

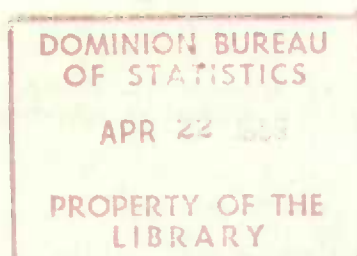
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ANNUAL



THE COMPRESSED GASES INDUSTRY 1957



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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
- II — The Manufacturing Industries of Canada, (7 sections, as follows:)
 - Section A. Summary for Canada
 - Section B. Atlantic Provinces
 - Section C. Quebec
 - Section D. Ontario
 - Section E. Prairie Provinces
 - Section F. British Columbia
 - Section G. The Manufacturing Industries of Canada, Regional Distribution
- III — Foods and Beverages
- IV — Tobacco and Tobacco Products
- V — Rubber Products
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- VII — Textile Mills
- VIII — Knitting Mills
- IX — Clothing
- X — Wood and Paper Products
- XI — Printing Trades
- XII — Iron and Steel Products
- XIII — Transportation Equipment
- XIV — Non-ferrous Metal Products
- 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 XVIII, Chemicals and Allied Products. 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
- B — The Acids, Alkalies and Salts Industry
- C — The Fertilizers Industry
- D — The Fertilizer Trade in Canada
- E — The Medicinal and Pharmaceutical Preparations Industry
- F — The Paints, Varnishes and Lacquers Industry
- G — The Primary Plastics Industry
- H — The Soaps, Washing Compounds and Cleaning Preparations Industry
- I — The Toilet Preparations Industry
- J — The Vegetable Oils Industry
- K — The Inks Industry
- L — The Adhesives Industry
- M — The Polishes and Dressings Industry
- N — The Compressed Gases Industry
- O — The Coal Tar Distillation Industry
- P — The Miscellaneous Chemical Products Industry

Prices of most reports released after January 1, 1959 have been increased. Information on the new prices of particular issues is available on request from the Information Services Division of the Dominion Bureau of Statistics.

THE COMPRESSED GASES INDUSTRY 1957

Manufacturing plants in Canada engaged chiefly in making industrial gases, reported factory shipments in 1957 at \$24,280,515 compared with \$20,972,581 in 1956 an increase of 15.8 per cent.

There were 55 factories in operation in this industry during 1957, 17 being located in Ontario, 15 in Quebec, 7 in British Columbia, 6 in Alberta, 3 in Manitoba, 3 in Nova Scotia, 2 in Saskatchewan and 1 each in New Brunswick and Newfoundland. The number of employees in the industry in 1957 was 1,624 including 911 supervisory and office personnel and 713 production workers. Salaries for the year amounted to \$3,043,259 and wages totalled \$2,932,787.

The chief products were oxygen, acetylene and carbon dioxide, for sale mainly in cylinders or in some instances delivered by pipeline to adjacent consuming plants. The total output of oxygen, including some reported in other industries, increased 8 per cent to 1,324 million cubic feet and acetylene increased 6 per cent to 196 million cubic feet. The output figures for carbon dioxide are not published separately since there was only one producer.

No mention is made in this report of liquid chlorine, liquid sulphur dioxide, synthetic ammonia, or of hydrogen and nitrogen for the manufacture of synthetic ammonia. These items were produced in works that also made other kinds of chemicals, and the statistics concerning the output of same have been included in the heavy chemicals industry which is reviewed in a separate bulletin. A similar disposition has been accorded liquefied petroleum gases produced in the petroleum industry or as by-products in the recovery of absorption gasoline. Finally, reference should be made to firms which make hydrogen for use in the hydrogenation of fats. These firms which, in addition, produce some oxygen as a by-product, were reclassified from this group to slaughtering and meat packing industry in 1952.

Note: Due to lack of inventory data, figures for value added by manufacture prior to 1954 were obtained by subtracting the cost of materials used, including fuel and electricity, from the total value of factory shipments. In 1954 and 1955 the "Value added" adjustment incorporated the increase or decrease to shipments values resulting from changes in the value of inventories over the period. For these two years, the adjustments that were made used only the change in finished product inventory owned by manufacturers. Beginning with 1956 the calculation of the "Value added" figure was further adjusted to take into account the "Goods in process" as well as the finished goods held at plant or plant warehouse.

