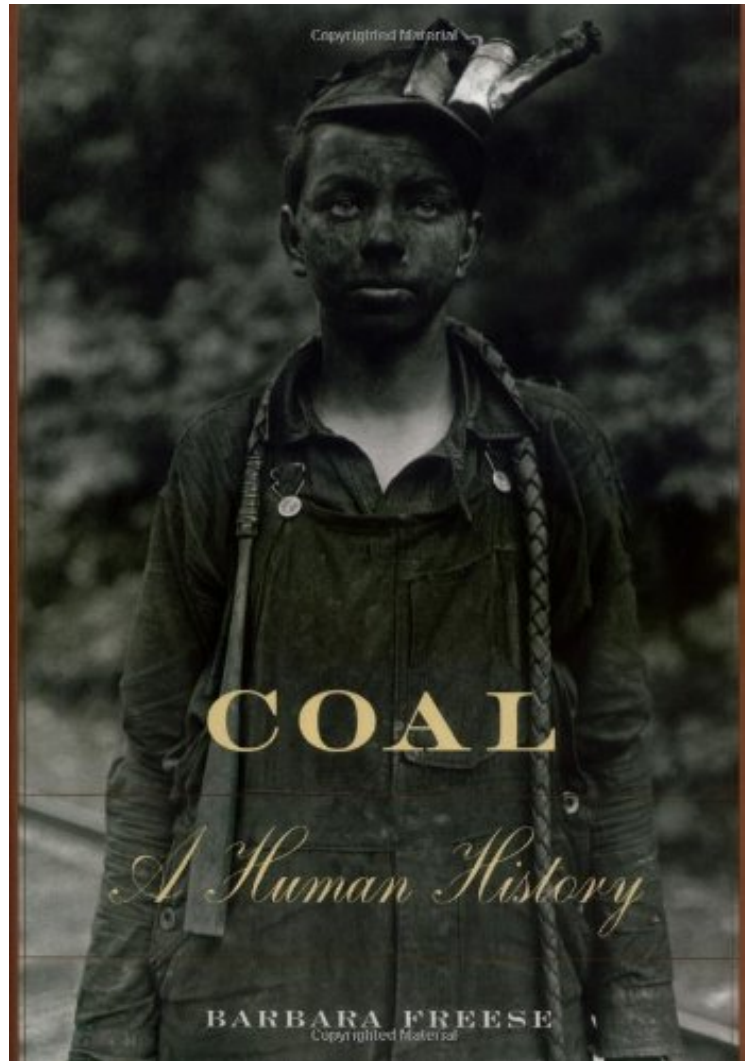


## Coal: A Human History

Barbara Freese

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**Barbara Freese : Coal: A Human History** before purchasing it in order to gage whether or not it would be worth my time, and all praised Coal: A Human History:

3 of 3 people found the following review helpful. Excellent overview on the historical importance of coalBy George FulmoreFor those interested in world history, this book fills in many blanks. It is a pleasurable read, full of innumerable factoids and insights about how coal has affected human history. It also adds information about the transition from England to the U.S., one that involves coal, wood and the increasing thrust for power. I've read other books on coal. I don't think that there is a better one than this one.Things really start with the Chinese, but that is disclosed in a later chapter of the book. For the most part, the book focuses on Britain, then the United States. It tells

