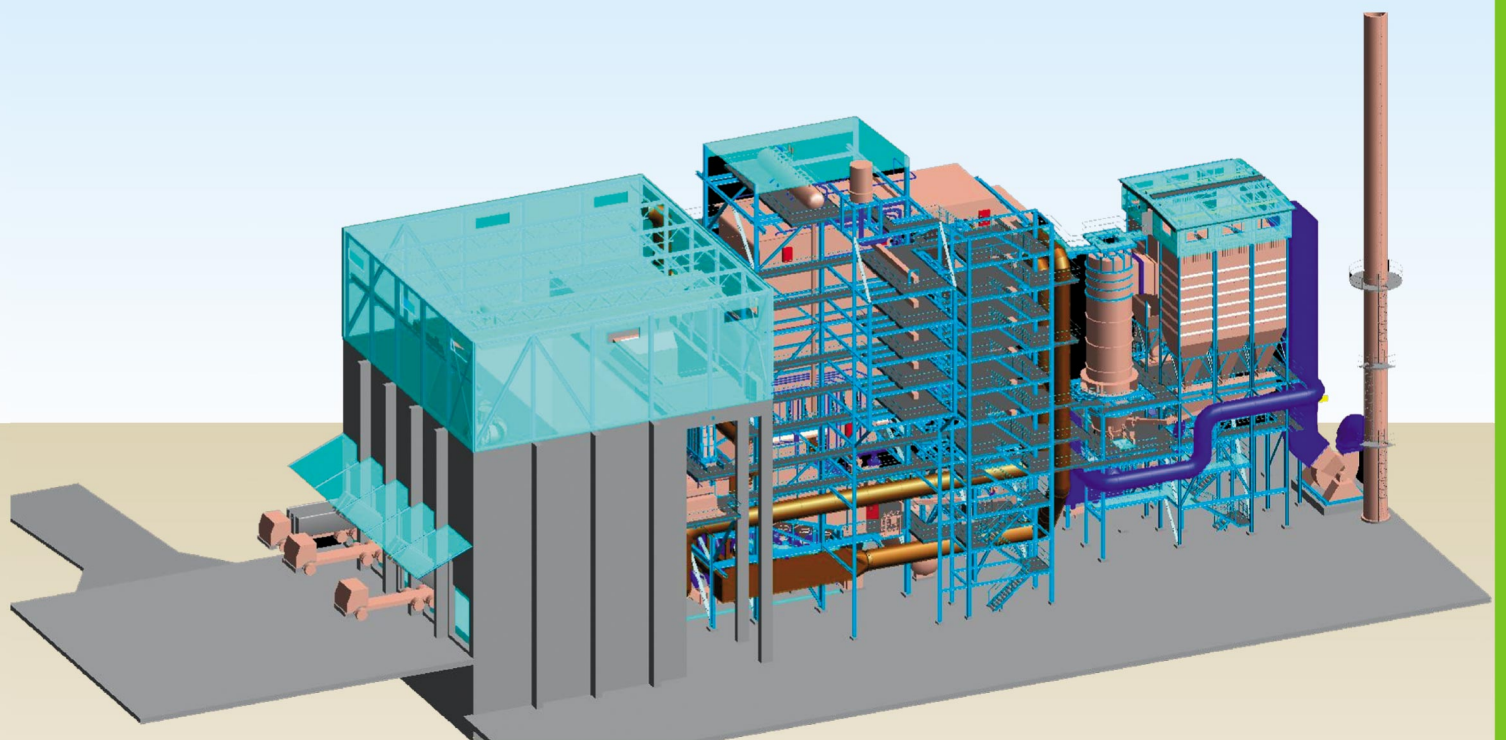


# LoCAL 580 / LoCAL Plus

The Energy-from-Waste Plant  
for Low and Low-to-Mid Calorific Waste  
in Emerging Markets



