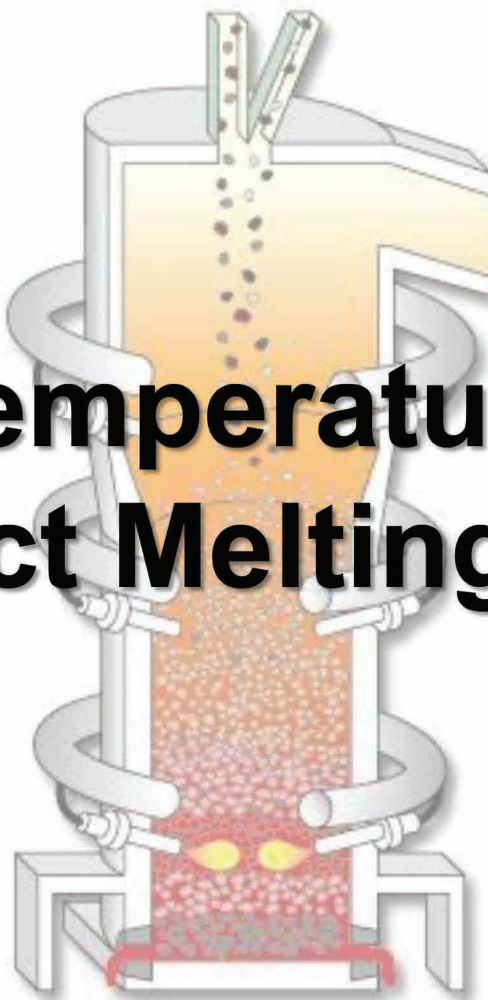
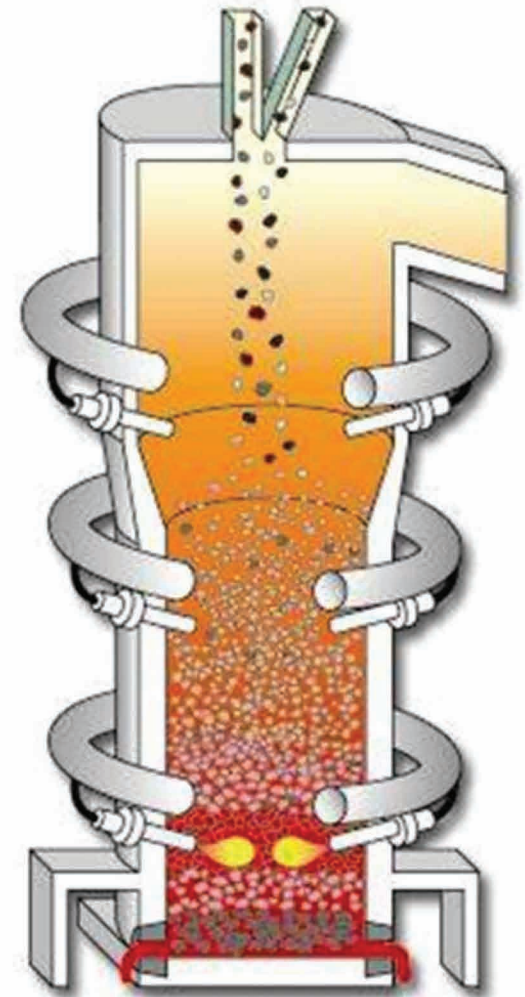


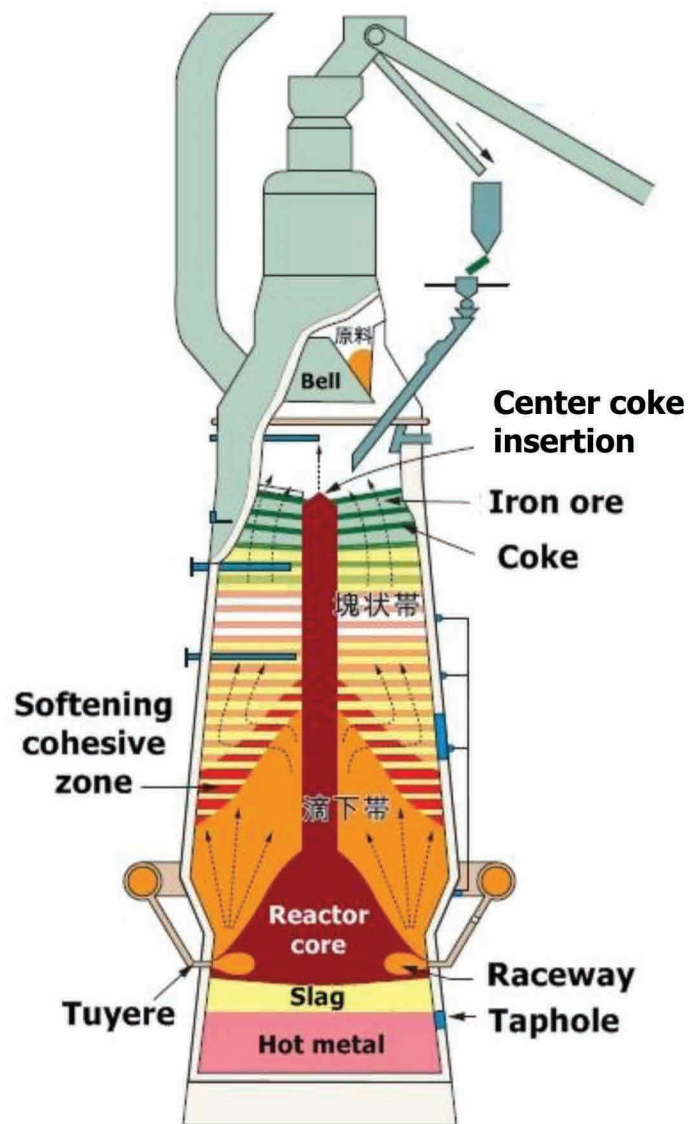
JFE High-Temperature Gasifying & Direct Melting Furnace



