

Abstract

This report aims to introduce the idea of incineration as the most suitable and applicable solution towards unraveling the issue of the lack of municipal solid waste management. According to Khmer Times, 3,000 tons of waste is being generated on a daily basis in Phnom Penh alone, making this an enormous amount, especially when there's a stable 10% increase annually. Despite the amount, the growth in the alarming improper solid waste management, especially in the time of global pandemic where mountains of single-use masks are being buried or openly burned, have raised researchers to find applicable solutions to contribute to solving the world's crisis.

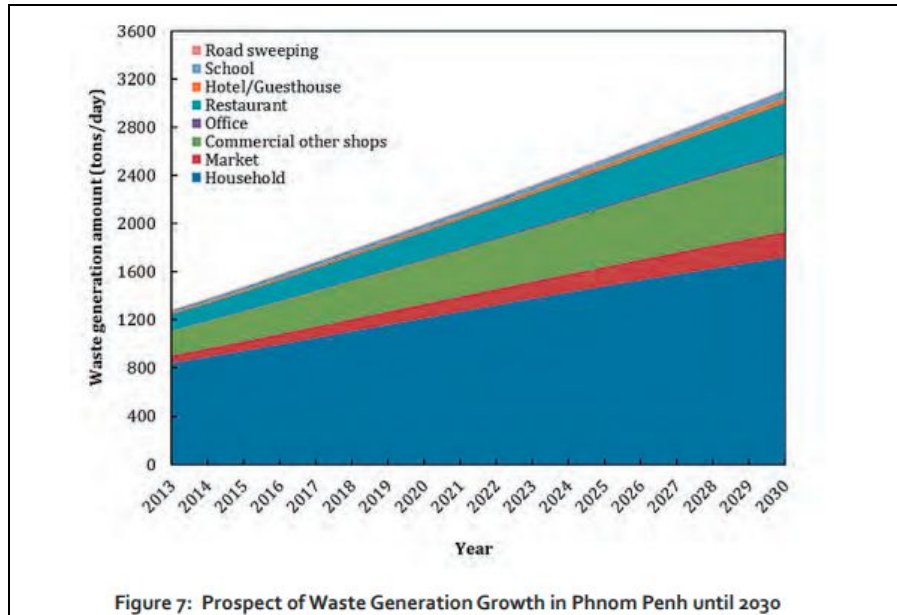


Figure 7: Prospect of Waste Generation Growth in Phnom Penh until 2030

With many solutions awaiting its implementation, we are proposing a convenient, yet effective solution towards solving the issue of improper municipal solid waste management, which is incineration. As a consequence of the scarcity of dumpsites and waste collecting services, the trash, especially in rural areas goes through the process of open burning, which is a vast contributor to climate change. Incineration is a fairly similar concept to open burning. One major distinction is that an incinerator is a closed combustion chamber that uses heat to burn dry waste to ash. Throughout the process, it reduces the volume of the waste up to 90%, while releasing less smoke because of its boiling temperature.

By having an incinerator built at our school campus, as well as doing a test burn, we were able to validate the solution, as it was able to reduce the volume of the waste we burned while producing a minimal amount of smoke.