

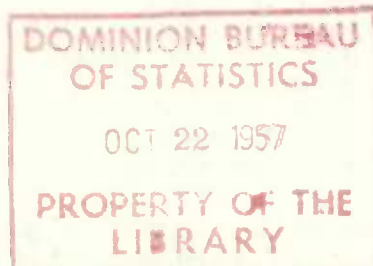
46-205

CV



CANADA

# THE COMPRESSED GASES INDUSTRY 1956



*Published by Authority of*  
The Honourable Gordon Churchill, Minister of Trade and Commerce

**DOMINION BUREAU OF STATISTICS**  
Industry and Merchandising Division  
Metal and Chemical Products Section

6512-579-126

Price 25 cents

Vol. 2—Part XVIII—N-1

205-24

## 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
- V — Rubber Products
- VI — Leather Products
- 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, 25¢
- B — The Acids, Alkalies and Salts Industry, 25¢
- C — The Fertilizers Industry, 25¢
- D — The Fertilizer Trade in Canada, 25¢
- E — The Medicinal and Pharmaceutical Preparations Industry, 25¢
- F — The Paints, Varnishes and Lacquers Industry, 25¢
- G — The Primary Plastics Industry, 25¢
- H — The Soaps, Washing Compounds and Cleaning Preparations Industry, 25¢
- I — The Toilet Preparations Industry, 25¢
- J — The Vegetable Oils Industry, 25¢
- K — The Inks Industry, 25¢
- L — The Adhesives Industry, 25¢
- M — The Polishes and Dressings Industry, 25¢
- N — The Compressed Gases Industry, 25¢
- O — The Coal Tar Distillation Industry, 25¢
- P — The Miscellaneous Chemical Products Industry, 25¢

## THE COMPRESSED GASES INDUSTRY 1956

Manufacturing plants in Canada, engaged chiefly in making industrial gases, reported factory shipments in 1956 at \$20,972,581 compared with \$16,501,924 in 1955, an increase of 27.0 per cent.

There were 53 factories in operation in this industry during 1956, 16 being located in Ontario, 14 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 1956 was 1,399 including 726 supervisory and office personnel and 673 production workers. Salaries for the year amounted to \$2,569,856 and wages totalled \$2,513,138.

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 output of oxygen increased 21 per cent to 1,214 million cubic feet and acetylene increased 17 per cent to 185 million cubic feet. Carbon dioxide, nitrogen, nitrous oxide and argon were other products of this industry. The output figures for the latter items are not published separately since there were only one or two producers in each case.

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 refining 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 the slaughtering and meat packing industry in 1952.

---

Note: Figures for value added by manufacture, shown in Table 1, prior to 1952 were obtained by subtracting the cost of materials used, including fuel and electricity, from the value of production. In 1952, the gross value of production was replaced by value of factory shipments, f.o.b. plant. As no information on inventory change is available for 1952 and 1953, value added figures for these years were obtained by subtracting from the value of shipments the cost of materials, fuel and electricity. Since 1954, information on the value of year-end inventory holdings at plant and plant warehouses has been collected as part of the annual Census of Industry and information thus made available was taken into account in calculating the value added figures.

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

Year	Establishments	Employees	Salaries and Wages	Cost of fuel and electricity at plant	Cost at plant of materials used	Value added by manufacture <sup>1</sup>	Gross selling value of products <sup>1</sup>
	No.	No.	\$	\$	\$	\$	\$
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
1952 .....	47	1,250	3,889,969	468,401	2,425,663	13,307,400	16,201,464
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
<b>1955</b>							
Newfoundland .....	1	102	328,594	64,265	255,704	1,030,836	1,350,822
Nova Scotia .....	3						
New Brunswick .....	1						
Quebec .....	14	297	1,011,959	159,977	752,326	4,228,293	5,139,831
Ontario .....	15	621	2,210,908	234,129	1,030,366	4,480,173	5,732,185
Manitoba .....	3	138	421,336	29,641	279,092	1,065,142	1,375,055
Saskatchewan .....	2						
Alberta .....	6	110	381,000	50,057	286,593	1,020,832	1,356,472
British Columbia .....	7	119	405,962	52,881	338,837	1,160,689	1,547,559
<b>Canada .....</b>	<b>52</b>	<b>1,387</b>	<b>4,759,759</b>	<b>591,850</b>	<b>2,942,918</b>	<b>12,985,965</b>	<b>16,501,924</b>
<b>1956</b>							
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	109	430,641	47,483	314,619	1,325,888	1,689,614
British Columbia .....	7	114	415,607	64,285	340,631	1,806,276	2,211,082
<b>Canada .....</b>	<b>53</b>	<b>1,399</b>	<b>5,082,994</b>	<b>698,097</b>	<b>3,451,756</b>	<b>16,827,975</b>	<b>20,972,581</b>

