

**Coal** is a combustible black or brownish-black sedimentary rock usually occurring in rock strata in layers or veins called **coal beds** or **coal seams**. The harder forms, such as anthracite coal, can be regarded as metamorphic rock because of later exposure to elevated temperature and pressure. Coal is composed primarily of carbon, along with variable quantities of other elements, chiefly hydrogen, sulfur, oxygen, and nitrogen.<sup>[1]</sup> A fossil fuel, coal forms when dead plant matter is converted into peat, which in turn is converted into lignite, then sub-bituminous coal, after that bituminous coal, and lastly anthracite. This involves biological and geological processes that take place over time.

**Lignite**, often referred to as **brown coal**,<sup>[1]</sup> is a soft brown combustible sedimentary rock formed from naturally compressed peat. It is considered the lowest rank of coal due to its relatively low heat content. It has a carbon content around 60–70 percent.<sup>[1]</sup> It is mined all around the world and is used almost exclusively as a fuel for steam-electric power generation, but is also mined for its germanium content in China.



**Bituminous coal** or **black coal** is a relatively soft coal containing a tarlike substance called bitumen. It is of higher quality than lignite coal but of poorer quality than anthracite. Formation is usually the result of high pressure being exerted on lignite. Its coloration can be black or sometimes dark brown; often there are well-defined bands of bright and dull material within the seams. These distinctive sequences, which are classified according to either "dull, bright-banded" or "bright, dull-banded", is how bituminous coals are stratigraphically identified.



**Anthracite** is a hard, compact variety of coal that has a submetallic luster. It has the highest carbon content, the fewest impurities, and the highest calorific content of all types of coal except for graphite.

Anthracite is the most metamorphosed type of coal (but still represents low-grade metamorphism), in which the carbon content is between 92.1% and 98%.<sup>[1][2]</sup> The term is applied to those varieties of coal which do not give off tarry or other hydrocarbon vapours when heated below their point of ignition. Anthracite ignites with difficulty and burns with a short, blue, and smokeless flame.

