946,845	6,926,499	66,576,949	122,721,045	49,217,597
Petroleum products	55	11,858	48,574,772	28,171,294	507,214,040	694,988,605	159,603,271
Miscellaneous products of petroleum and coal	17	299	1,043,817	127,953	2,519,652	5,779,690	3,132,085
Total	100	17,112	66,565,434	35,225,746	576,310,641	823,489,340	211,952,953
1954							
Coke and gas	26	4,759	16,296,781	6,036,155	54,020,106	104,926,569	44,870,308
Petroleum products	61	12,476	52,316,208	31,215,380	568,541,677	909,252,514	309,795,241
Miscellaneous products of petroleum and coal	17	324	1,068,736	143,687	2,849,602	6,732,265	3,706,760
Total	104	17,559	69,681,725	37,395,222	625,411,385	1,020,911,348	358,372,309
By provinces:							
1953							
Newfoundland	1	876	3,474,251	2,135,222	28,265,785	37,201,583	6,800,576
Nova Scotia	2						
New Brunswick	1						
Quebec	17	3,924	14,872,881	11,624,410	195,004,647	278,446,864	71,817,807
Ontario	35	6,066	31,639,374	12,675,322	187,824,365	277,477,794	76,778,107
Manitoba	6	582	2,138,581	1,136,252	20,571,775	27,021,780	5,313,753
Saskatchewan	11	1,039	4,011,855	2,083,029	46,113,979	63,590,439	15,393,431
Alberta	18	1,429	5,734,303	3,104,051	60,333,098	89,986,862	26,549,713
British Columbia	8	1,196	4,694,189	2,267,460	38,196,992	49,764,018	9,299,566
Northwest Territories	1						
Canada	100	17,112	66,565,434	35,225,746	576,310,641	823,489,340	211,952,953
1954							
Newfoundland	1	793	3,154,746	1,889,133	22,011,815	34,170,005	10,269,526
Nova Scotia	2						
New Brunswick	1						
Quebec	16	3,900	15,280,994	11,951,631	205,116,777	331,237,246	114,277,668
Ontario	35	8,075	32,220,122	13,407,509	204,469,701	348,012,142	130,257,423
Manitoba	7	675	2,449,980	1,358,587	24,049,389	36,302,368	10,894,627
Saskatchewan	12	1,146	4,556,124	2,677,507	51,729,549	77,324,150	22,903,091
Alberta	21	1,587	6,386,674	2,907,714	60,579,313	101,979,156	38,551,675
British Columbia	8	1,383	5,633,085	3,203,141	57,464,841	91,886,281	31,216,299
Northwest Territories	1						
Canada	104	17,559	69,681,725	37,395,222	625,411,385	1,020,911,348	358,372,309

1. See footnote to text.

TABLE 2. Employees and Their Earnings in the Products of Petroleum and Coal Group, 1953 and 1954

Industry and province	Number of employees					Earnings		
	Supervisory and office		Production and related workers		Total	Supervisory and office	Production and related workers	Total
	Male	Female	Male	Female				
						\$	\$	\$
1953								
By industries:								
Coke and gas	900	378	3,673	4	4,955	4,533,066	12,413,779	16,946,845
Petroleum products	3,213	1,047	7,536	62	11,858	18,808,302	29,766,470	48,574,772
Miscellaneous products of petroleum and coal	78	35	181	5	299	486,976	556,839	1,043,817
Total	4,191	1,460	11,390	71	17,112	23,828,346	42,737,088	66,565,434
By provinces:								
Newfoundland	105	20	748	3	876	583,214	2,891,037	3,474,251
Nova Scotia								
New Brunswick								
Quebec	840	191	2,674	19	3,924	4,284,151	10,588,730	14,872,881
Ontario	2,232	912	4,666	36	8,066	13,236,244	18,403,130	31,639,374
Manitoba	139	115	328	—	582	931,527	1,207,054	2,138,581
Saskatchewan	251	76	709	1	1,039	1,310,018	2,701,837	4,011,855
Alberta	319	79	1,027	4	1,429	1,860,633	3,873,870	5,734,303
British Columbia	305	65	818	8	1,196	1,622,559	3,071,630	4,694,189
Northwest Territories								
Canada	4,191	1,460	11,390	71	17,112	23,828,346	42,737,088	66,565,434
1954								
By industries:								
Coke and gas	950	374	3,435	—	4,759	4,981,731	11,315,050	16,296,781
Petroleum products	3,485	1,156	7,780	55	12,476	20,557,338	31,758,872	52,316,208
Miscellaneous products of petroleum and coal	87	41	187	9	324	445,969	622,767	1,068,736
Total	4,522	1,571	11,402	64	17,559	25,985,036	43,696,689	69,681,725
By provinces:								
Newfoundland	108	17	665	3	793	585,947	2,568,799	3,154,746
Nova Scotia								
New Brunswick								
Quebec	841	184	2,865	10	3,900	4,425,566	10,855,428	15,280,994
Ontario	2,342	952	4,744	37	8,075	14,111,666	18,108,456	32,220,122
Manitoba	176	138	361	—	675	1,082,619	1,367,361	2,449,980
Saskatchewan	289	84	771	2	1,148	1,561,033	2,995,091	4,556,124
Alberta	404	112	1,067	4	1,567	2,282,728	4,128,946	6,386,674
British Columbia	362	84	929	8	1,383	1,955,477	3,677,608	5,633,085
Northwest Territories								
Canada	4,522	1,571	11,402	64	17,559	25,985,036	43,696,689	69,681,725