1. See footnote to text.

TABLE 2. Inventories<sup>1</sup>, 1956

	Raw materials and supplies	Goods in process	Finished goods of own manufacture	Total
	\$	\$	\$	\$
Opening:				
Newfoundland, Nova Scotia and New Brunswick .....	50,712	—	6,699	57,411
Quebec .....	127,901	22,660	26,140	176,701
Ontario .....	185,127	19,168	49,878	254,173
Manitoba and Saskatchewan .....	52,927	2,912	10,000	65,839
Alberta .....	48,723	1,019	15,179	64,921
British Columbia .....	94,854	2,766	11,417	109,037
<b>Canada .....</b>	<b>560,244</b>	<b>48,525</b>	<b>119,313</b>	<b>728,082</b>
Closing:				
Newfoundland, Nova Scotia and New Brunswick .....	64,215	—	9,010	73,225
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 .....	60,327	800	13,774	74,901
British Columbia .....	142,635	2,653	11,640	156,928
<b>Canada .....</b>	<b>738,488</b>	<b>36,365</b>	<b>136,720</b>	<b>911,573</b>

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

Note: Beginning with 1954, information on the value of year-end inventory holdings at plant and plant warehouses is being collected as part of the annual Census of Industry. These data were formerly collected by a separate survey. The summarized results for the Compressed Gases Industry for the year under review are shown in the above table.

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, 1955 and 1956

Product	1955		1956	
	Quantity	Value of factory shipments	Quantity	Value of factory shipments
	cu. ft.	\$	cu. ft.	\$
Acetylene <sup>1</sup> .....	159,005,717	5,372,647	185,203,392	6,648,339
Oxygen <sup>1</sup> .....	1,000,297,075	7,410,259	1,213,995,521	9,648,243
Other products <sup>2</sup> .....	—	3,719,018	—	4,675,999
<b>Canada</b> .....	—	<b>16,501,924</b>	—	<b>20,972,581</b>

1. In cylinders or delivered by pipeline.

2. Includes nitrous oxide, carbon dioxide, nitrogen, etc.

TABLE 4. Materials Used in the Compressed Gases Industry, 1955 and 1956

Material	Unit of measure	1955		1956	
		Quantity	Cost at works	Quantity	Cost at works
			\$		\$
Acetone .....	lb.	529,260	63,068	562,856	66,058
Calcium carbide .....	ton	13,417	1,361,770	15,686	1,566,682
Oil (for making carbon dioxide and hydrogen) .....	Imp. gal.	1,701,252	151,746	1,637,940	158,626
Potassium hydroxide .....	lb.	73,888	9,768	83,700	11,052
Sodium hydroxide .....	"	471,937	23,836	540,097	28,816
Other materials <sup>1</sup> .....	—	—	1,332,730	—	1,620,522
<b>Total</b> .....	—	—	<b>2,942,918</b>	—	<b>3,451,756</b>
Cylinders purchased during the year .....	number	24,303	763,763	46,819	1,815,062

1. Includes ammonium nitrate, unpurified brewery gas, lime, soda ash, condensing water, etc.

TABLE 5. Production<sup>1</sup> of Acetylene and Oxygen, 1947-1956

Year	Acetylene		Oxygen <sup>2</sup>	
	Quantity	Selling value at works	Quantity	Selling value at works
	cu. ft.	\$	cu. ft.	\$
1947 .....	111,370,838	2,748,114	577,806,032	4,603,919
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

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.

**TABLE 6. Available Data on the Consumption<sup>2</sup> of Carbon Dioxide, 1951-1955**

Year	In the manufacture of carbonated beverages (soft drinks) <sup>1</sup>				In the manufacture of malt liquors	
					Quantity	Cost at works
	Quantity	Cost at works	Quantity	Cost at works		
	pounds	\$	pounds	\$	pounds	\$
1951 .....	9,953,957	855,135	810,428	55,635	1,343,697	117,408
1952 .....	11,212,871	983,966	943,419	64,275	1,061,637	113,174
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

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

2. 1956 figures not available.

**TABLE 7. Principal Statistics of the Compressed Gases Industry in Canada, Grouped According to Size of Establishment, 1955 and 1956**

Establishments reporting value of factory shipments		Estab-lish-ments	Employees	Salaries and wages	Cost at plant of materials used	Selling value of factory shipments
		No.	No.	\$	\$	\$
<b>1955</b>						
\$25,000 to \$49,999 .....		4	23	81,078	57,994	173,586
\$50,000 to \$99,999 .....		5	29	104,347	85,415	379,006
\$100,000 to \$199,999 .....		13	129	515,302	408,063	2,006,140
\$200,000 to \$499,999 .....		20	586	1,950,443	1,024,635	6,298,943
\$500,000 to \$999,999 .....		10	620	2,108,589	1,366,811	7,644,249
\$1,000,000 to \$4,999,999 .....						
<b>Total</b> .....		<b>52</b>	<b>1,387</b>	<b>4,759,759</b>	<b>2,942,918</b>	<b>16,501,924</b>
<b>1956</b>						
\$25,000 to \$49,999 .....		1	38	130,664	122,224	438,926
\$50,000 to \$99,999 .....		6				
\$100,000 to \$199,999 .....		10	85	312,797	273,699	1,496,506
\$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				
<b>Total</b> .....		<b>53</b>	<b>1,399</b>	<b>5,082,994</b>	<b>3,451,756</b>	<b>20,972,581</b>

