

for generating electric power and for many other purposes it is used in solid or gaseous form. Germany is believed to have more fuel in peat than in coal, and much ingenuity has been displayed in that country and elsewhere in devising processes and machinery for preparing it. In short, so far from peat being an obsolete fuel, it is coming more and more into use as its manufacture is being perfected and a better article produced.

THE COMPARISON MUST BE WITH COAL.

Coal is the standard by which any competing fuel must be measured, though there are substances which for special purposes are equal or superior. Some petroleum, for instance, give better results in locomotive or steamship boilers, costing less and occupying smaller space for the quantity required to produce a given amount of power. Charcoal from wood makes a better product in the iron blast furnace than mineral coke, because of its greater freedom from sulphur, which deteriorates the quality of the pig. In certain other respects, such as cleanliness of handling and completeness of combustion, coal compares unfavorably with wood and peat; but in the main, and for general use coal (including both anthracite and bituminous) is the fuel which at present holds first place in public esteem, and no doubt rightly so.

The comparison of peat with coal must be at two points (1) efficiency, (2) price. Unless there is a fair equality in the result of these factors, peat must be ruled out. If on the one hand it is so far below the level of coal in calorific value that no matter at what price produced it would not be used where coal could be had; or if on the other, it cannot be produced and sold for a price at least as low as that for which the equivalent in heating value of coal could be bought, all efforts to introduce peat will be unavailing except at times when nothing else can be had.

The fact that peat continues to be used in many countries concurrently with coal where there is no difficulty in procuring the latter, is proof that for some purposes at least it is equally well adapted and not more expensive. The Holland housewives, proverbial for their neatness, will have no other fuel, and in the Dutch brick-yards peat only is used.

Peat is in reality incipient coal. The coal beds, which are the basis of modern arts and industries, were laid down ages ago in some such way as peat bogs are now being formed, except perhaps that in most cases trees were the source of the carbon of the coal instead of the mosses or aquatic plants of which peat bogs are composed. A regular gradation can be traced beginning with peat or wood and passing through lignite, bituminous coal, anthracite and even graphite, the various stages of the process depending upon the degree of pressure or heat which has been exerted; and doubtless the peat bogs of to-day, if not sooner consumed, may in subsequent ages be metamorphosed into seams of coal for the benefit of the coming man. Being incipient coal, peat contains less carbon and is inferior in specific gravity to coal, though, as has already been pointed out, its properties in this respect must be considered in relation to the price at which it can be produced and sold.

THE PLACE OF PEAT AMONG FUELS.

The following figures taken from Percy's Metallurgy will serve to show the place of peat among the fuels, so far as its chemical composition and physical properties are concerned:

Substance.	Carbon C.	Hydrogen H.	Oxygen O.	Nitrogen N.	Sulphur S.	Ash.	Specific gravity.
Peat	54.02	5.21	28.18	2.30	.56	9.73	.850
Lignite	65.31	5.63	22.86	.57	2.36	2.27	1.129
Bituminous coal.	78.69	6.00	10.07	2.37	1.51	1.36	1.259
Anthracite	90.39	3.28	2.98	.83	.91	1.61	1.392