ALTERNATE TECHNOLOGIES

Innovative Solutions for Waste Management & Sustainable Energy Development

ADVANCED RESIDUE FREE WASTE TREATMENT & ENERGY RECOVERY

MAXIMIZING RESOURCES
MINIMIZING WASTE

THE ALTTERNATE SAGA
INTRODUCTION

Almost twenty years ago, urban residents began to recognize the benefits of source-level waste management and recovery of energy harnessing the power of nature to help reduce their waste issues and save their fuel or electricity consumption. Known methods are huge, expensive to construct and has high operational & Maintenance costs. Most of the equipment available in the market was often unscientific, poor in technology, and creating a negative impact on the environment. It neither met the needs of the world nor decreased their carbon footprint. Products like incinerators and Bio-methanation plants suitable for the decentralized sector grew in demand and, a small business was born to service the need.

This very quandary set a small team of passionate members on a quest to find suitable innovations, test them for various types of waste treatment and use the results to bring a range of environmentally sound, cost-effective products suitable for each sector, either home, office, residential colonies, educational institutions, marriage hall, industries, hospitals, hotels, railway station, airport or even MSW.

Today, Altternate Technologies remains a driven Original Equipment Manufacturer [OEM] of Waste Treatment Products committed to providing viable cost and eco-effective waste management solutions to make urban life waste-free and energy-efficient. We specialize in providing sustainable solutions for proper solid waste and biodegradable waste treatment and sustainable energy development to all segments mentioned above.

What's more, Altternate Scientific waste management products adhere to stringent emission standards of the Central & State Pollution Control Boards.

The promoters of the company have over 28 years' experience in the Technical field, especially in metallurgy.

With a team of skilled and expert technicians supported by highly efficient administration and management, our mixture of experience, Youthful energy, and total commitment to quality makes our products the Economical and Eco-logical choice for you.

We are always with Solutions, not with Pollution. We create what you need most from what you don't need. Waste Management equipment from Altternative Technologies are designed and fabricated with severe quality control adhering to standard fabrication and welding Codes

BUYER PROTECTION GUARANTEED

QA QUALITY ASSURANCE

WASTE TO ENERGY TECHNOLOGY

CERTIFIED ISO 9001:2015 COMPANY

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ALTTERNATE RESIDUE FREE SCIENTIFIC INCINERATORS

- Incineration currently is the most utilized technology for energy recovery from waste, with generation of electricity and heat and also a decrease in the volume of the produced waste. With the growth of world population and progressive increase in living standards, the consumption of goods and energy has also increased, along with land use change and deforestation, intensified agricultural practices, industrialization and energy use from fossil fuel sources. All of these have contributed to ever-increasing concentrations of greenhouse gases in the atmosphere, since the industrial era.
- During recent decades, most industrialized countries with high population densities have employed incineration as an alternative procedure to controlled landfilling, for the treatment of MSW.
- Residue free incineration is the Thermochemical Process of reducing masses and volume of waste, reducing landfills, reducing gaseous pollutants [by Air Pollution Control System attachment] and decrease in the emission of GHGs.
- Residue free Incineration with energy recovery technology [WtE plants] has dual objective: reduce the amount of waste sent to landfills and produce useful energy – heat or power
- WtE incinerators provide methods simultaneously for addressing issues related to effective waste management, energy demand and emission of greenhouse gases.
- When considering the life cycle, the use of waste as a source of energy generates less environmental impacts than other conventional energy sources. [emissions from landfills per ton of MSW processed are at least 1.2 t CO2, much higher than WtE plants.
- With the conversion of MSW into fuels, higher calorific values are obtained along with more homogeneous physical and chemical compositions, lower levels of pollutants and ashes.

CONVERSION TECHNOLOGY	PRIMARY PRODUCT	PRODUCT RECOVERY	SECONDARY PRODUCTS
RESPONSIBLE INCINERATION	HEAT	STEAM	HOT WATER /ELECTRICITY

- No Hydro-Carbon Fuel or Firewood is required for combustion.
- Better conditions for storage, handling, and transportation.
- Potential reduction of costs associated with production and operating the system compared with conventional fuel supported system
- Since the furnace is maintained under high oxidizable conditions, there is no CH4 being emitted in the gases exiting the chimney. When primary air is supplied from the storage tank, CH4 is oxidized to CO2 and H2O.
- Expert designing and premium quality materials makes the plant durable and trouble free. The manufacturer provides free after sale services during the warranty period and impart training for proper operation and up keeping.
- The high-performance exhaust gas cleaning systems, APCD [Air Pollution Control Device] attached with the equipment effectively reduces main air pollutants that are under regulatory observation nowadays like dust, CO, HCl, HF, SO2, NOx, Hg, Cd, Tl, Sb, As, Pb, Cr, Co, Cu, Mn, Ni, V and PCDD/PCDF. Process engineering of the wet scrubber system can be extended to lower limits if the environmental legislation so requires.
- Most remarkable improvements of the new unit are increased residence time for Dioxin destruction, anti-corrosive heat resistant metal alloy combustion chambers and chimney
- Service Centers at all major cities.

ALTERNATE TECHNOLOGIES

WASTE-TO-ENERGY FACT SHEET

RENEWABLE ENERGY FROM

THERMOCHEMICAL WASTE TREATMENT

A practical, cost-efficient and safe waste management option.