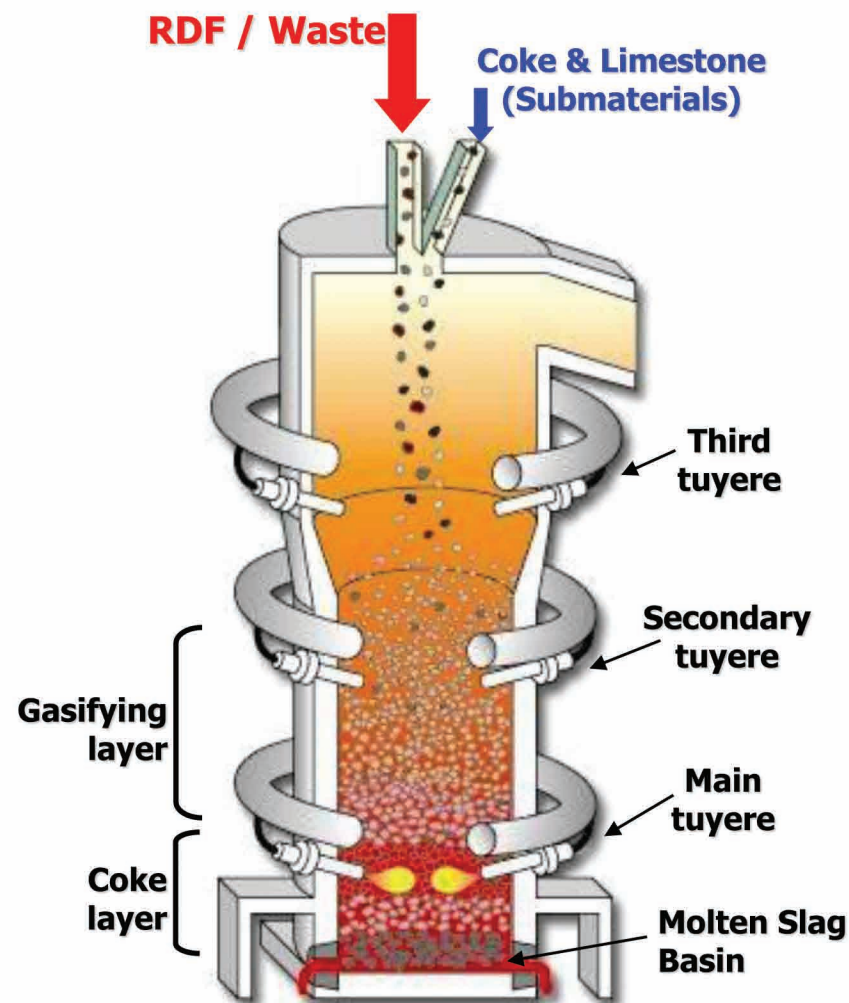
Proven Technology Derived from Blast Furnace