us that the Romans did a bit of burning coal in Britain, but after they left, centuries of the Dark Ages recorded no further progress. But when England awakes by the 1500s, and begins to burn through most of its wood, and as it adds more and more people, it becomes the first western nation to mine and burn coal in large quantities. This, of course, eventually leads to "a coal-fired industrial revolution." Interestingly, most of the coal land in England early on was owned by the Catholic Church. But as most coal on the surface was gathered, and getting to the stuff deeper in the ground required a more extensive operation, The Church was not really up to the task. When Henry VIII decided to become the head of the Church of England, that really freed things up. The richest coal lands in the country now became property of the crown. English merchants and industrialists took over from there. By 1700, the city of Newcastle, in northeastern England, had been producing coal for more than a century. Expanding mines would produce more coal than ever, as rural immigrants came to the area for work. The book paints a horrible picture of the life of the coal miners, who worked in cramped, dark, cold and wet, underground conditions. Tunnels collapsed, explosions occurred, water rushed into the mines, poisonous gas would kill. But the Newcastle coal mines were thought to be inexhaustible, and, per the book, "by 1700, Britain was mining five times more coal than the rest of the world, combined." The demand for it was becoming insatiable. As the mine shafts and tunnels went deeper underground, water entered and needed to be extracted. This was a tedious task, first done by manpower, then by horsepower. But what got things turned around was the invention of the steam engine. By the 1760s, steam engines, fueled by coal, itself, were doing the work of fifty horses, each, pumping water out of coal mines all over England and Scotland. Then, James Watt came along to improve the fuel efficiency of the pumps and their horsepower. His engines were suitable, as well, for factories. Between 1780 and 1830, people would move in droves to the cities to join the industrial workforce. Britain was producing 80% of the world's coal, and the epicenter of its output was to become Manchester, with its production of cotton cloth and other finished goods. Coal was the base of things. It supplied all the fuel for the factories. It was used in the homes for heat, and it was used for cooking, as well. Manchester had factories with more than a thousand workers, each, and the steam engine encouraged increasingly larger economies of scale. Additionally, heated or baked coal was the source of gas lighting, with the gas being piped to the factories to supply bright lighting. The shifts in the mines were twelve hours. There was no place for public parks or recreation areas in Newcastle or Manchester. The air of the cities was thick with smoke. The average life expectancy was only seventeen years. Coal also fueled the steam engines on the ships that moved coal from its source to the factories. Canals were built, then, eventually, came the railroads. It was all about the movement of coal to the factories. The city of London developed into the hub of Britain's industrial output. With the population of London going from about 200,000 in 1600 to one million in 1800, it had become the largest city in the world by 1750. It became ten times larger than Manchester. By 1860, it would house three million. But like Manchester, the air of London was foul, with smoke and dust everywhere. Then came the opportunities of a new land. Masses of British workers saw their escape from the crowded slums of Manchester and London via a voyage across the Atlantic to a land of fresh air and free land. In fact, when arriving in America, the colonists found an endless supply of lumber. This would serve as an early export product on the immigrant ships returning to England, where wood continued to be in short supply. The colonists had no need to search for coal, but, in time, the new nation would realize that below its land was the largest concentrations of coal in the world. Just as coal fueled the British industrial revolution, so it would in America. The state of Pennsylvania was full of the stuff, as were the Appalachians to the south. The city of Philadelphia would become the nation's largest and richest city. And, just as had been the case in England, the supply of wood would be tested and reduced. With the price of wood rising, Americans turned more and more to coal as a source for power and heat. Canals were built, and the railroads, which first burned wood, made their transition to coal. Huge factories developed, and the population began to shift from small towns to urban centers. Again, the pattern was similar to that of England. America's second industrial revolution was built on coal. By the late 1890s, America led the world in coal production. (Recently, China has gained this honor.) Britain and Germany fell behind. Few could imagine that progress in the world was not dependent on coal. The book covers the developments of coal in the world wars, and it tells us of the beginnings of the use of petroleum products. It covers the problems caused by sulfur dioxide and the industry's efforts to reject regulations. But it reminds us that, even today, coal is responsible for the production of half of our nation's electricity. And it tells us of the shift in the major source of America's coal from West Virginia to Wyoming. There is a chapter on the history of coal in China. Then, the book ends with a summary/review chapter, named, "A Burning Legacy." Again, it tells us that coal took Britain from a rural nation to a world-class commercial power. It made London the largest city in the world. The steam engine and the railway expanded things, as coal provided cheap iron and steel for all kinds of things that advanced the western world. "Coal, A Human History." I recommend it. 0 of 0 people found the following review helpful. Take your lumps! By S. Rogers As with most of my reviews I get about a third or halfway through a book and declare it one of the best books I could imagine reading; 'Coal: A Human History' is no exception. Just the sheer background of info starting with its formation, discovery and industrialization make it a book not to be put down or taken lightly. The ancillary history lessons one gets from reading 'one subject' books like these are just priceless, in my opinion. The Industrial Revolutions of both England and the U.S. dependencies on coal are explored here in pretty good detail to my liking. At these affordable prices you

should pick up a copy of 'Coal' to see for yourself. Barbara Freese has done a very good thing here. 1 of 1 people found the following review helpful. Excellent research, reasoning - not flashy, very solid By Roger D. Curry There is much less advocacy here than in (the terrible) Coal River or (the good) Moving Mountains, but just as much information, both scientific and historical, primarily the latter. Freese is a former assistant attorney general of Minnesota who reasons rather than assails. She reasons (correctly, I believe) that we humans use energy from the sun to function. "Life on earth is, in short, a vast and sophisticated system for capturing, converting, storing and moving solar energy." As a nascent civilization developed, humans used solar-source energy stored in recently dead plants and animals to power their lives. Those resources limit the population that the earth can support. For example, a small cabin in a temperate climate (like that of West Virginia) uses about 15 cords of firewood per year, which is the output of just under an acre. (One cord equals 128 cubic feet.) In England, where coal was first mined, the forests were vanishing at an alarming rate. Up to that point, we were "spending the interest," the current solar energy converted. And then came coal, solar-source energy from long-dead plants which had stored energy collected over millions of years, and which let us begin profligately spending the principal. There was (and is) so much coal that until the mid-20th Century, it was considered functionally infinite. Even the oil industry was made possible with the power of coal. The dependence on coal is alarming - fully half of the electricity that we use comes from coal. The environmental effects have crept up to an alarming point. On an average day in the Eastern United States, you can see fourteen miles, due to tiny sulfate particulates that scatter sunlight. Without human-made air pollution, you could see forty-five-plus miles. Freese discusses fairly the dispute about mountain top/valley fill mining, that it is "pitting those who want to hang on to dwindling coal jobs against those who hate to see their mountains and valleys forever altered." Whether you are a conservationist, an industrialist, or both, if you believe in Vince Lombardi's "back to basics" approach, this book has great value.

