

## CANADA'S FUEL PROBLEM—SOME NATIONAL AND INTERNATIONAL ASPECTS

(Continued from page 144)

south-western Alberta, and in the Flathead valley in south-eastern British Columbia.

"In northern Alberta there are enormous tar seepages which evidence an upwelling of petroleum unequalled elsewhere in the world. Along the Athabaska River they extend from Pelican Rapids to Fort McKay, a distance of over 100 miles. The known occurrences indicate that there is in sight at least  $6\frac{1}{2}$  cubic miles of bitumen, and the petroleum from which it was derived must have been many times greater. While this enormous amount of petroleum has escaped, there must be untapped reservoirs in the Devonian limestones, whence it was derived. Similar seepages occur near the Peace and Mackenzie Rivers.

"Near Peace River Landing, oil has been found in two wells, 900 and 1,100 ft. deep, respectively. The first well is reported to have yielded three to four barrels per day, when oil was struck in the upper portion of the tar sands and to have had a maximum production of about nine barrels. Drilling, however, was continued through the tar sands, which are about 80 ft. in thickness at this point, and a heavy flow of water and gas was struck immediately below the sands.

"The second well is in the tar sands and is reported to be yielding about 25 barrels per day."

There is marked evidence that Canadians are alive to the important possibilities of the petroleum industry, and the results of the efforts to be made in 1919 are looked forward to with the greatest interest.

### Seeking Efficiency in Consumption

Canadians are recognizing the fact that it is fairly incumbent upon them to apply every permanent means within their power to utilize coal in the best and most efficient manner. It is recognized that coal shortage may recur, and therefore, the lessons of the recent shortage must not be forgotten. It is true that the lessons of the coal shortage of 1902-03 were all too soon forgotten, but surely those of the distressing times of the winter of 1917-18 will prove more lasting.

We must not forget the "heatless days"; the times when gasoline could not be used; the denial of fuel for certain luxuries, as use on private yachts; the curtailment of fuel for the manufacture of such apparatus as musical instruments, talking machines, etc.; the allotment to florists for greenhouse purposes of only 50 per cent. of the fuel they were accustomed to receive; the compelled use in certain districts of wood for fuel; the restrictions upon the use of natural gas; the prohibited use in many cases of anthracite and the substitution therefor of bituminous coal; the daylight saving legislation on both sides of the Atlantic; the cutting down of illuminated advertising; and the enforced "lightless nights." These and many other facts must be held in mind as indicating how wide-spread and absolutely necessary have been the efforts for economy with respect to fuel. In the period of reconstruction, and afterwards, the demand for fuel will doubtless be such that many of the restrictions placed upon its use during the war period will in one form and another find permanent expression.

### Obtaining Greater Efficiency

In Canada, as in the United States, it is expected that coal consumers will endeavour to effect economies by the systematic employment of every reasonable means which modern progress can devise. Some of such means may suggestively be enumerated as follows:—

In the use of coal generally, great economies may be effected by subjecting the raw bituminous and lignite coals to such by-product and other manufacturing processes as will save the valuable by-products and at the same time produce from inferior grades a satisfactory and clean-burning fuel; by a proper co-ordination of the uses of electricity and coal according to their respective spheres of greatest efficiency; and by a greater utilization of gas. Those interested in the coal-gas-producing industries are looking forward

to the greatly increased use of gas and the recovery of by-products, including the coke.\* Manufacturers of stoves and heating apparatus are giving serious attention to the production of apparatus more suitable for satisfactorily burning the softer coals.

In the production of power, savings may be effected by taking advantage of the greater efficiency of the modern steam turbine and of large hydraulic units, and by the inter-connection, especially over large areas, of various electric plants—whether steam-electric or hydro-electric, or combinations of both—with the object of securing the greatest efficiency in the supply of power and light to districts respectively served.

### Effecting Savings of Fuel

By co-ordinated efforts by communities, savings may be effected by staggering the hours of closing of factories, by the adoption of the skip-stop system for street railways, by daylight-saving legislation, by the enactment and enforcement of wise laws, designed to eliminate the wastes resulting from the smoke nuisance.

In manufacturing establishments, savings will be effected by the more efficient use of light and power, by the elimination of uneconomical plants and processes, by the installation of means to use more economical fuel for direct heating, by the substitution wherever possible of hydro-electric for steam-developed power, and by standardization.

By the electrification of steam railways, especially if operated by hydro-developed power, enormous savings in fuel consumption may be made by the reduction of the amount of coal to be hauled, by the saving of energy resulting from the regeneration of electricity by improved methods of braking, by the reduction of the number of buildings and divisional points due to the greater radius of action of electric locomotives, and where fuel-power is employed, by its economical production in large, modern, generating stations. Canada is looking ahead to great development in the near future in the electrification of steam railways. The Ontario government and municipalities already have this problem in hand.

In all such efforts to attain the efficiency possible by intelligent saving and co-ordination, Canada may be relied upon not to fall short of her privileges. Recognizing that the days of the widespread use of anthracite are numbered, her bituminous coals and lignites will be subjected to by-product and other manufacturing processes with the object of producing a satisfactory and clean-burning fuel. Canada does not desire to ignore the march of progress in these fuel problems, nor will she be backward in effecting economies for the prevention of needless fuel and power wastes.

### Canada Must Bestir Herself

Now, in conclusion, it must be recognized that anthracite as a fuel is a luxury. Within the last twenty-five years many farmers and citizens, especially in outlying communities where formerly only wood was used, now use anthracite. It became easier and more convenient for the farmer to haul his coal from the railroad siding than to go into the bush and chop his year's supply of wood.

A great portion of this Dominion, like the farmer, has become dependent upon others for coal.

Canada, even though she may regret being deprived of the luxury of clean-burning anthracite or the easily-delivered bituminous coal, must, nevertheless, arouse herself and bestow the necessary intelligent labor upon her own fuel resources in order to make them available for her national needs.

There is no necessity for Canada, with her vast resources of fuel and water power, to go cold or to have her industries throttled by reason of power shortage; but Canada may have a sore trial in both these respects unless every possible effort is speedily made to deal with the fuel and power situation in a comprehensive manner.

Once a broad national policy has been determined, financial and other assistance should be promptly rendered to

\*Consult "Possibilities Ahead of the Gas Industry as Revealed by a Digest of Reports from Various Sources," by G. W. Allen in "Proceedings of the 11th Annual Meeting of the Canadian Gas Association," 1918.

(Concluded on page 153)