

## THE COMPRESSED GASES INDUSTRY 1959

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## DOMINION BUREAU OF STATISTICS

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## PUBLICATIONS

The results of the annual Census of Industry are published by the Dominion Bureau of Statistics in a series of industry reports which are released each year as the compilations are completed. Reports for industries classified to the Chemicals and Allied Products Major Group are listed below, along with current and annual publications of related interest. Similar reports are issued for other industries. A complete catalogue of publications of the Bureau is available on request from the Information Services Division, Dominion Bureau of Statistics, Ottawa, or from the Queen's Printer, Ottawa.

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A \text { - Annual } \quad B-\text { Biennial } \quad M \text { - Monthly } \quad \text { S.C. }- \text { Special Compilation }
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Catalogue Title Price
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46-201 Chemicals and Allied Products - General Review (A) .....  50
46-202 Acids, Alkalles and Salts Industry (A) ..... 50
46-203 Adhesives Industry (A) ..... 50
46-204 Coal Tar Distillation Industry (A) ..... 25
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31-201 General Review of the Manufacturing Industries (A) ..... 2.00
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## EXPLANATORY NOTES

This report is one in a series of about 130 publications which present the results of the 1959 Census of Manufactures. Most reports in this series refer to specific industries, but there are summary reports for Canada and the provinces and for malor industry groups. An annual Census of Manufactures has been carrled out by the Dominlon Bureau of Statistics since 1916.

Industry statistics given in these reports refer to number of establishments, employees, salaries and wages, cost of materials, supplies, fuel and electricity, gross value of shipments, inventories and value added by manufacturing. Detalls of materials used and products shipped are also given. Descriptions of the principal industry statistics. With special reference to 1959 are as follows:

## Period Covered

Firns are asked to submit figures for the calendar year, if at all possible, and most reyorts are on this basis. Financial year reports for periods differing from the calendar year are accepted in instances where the firms find it imposslble to supply calendar year data from accounting records. However the data on employees, salaries and wages are requested on a calendar year basis in all cases.

## Establishment

Data for the annual census is collected on an establishment basis. A firm with more than one plant is required to file a report for each plant. In most cases an establishment is a complete factory. Sometimes, however, a plant is divided into two or more establishments when it carries out operatlons classifiable to different industries and when separate accounting records are available. Usually the statistics for an establishment relate only to the manufacturing activities. Other activities such as construction at the plant by its own employees, wholesele of retail activitles carried on at the plant location, etc., are not included. Plants engaged solely in repair work (except In the case of furniture, shipbuilding, boat building, aircraft and railway rolling stock industries) are not included but plants occupled in assembling parts into complete units are included.

## Employees

Administrative and office employees include all executives and supervisory officials such as presidents, vice-presidents, secretaries, treasurers. etc., together with managers, professional and technical employees, superintendents and factory supervisors above the working foremen level and clerical employees. Working owners and partners are also included in this category.
production and related workers include all other factory workmen whether paid on a monthly, weekly, hourly of piece-work basis. Working foremen doing work similar to that of the employees they supervise are included, as are maintenance, warehousing and delivery staffs. Employees on new construction work, in retall of wholesale operations, on outside plece work etc., are not included.

Production workers are reported by months, an average for the year being obtained by summing the monthly figures and dividing by twelve. This procedure is followed even though the plant did not operate in all months. Figures on employment refer to calendar years whether of not some establishments reported other data on a financial year basis.

## Salaries and Wages

Salarles and wares refer to gross ebrnings of the employees described above, including salaries, wages, commissions, bonuses, the value of room and board where provided, deductions for income tax and social services such as sickness and unemployment insurance, pensions, etc. as well as any other allowances forming part of the employees' wages. Payments for overtime are included.

Salarles refer to amounts pald to administrative and office employees. Withdrawals by working owners of partners for normal living expenses for self and family are included but not their withdrawals for income tax. Wages refer to the amounts paid to production and related workers as defined above. Data on earnings refer to the calendar year whether or not some establishments reported other data on a financlal year basis.

## Cost of Fuel and Electricity

Figures for fuel refer to amounts actually used, (including fuel used in cars and trucks), not to purchases unless the quantities are the same. Values refer to the laid-down cost at the works, including freight, duty, etc.

