

Video transcript -

Proper Waste Management - Integrated Waste Management Facilities

Waste reduction and recycle, timely extension of landfills, and modern waste management facilities are Hong Kong's multi-pronged waste management strategies. Although the waste recovery rate has reached 52%, the city still generates approximately 9,100 tonnes of un-recycled municipal solid waste, 900 tonnes of sludge, and 3,600 tonnes of construction waste, totalling 13,800 tonnes of waste being dumped in the three landfills every day. This will lead the three landfills to be full starting from 2014.

Current waste management strategy that relies solely on landfills is not sustainable, and Hong Kong urgently needs a multi-pronged approach to tackle the imminent waste problem. To prepare for the future, in addition to various waste reduction at source measures and timely extension of landfills, we also need to adopt the modern waste management facilities.

This facility is the integrated waste management facilities which feature an advanced incineration plant, a mechanical sorting and recycling plant, the waste-to-energy facilities, etc. With the adoption of modern 3T moving grate incineration technology which comprises the control of temperature, time and turbulence, it can treat 3,000 tonnes of municipal solid waste per day.

Municipal solid waste is fed into the moving grate furnace and incinerated at 850°C or above to avoid the generation of dioxins, while the flue gas is maintained at this temperature for at least two seconds in order to fully destroy all contaminants. Highly turbulent conditions also ensure complete combustion and decomposition of organic matters and dioxins.

The ash generated from the incineration process will be properly treated and disposed of, while the flue gas produced will enter the multi-stage cleaning areas, where the scrubber will remove all acidic pollutants, the activated carbon will absorb the heavy metals and dioxins and the bag filter will remove the remaining particulates. After passing through the above cleansing areas, the flue gas will comply with EU emission standards. In order to have further cleansing, the selective catalytic reactor will convert nitrogen oxide into nitrogen and water, and hence, the treated flue gas is even cleaner than that of the EU emission standards.

This facility can effectively reduce the volume of waste by 90%, while energy released during incineration process will be recovered and converted into electricity. The 480 million kilowatt-hours of electricity generated per year will be able to supply 100,000 households, ultimately decreasing Hong Kong's overall emission of greenhouse gases.

Looking around the world, this mature and reliable technology has a long history of proven track records, and at present, over 900 waste-to-energy facilities are adopting the 3T moving grate incineration technology. It is safe and reliable, and its facilities are able to blend in with the surrounding environment while also incorporating recreational, research, and educational facilities for public use.

This technologically advanced and highly efficient waste management facility not only reduces the volume of waste by 90%, but also turns waste-to-energy, helps us to treat our waste properly and transforms Hong Kong into a modern green city.