

Waste-to-Energy for Land-constrained nations

A Role Model:

The 10MW Colombo Waste to Energy Power Plant in Sri Lanka implemented by Aitken Spence PLC



The Challenge

Sri Lanka is a resilient, developing nation and safe disposal of MSW is a challenge



- Rapid urbanization
- Dense, growing population (approx. 22 million)
- Finite land mass for disposal
- Reliance on agriculture in fertile lands

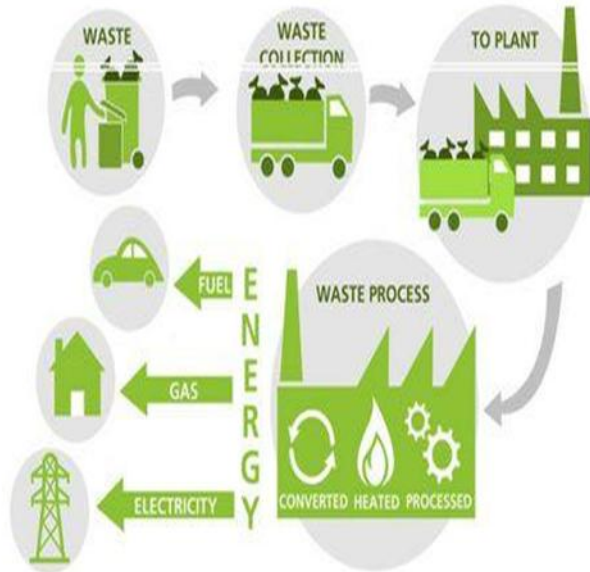
Landfills are no longer sustainable

The Opportunity

100% recycling is not always achievable or economically viable

Non-recyclable waste → energy + materials

Why is waste to energy important?

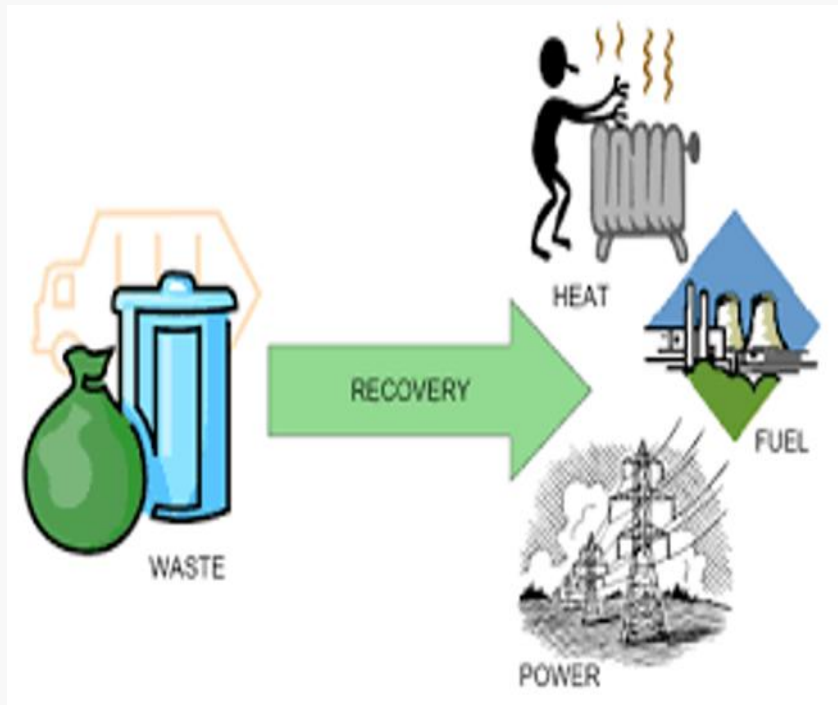


- Creates clean cities
- Prevents pollution of fertile lands, scarce water bodies
- Provides a local and reliable source of renewable energy
- Provides secondary raw materials

WtE complements recycling – does not compete

What is Waste to Energy (WtE)?

Technologies that treat waste to recover energy in the form of heat, electricity or alternative fuels



- Production of cooking gas in household digesters from organic waste.
- Collection of methane gas from landfills.
- Thermal treatment of waste in utility size incineration plants.
- Co-processing of Refuse Derived Fuel (RDF) in cement plants.

WtE is part of an integrated waste management solution

Our Solution for Colombo

Transformation from a disastrous crisis to a clean & illuminated city



**Colombo WtE Power Plant
by Aitken Spence PLC**



Internal



Sri Lanka's First and Only WtE Power Plant

Aitken Spence PLC (through its subsidiary Western Power Co. Pvt. Ltd.) developed, financed, constructed and now owns & operates the plant