## Materials and Supplies Used

Figures represent quantities and laid-down cost values, at the works, of materials and supplies actually used during the year whether purchased from others or received as transfers from other plants of the reporting company. Amounts paid to other manufacturers for work done on materials owned by the reporting company are included. Returnable containers of any other items charged to capltal account are not included. Fuels are not included. Goods bought from others or received as transfers from other plants of reporting companies for resale without further processing are not included. Maintenance and repair supplies not chargeable to capital account are included.

## Factory Shipments

Fretory shipments refer to shipments of goods made from own materials either in the reporting plant of by other manufacturers on the basis of a charge to the reporting plant for work done. All products and by-products shipped from the establishment are included whether for domestic use, export, of for government departments. Transfer shipments to sales outlets, distributing warehouses or to other manufacturing units of the reporting firm are included. Goods bought of tecelved as transfers and resold without further processing are not included. Values are computed on $1.0 . b$. plant of
plant warehouse basis, and do not include sales tax or excise duties. Values of containers not returnable are included. Amounts received in payment for work done on materials owned by others are included.

In a few industries such as shtpbullding, aircraft, etc., where work on principsl products extend over a relatively long period, the value of production is recorded rather than the value of shipments. For those industries production is computed from the value of deliveries of complete units during the year plus the value of work done during the yeas on unfinished units less the value of work done ir previous years on finished units delivered in the year under review.

## Inventories

Values represent the book values of manufacturing inventories owned and held at the reporting plant. Figures include inventories held in warehouses or selling outlets which have been included with plant operations for purposes of reporting shipments.

## Value Added by Manufacturing

Figures are computed from value of shipments plus or minus changes in inventories of finished goods and goods in process less cost of materials. fuel and electricity. This figure is sometimes referred to as net production.

## Standard Industrial Classification

The Standard Industrial Classification Manual, prepared by the Dominion Bureau of Statistics, provides for 135 three-digit industrles in the manufacturing sector, arranged in 17 majot groups. Reporting establishments are classified or allotted tc specific industries on the basis of the value of principal products made or shipped.

## Short Forms

Between 1949 and 1957, in an effort to ease the reporting burden for smaller firms, a short form was used asking for the total value of shipments only or, in a few cases where losses of detail were significant, for quantities and values of principal products. For purposes of publication, missing data were estimated on the basis of appropriate ratios. In general the cut-off point for these short forms was set at $\$ 50.000$ value of shipments. About 40 oic of the total number of establishments reported on the short form and accounted for less than 3 per cent of the total value of shipments.

In 1958 , in order to establish a new base year. the small firms were asked to report all items of principal statistics together with some detail on materials and products.

[^0]For the 1959 Census, the short form was used again, but further steps were taken to ease the respondents' burden. First, the general limit for short forms was raised to $\$ 100,000$ value of shipments. In addition, a new intermediate form was developed. This form is a shortened version of the long form in that most of the general questions were pared down and the detailed lists of materials and products were limited to the more important items. The general limits for firms in this category were set at between $\$ 100,000-\$ 500,000$ value of shipments, but in the case of both the short and intermediate forms there were lower cut-offs for a number of industries in which the smaller firms accounted for a latger share of total shipments. On the other hand, limits were raised where this could be done without a significant loss of coverage. On most of the short forms for 1959, in addition to total value of shipments, data on principal products were requested. In a few industries, where loss of employment and earnings data were considered too large because of higher cut-offs, a question on total paysoll was placed on the short form.

The intermediate and long forms provide complete data for the compilation of all elements of principal industry statistics and the details of materials and products. The one-page short form, although containing data on principal products and total value of shipments, does not sequest information on other elements of principal statistics sucn as value of inventories, materials, fuel and electricity and, in most cases, employment and salaries and wages, nor does it contain detailed data on volume and value of materials used. For purposes of compiling aggregates of principal statistics by industry and by geographic location, the missing data for each establishment were estimated for 1959 by using, in general, ratios based on the change in the value of shipments between 1958 and 1959. The proportion of the estimated data was generally less than 5 per cent of the total in each category of principal statistics.