TABLE 1. Principal Statistics of the Compressed Gases Industry, by Significant Years, 1929-1957 and by Provinces for 1956 and 1957

Year	Establishments	Employees	Salaries and wages	Cost of fuel and electricity at plant	Cost at plant of materials used	Value added by manufacture ¹	Gross selling value of products ¹
	number			dollars			
1929	28	542	770,424	155,685	785,377	3,026,354	3,967,416
1933	31	428	613,278	117,382	371,204	2,001,629	2,490,215
1937	27	606	919,773	140,221	527,410	3,261,611	3,929,242
1939	31	672	1,037,718	156,372	501,108	3,352,349	4,009,829
1943	38	1,080	1,848,753	344,136	1,380,575	7,487,515	9,212,226
1946	42	1,064	1,961,493	314,524	1,258,423	6,735,081	8,308,028
1949	48	1,223	3,230,904	431,855	1,979,160	9,680,161	12,091,176
1953	45	1,226	4,046,844	490,633	2,240,446	12,981,251	15,712,330
1954	46	1,305	4,355,140	513,145	2,622,602	12,746,776	15,873,288
1955	52	1,387	4,759,759	591,850	2,942,918	12,985,965	16,501,924
1956							
Newfoundland	1	95	326,538	69,507	242,518	1,307,536	1,617,250
Nova Scotia	3						
New Brunswick	1						
Quebec	14	304	1,109,248	199,941	918,737	5,166,607	6,284,470
Ontario	16	661	2,397,246	280,732	1,348,554	5,894,047	7,521,679
Manitoba	3	116	403,714	36,149	286,697	1,327,621	1,648,486
Saskatchewan	2						
Alberta	6						
British Columbia	7	114	415,607	64,285	340,631	1,806,276	2,211,082
Canada	53	1,399	5,082,994	698,097	3,451,756	16,827,975	20,972,581
1957							
Newfoundland	1	112	391,393	70,187	254,907	1,376,370	1,699,729
Nova Scotia	3						
New Brunswick	1						
Quebec	15	341	1,316,441	219,218	962,247	5,971,508	7,155,997
Ontario	17	771	2,845,628	313,828	1,769,883	6,991,569	8,889,096
Manitoba	3	137	452,417	32,020	332,604	1,695,914	2,051,698
Saskatchewan	2						
Alberta	6						
British Columbia	7	130	507,083	67,348	415,193	2,143,321	2,616,876
Canada	55	1,624	5,976,046	750,304	4,124,884	19,619,406	24,280,515

¹ See footnote to text.**TABLE 2. Inventories,¹ 1957**

	Raw materials and supplies	Goods in process	Finished goods of own manufacture	Total
	dollars			
Opening:				
Newfoundland, Nova Scotia and New Brunswick....	61,687	—	7,679	69,366
Quebec	164,796	15,966	33,649	214,411
Ontario	262,600	15,164	55,536	333,300
Manitoba and Saskatchewan	43,915	1,782	13,111	58,808
Alberta	59,828	800	12,770	73,398
British Columbia	142,635	2,653	11,640	156,928
Canada	735,461	36,365	134,385	906,211
Closing:				
Newfoundland, Nova Scotia and New Brunswick	71,097	—	9,414	80,511
Quebec	148,638	—	46,591	195,229
Ontario	605,922	173,926	82,958	862,806
Manitoba and Saskatchewan	54,818	—	23,733	78,551
Alberta	75,756	—	24,928	100,684
British Columbia	121,017	—	23,279	144,296
Canada	1,077,248	173,926	210,903	1,462,077

¹ Book value of all manufacturing inventories owned and held at plant and plant warehouses.

Note: The opening inventory for the current year may not necessarily agree with the closing inventory published the previous year because of changes in the composition of the industry such as: the addition of new establishments, the disappearance of old ones, or the transfer of establishments to other industries for statistical purposes. The figure for value added by manufacture for the previous year does not need to be altered because of such changes in the composition of the industry.