TABLE 3. Production and Related Workers (Wage-earners) in the Products of Petroleum and Coal Group, 1953 and 1954

Industry and province	January	February	March	April	May	June	July	August	September	October	November	December	Average of year
Number													
1953													
By industries:													
Coke and gas	3,689	3,659	3,613	3,654	3,728	3,803	3,786	3,759	3,706	3,631	3,596	3,504	3,677
Petroleum products	7,333	7,316	7,398	7,530	7,743	7,803	7,853	7,853	7,695	7,595	7,543	7,529	7,598
Miscellaneous products of petroleum and coal	141	147	153	209	223	223	222	210	208	174	162	147	186
Total	11,163	11,122	11,164	11,393	11,694	11,829	11,861	11,822	11,609	11,400	11,301	11,180	11,461
By provinces:													
Newfoundland	751	752	755	759	786	785	782	774	774	704	697	694	751
Nova Scotia													
New Brunswick													
Quebec	2,833	2,815	2,829	2,914	2,927	2,969	2,948	2,958	2,928	2,891	2,868	2,825	2,893
Ontario	4,935	4,902	4,878	4,940	5,003	5,013	5,016	5,001	4,897	4,872	4,835	4,767	4,922
Manitoba	306	307	315	319	328	335	350	343	336	340	336	335	328
Saskatchewan	623	637	664	719	750	733	726	743	762	732	705	724	710
Alberta	921	932	931	955	1,082	1,124	1,121	1,117	1,080	1,042	1,035	1,021	1,031
British Columbia	794	777	792	787	818	870	918	886	832	819	825	814	826
Northwest Territories													
Canada	11,163	11,122	11,164	11,393	11,694	11,829	11,861	11,822	11,609	11,400	11,301	11,180	11,461
1954													
By industries:													
Coke and gas	3,524	3,506	3,411	3,456	3,395	3,442	3,483	3,471	3,535	3,388	3,345	3,299	3,435
Petroleum products	7,593	7,628	7,612	7,707	7,967	8,090	8,163	8,119	7,882	7,749	7,774	7,780	7,835
Miscellaneous products of petroleum and coal	153	163	171	187	218	220	222	232	230	192	181	170	196
Total	11,270	11,297	11,194	11,350	11,580	11,752	11,868	11,822	11,647	11,329	11,300	11,249	11,466
By provinces:													
Newfoundland	689	672	659	659	686	689	683	682	668	668	640	623	668
Nova Scotia													
New Brunswick													
Quebec	2,884	2,866	2,842	2,864	2,944	2,959	2,955	2,916	2,882	2,805	2,776	2,801	2,875
Ontario	4,794	4,800	4,728	4,802	4,817	4,875	4,919	4,895	4,855	4,630	4,645	4,634	4,781
Manitoba	341	337	343	347	357	367	383	381	367	372	370	364	361
Saskatchewan	708	718	706	743	790	826	862	857	831	810	782	663	773
Alberta	997	1,012	1,024	1,041	1,066	1,087	1,110	1,119	1,093	1,097	1,095	1,118	1,071
British Columbia	857	892	892	894	920	949	956	972	951	947	992	1,046	937
Northwest Territories													
Canada	11,270	11,297	11,194	11,350	11,580	11,752	11,868	11,822	11,647	11,329	11,300	11,249	11,466

TABLE 4. Materials Used in the Industries in the Products of Petroleum and Coal Group, 1953 and 1954