## Optimised Plant Design

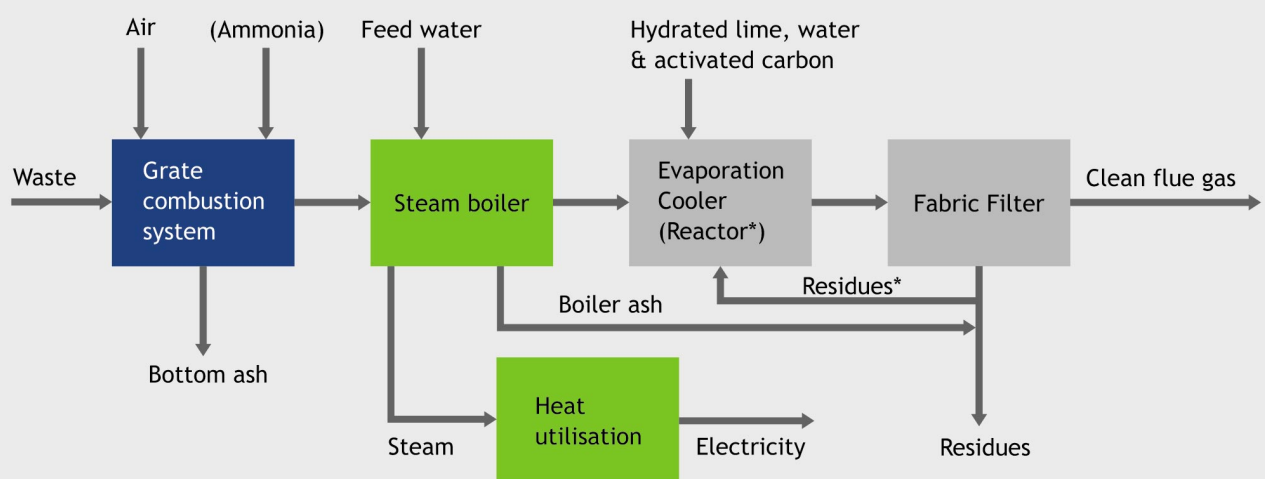
Hitachi Zosen is the leading provider of Waste-to-Energy Technology. Its experience of over 80 years, gained from more than 490 reference installations worldwide is the basis of the LoCAL Concept.

LoCAL is an Waste-to-Energy plant Concept which is state-of-art and fulfills the following Objectives:

- Ecologically sustainable waste treatment
- Auxiliary fuel not needed, even at calorific values as low as 1,100 kcal/kg
- Highly efficient power generation
- Compliance with all relevant regulations
- Flexibility to accommodate changes in future demand
- Low investment cost
- Competitive operation and maintenance costs

Two versions of the plant are available. One for low-calorific and one for low-to-mid-calorific waste. One line of each plant consists of:

- Waste storage and handling area
- Grate-fired combustion furnace
- Boiler which produces superheated live steam
- Steam turbine
- SNCR process for NO<sub>x</sub> reduction (optional)
- State-of-the-art flue gas treatment systems to remove dioxins, heavy metals and acidic gaseous pollutants to guarantee low emissions.



The flow diagram shows the relevant process steps and the input and output streams

\* Alternatively a Semidry flue gas treatment can be offered to reach even lower emissions.

### State-of-the-art technology based on decades of experience

The key elements in the design of this concept are the requirements regarding changing waste composition, variation of heat value and the goal to achieve maximum energy recovery.

The technical solution achieved is based on comparable applications of our long and well proven technology.

### Low investment and maintenance costs

A major focus was placed on a conservative design which results in low maintenance costs and long operation time. Further the scope was optimised such that very low investment costs could be achieved.



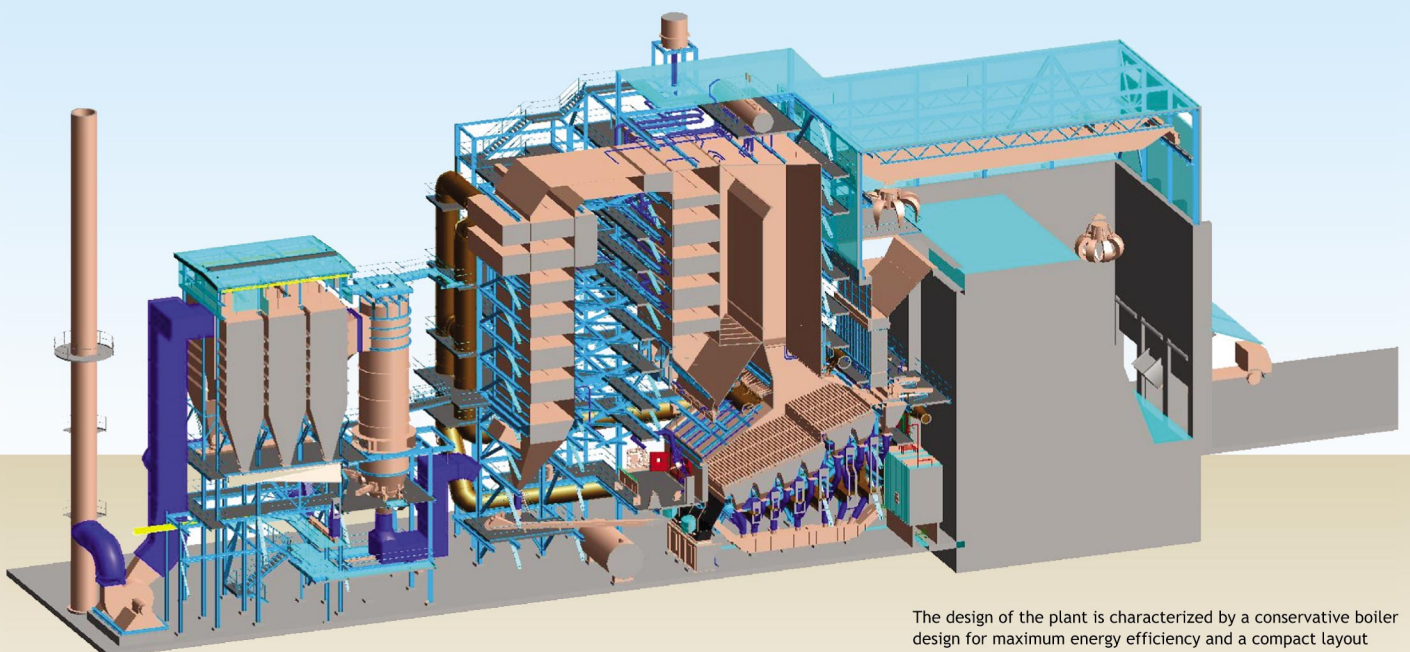
The reliable Hitachi Zosen combustion grate is the heart of the LoCAL Plant.