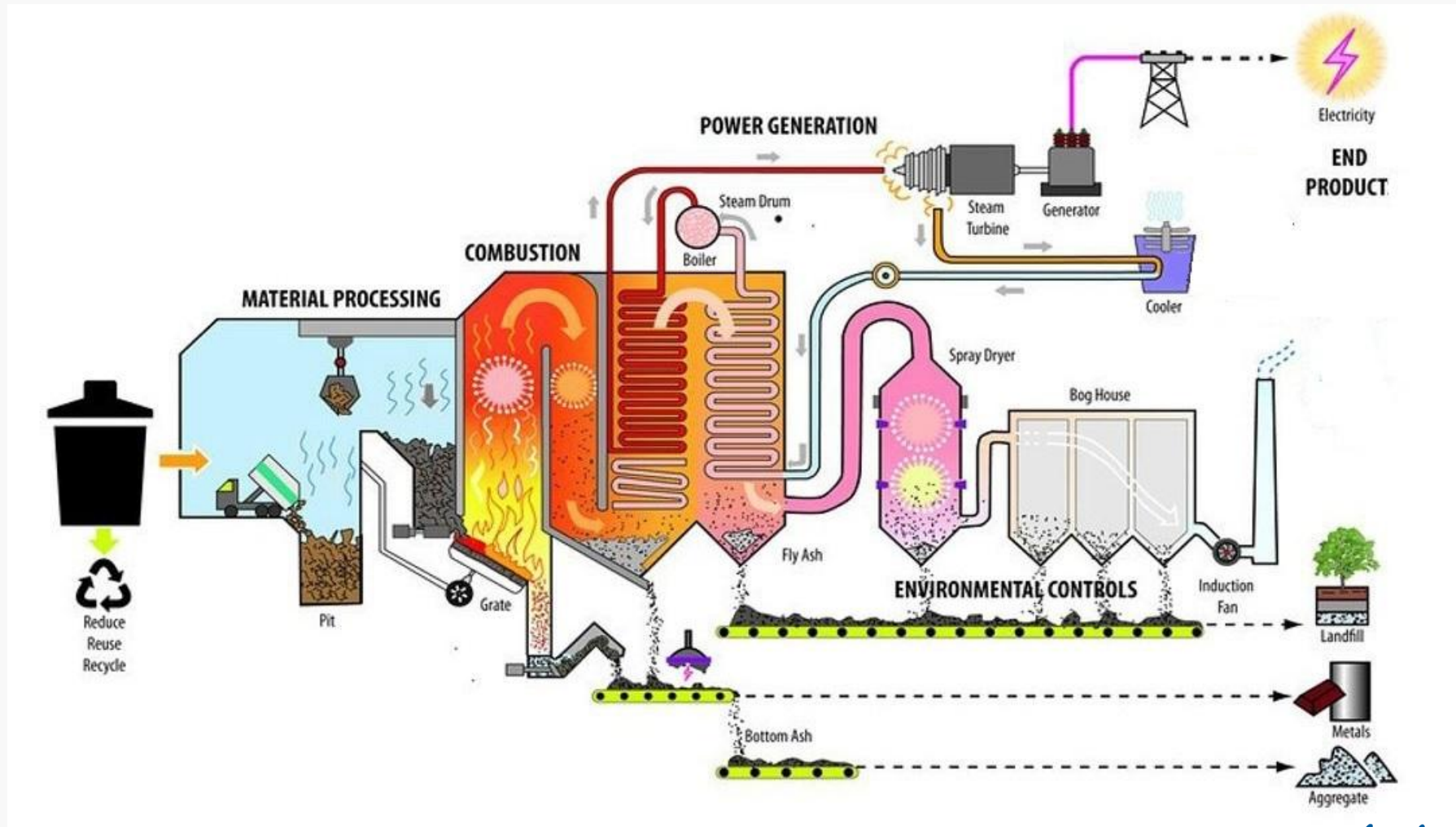


- Project Size: **10 MW**
- Waste (MSW) processing: **Up to 700 tons per day**
- Location: **10km north of Colombo city**
- Investment: **US\$ 80 million by Aitken Spence PLC**
- Commencement: **December 2020**
- O &M: **Local staff of Aitken Spence PLC**
- Key Agreements: **PPA with the utility, WSA with the CMC**

Basic WtE Process

Controlled MSW incineration → Steam → Electricity

Plant Video: <https://www.youtube.com/watch?v=YTM3GZuNL4s&t=1s>



The Plant

Weighbridge, Waste Cranes, Incinerators/HRSGs, FGT, STG, CCR



The Plant

LV& MV Switchgear, WTP, ACC, LTS



Beyond Energy: Circular Economy

Waste does not end with energy.

Through in-house R&D, we are turning byproducts into economic value



- Ash - Paving bricks and construction aggregate
- Metals - Recovery through “Urban Mining”
- Land reclamation

Impact of the Aitken Spence WtE Plant

Without this plant, it would have been another calamity



- **1,147,521 tonnes** MSW processed
- **369 million kWh** energy generated
- **800,000 t CO₂e** avoided
- **130,000 t** of ash reused for construction
- **90** local skilled and trained staff (knowledge transfer)

Note: Above cumulative figures are as at end March 2026.

Enabling WtE : The Partnership Model

The Sri Lankan example is a scalable model!

Waste-to-Energy PPPs transform waste liabilities into clean energy assets, diversifying the energy mix, enhancing energy security, and enabling circular economic growth.



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Corporate video:

<https://youtu.be/YQTfAHyKeos?si=pp4tveoRay2y9Hsg>