**Blast
Furnace**

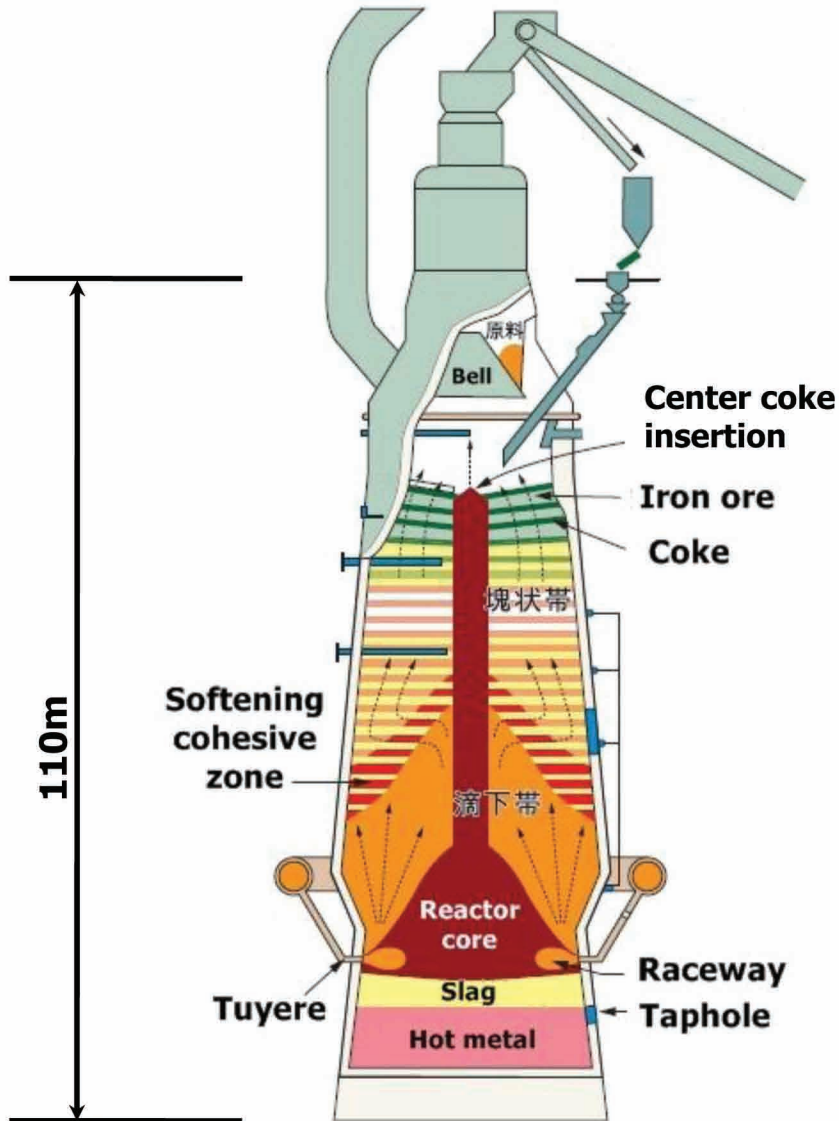




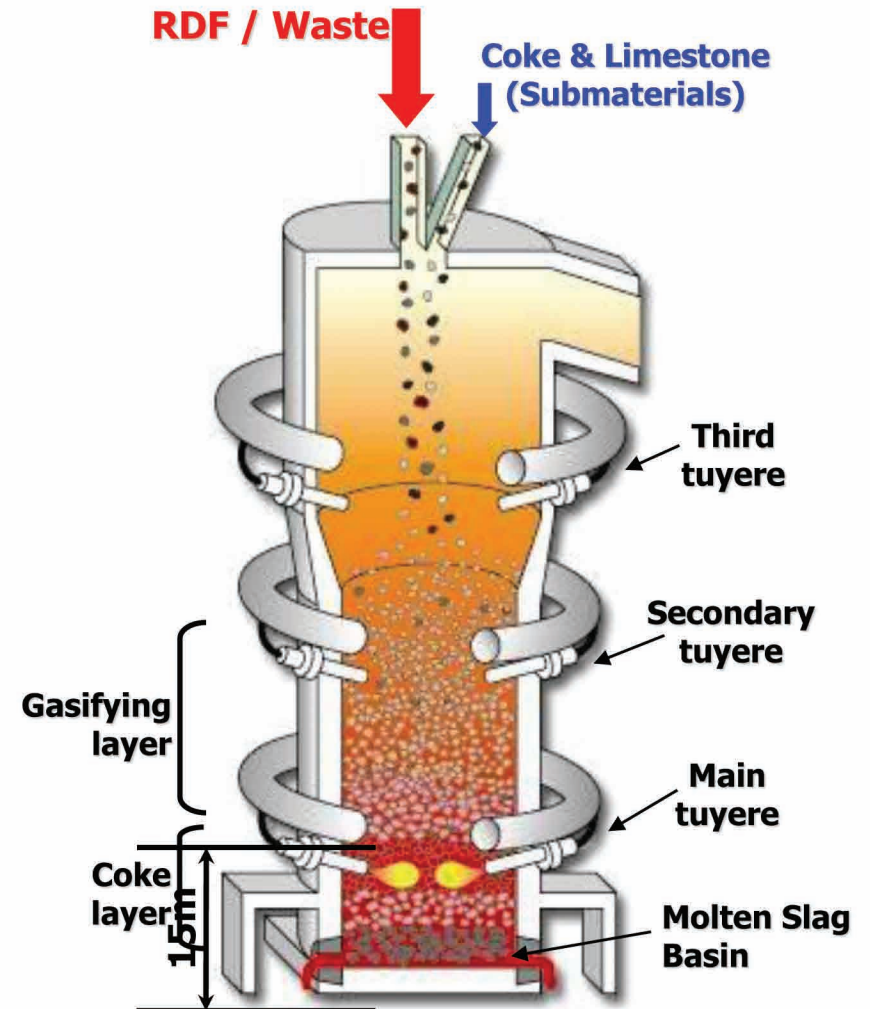
Blast furnace



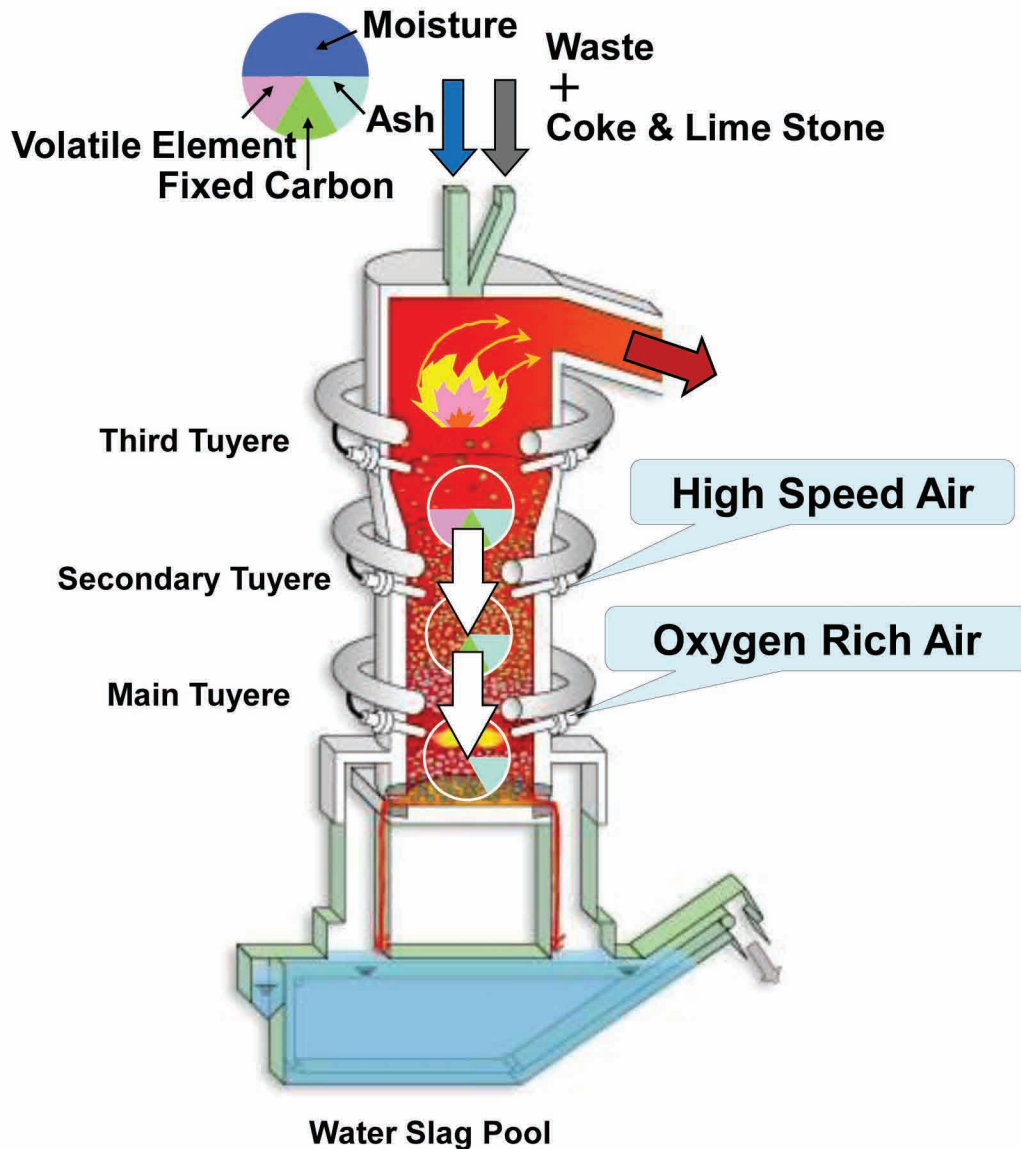
Gasification furnace



Blast furnace



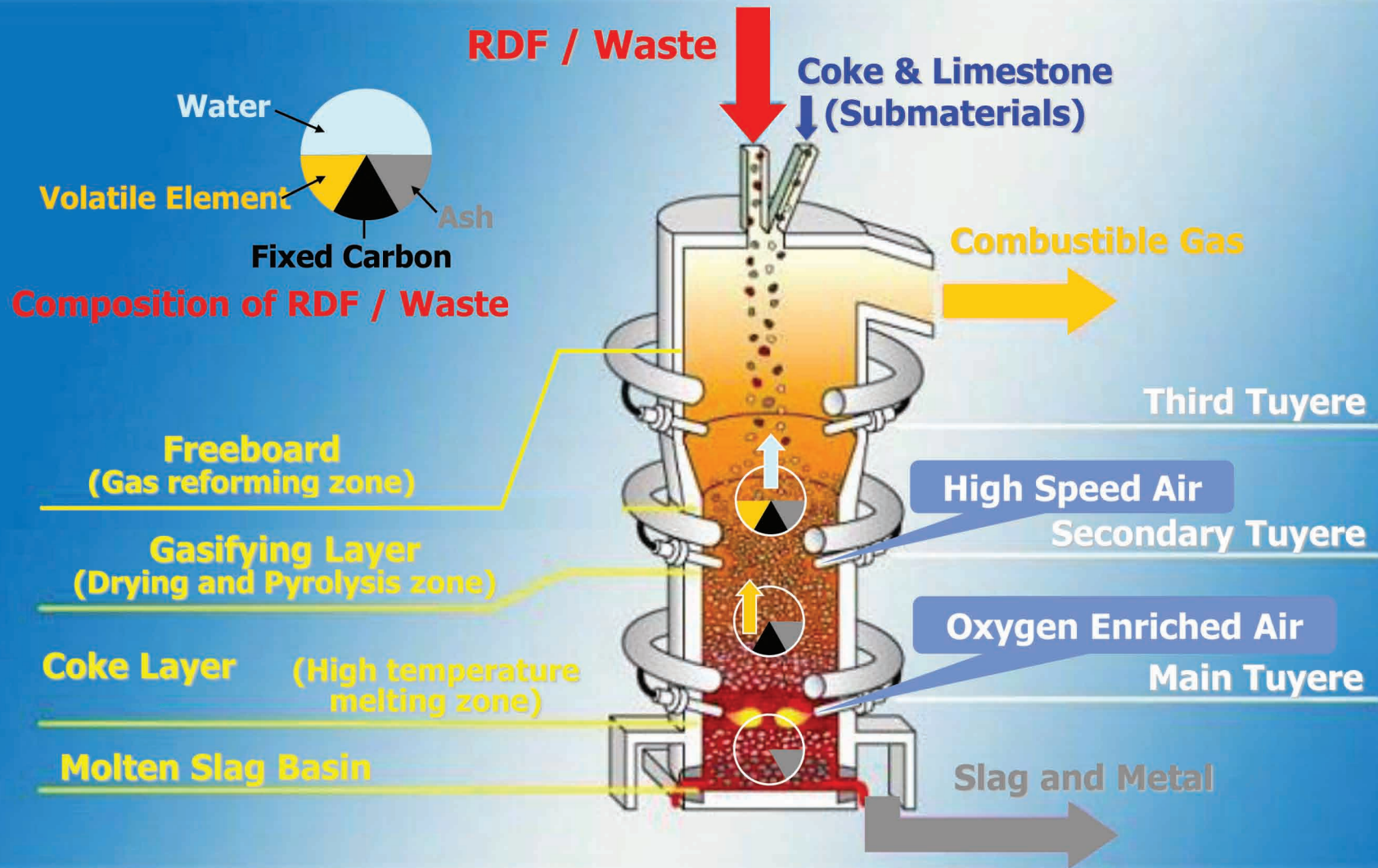
Gasification furnace

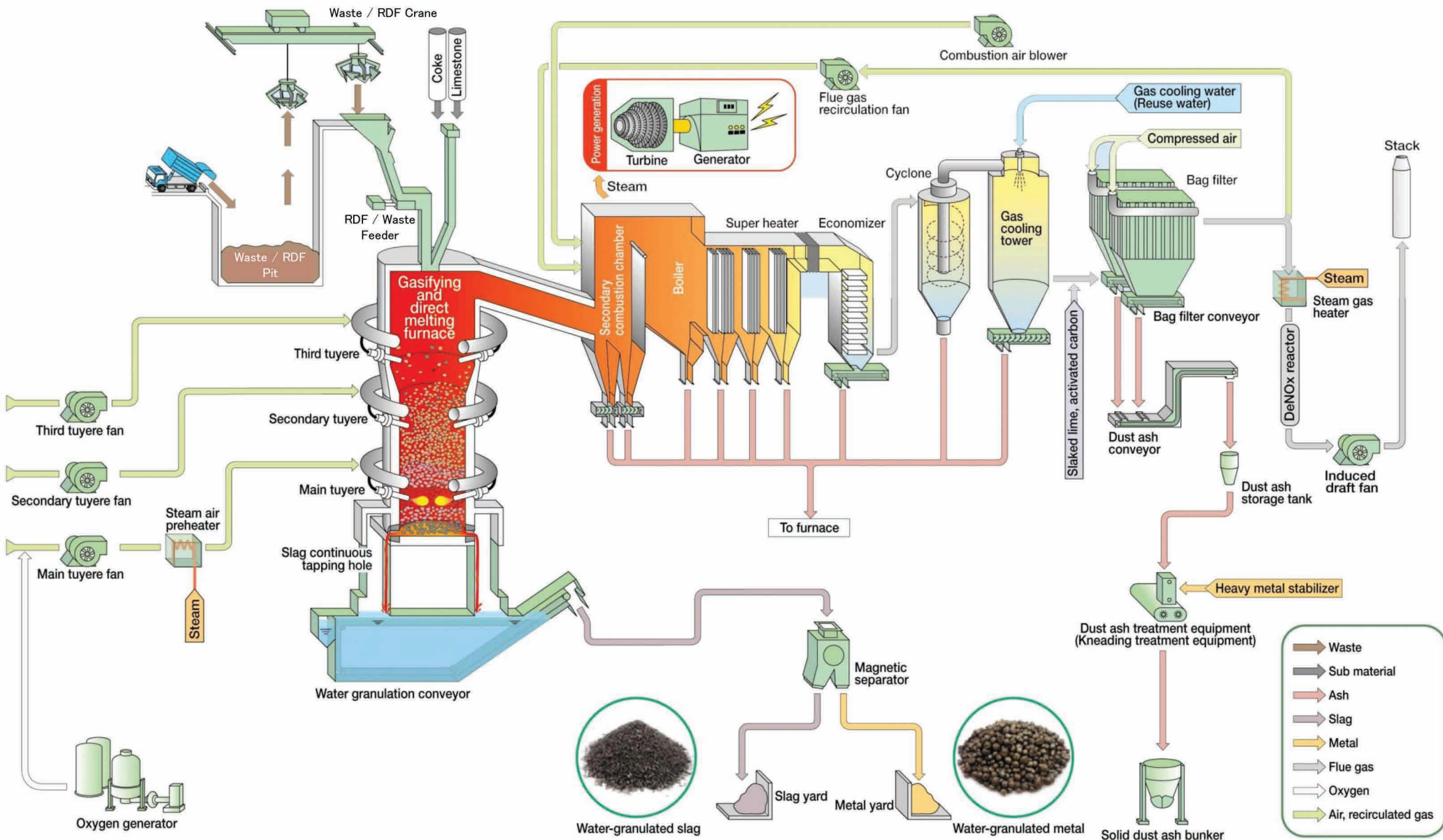


Free Board (Gas Reforming Zone)

- Outlet of Free Board temperature is controlled at 850°C
- Dioxins and Tar are decomposed at high temperature and reduction atmosphere