The general request for the principal items of products on the short form for 1959 permitted a fairly complete compilation of the detalled quantities and values of commodity shipments. In the case of the detailed quantities and values of materials, fuel and electricity, however, and the monthly distribution of production workers, only the totals of data actually reported on the intermediate and long forms are contained in published reports and no attempt was made as in past years to estimate the generally small proportion of individual totals represented by detailed items omitted from the short forms.

The new approach has relieved an additional 12,000 establishments from filling out the regular long form. Establishments now receiving the short form number in excess of 20,000 and account for more than 54 per cent of the total number of establishments and a little more than 3 per cent of the total value of shipments.

## THE COMPRESSED GASES INDUSTRY

## 1959

Manufacturing plants in Canada engaged chiefly in making industrial gases, reported factory shipments in 1959 at $\$ 27,075,869$ compared with $\$ 23,742,234$ in 1958 an increase of 14 per cent.

There were 57 factories in operation in this industry during 1959, 18 being located in Ontario, 14 in Quebec, 9 in British Columbla, 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 1959 was 1.504 including 789 supervisory and office personnel and 715 production workers. Salaries for the year amounted to $\$ 3,500,405$ and wages totalled \$3.157,682.

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, and excluding tonnage oxygen but including some reported in other industries, increased 15.5 per cent to 1.390 millior cubic feet and acetylene increased 2.3 per cent to 185 million cubic feet. The output figures for carbon dioxide are not published separately since there were less than three producers.

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 byproducts 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 cbanges 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 Si, bifficant Years, $1929-39$ and by Provinces for 1958 and 1959

${ }^{1}$ See note to text.
TABLE 2. Inventories, ${ }^{2} 1959$

|  | Raw materials and supplies | Goods in process | Finished goods of own manufacture | Total |
| :---: | :---: | :---: | :---: | :---: |
|  |  | dol |  |  |
| Opeaing: |  |  |  |  |
| Newfoundland, Nova Scotia and New Brunswick Quebec | 66,056 187,647 | - | 10,501 34,649 | 76.557 222.296 |
|  | 260,861 | - | 83, 354 | 344, 215 |
| Manitoba and Saskatchewan | 45, 129 | - | 12.844 | 57,973 |
| Alberta | 65, 677 | - | 17.737 | 83, 414 |
| British Columbia | 113,599 | - | 20,474 | 134,073 |
| Canada | 738,969 | - | 179.559 | 918,528 |
| Closing: |  |  |  |  |
| Newfoundland, Nova Scotia and New Brunswick .... | 73,547 216,726 | - | 11,035 53,453 | 84.582 270.179 |
| Ontario | 266, 654 | - | 88,495 | 355,149 |
| Manitoba and Saskatchewan | 50,037 | - | 22.130 | 72, 167 |
| Alberta | 68. 519 | - | 19, 332 | 87, 851 |
| British Columbia | 110,814 | - | 27,634 | 138, 448 |
| Canade | 786,297 | - | 222,079 | 1,008,376 |

${ }^{2}$ Book value of all manufacturing inventories owned and held at plant and plant warehouses.
Note: The opening inventory forthe current year may not pecessarily 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 vaica 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, 1958 and 1959

| Products | 1958 |  | 1959 |  |
| :---: | :---: | :---: | :---: | :---: |
|  | Quantity | Value of factory shipments | Quantity | Value of factory shipments |
|  | cu. ft. | 5 | cu. ft. | \$ |
| Acetylene ${ }^{2}$ | 180,973, 230 | 6,772, 394 | 184,915,535 | 7,199,610 |
| Oxygen ${ }^{\text {( }}$ (Liquid and gas) | 2 | 11,007.7873 | , | 12,453,349 ${ }^{\text {P }}$ |
| Other products ${ }^{\text {a }}$ | . | 5,962, 053 | -• | $7,422,910$ |
| Canada | - | 23, 742, 234 | .. | 27,075,869 |

${ }^{1}$ in cylinders or delivered by pipeline.
${ }^{2}$ See Table 5 for total production.
3 Does not include tonnege oxygen.