Prized as "the best stone in Britain" by Roman invaders who carved jewelry out of it, coal has transformed societies, powered navies, fueled economies, and expanded frontiers. It made China a twelfth-century superpower, inspired the writing of the Communist Manifesto, and helped the northern states win the American Civil War. Yet the mundane mineral that built our global economy -and even today powers our electrical plants-has also caused death, disease, and environmental destruction. As early as 1306, King Edward I tried to ban coal (unsuccessfully) because its smoke became so obnoxious. Its recent identification as a primary cause of global warming has made it a cause celebre of a new kind. In this remarkable book, Barbara Freese takes us on a rich historical journey that begins three hundred million years ago and spans the globe. From the "Great Stinking Fogs" of London to the rat-infested coal mines of Pennsylvania, from the impoverished slums of Manchester to the toxic city streets of Beijing, Coal is a captivating narrative about an ordinary substance that has done extraordinary things-a simple black rock that could well determine our fate as a species.

From Publishers Weekly Coal has been both lauded for its efficiency as a heating fuel and maligned for the lung-wrenching black smoke it gives off. In her first book, Freese, an assistant attorney general of Minnesota (where she helps enforce environmental laws), offers an exquisite chronicle of the rise and fall of this bituminous black mineral. Both the Romans and the Chinese used coal ornamentally long before they discovered its flammable properties. Once its use as a heating source was discovered in early Roman Britain, coal replaced wood as Britain's primary energy source. The jet-black mineral spurred the Industrial Revolution and inspired the invention of the steam engine and the railway. Freese narrates the discovery of coal in the colonies, the development of the first U.S. coal town, Pittsburgh, and the history of coal in China. Despite its allure as a cheap and warm energy source, coal carries a high environmental cost. Burning it produces sulfur dioxide and carbon dioxide in such quantities that, during the Clinton administration, the EPA targeted coal-burning power plants as the single worst air polluters. Using EPA studies, Freese shows that coal emissions kill about 30,000 people a year, causing nearly as many deaths as traffic accidents and more than homicides and AIDS. The author contends that alternate energy sources must be found to ensure a healthier environment for future generations. Part history and part environmental argument, Freese's elegant book teaches an important lesson about the interdependence of humans and their natural environment both for good and ill throughout history. Copyright 2003 Reed Business Information, Inc. From Booklist Deleterious to health and beneficial to wealth, coal contains a tension that makes its story a compelling one. Freese is a former attorney general of Minnesota, who became interested in the flammable rock's history during her tenure. After a routine description of coal's geological formation, Freese invigorates her narrative with its combustion in England. Even in the 1500s, its noxiousness provoked denunciation, but with Britannia's forests all but consumed, it became everybody's heat source. Freese is quite succinct in describing coal's critical role in sparking the Industrial Revolution, whose side effects included a troglodytic existence for miners and suffocating fogs for Manchester and London. The author then covers America's seduction by coal, and presently China's, culminating with her advocating reduction of coal's primary pollutants, sulfur dioxide and carbon dioxide, and its ultimate banishment as an energy source. Freese's combination of labor and technological history is fluid and evenhanded; she is a solid inductee into the popular club of "biographers"

of materials such as salt (Mark Kurlansky) and water (Philip Ball). Gilbert Taylor Copyright American Library Association. All rights reserved "A masterful piece of research and writing." -- Roanoke Times 3/16/03 "Books as lucid as Freese's make a welcome contribution to the search for a sustainable energy economy." -- Natural History March 2003 "Concise and highly readable prose...eloquent imagery chillingly elucidates the impacts of burning coal on human health and the environment." -- Toronto Globe and Mail 3/15/03 "Direct and charming, full of literary allusions from Marco Polo to Dickens." -- The Federal Lawyer May, 2003 "Engrossing and sometimes stunning... [a] strongly argued and thoroughly researched book...Coal, to borrow a phrase, is king." -- New York Times Book March 9, 2003 "Ms. Freese writes her story well. " -- Richmond Times-Dispatch 03/16/03 "[A] unique and absorbing book...Essential." -- Choice June, 2003 "[Freese] enlivens her meticulously researched history with anecdotes and surprising facts...[she] is a strong story teller who captivates with detail." -- Minneapolis Star Tribune 2/2/03 A Book Sense 76 Selection -- Book Sense 76