**TABLE 8. Employees and Their Earnings in the Compressed Gases Industry, 1955 and 1956**

Province	Number of employees					Earnings		
	Supervisory and office		Production workers		Total	Supervisory and office	Production workers	Total
	Male	Female	Male	Female				
1955						\$	\$	\$
Quebec .....	60	41	196	—	297	318,218	693,741	1,011,959
Ontario .....	195	152	274	—	621	1,136,676	1,074,232	2,210,908
Alberta .....	37	17	56	—	110	150,625	230,375	381,000
British Columbia .....	44	15	60	—	119	170,946	235,016	405,962
Other provinces .....	93	34	113	—	240	354,397	395,533	749,930
Canada .....	429	259	699	—	1,387	2,130,862	2,628,897	4,759,759

TABLE 8. Employees and Their Earnings in the Compressed Gases Industry, 1955 and 1956  
— Concluded

Province	Number of employees					Earnings		
	Supervisory and office		Production workers		Total	Supervisory and office	Production workers	Total
	Male	Female	Male	Female				
						\$	\$	\$
1956								
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 9. Production Workers, by Months, 1955 and 1956

Month	1955			1956		
	Male	Female	Total	Male	Female	Total
	Number					
January .....	677	—	677	624	—	624
February .....	678	—	678	623	—	623
March .....	679	—	679	639	—	639
April .....	685	—	685	645	—	645
May .....	699	—	699	670	—	670
June .....	714	—	714	709	—	709
July .....	751	—	751	712	—	712
August .....	747	—	747	717	—	717
September .....	707	—	707	689	—	689
October .....	693	—	693	678	—	678
November .....	692	—	692	685	—	685
December .....	689	—	689	687	—	687
Average .....	699	—	699	673	—	673

TABLE 10. Capital and Repair Expenditures in the Compressed Gases Industry, 1952-1956

Year	Capital expenditures		Sub-total	Repair and maintenance expenditures		Sub-total	Total capital and repair expenditures
	Construction	Machinery and equipment		Construction	Machinery and equipment		
	\$'000						
1952 .....	215	1,655	1,870	192	736	928	2,798
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 <sup>1</sup> .....	419	2,998	3,417	160	981	1,141	4,558

1. Preliminary.

TABLE 11. Production and Imports of Liquefied Petroleum Gases, 1952-1956

Year	Production	Imports
	(lb.)	
1952 .....	184,000,000	191,701,000
1953 .....	263,835,000	263,071,000
1954 .....	371,160,000	265,319,000
1955 .....	523,709,000	222,223,000
1956 .....	701,579,000	204,829,000

TABLE 12. Production, Imports and Exports of Chlorine, 1952-1956

Year	Production	Imports	Exports
	(tons)		
1952 .....	169,000	15,800	14,200
1953 .....	169,000	20,400	17,900
1954 .....	167,000	32,100	2,900
1955 .....	192,000	38,000	10,400
1956 .....	218,000	34,200	21,500

TABLE 13. Fuel and Electricity Used in the Compressed Gases Industry, 1956<sup>1</sup>

Kind	Unit of measure	Quantity	Cost at works
			\$
Bituminous coal—Canadian .....	ton	484	6,150
Imported .....	ton	453	5,929
Gasoline .....	Imp. gal.	181,598	68,160
Fuel oil .....	Imp. gal.	572,111	91,723
Gas—Manufactured .....	M cu. ft.	1,242	1,313
Natural .....	M cu. ft.	13,900	4,905
Other fuel .....	—	—	4,711
Electricity purchased .....	k.w.h.	72,606,580	515,206
<b>Total</b> .....	—	—	<b>698,097</b>

1. Last collected in 1953.

## List of Firms in the Compressed Gases Industry, 1956

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.; St. Joseph de Sorel, Que.; Quebec, Que.; Toronto, Ont.; London, 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.; Sault Ste. Marie, Ont.; Fort William, Ont.; Toronto, Ont.; Welland, Ont.; Merritton, Ont.; St. Boniface, Man.; Saskatoon, Sask.; Edmonton, 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.
Independent Oxygen Ltd.	Lethbridge, Alta.
Peoples' Gas Supply Co., Ltd.	2-10 Mill St., Ottawa, Ont.





STATISTICS CANADA LIBRARY  
BIBLIOTHEQUE STATISTIQUE CANADA



1010681807