- Includes nitrous oxide, carbon dioxide, nitrogen, tonnage oxygen, etc.
.. Figures not avallable.

TABLE 4. Materials Used in the Compressed Gases Industry, 1958 and 1959

| Material | 1958 |  | 1959 |  |
| :---: | :---: | :---: | :---: | :---: |
|  | Quantity | Cost at works | Quantity | Cost at works |
|  |  | \$ |  | \$ |
| Acetone .............................................................. Ib. | 569, 241 | 67,327 | 580,041 | 67. 767 |
|  | 14.295 | 1. 484,388 | 14.766 | 1. 534,838 |
| Oil (for making carbon dloxide and hydrogen) $\qquad$ Imp. gal. Potassium hydfoxide 16. | $\begin{array}{r} 2.0211,889 \\ 43,771 \end{array}$ | $\begin{array}{r} 183,828 \\ 18,955 \end{array}$ | $\begin{array}{r} 2.446,370 \\ 21 ; 821 \end{array}$ | $\begin{array}{r} 206,763 \\ 2,911 \end{array}$ |
| Potassium hyaroxide ........................................................................ ${ }_{\text {if }}$ | 592,470 | 32, 040 | 654.237 | 38,911 |
| Other materials ${ }^{1}$.......................... |  | 2,217,907 |  | 2,685,660 |
| Totals |  | 3,991,445 |  | 4,536,655 |
| Cylinders purchased during the year ....................... No. | 13,325 | 444.542 | 21,631 | 758,640 |

${ }^{1}$ Includes ammonlum nitrate, unpurified brewery gas, lime, soda ash, condensing water, etc.
. Figures not available.

TABLE 5. Production ${ }^{2}$ of Acetylene and Oxygen, 1950-59

|  |  | Actylene |  | Oxygen ${ }^{2}$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | Year | Quantity | Selling value at works | Quantity | Selling value at works |
|  |  | cu. ft. | \$ | cu. ft. | \$ |
| $\begin{aligned} & 1950 \\ & 1951 \end{aligned}$ |  | $\begin{aligned} & 124,375,068 \\ & 136,043,698 \end{aligned}$ | $\begin{aligned} & 3,586,705 \\ & 4,207,520 \end{aligned}$ | $\begin{aligned} & 690,362,200 \\ & 794.054 .423 \end{aligned}$ | $\begin{aligned} & 5,400,670 \\ & 6.893,420 \end{aligned}$ |
| 1952 |  | 152, 024,204 | 4,957, 888 | 934, 783, 851 | 6,893,420 |
| 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 ${ }^{3}$ |
| 1958 1959 |  | $180,973,230$ $184,915,535$ | $6,772,394$ $7.199,610$ | $1,203,933,175$ | $10,604,1554$ $11,424,80{ }^{4}$ |
| 1859 |  | 184, 915, 535 | 7.199,610 | 1,390, 233,113 | 11, 424, $807^{4}$ |

[^1]TABLE 6. Available Data on the Consumption of Carbon Dioxide, 1955-59

|  | In the manufacture of carbonated beverages (soft drinks) |  |  |  | In the manufacture of malt Liquors ${ }^{1}$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | In cylinders |  | Sclid |  | Quantity | Cost at works |
|  | Quantity | Cost at works | Quantity | Cost at works |  |  |
|  | pounds | \$ | pounds | \$ | pounds | \$ |
| 1955 | 13,134,474 | 1,039,722 | 1,275,906 | 84,895 | 618,647 | 67.780 |
| 1956 | 14,003,592 | 1,139,412 | 686,842 | 51,068 | 843,210 | 87,604 |
| 1957 | 14,182,781 | 1,162,397 | 1,072,193 | 74,385 | 665, 390 | 64,985 |
| 1958 | 14,823, 020 | 1,261,878 | 1,627, 191 | 100,872 | 661.855 | 62,575 |
| $1959{ }^{\text {P }}$ | 15,445,713 | 1,239,708 | 662,132 | 41,884 | 643,869 | 68,705 |

${ }^{2}$ Includes amounts used by firms classified to the Breweries Industry which made soft drinks as a minor product.
${ }^{1}$ Preliminary figures.