TABLE 3. Products of the Compressed Gases Industry, 1956 and 1957

Product	1956		1957	
	Quantity	Value of factory shipments	Quantity	Value of factory shipments
	cu. ft.	\$	cu. ft.	\$
Acetylene ¹	185,203,392	6,648,339	195,838,372	7,303,939
Oxygen ¹ (liquid and gas)	1,213,995,521	9,648,243	—	11,197,891
Other products ²	—	4,675,999	—	5,778,685
Canada	—	20,972,581	—	24,280,515

¹ In cylinders or delivered by pipeline.² Includes nitrous oxide, carbon dioxide, nitrogen, etc.³ See Table 5 for total production.

TABLE 4. Materials Used in the Compressed Gases Industry, 1956 and 1957

Material		1956		1957	
		Quantity	Cost at works	Quantity	Cost at works
			\$		\$
Acetone	lb.	562,856	66,058	631,532	75,137
Calcium carbide	ton	15,686	1,566,682	16,634	1,710,234
Oil (for making carbon dioxide and hydrogen)	Imp. gal.	1,637,940	158,626	1,983,050	214,552
Potassium hydroxide	lb.	83,700	11,052	70,734	8,770
Sodium hydroxide	"	540,097	28,816	618,512	32,406
Other materials ¹	—	—	1,620,522	—	2,083,785
Total	—	—	3,451,756	—	4,124,884
Cylinders purchased during the year	No.	46,819	1,815,062	55,429	2,272,906

¹ Includes ammonium nitrate, unpurified brewery gas, lime, soda ash, condensing water, etc.TABLE 5. Production¹ of Acetylene and Oxygen, 1948-1957

Year	Acetylene		Oxygen ²	
	Quantity	Selling value at works	Quantity	Selling value at works
	cu. ft.	\$	cu. ft.	\$
1948	123,185,685	3,301,822	565,869,719	5,297,530
1949	120,831,500	3,420,827	657,134,873	5,567,476
1950	124,375,068	3,586,705	690,362,200	5,400,670
1951	136,043,698	4,207,520	794,054,423	6,893,420
1952	152,024,204	4,957,888	934,783,851	8,078,431
1953	155,392,530	5,180,019	901,943,238	7,431,405
1954	150,026,906	5,060,711	939,153,386	7,183,927
1955	159,005,717	5,372,647	1,017,208,577	7,434,989
1956	185,203,392	6,648,339	1,222,729,169	9,657,871
1957	195,838,372	7,303,939	1,323,847,599	10,924,006 ³

¹ Includes only the production for sale, chiefly in cylinders, or for delivery by pipeline to adjacent consuming plants. Does not include amounts made for own use by some chemical companies.² Includes production reported by firms classified to the slaughtering and meat packing industry in 1952.³ The value for oxygen shown in the above table for 1957 is somewhat less than the total shown in Table 3 because of the elimination of duplication resulting from the transfer of some liquid oxygen to other plants within the industry for further processing. The latter results in the production and subsequent shipment of some oxygen in the gaseous form which appears in the total reported in Table 3. The extent of this duplication (if any) for earlier years is not known and, therefore, totals prior to 1957 have been revised. On this account the totals for oxygen (quantity and value) shown in the above table for 1957 are not exactly comparable with previous years.

TABLE 6. Available Data on the Consumption of Carbon Dioxide, 1953-1957

Year	In the manufacture of carbonated beverages (soft drinks) ¹				In the manufacture of malt liquors	
	In cylinders		Solid		Quantity	Cost at works
	Quantity	Cost at works	Quantity	Cost at works		
	pounds	\$	pounds	\$	pounds	\$
1953	11,843,001	1,052,125	895,359	63,362	1,018,795	103,714
1954	13,404,742	1,003,780	1,862,033	144,327	742,529	88,264
1955	13,243,990	1,054,444	1,272,906	84,895	509,131	53,058
1956	14,114,872	1,154,279	668,842	51,068	731,930	72,737
1957	14,323,926	1,179,377	1,072,193	74,385	524,245	48,005

¹ Includes amounts used by firms classified to the Breweries Industry which made soft drinks as a minor product.