880%
INCREASE IN USE OF ALTERNATIVE FUELS FROM 1990 TO 2019

WASTE BENEFITS
FUEL SUBSTITUTION

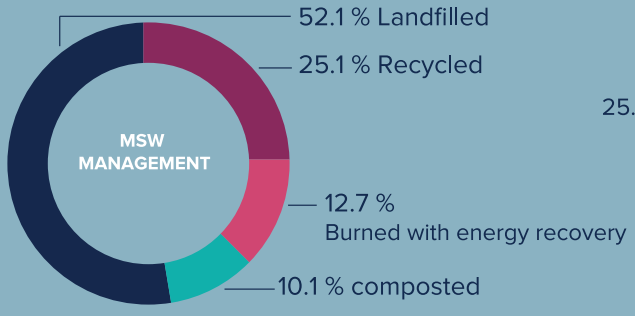
THE BENEFITS OF FUEL SUBSTITUTION ARE MULTIPLE

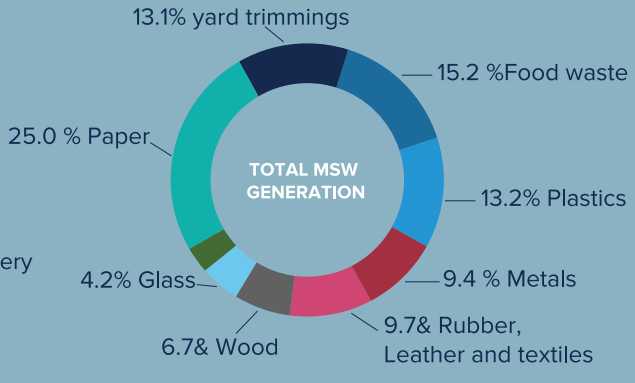
- **Reducing Landfills**
- **Reducing dependence on fossil fuels**
- **Material recycling**
- **Offering an alternative to landfill**

ENERGY FROM MUNICIPAL SOLID WASTE

Municipal solid waste (MSW), often called garbage, is used to produce energy at waste-to-energy plants. MSW contains

- Biomass, or biogenic (plant or animal products), materials such as paper, cardboard, food waste, grass clippings, leaves, wood, and leather products
- Non Biomass combustible materials such as plastics and other synthetic materials made from petroleum
- Noncombustible materials such as glass and metals





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REDUCE YOUR FUEL COSTS WITH WASTE-TO-ENERGY SOLUTION **WITHOUT THE RISKS.**

Embarking on an alternative fuels project is a great step towards reducing your environmental impact and your fuel costs. Turning waste into energy makes your plant more sustainable and profitable - but it can produce new risks to your process. You need an experienced partner to help you select the best solution for your facility.

WHY ALTTERNATE?

Alternative hydrocarbon fuel substitution rates up to 100%

Overall system guarantee from production materials to installation quality

Customized solutions, from quick-start to complex

Research-based approach to ensure state-of-the-art performance

WHAT YOU GET?

HEAT

There is high demand for the heat generated from Thermal Combustion for Steam/ Electricity Production

ASH

Bottom inert and sterile ash is used for ash brick manufacturing

FUEL GAS

Purified for minimal hazardous emission

DRAIN

Emission Cleansing Drain is recycled & reclaimed within the system.

OBJECTIVES & ADVANTAGES

ADVANTAGES

- Easy and efficient waste management
- Significant Reduction of Waste
- Residue free system
- Conforms relevant emission rules
- Reduce the use of expensive fossil fuel
- Production of Heat and Power
- Utility of Ash
- Eliminates Hazardous germs and toxicity
- Better control over noise, pests and bad odour
- Efficient Emission cleansing system
- Reduced landfill
- Low investment on installation, operation & maintenance
- Minimum space requirement.
- Saves Transportation of waste
- Prevents production of CH4 (Methane)
- Operates in any weather
- Effective Metal Recycling
- Ensures uncontaminated groundwater

OBJECTIVES

VOLUME
Reduction by 99% zero residue

TOTAL DISPOSAL
Nothing left for Landfill

STABILIZATION
No more landfill related environmental issues

RENEWABLE ENERGY
Recovery of Energy from Waste [EFW]