TABLE 7. Principal Statistics of the Compressed Gases Industry in Canada, grouped according to Size of Establishment, 1958 and 1959


TABLE 8. Employees and their Earnings in the Compressed Gases Industry, 1958 and 1959


TABLE 8. Employees and their Earnings in the Compressed Gases Industry, 1958 and 1959 - Concluded

| Province | Employees |  |  |  |  | Earnings |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Supervisory and office |  | Production workers |  | Total | $\begin{aligned} & \text { Supervisory } \\ & \text { and } \\ & \text { office } \end{aligned}$ | Production workers | Total |
|  | Male | Female | Male | Female |  |  |  |  |
|  | numbet |  |  |  |  | dollars |  |  |
| 1959 |  |  |  |  |  |  |  |  |
| Quebec .......................................................... | 79 | 29 | 201 | - | 309 | 459.313 | 913,912 | 1,373,225 |
| Ontario............................................ | 323 | 116 | 314 | 4 | 757 | 2,033,489 | 1,407,993 | 3.441.482 |
| Alberta.......................................... | 43 | 18 | 50 | - | 111 | 245,000 | 212,597 | 457,597 |
| British Columbia ........................... | 43 | 16 | 50 | - | 109 | 262,960 | 229.240 | 492,900 |
| Other provinces ............................. | 89 | 33 | 95 | 1 | 218 | 499,643 | 393,940 | 892,883 |
| Canada ......................................... | 577 | 212 | 710 | 5 | 1. 504 | 3, 500,403 | 3, 157,682 | $6,658,087$ |

TABLE 9. Production Workers, by Months, 1958 and 1959

| Month | 1958 |  |  | 1959 |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Male | Female | Total | Male | Female | Total |
|  | number |  |  |  |  |  |
| January ...................s......i................................... | 705 | 7 | 712 | 693 | 5 | 698 |
|  | 704 | 8 | 712 | 700 | 5 | 705 |
| March ................................................................. | 689 | 7 | 696 | 702 | 5 | 707 |
| April ................................................................. | 685 | 6 | 691 | 689 | 5 | 694 |
| May .................................................................... | 680 | 6 | 686 | 698 | 5 | 703 |
| June ..................................................e................. | 695 | 6 | 701 | 723 | 6 | 729 |
| July .................................................................... | 703 | 6 | 709 | 736 | 5 | 741 |
| August ................................................................. | 698 | 7 | 705 | 733 | 6 | 739 |
| September .......................................................... | 681 | 6 | 687 | 719 | 6 | 725 |
| October .............................................................. | 674 | 7 | 681 | 719 | 6 | 725 |
|  | 669 | 6 | 675 | 725 | 4 | 729 |
| December ..-....................................................... | 666 | 6 | 672 | 726 | 4 | 730 |
| Average ..................................as................an...... | 687 | 6 | 693 | 710 | 5 | 715 |

TABLE 10. Capital and Repair Expenditures in the Compressed Gases Industry, 1955-59

|  | Capltal expenditures |  | Sub-total | Repair and maintenance expenditures |  | Sub-total | Total <br> capital and repals expenditures |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Construction | Machinery and equipment |  | Construction | $\begin{aligned} & \text { Machinery } \\ & \text { and } \\ & \text { equtpment } \end{aligned}$ |  |  |
|  | thousands of dollars |  |  |  |  |  |  |
| 1955 | 498 | 2.337 | 2,835 | 162 | 758 | 920 | 3,755 |
| 1956 | 604 | 3,146 | 3,750 | 179 | 885 | 1.064 | 4,814 |
| 1957 | 897 | 6,068 | 6.965 | 228 | 1.018 | 1,246 | 8,211 |
| 1958 | 1,531 | 4,774 | 6. 305 | 239 | 914 | 1. 153 | 7. 458 |
| $1950^{5}$ | 3,964 | 2. 525 | 6.489 | 245 | 1,126 | 1.371 | 7. 860 |

[^2]TABLE 11. Production, Imports and Exports of Chlorine, 1955-59

|  | Year | Production | Imports | Exports |
| :---: | :---: | :---: | :---: | :---: |
|  |  |  | tons |  |
| 1955 |  | 192,000 | 38,000 | 10,400 |
| 1956 |  | 223,000 | 34. 200 | 21.500 |
| 1957 |  | 229.000 | 34,000 | 10,500 |
| 1958 |  | 268,000 | 23, 102 | 14,500 |
| 1959 |  | 287, $000{ }^{\text {P }}$ | 26,580 | 16, 800 |

P Preliminary figures.