TABLE 7. Principal Statistics of the Compressed Gases Industry in Canada, Grouped According to Size of Establishment, 1956 and 1957

Establishments reporting value of factory shipments	Estab- lish- ments	Employees	Salaries and wages	Cost at plant of materials used	Selling value of factory shipments
	number		dollars		
1956					
\$25,000 to \$49,999	1	38	130,664	122,224	438,928
\$50,000 to \$99,999	6				
\$100,000 to \$199,999	10	85	312,797	273,699	1,496,508
\$200,000 to \$499,999	20	389	1,380,283	928,293	5,943,070
\$500,000 to \$999,999	14	887	3,259,250	2,127,540	13,094,079
\$1,000,000 to \$4,999,999	2				
Total	53	1,399	5,082,994	3,451,756	20,972,581
1957					
\$25,000 to \$49,999	1	39	156,510	155,354	383,851
\$50,000 to \$99,999	5				
\$100,000 to \$199,999	8	63	242,347	214,157	1,133,376
\$200,000 to \$499,999	23	418	1,555,597	1,090,172	6,866,095
\$500,000 to \$999,999	14	688	2,480,101	1,881,180	10,407,881
\$1,000,000 to \$4,999,999	4	416	1,541,491	784,021	5,489,312
Total	55	1,624	5,976,046	4,124,884	24,280,515

TABLE 8. Employees and their Earnings in the Compressed Gases Industry, 1956 and 1957

Province	Number of employees					Earnings		
	Supervisory and office		Production workers		Total	Supervisory and office	Production workers	Total
	Male	Female	Male	Female				
1956						dollars		
Quebec.....	77	33	194	—	304	393,303	715,945	1,109,248
Ontario.....	223	160	278	—	661	1,325,054	1,072,192	2,397,246
Alberta.....	40	18	51	—	109	242,412	188,229	430,641
British Columbia.....	47	11	56	—	114	195,548	220,059	415,607
Other provinces.....	89	28	94	—	211	413,539	316,713	730,252
Canada.....	476	250	673	—	1,399	2,569,856	2,513,138	5,082,994

TABLE 8. Employees and their Earnings in the Compressed Gases Industry, 1956 and 1957
— Concluded

Province	Number of employees					Earnings		
	Supervisory and office		Production workers		Total	Supervisory and office	Production workers	Total
	Male	Female	Male	Female				
1957						dollars		
Quebec	97	39	205	—	341	468,381	848,060	1,316,441
Ontario	290	175	306	—	771	1,557,363	1,288,265	2,845,628
Alberta	70	18	45	—	133	285,183	177,901	463,084
British Columbia	50	19	61	—	130	243,132	263,951	507,083
Other provinces	117	36	96	—	249	489,200	354,610	843,810
Canada	624	287	713	—	1,624	3,043,259	2,932,787	5,976,046

TABLE 9. Production Workers, by Months, 1956 and 1957

Month	1956			1957		
	Male	Female	Total	Male	Female	Total
	number					
January	624	—	624	666	—	666
February	623	—	623	687	—	687
March	639	—	639	684	—	684
April	645	—	645	698	—	698
May	670	—	670	714	—	714
June	709	—	709	737	—	737
July	712	—	712	753	—	753
August	717	—	717	753	—	753
September	689	—	689	731	—	731
October	678	—	678	721	—	721
November	685	—	685	714	—	714
December	687	—	687	701	—	701
Average	673	—	673	713	—	713

TABLE 10. Capital and Repair-Expenditures in the Compressed Gases Industry, 1953-1957

Year	Capital expenditures		Sub-total	Repair and maintenance expenditures		Sub-total	Total capital and repair expenditures
	Construction	Machinery and equipment		Construction	Machinery and equipment		
	thousands of dollars						
1953	315	2,452	2,767	166	885	1,051	3,818
1954	1,118	1,731	2,849	158	837	995	3,844
1955	498	2,337	2,835	162	758	920	3,755
1956	604	3,146	3,750	179	885	1,064	4,814
1957	1,494	6,237	7,731	301	1,122	1,423	9,154

Note: Figures for the current year are preliminary.