STERILIZATION OF WASTE
Thermal treatment ensures destruction of pathogens

WtE : THE BEST SOLUTION FOR SOURCE LEVEL WASTE MANAGEMENT

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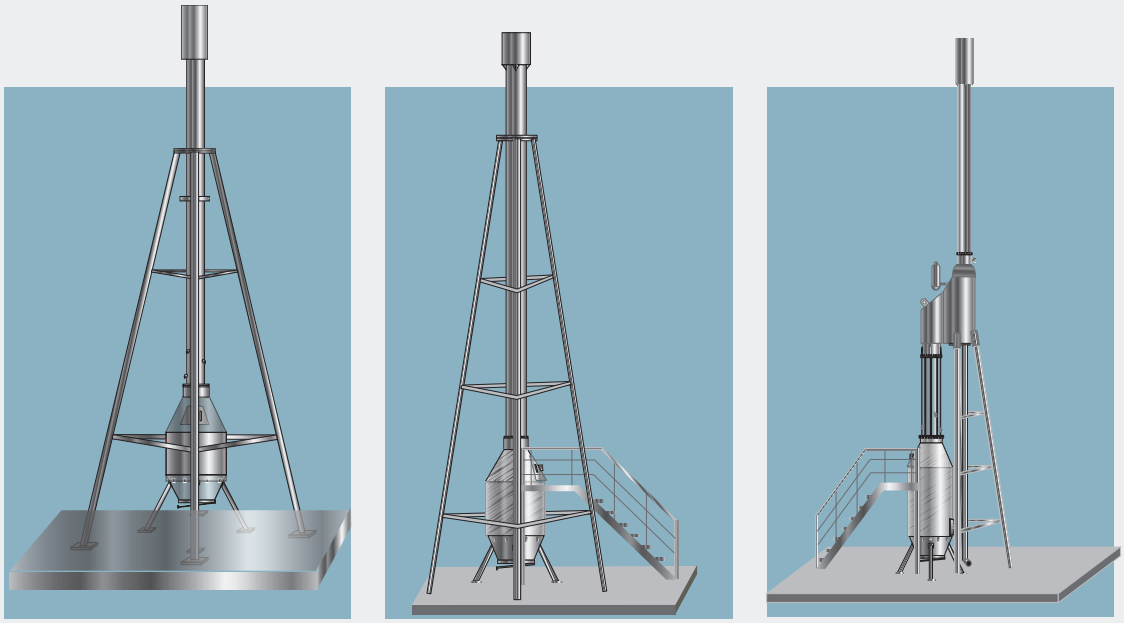
ALTTERNATE PRODUCTS

1.SMALL-SCALE SCIENTIFIC INCINERATORS

Advantageous technology to combust household waste, office waste, medical shop & clinic waste etc. instead of discharging it in a landfill. Furthermore, heat and energy may be recovered and it helps reduction of landfills.

MODEL	CAPACITY	EFFECTIVENESS
T2T-10N	~ 10 kg/day	Domestic
T2T-25N	25kg/hour	Rooftop Level Installation
T2T-25WSS	25kg/hour	With Emission Cleansing system



2. MEDICAL, HEALTHCARE & SANITARY WASTE INCINERATORS

MODEL	CAPACITY	FEATURES
T2T-25 FS	25 kg/hour	■ Dual chamber combustion ■ LPG power Burner ■ Auxiliary air blower ■ Emission cleansing ■ Temperature Monitor
T2T-40 FS	40 kg/hour	
T2T-60 FS	60 kg/hour	
T2T-100 FS	100 kg/hour	

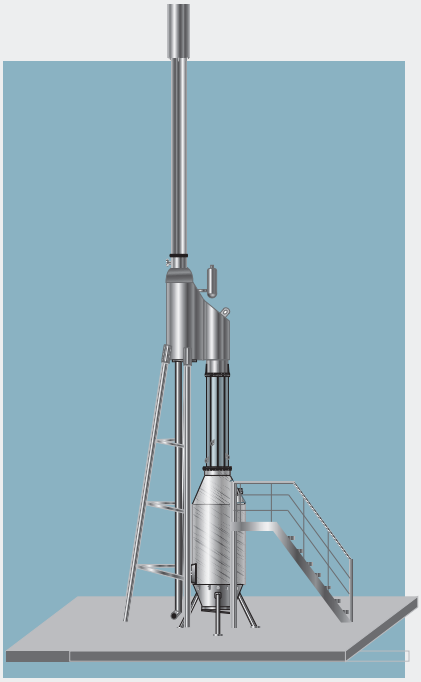
Customized models available as per requirement.

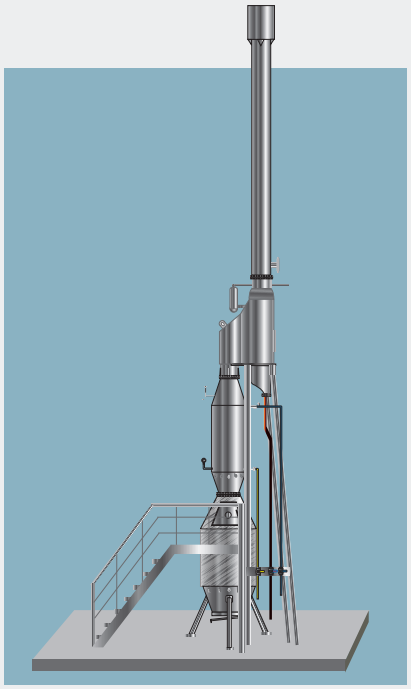
ALTERNATE TECHNOLOGIES

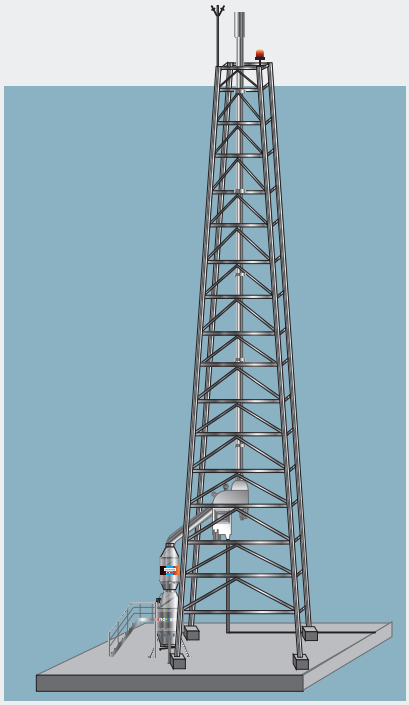
3. MEDIUM CAPACITY WtE INCINERATORS FOR SOURCE LEVEL WASTE MANAGEMENT

For Hospitals, hotels, malls, flats & villas, railway stations, hotels & bakeries residential colonies, lodgings, schools, bus stations etc.
Customized variants for rooftop level installation and Energy recovery

MODEL	CAPACITY	FEATURES
T2T-40 WSS	40kg/hour	■ Advanced Emission cleansing ■ Waste to Energy - hot water/ steam generator attachment
T2T-60 WSS	60kg/hour	







4.HEAVY DUTY SCIENTIFIC WtE INCINERATORS FOR COMMERCIAL ESTABLISHMENTS

For multi bedded hospitals, medical colleges, local self government bodies, commercial flats / villas and other industrial establishments.