Material	Unit of measure	1953		1954	
		Quantity	Cost at works	Quantity	Cost at works
			\$		\$
Petroleum products industry:					
Crude oil (under 60° A.P.I.) in its natural state, from Canadian wells	Imp. gal.	2,490,841,735	212,480,055	3,244,511,863	288,103,577
Absorption gasoline, etc., from Canadian wells (run to stills)	"	16,462,153	1,439,297	18,800,556	1,727,579
Crude oil, in its natural state, imported, (run to stills):					
From United States	Imp. gal.	521,062,558	48,767,474	302,142,090	29,327,377
From South America	"	2,004,865,108	174,122,354	2,057,208,286	180,000,191
From other countries	"	337,078,280	29,472,559	345,864,205	30,219,564
Crude oil, not in its natural state (run to stills)	"	33,588,543	3,307,265	17,687,355	1,841,632
Blending stocks for gasoline:					
Alkylate	"	4,282,191	1,176,053	6,033,499	1,581,095
Benzol	"	916,755	435,467	923,298	448,404
Other	"	5,466,720	1,129,650	6,561,489	1,124,137
Phenol	pound	957,938	192,302	598,709	114,958
Sulphuric acid, 100%	"	14,714,718	267,945	10,885,073	207,808
Sulphur	"	378,867	16,351	571,744	26,049
Caustic soda	"	13,722,020	487,265	16,669,107	604,851
Soda ash	"	1,541,215	54,568	1,862,287	57,393
Litharge	"	306,804	51,432	534,303	91,753
Fuller's earth, bentonite and other clays	ton	10,916	681,284	6,981	500,476
Compounding materials:					
Used in refineries	—	—	1,323	—	3,953
Used in compounding plants	Imp. gal.	14,819,505	4,214,855	13,917,526	4,324,018
Tetraethyl fluid	c.c.	6,045,629,077	10,764,652	6,772,322,745	11,680,610
Dyes for gasoline	—	—	75,140	—	81,068
Inhibitor	—	—	336,496	—	344,814
Natural gas, wet	M. cu. ft.	42,517,493	1,808,199	46,359,870	1,950,296
Other materials	—	—	11,535,456	—	12,160,653
Shipping containers	—	—	4,396,616	—	2,019,431
Total petroleum products industry	—	—	507,214,040	—	568,541,677
Coke and gas industry:					
Bituminous coal carbonized in ovens or retorts:					
(a) Canadian	ton	1,079,067	9,585,573	881,443	7,981,347
(b) Imported	"	4,653,235	48,657,658	3,722,832	37,983,392
Bituminous coal for making water gas:					
(a) Canadian	—	—	—	—	—
(b) Imported	ton	3,081	37,436	3,941	46,511
Coke for gas-making:					
(a) Purchased	ton	19,156	274,800	9,887	193,824
(b) Companies' own make	"	116,437	1,604,496	126,943	1,552,882
Oil used for enriching water gas	Imp. gal.	19,022,882	2,216,373	20,136,871	2,255,770
Absorbing and wash oil	"	381,657	84,281	331,005	79,260
Caustic soda	pound	2,041,759	60,213	2,044,082	59,395
Lime	ton	393	5,383	420	5,848
Water	—	—	61,757	—	80,201
Iron oxide	ton	7,989	85,579	9,167	100,240
Sulphuric acid, 100%	pound	77,228,010	1,131,779	62,074,911	908,427
Propane and butane	Imp. gal.	12,855,165	1,663,708	13,246,164	1,738,150
All other materials	—	—	1,107,913	—	1,056,859
Total coke and gas industry	—	—	66,576,949	—	54,020,106
Miscellaneous products of petroleum and coal industry:					
Asphalt	ton	41,371	1,167,688	44,232	1,210,918
Coal, lignite	"	96,741	193,528	76,758	175,494
Oil	Imp. gal.	32,724	24,084	21,277	17,287
Pitch	pound	148,127	8,184	—	—
Resin	"	1,286,012	228,705	1,583,981	383,706
Emulsifying agents	—	—	682	—	589
All other materials	—	—	721,175	—	917,778
Shipping containers	—	—	177,606	—	143,830
Total miscellaneous industry	—	—	2,518,652	—	2,849,602
Total for group	—	—	576,310,641	—	625,411,385



TABLE 5. Products Made in the Industries in the Products of Petroleum and Coal Group, 1953 and 1954

