

year. In Canada, production of these chemicals is modest by comparison, yet the number of plants that have been built for this purpose since 1950 have succeeded in expanding total output many times over.

Petrochemical production has a double significance. In the first place, petrochemicals compete effectively with other raw materials. Thus, vegetable products, animal fats and coal tar are no longer exclusive sources of such organic chemicals as oils, detergents and synthetic fibres, and sulphur and ammonia no longer need be produced from coal or other minerals. Secondly, petrochemicals have made possible entirely new products. Thus the manufacture of synthetic rubber and many of the plastics has been a direct result of chemical research and engineering in respect to oil and natural gas.

It is extremely difficult to obtain figures demonstrating the value of petrochemical production since there is no clearly defined group of plants that can be said to make up the petrochemical industry. For example, there may be mining companies and oil refineries which produce petrochemicals but do not report them separately to the Dominion Bureau of Statistics, and to include the total production of these plants as petrochemicals would greatly inflate values while to omit them entirely would also be misleading. For purposes of comparing growth rates, however, Table 1 shows the rapid increase in the ten years since 1951 in the number of plants and value of production of a group of firms engaged in petrochemical operations and which provide a set of statistics that include primarily petrochemical production.

1.—Principal Statistics of Selected Firms Comprising the Petrochemical Industry, 1947-61

Note.—No attempt has been made to restrict this summary to the petrochemical operations of the plants in this group; accordingly, products not petrochemical in nature made at these plants are included.

Year	Plants	Employees	Salaries and Wages	Cost of Fuel and Electricity at Works	Cost of Materials at Works	Gross Selling Value of Products at Works
	No.	No.	\$'000	\$'000	\$'000	\$'000
1947.....	3	2,366	5,391	2,485	9,379	24,286
1948.....	3	2,386	5,857	3,036	12,097	30,340
1949.....	3	2,635	6,904	5,279	15,326	38,462
1950.....	3	2,731	7,774	6,334	18,595	50,466
1951.....	3	3,069	10,300	6,867	21,925	64,871
1952.....	5	3,344	12,156	7,482	24,395	67,187
1953.....	13	4,124	15,908	8,504	30,103	78,050
1954.....	13	4,642	19,520	9,955	41,817	99,450
1955.....	13	4,751	20,425	10,194	48,790	127,104
1956.....	14	5,100	23,207	11,514	62,914	143,650
1957.....	18	5,800	28,855	13,507	72,017	161,000
1958.....	18	6,300	32,764	19,242	80,809	190,000
1959.....	19	5,974	32,018	18,133	91,255	202,854
1960.....	18	6,500	36,958	22,584	95,153	229,113
1961.....	21	6,620	39,276	21,468	97,767	252,389

History.—Canada's petrochemical history was spawned during World War II with the first two plants being government-controlled operations to produce vital military requirements. Petrochemical production actually began in 1941 with a \$6,000,000 investment to produce ammonia from natural gas at Calgary, Alta. This ammonia was required to produce ammonium nitrate for military explosives. After the War the plant was purchased by The Consolidated Mining and Smelting Company of Canada Limited and was converted to the manufacture of ammonium nitrate fertilizer. This first plant was followed by the synthetic rubber plant of Polymer Corporation Limited at Sarnia, Ont., which began operations in 1943. The first commercial petrochemical plant, however, was for the production of the plastic material, polystyrene, by Dow Chemical of Canada Limited at Sarnia in 1947.