MODEL	CAPACITY	FEATURES
T2T 100 FSWSS	1.0 MTPD	■ Dual Combustion Chamber ■ Manual / Mechanical Feeding ■ Temperature Monitoring ■ Auxiliary Fuel / Air Support ■ Customized variants for rooftop installations and Energy recovery
T2T 150 FSWSS	1.5 MTPD	
T2T 200 FSWSS	2.0 MTPD	

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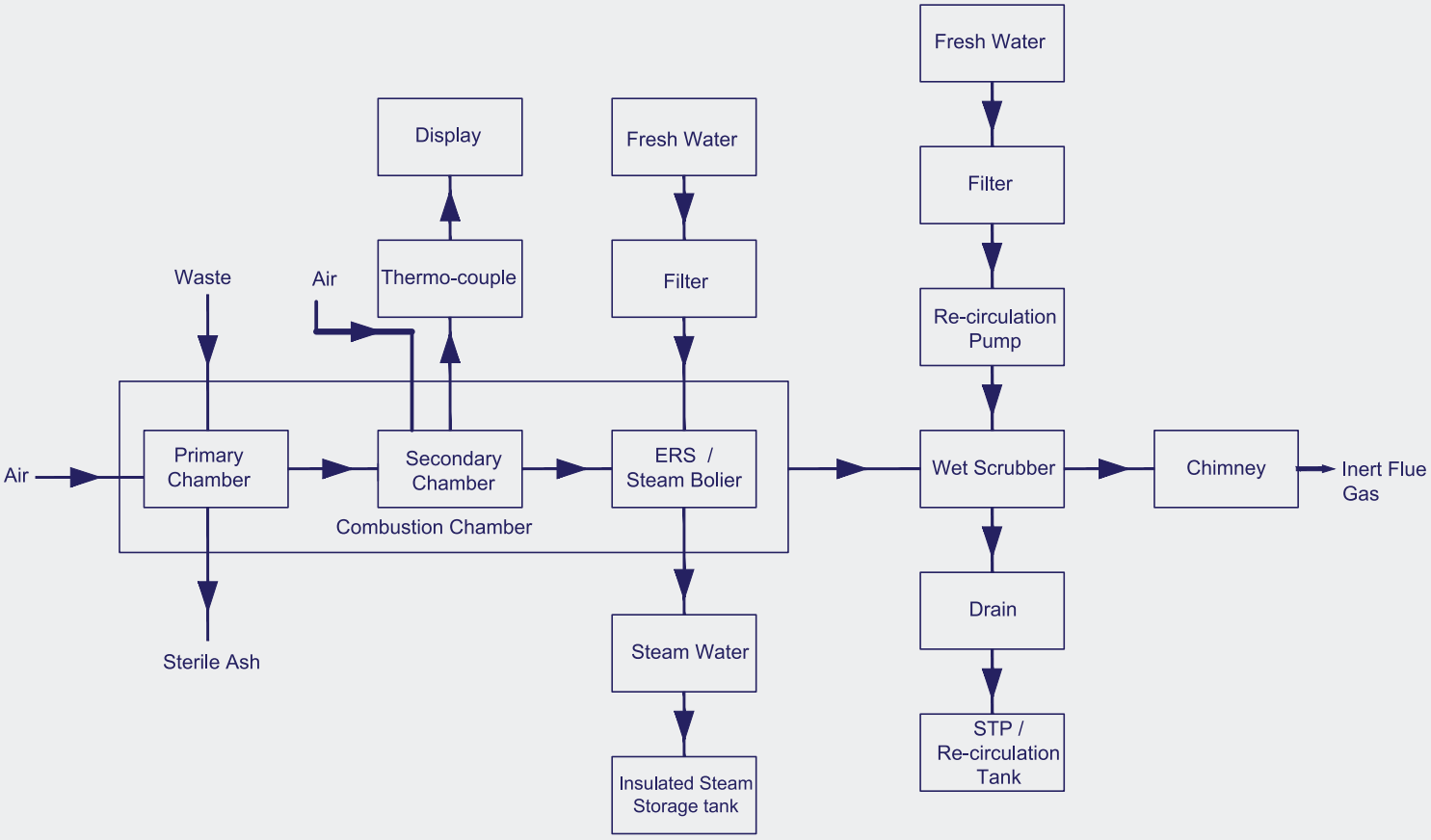
ALTTERNATE PRODUCTS

HEAVY DUTY SCIENTIFIC WtE INCINERATORS FOR COMMERCIAL ESTABLISHMENTS

For hospitals, railways, local self government bodies, commercial flats / villas and other industrial establishments.