The overall plant performance offered is fully supported by documentation and the operating experience with existing Waste-to-Energy plants, which makes the Hitachi Zosen technology trendsetting throughout the world.

#### Some technological highlights:

- Our reliable grate system, which has a long and successful history all over the world.
- The optimised secondary combustion chamber with tangential secondary air-injection and specifically chosen refractory which results in low emissions
- The Hitachi Zosen boiler concept which ensures maximum energy recovery and minimum fouling.
- The DeNOx SNCR system with over 20 years of experience in over 40 installations world wide The flue gas treatment, which ensures minimum emissions and simultaneously guarantees maximum efficiency as well as the lowest amount of residues.
- The Combustion Control System (CCS) ensures operation at a requested thermal load. Constant steam production, flue gas oxygen content and flue gas flow are achieved even at varying waste quality. The CCS allows plant operation in compliance with regulatory requirements and guaranteed performance.

“Hitachi Zosen’s concept design and technology offer you “best value for money” in every phase of the project. With Hitachi Zosen as your partner, not only will your project be smoothly executed but you will have exceptional plant operation and be a part of the worldwide Hitachi Zosen community.”



The design of the plant is characterized by a conservative boiler design for maximum energy efficiency and a compact layout



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LoCAL The Waste-to-Energy Plant for low and low-to-mid calorific waste

**Technical data**

Technical data

Fuel	Municipal Solid Waste						
	LoCAL 580				LoCAL Plus		
Throughput per line	Load Point	Kcal/kg	kJ/kg	t/d	Kcal/kg	kJ/kg	t/d
	Nominal	1,400	5,861	500	1,650	6,908	600
	Maximal	1,200	5,024	580			
Calorific value of waste	Load Point	Kcal/kg	kJ/kg		Kcal/kg	kJ/kg	
	Nominal	1,400	5,861		1,650	6,908	
	Maximal	2,000	8,374		2,200	9,211	
Thermal capacity per line	33.9 MW				47.97 MW		
Number of lines	1 (Multi-line configurations are available)						

**Technical setup**

Waste pre-treatment	None
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**Combustion system**

Type	Hitachi Zosen Grate
Grate design	R-12578
Grate size	97.5 m <sup>2</sup>

**Steam generator**

Type	4 pass vertical design (2 radiation, 2 convection passes)	
Steam quantity	39.1 t/h (nom)	57.1 t/h (nom)
Steam pressure	46 bar	
Steam temperature	410 °C	
Flue gas outlet temperature	175 °C	

**Flue gas treatment**

Design	Type 1: Evaporation cooler and Fabric Filter Type 2: Semidry	
Flue gas volume per line	94,600 m <sup>3</sup> /h(STP)	111,268 m <sup>3</sup> /h(STP)

**Energy recovery**

Type	Condensation turbine	
Electric power output up to	8.0 MW	11.5 MW

**Residues**

Bottom ash	8.9 t/h	8.5 t/h
Fly ash	0.091 t/h	0.094 t/h