- Ample space at free board stabilizes gas flow and reduces the velocity resulting lower dust emission

JFE Gasification Furnace









A vertical cross-section diagram of a waste-to-energy incinerator. At the top, two vertical pipes enter. The main chamber is filled with a yellow and orange granular material, representing waste being incinerated. Below this, there is a red section with two yellow stars, likely representing a heat exchanger or boiler. The entire unit is supported by a base with four legs.

Fuel Flexibility

- RDF
- Municipal Solid Waste
- Sewage Sludge
- Automobile Shredder Residue (ASR)
- Hazardous Waste (incl. Medical Waste)
- Landfilled Waste

Applicability

High LHV Waste		<ul style="list-style-type: none"> - Disposed Plastic - ASR - RDF
Moist Waste		<ul style="list-style-type: none"> - Kitchen Refuse - Sludge
Waste with Ash		<ul style="list-style-type: none"> - Slag from Incinerator - Excavated Landfill Waste - MBT Residual waste
Hazardous Waste		<ul style="list-style-type: none"> - Medical Waste - etc.



Waste Feedstock Preparation

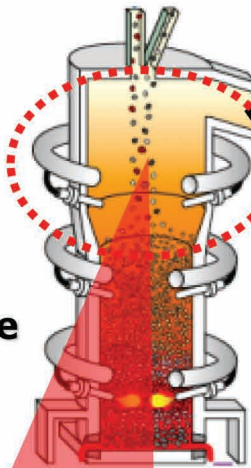
Maximum Size of Waste : 600 mm Square

Low Dioxins Emission

Secondary Combustion Chamber

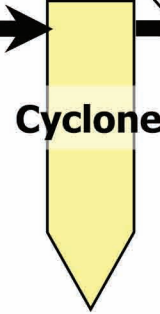
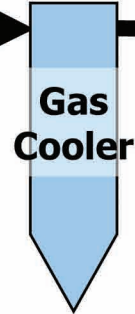
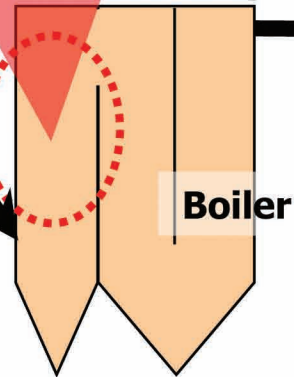
- High Temperature
- Appropriate Resident Time

Gasifying and
Melting Furnace



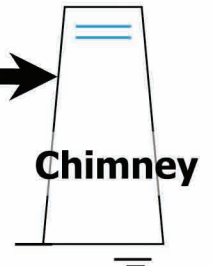
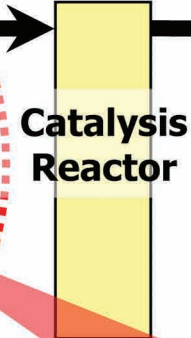
Freeboard