MODEL	CAPACITY	FEATURES
T2T 100 FSWSS	1.0 MTPD	■ Dual Combustion Chamber ■ Hot water / steam boiler attatchment ■ Manual / Mechanical Feeding ■ Temperature Monitoring ■ Auxiliary Fuel / Air Support ■ Customized variants to suit diverse site conditions
T2T 150 FSWSS	1.5 MTPD	
T2T 200 FSWSS	2.0 MTPD	

Flowchart
Advanced Solid Waste Treatment Plant with Energy Recovery System



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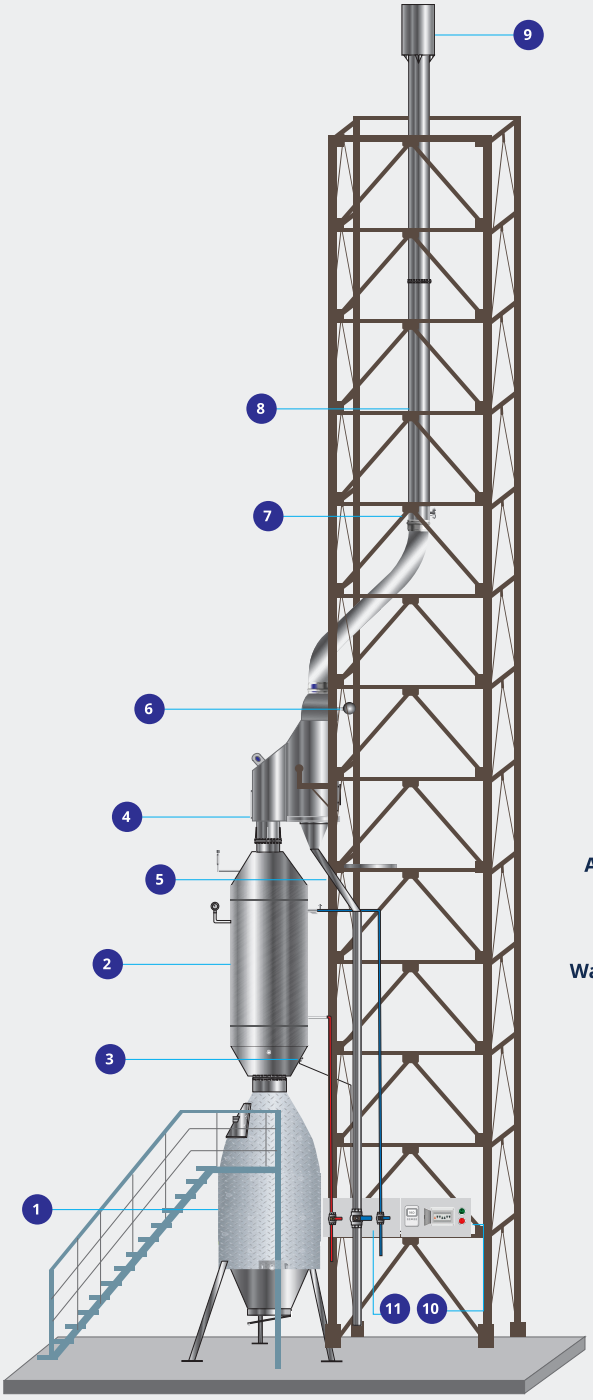
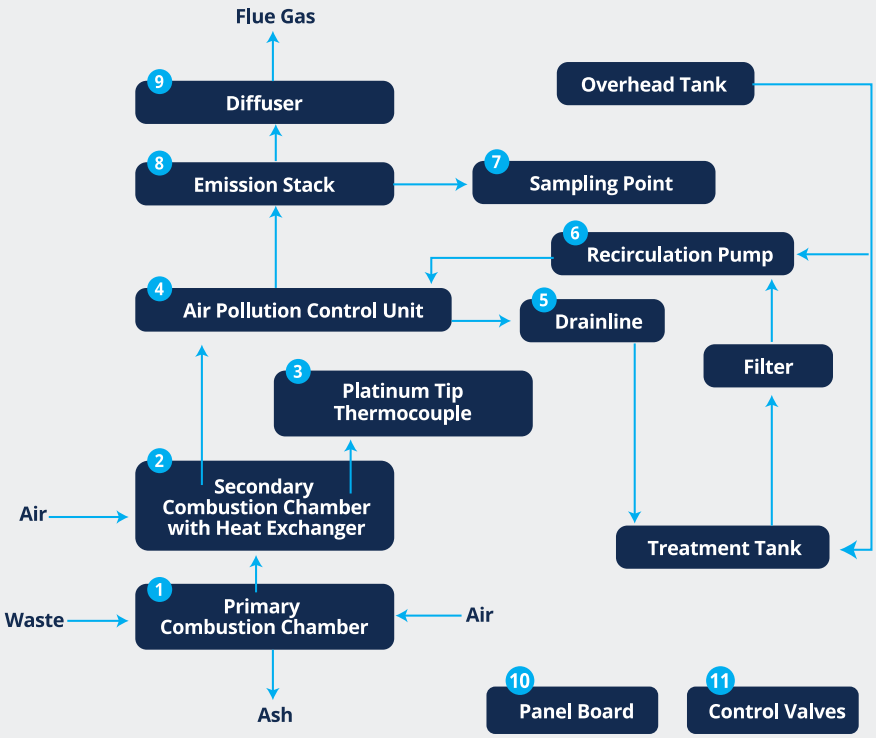
AN OUNCE OF INCINERATED TRASH IS UNDOUBTEDLY EASIER TO MANAGE THAN A POUND OF RAW GARBAGE.