TABLE 11. Factory Shipments and Imports of Liquefied Petroleum Gases,¹ 1953-1957

Year	Production	Imports
	pounds	
1953	263,835,000	263,071,000
1954	371,160,000	265,319,000
1955	526,709,000	222,223,000
1956	716,359,000	204,851,000
1957	794,784,000	217,242,000

¹Includes butane-butylene as well as propane and butane.

TABLE 12. Production, Imports and Exports of Chlorine, 1953-1957

Year	Production	Imports	Exports
	tons		
1953	169,000	20,400	17,900
1954	167,000	32,100	2,900
1955	192,000	38,000	10,400
1956	223,000	34,200	21,500
1957	229,000	34,000	10,500

TABLE 13. Fuel and Electricity Used in the Compressed Gases Industry, 1956 and 1957

Kind	1956		1957	
	Quantity	Cost at works	Quantity	Cost at works
		\$		\$
Bituminous coal — Canadian ton	484	6, 150	128	2, 036
Imported "	453	5, 929	12	201
Anthracite coal "	—	—	269	4, 645
Gasoline Imp. gal.	181, 598	68, 160	90, 383	35, 223
Fuel oil "	572, 111	91, 723	662, 351	104, 832
Gas — Manufactured M cu. ft.	1, 242	1, 313	1, 296	1, 366
Natural "	13, 900	4, 905	16, 607	5, 949
Other fuel —	—	4, 711	—	3, 594
Electricity purchased kwh.	72, 606, 580	5 15, 206	73, 798, 166	592, 453
Total —	—	698, 097	—	750, 304

List of Firms in the Compressed Gases Industry, 1957

Name of firm	Location of plant
Liquid Carbonic Canadian Corporation Limited, H.O. 2120 Cabot St., Montreal Quebec	Dartmouth, N.S.; Montreal, Que.; Quebec, Que.; Toronto, Ont.; Winnipeg, Man.; Edmonton, Alta.; Vancouver, B.C.
L'Air Liquide Society & Canadian Liquid Air Co. Limited H.O. 1111 Beaver Hall Hill, Montreal, Quebec	St. John's, Nfld.; Halifax, N.S.; Sidney, N.S.; Moncton, N.B.; Montreal, Que.; Tracy, Que.; Que- bec, Que.; Toronto, Ont.; London, Ont.; Sudbury, Ont.; Hamilton, Ont.; Port Arthur, Ont.; Winnipeg, Man.; Regina, Sask.; Calgary, Alta.; Edmonton, Alta.; Vancouver, B.C.; Victoria, B.C.; Kitimat, B.C.; North Vancouver, B.C.; Cranbrook, B.C.
Linde Air Products Div. of Union Carbide, Canada Ltd., H.O. Canada Life Building, 340 University Ave., Toronto, Ontario	Noranda, Que.; Arvida, Que.; Quebec, Que.; Montreal, Que.(2); Shawinigan Falls, Que.; Sept. Iles, Que.; Sault Ste. Marie, Ont.; Fort William, Ont.; Toronto, Ont.; Welland, Ont.; Merritton, Ont.; St. Boniface, Man.; Saskatoon, Sask.; Edmonton, Alta.; Lethbridge, Alta.; Vancouver, B.C.; London, Ont.
Imperial Oxygen Limited, H.O. 8400 Decarie Blvd., Montreal, Quebec.	Montreal, Que.(2); Toronto, Ont.; Windsor, Ont.
Ohio Chemical Canada Limited, 2535 St. James St. W., Montreal, Quebec	Montreal, Que.; Toronto, Ont.
Alberta Oxygen & Acetylene Co. Ltd., 142nd Street at 108th Avenue, Edmonton, Alberta	Edmonton, Alta.
British Oxygen Canada Ltd.	Horner Ave., Etobicoke, Ont.
Peoples' Gas Supply Co., Ltd.	2-10 Mill St., Ottawa, Ont.

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