

as this! The fact is, that for smaller plants, the suction gas producer system, in the matter of economy, has the best hydro-electric system "skinned"—as the Americans say.

The lecturer mentioned the use of waste gases from the blast furnace. It is true that these gases are rich in potential energy, in the shape of unburnt hydro carbons; and the firm I learnt my business with as a mechanical engineer, used the waste gases from their five blast furnaces, under their batteries of egg-ended and Roots boilers for generating steam, to drive their blowing engines. But these crude gases are densely permeated with dust from the gangue in the ore, limestone and fuel; hence, require a very elaborate system of washing; consequently, are uneconomical except when used on a very large scale.

Our hope in Canada, however, is not in the blast furnace, but in the *electric* furnace. The immense iron ore deposits in this country are mostly *magnetites*; requiring for their effective smelting, 1000° of heat more than is developed in the ordinary blast furnace. That is why the pig iron business in this country is so backward. But thanks to our enterprising Dominion Government, by the elaborate experiments made at Sault Ste. Marie last year with the electric furnace, it has been demonstrated that our rich magnetic ores can be smelted with perfect success, and economically too, in the electric furnace. And it is to be hoped that the enactment of the law offering substantial bounties on pig iron and steel ingots, produced from ores smelted in the electric furnace, will result in the development of a widespread electric smelting industry. When this glad time arrives, the suction gas producer business will have a great impetus; for the waste gases produced in the electric furnace are comparatively pure, and free from dust, and almost ideal for use in the gas engine.

I believe, Mr. President, that there is a great future for the suction gas producer and gas engine; especially in the wide regions of Canada, where neither anthracite or bituminous coal, nor water power is to be found; but where there are immense deposits of the *lignites*—low grade soft coal and peat. These unused sources of energy are practically useless to-day; but I venture to predict that the suction gas producer system will play an important part in opening out and developing industry in the great northwest lands where the *lignites* abound.

Chairman,—

We would like to hear from Mr. Duguid, another one of the Motive Power men, possibly he can tell us something about this.