ZERO RESEDUE WASTE TO ENERGY SOLID WASTE TREATMENT PLANT



ADVANCED SCIENTIFIC WtE INCINERATORS FOR MSW MANAGEMENT

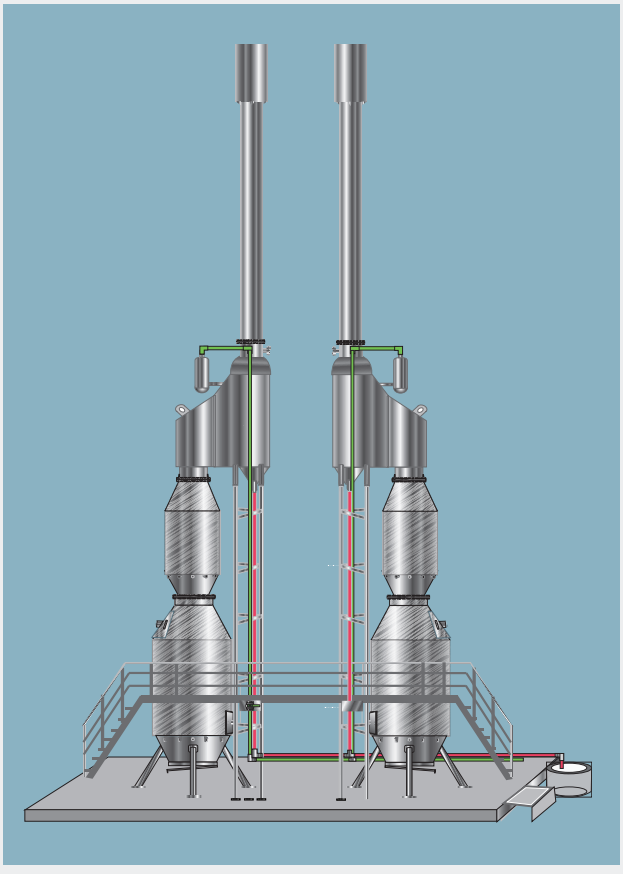
2.0 TPD TO 25 TPD

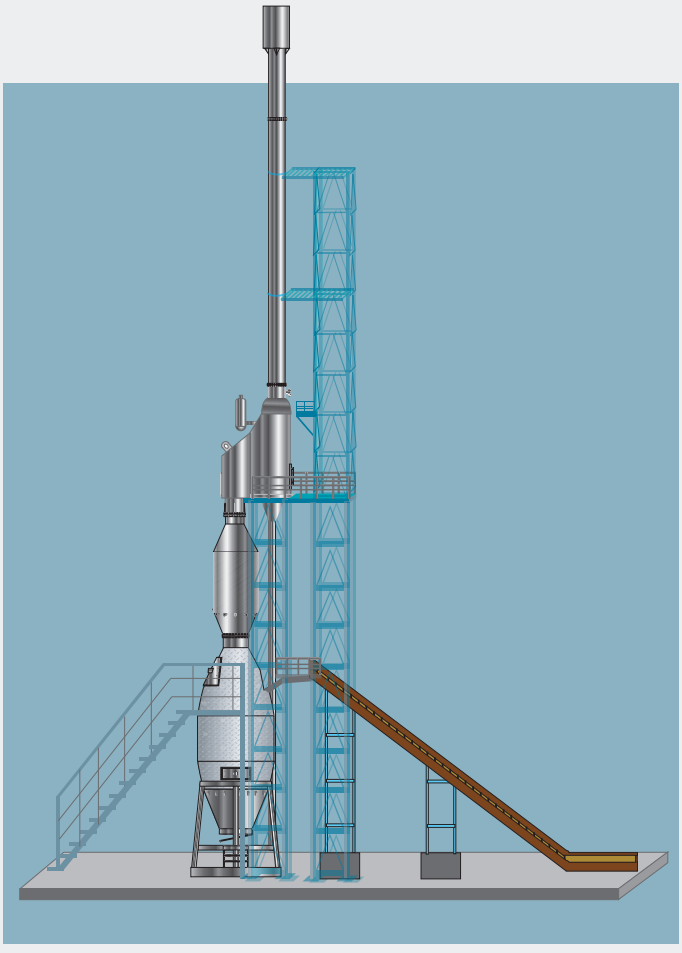
BY ALTTERNATE TECHNOLOGIES

> **According to a recent study of UNEP- United Nations Environment Program 'The Increasing Volume of MSW would not be a problem if waste was viewed as a resource and managed properly. Waste to Energy (WtE) technology is a green opportunity to continue the path of human integrity and technical advancement'**

FEATURES

- Mechanical Feeding,
- Auxiliary Fuel Provision
- Supplementary Air Injection
- Energy Recovery System
- Combustion Gas Cooling Technique [CGCT]
- Multi-level Emission Scrubbing
- Weight, Temperature & emission monitoring
- Resource Recovery from Bottom Ash