- High Temperature
- Reduction Atmosphere



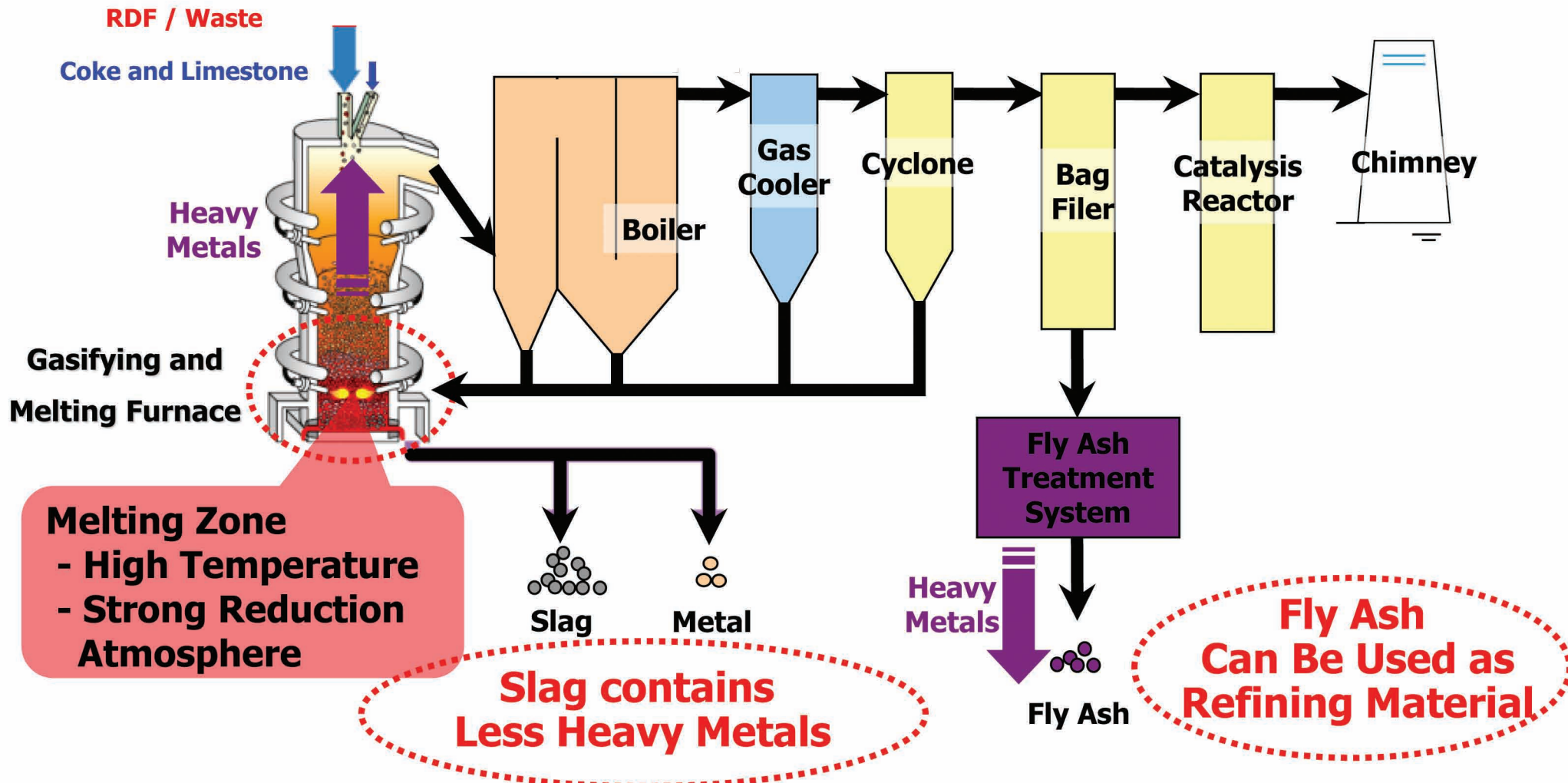
Slaked Lime
and
Activated Carbon

Dioxins Concentration
0.000053ng-TEQ/m³N



Flue Gas Treatment
- Activated Carbon
Injection

- Heavy Metals are vaporized to the gaseous phase
- Ash is converted to safe slag



A stylized, pixelated illustration of a vertical industrial reactor or distillation column. It features a central column with several horizontal trays or sections, topped with a dome and two vertical pipes. The base is a red, rectangular structure with two yellow diamond-shaped elements. The entire illustration is set against a blue background with a light blue gradient.

High Efficiency

- Power generation $> 30\%$



World's Largest Gasifier



Outward
(Left: RDF Production / Right: Power Plant)

“Fukuyama Recycle Power”

Completion	March 2004
Waste	RDF (18.2 MJ/kg)
Capacity	13.1 t/h (1 Line)
Boiler / Steam Turbine	6.0 MPa / 450 deg-C Power Generation: 20 MW Efficiency: 31 %
Flue Gas Treatment	Dry Type + SCR



