# Dubai Leads in Waste Management with Landmark Waste-to-Energy Plant



**Dubai Converts Nearly Half of Its Trash into Electricity**

Dubai is pioneering waste management through the Warsan Waste Management Company, which transforms approximately 45% of the city’s trash into electricity. Operational since March, the Warsan plant processes around 2 million metric tons of waste annually, generating enough electricity to power about 135,000 homes. This facility is considered the largest of its kind globally and operates with a 34% efficiency rate in electricity production due to its capacity to function at higher temperatures and pressures.

The waste-to-energy process encompasses three primary steps: burning trash, using the resultant heat to produce steam, and then directing the steam to drive turbines that generate electricity. Though the method of incinerating waste to produce energy has been in use for over a century, modern facilities like Warsan employ advanced flue gas treatment to filter out harmful pollutants, excluding some emissions like carbon dioxide.

The plant simultaneously contributes to carbon dioxide savings by generating 200 megawatts of power that offset fossil fuel consumption, potentially saving around 1.5 billion tons of CO2 emissions annually. Notably, the facility also recycles metals and repurposes ash for road construction, leaving only 200 tons of non-reusable residue out of the 5,500 tons of waste processed daily.

Waste-to-energy facilities offer an alternative to landfills that are significant contributors to global methane emissions. While some environmental advocates argue such plants may diminish recycling initiatives, Dubai’s government aims to increase its recycling rate from 20% to 90% by 2050, highlighting continuous efforts toward sustainable waste management.