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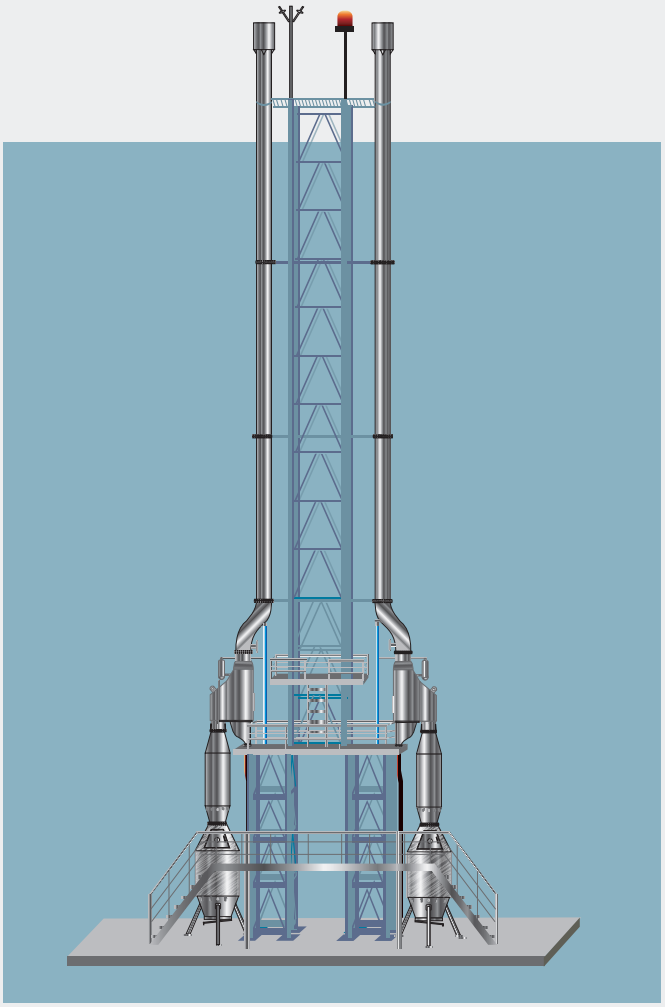