TABLE 12. Fuel and Electricity Used in the Compressed Gases Industry, 1958 and 1959

| Kind |  | 1958 |  | 1959 |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Quantity | Cost at works | Quantity | Cost at works |
|  |  |  | \$ |  | \$ |
| Bituminous coal - Canadian .... | ton | 6 18 | 51 293 | - | - |
| Anthracite coal | " | 301 | 4.553 | 300 | 4. 767 |
| Gasoline | Imp. gal. | 96,437 | 37.308 | 74.591 | 26. 407 |
| Fuel oil. | .* | 661.423 | 99.658 | 634, 264 | 95,954 |
| Gas-Manufactured <br> Natural $\qquad$ | M cu. ft. | $\begin{array}{r} 1,397 \\ 13,442 \end{array}$ | $\begin{aligned} & 1,474 \\ & 5,748 \end{aligned}$ | $19,672$ | $\begin{array}{r} 1,176 \\ 10,417 \end{array}$ |
| Other fuel |  | - | - | - | 3.302 |
| Electricity purchased | kwh. | 76.705,585 | 620.358 | 114.979, 800 | 845, 393 |
| Totals |  | - | 769,443 | - | 987,416 |

List of Firms in the Compressed Gases Industry, 1959

| Name of firm | Location of plant |
| :---: | :---: |
| Liquid Carbonic Canadian Corporation Limited H.O. 8375 MzyTand St., | Dartmouth, N.S.; Montreal, Que. (2); Quebec, Que.: Toronto, Ont. (2), 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.; Quebec, Que.; Toronto, Ont.; London, Ont.; Sudbury, Ont, ; Hamilton, Ont.; Port Arthur, Ont, ; Winnipeg, Mar,; Regina, Sask.; Calgary, Alta.; Edmonton, Alta.; Vancouver, B.C.; Victoria, B.C.; Kitimat, B.C.; North Vancouver, B.C.; Cranbrook, B.C.; Dawson Creels, B.C. |
| Linde Air Products Div. of Dnion Carbide, Canada, Ltd., H.O. Canada Life Building, 340 University Ave., Toronto, Ontario | Noranda, Que,: Arvida, Que.; Lauzon, Que.: Montreal, Que. (2): Shawinigan Falls, Que.; Sept. Ies, Que, : Sault Ste, Marie, Ont.; Fort William, Ont.; Toronto, Ont.; Welland, Ont.; Merritton, Ont.; Hamilton, Ont.: Transcona, Man.; Saskatoon, Sask.; Edmonton, Alta.; Lethbridge, Altan; Vancouver. B.C.; London, Ont. |
| National Oxygen Limited | Oakville, Ont. |
| Ohio Chemical Canada Limited, 2535 St. James St. W., Montreal, Quebec | Montreail, 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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[^0]:    ${ }^{1}$ To artive at the National Accounts concept of "gross domestic product at factor cost". it would be necessary to subtract also the cost of office supplies used, advertising, insurance and other goods and services obtained from other businesses. Data on these inputs are not collected on the annual Census of Manufactures. Value added figures for "The primary industries and construction" are published in D.B.S. publication 61-202, Survey of Production.

[^1]:    ${ }^{1}$ Includes only the production for sale, chiefly in cylinders, of for delivery by pipeline to adjacent consuming plants. Does not lnclude 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 and later years 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 sesults in the production and subsequent shipment of some oxygen in the taseous form which appears in the total reported in Table 3. The extent of this duplication (if any) for earliet years is not *nown and, therefore, totals prior to 1957 have not been revised. On this account the totals for oxygen (quantity and value) shown in the above table for 1957 and later years are not exactly comparable with previous years.

    - Excludes tonnage oxygen.

[^2]:    ${ }^{5}$ Preliminary figures.