Product	Unit of measure	1953		1954	
		Quantity	Gross selling value at works	Quantity	Gross selling value at works
			\$		\$
Made for sale:					
Gasoline (excluding imported casinghead blended):					
Aviation gasoline	Imp. gal.	21,061,321	5,740,407	17,282,637	5,534,652
Motor gasoline	"	2,230,393,120	348,122,753	2,397,598,690	439,105,903
Natural gasoline	"	20,419,820	1,740,931	22,623,229	1,976,452
Naphtha specialties	"	30,511,242	5,873,655	28,684,651	6,186,053
Tractor fuel	"	10,682,000	1,596,779	8,607,515	831,150
Aviation turbine fuel	"	40,226,081	6,291,910	57,285,089	9,227,486
Kerosene	"	15,096,608	2,521,543	14,995,947	2,594,689
Stove oil (No. 1 fuel oil)	"	287,759,232	40,296,754	328,441,602	56,077,925
Diesel fuel	"	380,091,987	39,362,972	430,170,300	59,887,171
Light fuel oils (Nos. 2 and 3):					
Furnace fuel oil	"	582,105,846	72,976,766	780,279,245	117,363,123
Other light fuel oil	"	65,416,773	6,759,347	56,025,389	7,176,870
Heavy fuel oils (Nos. 4, 5 and 6)	"	1,017,137,918	64,546,612	1,057,140,028	79,205,792
Lubrication oil:					
Made in refineries	"	57,075,800	22,454,696	55,339,501	36,786,398
Made in blending plants	"	11,994,387	8,560,939	13,176,100	10,910,496
Lubricating grease:					
Made in refineries	lb.	34,381,316	2,761,681	29,596,871	2,598,317
Made in blending plants	"	14,096,250	1,457,920	11,733,358	1,432,243
Asphalt	Imp. gal.	195,290,243	23,961,117	204,189,368	24,024,447
Petroleum coke	ton	146,794	1,248,755	156,509	1,480,213
Liquefied petroleum gases	Imp. gal.	27,424,278	2,907,125	47,491,516	5,717,258
Other products	"	—	11,101,957	—	13,346,536
Total made for sale	—	—	670,284,619	—	881,463,174
Made for own use:					
Gasoline	Imp. gal.	980,368	203,635	1,149,814	251,584
Naphtha specialties	"	75,491	14,887	108,049	22,718
Kerosene	"	9,852	1,719	7,237	1,195
Stove oil (No. 1 fuel oil)	"	27,234	4,239	54,702	8,037
Diesel fuel	"	216,476	16,115	231,966	35,807
Light fuel oils (Nos. 2 and 3)	"	274,750	34,181	819,953	99,893
Heavy fuel oils (Nos. 4, 5 and 6)	"	183,206,231	12,186,910	203,285,259	15,528,699
Lubricating oil	"	49,869	18,302	48,100	38,961
Asphalt	"	255,671	33,440	400,814	48,103
Petroleum coke	ton	91,869	686,331	80,378	659,009
Still gas	M cu. ft.	20,552,525	10,585,933	19,803,708	9,732,121
Other products	"	—	918,294	—	1,363,213
Total made for own use	—	—	24,703,986	—	27,789,340
Total — Petroleum products industry	—	—	694,988,605	—	909,252,514*
Coke and gas industry:					
Gas sold or used:					
Gas sold	M cu. ft.	25,917,492	32,340,134	26,459,368	32,920,031
Gas used in own coke or gas plants	"	15,046,953	3,395,112	10,072,878	2,447,068
Gas used in associated works	"	37,046,060	7,426,834	29,776,266	6,048,403
Gas otherwise accounted for but not sold	"	482,870	204,557	662,469	279,929
Gas not accounted for	"	2,930,307	605,796	2,763,599	545,253
Total gas sold or used	"	81,423,682	43,972,433	69,734,580	42,240,684
Coke made:					
Coke from by-product of bee-hive ovens	ton	3,762,229	59,348,316	3,023,555	46,871,860
Coke from gas retorts	"	150,253	2,553,222	158,277	2,151,760
Coke breeze from by-product ovens	"	306,271	2,077,801	208,527	1,378,639
Coke breeze from gas retorts	"	32,080	192,410	33,859	135,629
Total coke	"	4,252,833	64,171,749	3,424,218	50,537,888
Other products:					
Tar	Imp. gal.	45,670,275	5,571,802	40,958,480	5,069,465
Ammonium sulphate	pound	85,265,326	1,816,549	70,969,401	1,502,757
Benzol	Imp. gal.	9,067,174	4,290,298	6,566,284	3,014,118
Toluol, xylol and naphthalene	"	2,330,366	923,651	2,160,404	857,111
All other products	"	—	1,974,563	—	1,704,546
Total — Coke and gas industry	—	—	122,721,045	—	104,926,569
Miscellaneous products of petroleum and coal industry:					
Asphalt road emulsions	Imp. gal.	11,187,281	2,087,602	11,693,214	2,183,659
Protective coatings	"	894,215	583,026	950,459	612,300
Paving materials	ton	59,018	426,008	80,553	599,315
All other products	"	—	2,683,054	—	3,336,991
Total miscellaneous industry	—	—	5,779,690	—	6,732,265
Total for group	—	—	823,489,340	—	1,020,911,348

* See footnote 2 to text.