

Environmental History – The Industrial Age

The most important development of the industrial period, which started in the late 18th century, was the increasingly intensive use of hydrocarbon fuels: coal, oil and natural gas.

During the 18th century, the source of power was the most important factor in the location of industrial activity. Initially the location was determined by the availability of wind or water power. The manipulation of water in order to drive water mills became very important in the United Kingdom. All over the Britain, rivers were diverted; reservoirs were built in the hills to supply mills. The greater the catchment area and fall, the more powerful and continuous the source of water power was likely to be. Effective water management of rivers and canals was a valued skill, and utilised relatively high capital investment in mill buildings, machinery and infrastructural investment in canals. One of the most famous and grandest schemes is the mill at New Lanark in Scotland.

The story of the development of water-power and its role in the rise of the factory system of production is very important in the history of the British environment. Yet it is secondary compared with the replacement of charcoal, a product derived from wood, by coal.

The development of coal mining and the use of steam power generated from coal is without doubt the central, binding narrative of the nineteenth century. But we must realize that the use of horse and waterpower remained important well into the early 20th century. However, the trend was set and soon the environment felt the full impact of industrialization in the form of air and water pollution.

Water pollution



"The Silent Highwayman". Cartoon commenting on polluted condition of the Thames. *Punch*, 10 July 1858. Source: https://commons.wikimedia.org/wiki/File:The_silent_highwayman.jpg

The growth of the major industrial cities also caused water pollution. All too often, rivers that pass through urban areas became a receptacle for human waste products, both domestic and industrial. Sewage, as in most cities, was washed out into the streets where it found its way to the rivers with disastrous consequences.

In the first half of the 18th century, both London and Paris, the largest cities in Europe with respectively 1 and 2.4 million inhabitants by 1850, experienced a series of recurring epidemics of cholera and typhoid. In 1832 over 20,000 Parisians died in a cholera outbreak; London experienced similar outbreaks. This was caused by increasing amounts of sewage dumped into the Seine and Thames rivers.

London was one of the first cities in the world to build a sewer system and improve the quality of its drinking water supply. The London Board of Health eliminated cesspools in the late 1840s, and a

Metropolis Water Act of 1852 forced water companies to move their intakes upstream and regulate their filtration and storage. Drinking water showed significant improvement by the 1850s, yet the problem of the Thames hit daily by 260 tons of raw sewage by the late 1850s—caused the most stir in the popular press as well as debate in parliament. Plans for a central drainage system were stalled through much of that decade by the uncertainties of medical science and the obstruction by London's local parish councils, which disliked the idea of a centralized authority or systems of any kind. Joseph Bazalgette was the civil engineer responsible for a project that took about 16 years (1858-74) to complete. Cholera was by then a thing of the past and the general health of the population improved spectacularly.

London's example of building adequate sewer systems and treatment plants was soon followed by other cities making urban environments much cleaner. However, much sewage was still discharged in open water outside cities and air pollution continued unchecked until the mid-20th century.

Air pollution

With increasing industrialisation there was a string of Parliamentary Acts in the mid 1800s designed to do something about the polluting effects of industrial and domestic smoke.



Smoke pollution in the English town of Widnes, late 19th century.

Source: https://commons.wikimedia.org/wiki/File:Widnes_Smoke.jpg?uselang=de

London was infamous for its combinations of smoke and fog, combined in the word smog, and therefore earned the nickname “the Big Smoke”. All major cities suffered from smoke pollution and Edinburgh's nickname, “Auld Reekie” refers partly to the sanitary situation of the town as well as to smoke pollution. The effects of air pollution brought cities to a halt, disrupting traffic but more dangerously also causing death rates to rise. During a week of smog in 1873 killed over 700 people in London. However, the largest air pollution disaster in Britain was the Great London Smog of December 1952 which killed approximately 4,000 people.

Following the Great London Smog legislation was introduced and the first Clean Air Act was passed in 1956 which moved power stations and heavy industry to more rural sites. The reduction of domestic and industrial coal burning and the use of smokeless coals has led to a reduction in the levels of emission of sulphur dioxide, one of the main contributors to acid rain, the emissions falling between 1970 and 1994 by 60 percent in British cities. Similar developments can be observed in many industrialised countries.

Source: <http://fileserver.net-texts.com/asset.aspx?dl=no&id=100733>

Tasks:

- a) Extract the problems early industrial pollution caused in Britain.
- b) With the help of the internet, find German examples of early industrial pollution and compare them to the British ones.