REORGANISATION OF THE INDIAN COAL INDUSTRY.

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The figures of consumption of coal in various Industries in India as estimated and published in the 'Indian Coal Statistics, 1937', are as follows:—

	Estimated Consumption.	Per cent of Total.
	Tons.	
Railways	7,934,000	32·9
Admiralty and Royal Indian Marine Shipping accounts	31,000	0·1
Bunker Coal	840,000	3·5
Cotton Mills	1,704,000	7·1
Jute Mills	765,000	3·2
Iron, steel and brass foundries (including engineering workshops) ..	5,984,000	24·8
Port Trust	116,000	0·5
Inland steamers	484,000	2·0
Brick and tile factories (including potteries and Cement works) ..	940,000	3·9
Tea gardens	181,000	0·7
Paper Mills	188,000	0·8
Consumption at collieries and wastage	1,277,000	5·3
Balance available for consumption in other industries and for domestic consumption	3,661,000	15·2
TOTAL ..	24,105,000	100·0

This will show at a glance what headway the industrial progress of the country has made. It may be made clear that the Bombay Mills are almost entirely on hydro-electric power and there are certain other industries which consume oil fuel including a portion of the North-Western Railway which uses oil fuel in some of its locomotives and another Railway using wood fuel. The equivalence in coal for these two Railways are estimated in the above figures.

The coal resources of the country are of prime importance. The coal industry is the basis of all industries. India takes a second place in the British Empire and ninth in the world for its coal output. The coalfields

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found in Assam have added to our known National Wealth. We have coals of different grades, caking and non-caking and high grade and low grade.

The iron and steel industry requires hard coke and our supplies of caking coals for this purpose are limited. It is therefore to the interest of the nation that such high quality coal should be conserved, but it is a matter for consideration how these coals can be conserved for future generations. The Railways, the Mills, the Shippers—all draw mostly from this variety of coal. Efforts are to be made to utilise low grade coal, wherever possible, and conserve this high grade variety for metallurgical purposes.

Waste in the working of coal, or any mineral, has to be avoided and steps are being taken to minimise the waste in this industry in the methods of working and to obtain the maximum percentage of extraction from seams by legislation, and stowing is advocated to fill the cavities or hollows from which the coal is extracted and give stability to the surface. The problem of supply of stowing materials has yet to be solved. The Stowing Board is appointed for the purpose and it is desirable that a larger number of mines should profit by its operation.

In addition to hard coke made in modern coke-ovens by which gas is collected and by-products obtained, there are ovens of open types or beehive type in which hard coke is manufactured and all the by-products are run to waste.

Further, soft coke, our domestic fuel, is manufactured in open heaps and all the rich volatiles are allowed to waste. We have in 1937 manufactured about 850,000 tons of soft coke which means a very great loss of valuable by-products such as motor spirit, light oils, fuel and lubricating oils, carbolic acid, creosote oil, ammonium sulphate, residual pitch and enormous quantities of gas, capable of generating millions of horse power.

Research is to be carried out for obtaining smokeless fuel for household purposes and for utilising coal having in its raw state a limited market. The Soft Coke Cess Committee is paying a small contribution to the Indian School of Mines, but the results of practical tests, if any, are yet to be published. The research needs to be carried out on an extensive scale and on practical utility. Smokeless fuel to which attention is being directed in Great Britain is the product of low temperature carbonisation process and it is a fact that the success or failure of such a process is entirely dependent on a market for solid fuel. Attention was also directed to the liquid fuel derived from carbonisation of coal at low temperature and the activities of the financiers who have persistently laid stress on the political value of by-products have been largely responsible for the losses which the public have suffered from investments on unproved processes. It is therefore necessary that extensive tests on the technical features of the low Temperature Carbonisation plants have to be carried out and their commercial utility proved.

