**Seminars on discipline Waste management**

**Seminar 1. History of**

Meaning of waste from industrial, commercial, and household activity

**Modern era**

[](https://en.wikipedia.org/wiki/File:SirEdwinChadwick.jpg)

Sir [Edwin Chadwick](https://en.wikipedia.org/wiki/Edwin_Chadwick)'s 1842 report *The Sanitary Condition of the Labouring Population* was influential in securing the passage of the first legislation aimed at waste clearance and disposal.

Following the onset of industrialisation and the sustained urban growth of large population centres in [England](https://en.wikipedia.org/wiki/England), the buildup of waste in the cities caused a rapid deterioration in levels of [sanitation](https://en.wikipedia.org/wiki/Sanitation) and the general quality of urban life. The streets became choked with filth due to the lack of waste clearance regulations.

 Calls for the establishment of a municipal authority with waste removal powers occurred as early as 1751, when [Corbyn Morris](https://en.wikipedia.org/wiki/Corbyn_Morris) in London proposed that "... as the preservation of the health of the people is of great importance, it is proposed that the cleaning of this city, should be put under one uniform public management, and all the filth be...conveyed by the [Thames](https://en.wikipedia.org/wiki/Thames) to proper distance in the country".

However, it was not until the mid-19th century, spurred by increasingly devastating [cholera](https://en.wikipedia.org/wiki/Cholera) outbreaks and the emergence of a public health debate that the first legislation on the issue emerged. Highly influential in this new focus was the report *The Sanitary Condition of the Labouring Population* in 1842  of the [social reformer](https://en.wikipedia.org/wiki/Social_reform), [Edwin Chadwick](https://en.wikipedia.org/wiki/Edwin_Chadwick), in which he argued for the importance of adequate waste removal and management facilities to improve the health and wellbeing of the city's population.

In the UK, the Nuisance Removal and Disease Prevention Act of 1846 began what was to be a steadily evolving process of the provision of regulated waste management in London. The [Metropolitan Board of Works](https://en.wikipedia.org/wiki/Metropolitan_Board_of_Works) was the first citywide authority that centralized sanitation regulation for the rapidly expanding city, and the [Public Health Act 1875](https://en.wikipedia.org/wiki/Public_Health_Act_1875) made it compulsory for every household to deposit their weekly waste in "moveable receptacles" for disposal—the first concept for a [dustbin](https://en.wikipedia.org/wiki/Dustbin). In the [Ashanti Empire](https://en.wikipedia.org/wiki/Ashanti_Empire) by the 19th century, there existed a Public Works Department that was responsible for sanitation in [Kumasi](https://en.wikipedia.org/wiki/Kumasi) and its suburbs. They kept the streets clean daily and commanded civilians to keep their compounds clean and weeded.

**Sem 2.** Theme Waste management practices are not uniform among countries (developed and developing nations.

Seminar 8 Pyrolysis and gasification

Pyrolysis is often used to convert many types of domestic and industrial residues into a recovered fuel. Different types of waste input (such as plant waste, food waste, tyres) placed in the pyrolysis process potentially yield an alternative to fossil fuels.[[45]](https://en.wikipedia.org/wiki/Waste_management#cite_note-TSEP-45) Pyrolysis is a process of thermo-chemical decomposition of organic materials by heat in the absence of stoichiometric quantities of [oxygen](https://en.wikipedia.org/wiki/Oxygen); the decomposition produces various hydrocarbon gases.[[46]](https://en.wikipedia.org/wiki/Waste_management#cite_note-46) During pyrolysis, the molecules of object vibrate at high frequencies to an extent that molecules start breaking down. The rate of pyrolysis increases with [temperature](https://en.wikipedia.org/wiki/Temperature). In industrial applications, temperatures are above 430 °C (800 °F).[[47]](https://en.wikipedia.org/wiki/Waste_management#cite_note-47)

Slow pyrolysis produces gases and solid charcoal.[[48]](https://en.wikipedia.org/wiki/Waste_management#cite_note-48) Pyrolysis hold promise for conversion of [waste biomass](https://en.wikipedia.org/w/index.php?title=Waste_biomass&action=edit&redlink=1) into useful liquid fuel. Pyrolysis of waste wood and plastics can potentially produce fuel. The solids left from pyrolysis contain metals, glass, sand and pyrolysis coke which does not convert to gas. Compared to the process of incineration, certain types of pyrolysis processes release less harmful by-products that contain alkali metals, sulphur, and chlorine. However, pyrolysis of some waste yields gases which impact the environment such as HCl and SO2.[[49]](https://en.wikipedia.org/wiki/Waste_management#cite_note-WMJ-49)

Seminar 9 greenhouse gas emissions

Liquid waste-management

Liquid waste is an important category of waste management because it is so difficult to deal with. Unlike solid wastes, liquid wastes cannot be easily picked up and removed from an environment. Liquid wastes spread out, and easily pollute other sources of liquid if brought into contact. This type of waste also soaks into objects like soil and groundwater. This in turn carries over to pollute the plants, the animals in the ecosystem, as well as the humans within the area of the pollution.[[59]](https://en.wikipedia.org/wiki/Waste_management#cite_note-59)