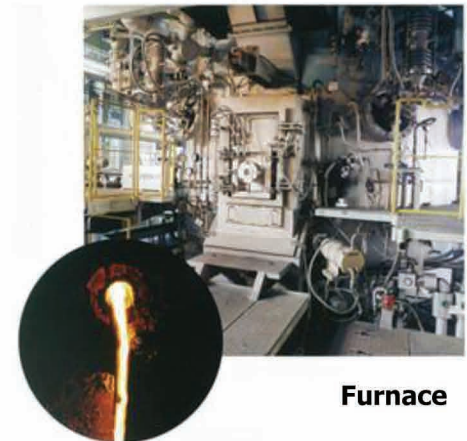
RDF Feeding Conveyor



Water Granulation
Conveyor



Bag Filter



Furnace



Slag Outlet

Safe & Easy Operation

Negative Pressure Operation

High temperature and negative pressure in free board



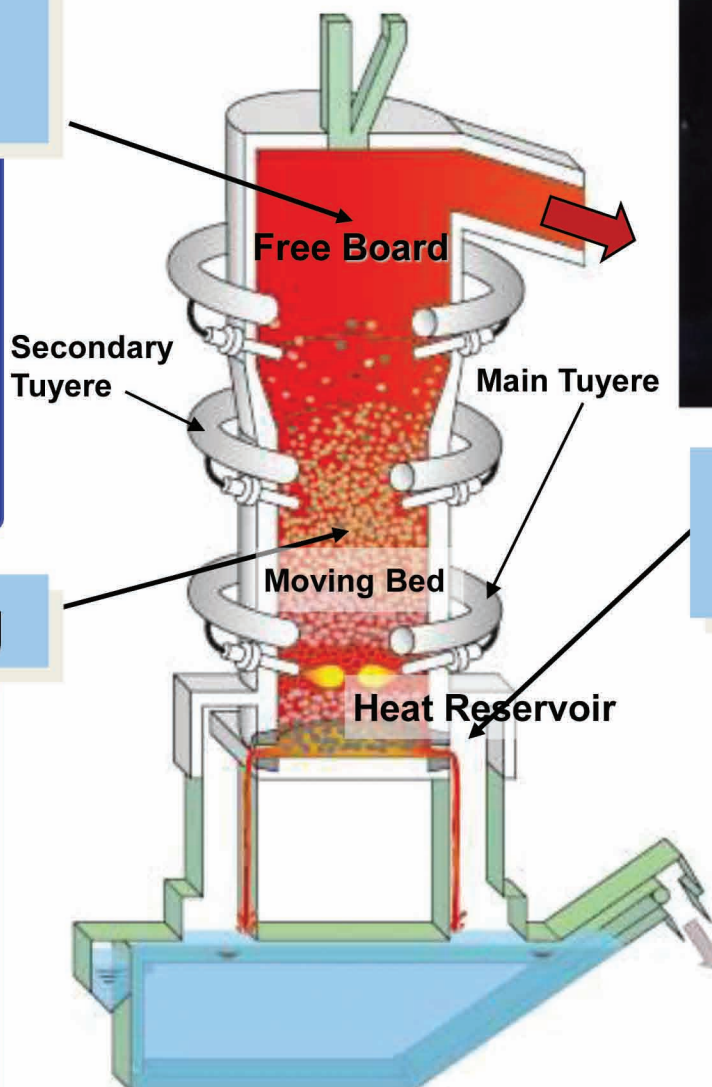
No gas leakage

No Clinker Clogging

High velocity air from Secondary Tuyere forms moving bed.



Minimizing Clinker Clogging Troubles



Continuous Slag Discharging

Heat reservoir with special burner



No need for slag tapping,
Safe operation



Proven Track Record since 2003



	Municipality/Owner	Capacity	RDF / Waste	Completion
①	Kagamihara City, Gifu	8.0 t/h (3 Lines)	MSW (incl. Bulky Waste)	Mar. 2003
②	Amagi, Asakura and Mii Association, Fukuoka	5.0 t/h (2 Lines)	MSW (incl. Bulky Waste)	Mar. 2003
③	Hidaka-chubu Association, Hokkaido	1.6 t/h (2 Lines)	MSW (incl. Bulky Waste)	Feb. 2003
④	Morioka Shiwa Area Association, Iwate	6.7 t/h (2 Lines)	MSW (incl. Bulky Waste, Excavated Waste)	Mar. 2003
⑤	Saiki Area Association, Oita	4.6 t/h (2 Lines)	MSW (incl. Bulky Waste, Excavated Waste, Sludge)	Mar. 2003
⑥	Fukuyama Recycle Power Corp., Hiroshima	13.1 t/h (1 Line)	RDF	Feb. 2004
⑦	Ibaraki Environment Protection Foundation, Ibaraki	6.0 t/h (2 Lines)	MSW and Industrial Waste (incl. Bottom Ash)	Mar. 2006
⑧	Aki Area Association, Kochi	3.3 t/h (2 Lines)	MSW (incl. Bulky Waste, Excavated Waste)	Mar. 2006
⑨	Hamada Area Association, Shimane	4.1 t/h (2 Lines)	MSW (incl. Bulky Waste)	Nov. 2006
⑩	Chikushino, Ogori and Kiyama Association, Fukuoka	10.4 t/h (2 Lines)	MSW (incl. Bulky Waste, Disaster Waste)	Mar. 2008