It has long been recognised that since coal, particularly when coked, is a bad conductor of heat, uniform coking of a charge at low temperature is an entirely

different problem from that in high temperature ovens, where nearly all the volatiles are driven off. A number of experiments are to be carried out to show whether, under suitable conditions, it is possible to make a good domestic fuel from the extensive supplies of non-coking coals. The tests should also be carried out with blendings of different qualities of coal and coke breeze.

If a serious attempt is made in this direction, unmarketable low grade coal and some old heaps of coal will be utilised in producing smokeless fuel. The research work, therefore, on Indian coals is highly necessary and special attention has to be directed towards this all important national problem. The waste gases liberated and collected can be made useful in running power plants to supply electrical energy to collieries and industries in the vicinity.

Research work in all directions is necessary and a beginning on a very large scale should be made in the search for various coals and the suitability of different grades of coal for different purposes should be established. Special attention has to be given to smokeless fuel to be made from grades of coal that appear unmarketable, and tests have to be carried out with different types of ovens to suit the various varieties of coals, their blendings or mixtures even with breeze, as to the possibilities of making briquets which may even be burnt in locomotives, instead of burning high grade coal. The recovery of by-products and utilisation of waste gas should also form a part of the research.

The coal trade is working under many disabilities. If soft coke consumption is popularised, the demand would be very great as fuel and thus the forests will be preserved avoiding the chances of famine and cow-dung can be utilised as manure in the field.

If it could be made possible for large scale industries to start and thus utilise the raw materials which are now being exported at ridiculously low prices, the demand would increase in that direction. You have noticed that the iron industry alone is taking 25% of the coal output.

The Railways in India are not like those in America or other countries where two rival Railways catering for greater comforts always advertise and carry goods and passengers at competitive low rates, but in India the rates of Railway fares and carriage of coal, rather than help the industry's expansion in far off markets, retard the progress and keep it in a moribund condition. On the top of this, the coal will not be carried when required during the winter months and collieries have to build up heavy stocks.

Furthermore, the Railways increase their output when prices tend to rise and decrease their output when prices come down. This state of affairs can be remedied if the Railways purchase all their requirements from the public and keep their coal in reserve for future use, the custom being distributed on as liberal a scale as possible.

While considering the amelioration of the coal industry, the question arises as to how to improve the coal trade. The simple reply would be that the coal should fetch such a price as would enable the industry to stand on its

own feet, permitting it to do what is required for the safety of persons, safety of undertaking and properly organised development. The immediate solution would be for the Railways to buy all their requirements from the market, and conserve the coal in their own collieries. Owners of mines in the iron and steel industry should draw coal from the public and conserve their coal for future requirements. In order to popularise soft coke, intensive propaganda has to be made. Improved quality of soft coke should only be allowed to be despatched and the soft coke made from rejections and pickings should be stopped. Unless and until soft coke made from coal that has no market is manufactured, after picking out impurities and shales, and the supplies of clean domestic fuel are assured, no rapid advancement can be made. Only if soft coke is popularised as fuel, and if a liberal reduction in Railway freight for smokeless fuel for domestic purposes is made, would the consumption increase greatly and remunerative prices come to stay. The Soft Coke Cess Committee has been functioning for some years and the improvements in this direction should engage their serious attention. Considering the population of India, if intensive efforts are made in this direction and good quality soft coke is supplied and Railway freight liberally reduced, there is no reason why there should be any over-production.

The iron industry has been started on a very large scale only since three decades and is consuming 25% of the coal output. When this expands and when other industries grow, there will surely be set up a very good demand for coal. In other countries coal and iron industries flourished side by side and expansion in both the industries went together and the prosperity of the country was the result. There is however another view that the prices and output should be controlled. Rationalisation of industry should be attempted and the trial given three to five years. The industry approached the Government of India for such a step in 1934 but with no success. It is hoped that the Government of India will now seriously consider the situation again, and help the coal owners in their efforts to rehabilitate the coal industry by giving them a sympathetic hearing and by allowing the industry to try to shape its destiny for an experimental period of three to five years.