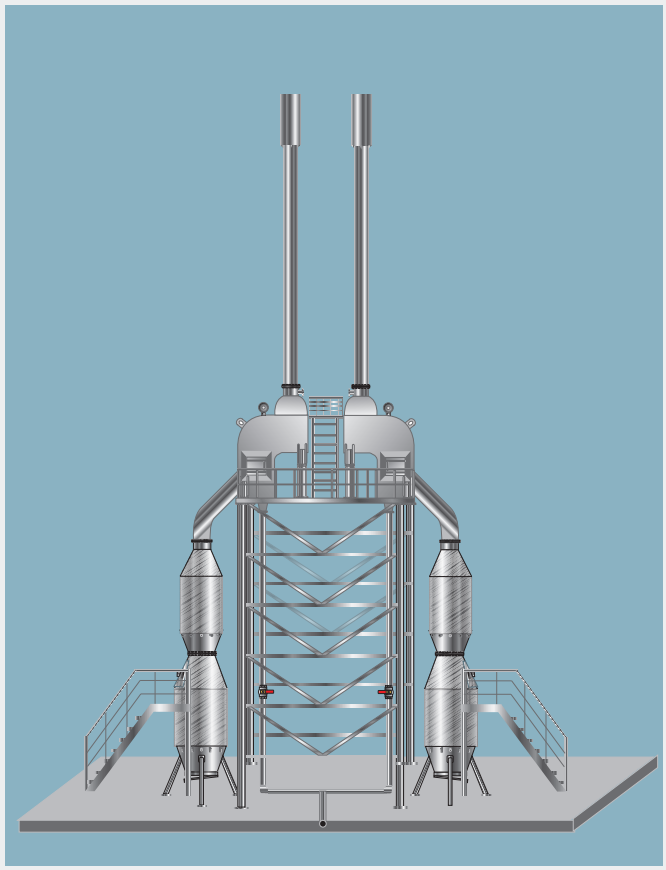

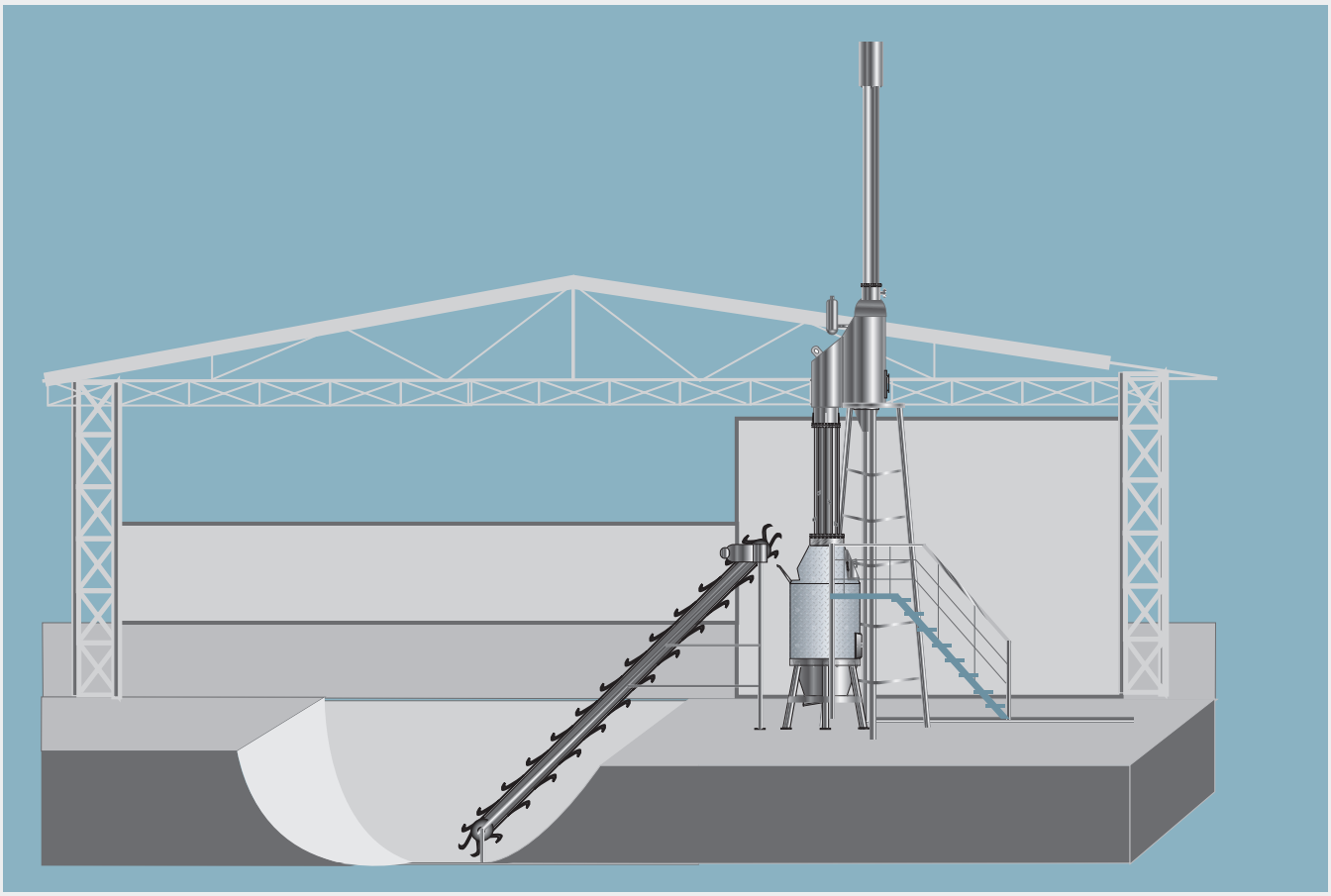

Images used in this brochure are for representation purpose only. Design & appearance of equipment may differ according to the geographical / climatic distinctiveness of the proposed installation site

ASSOCIATES & PARTNERS

SAMKITEC resources
HYDERABAD

VIMALA ENTERPRISES
MANGALURU

CLEAN & CLEVER CORPORATION
GUJARAT

SOUTHSIDE RESOURCE MANAGEMENT LLP
KANNUR

SUN ENERGY SOLUTION
TRIVANDRUM

CLEAN EARTH SOLUTION
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CALICUT AIRPORT

BENCHERODA

CHAKKALASI MUNICIPALITY

SOMESHWARA TMC

MOODUBIDRI TMC

MAKTHAL MUNICIPALITY

Apollo Cradle FOR WOMEN & CHILDREN

Sree Gokulam Medical College and Research Foundation

eh Eranad Hospital

malabar hospitals

ST. JOSEPH'S Hospital Health Center

DAYA GENERAL HOSPITAL Ltd & SPECIALITY SURGICAL CENTRE

DDRC SRL Diagnostic Services

MAR SLEEVA medicity palai
A Temple of Health

APOLLO BUILDERS
Building lifelong relations

ASSET HOMES
The responsible builder

treeG BUILDERS & DEVELOPERS
touching generations

DEEPAKAM HOUSING

RAMADA BY WYNDHAM ALLEPPEY

HOTEL JYOTHIS RETREAT

Le Candles PREMIUM RESORTS

MAMATHA GROUP

VILLA DE 1945

colours BOUTIQUE | DISCOVER YOUR ELEGANCE

ANSAR ENGLISH SCHOOL

falconpack

SARATHY
Experience the new drive

ESCOLA INTERNATIONAL

BALIGA FISHNETS

BUILT.tech
DESIGNERS & BUILDERS

POLLUTION CONTROL BOARD:: ASSAM
BAMUNIMAIDAM, GUWAHATI-21.

Analysis Report of Chimney Emission Monitoring of conducted at M/s. North Frontier Railway, Kamakhya Railway Station, Maligaon, Guwahati-11. Kamrup(M), Assam.

Report No. SE-57/2020

Date: 27.02.2020

Date of monitoring	Source	Temp (°C)	Particulate Matter(PM) in mg/Nm^3	SO_2 in mg/Nm^3	NO_x in mg/Nm^3	HCl in mg/Nm^3	CO in mg/Nm^3	Remarks
21.02.2020	Chimney of Incinerator	330	29	6	32	BDL	BDL	1.Sampling duration is 30 minutes. 2. Wet Scrubber is installed as Air Pollution Control Device

BDL: Below Detection Limit.
N.B. All values corrected to 11% oxygen on a dry basis.

Emission Standards:

Category	Parameter	Maximum Permissible Limit in mg/Nm^3
Incinerator	Particulate Matter as PM	50
	SO_2	200
	$NO_x(NO+NO_2)$	400
	CO	100
	HCl	50

27.02.20

i/c, Central Laboratory

Mission Zero

MAXIMIZING RESOURCES MINIMIZING WASTE

Dump yards donated much to make water & air, the two essential fluids on earth on which all life depends, Global Garbage Cans

Zero **emissions**

100% fuel **substitution**

Zero **waste**

CUSTOMER CARE : +91 9747 299 119

Altternate Technologies

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