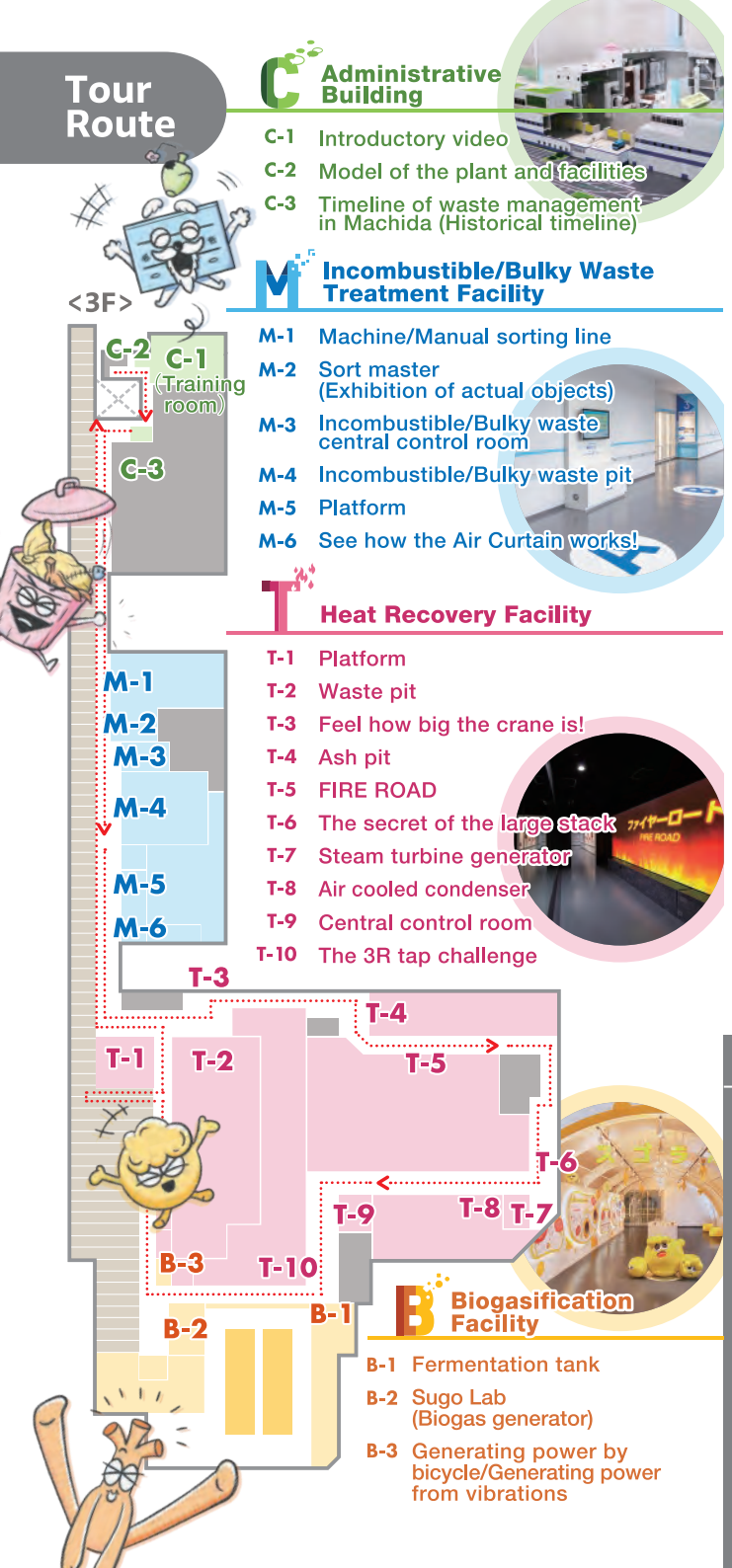
Tour Route



Administrative Building

- C-1 Introductory video
- C-2 Model of the plant and facilities
- C-3 Timeline of waste management in Machida (Historical timeline)

Incombustible/Bulky Waste Treatment Facility

- M-1 Machine/Manual sorting line
- M-2 Sort master (Exhibition of actual objects)
- M-3 Incombustible/Bulky waste central control room
- M-4 Incombustible/Bulky waste pit
- M-5 Platform
- M-6 See how the Air Curtain works!

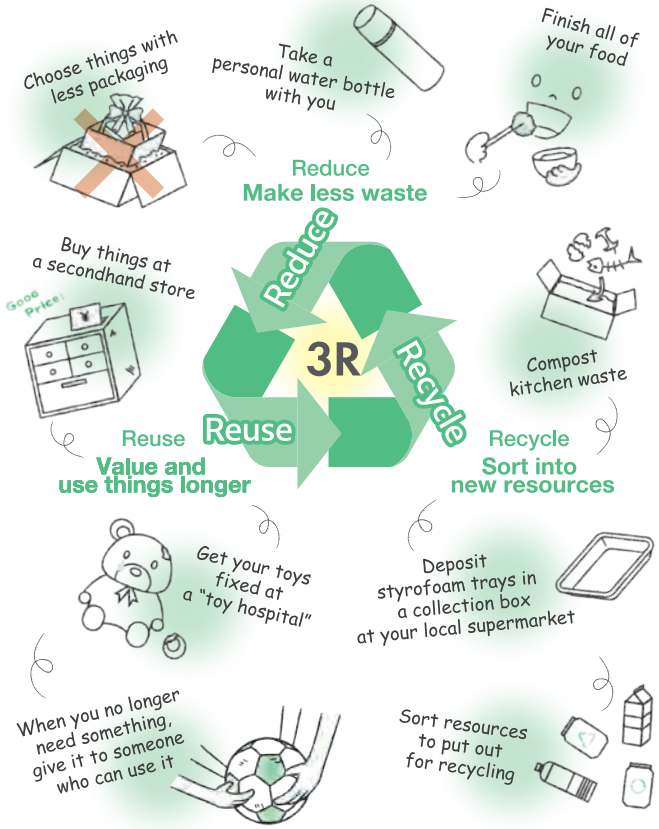
Heat Recovery Facility

- T-1 Platform
- T-2 Waste pit
- T-3 Feel how big the crane is!
- T-4 Ash pit
- T-5 FIRE ROAD
- T-6 The secret of the large stack
- T-7 Steam turbine generator
- T-8 Air cooled condenser
- T-9 Central control room
- T-10 The 3R tap challenge

Biogasification Facility

- B-1 Fermentation tank
- B-2 Sugo Lab (Biogas generator)
- B-3 Generating power by bicycle/Generating power from vibrations

In the city of Machida, to protect the local and global environment, we developed the approach to not produce, incinerate, or landfill waste. We strive to minimize waste and promote recycling. Follow the 3R (reduce, reuse and recycle) to reduce waste!



Machida City Bio-Energy Center

Address : 3160 Shimo-Oyamada-machi, Machida, Tokyo

Capacity of facilities : Heat recovery facility (incinerator)
Stoker-type incinerator: 258 t/day
(129 t/day × 2 incinerators)
Biogasification facility: 50 t/day high-temperature dry methane fermentation
Incombustible/bulky waste treatment facility: machine-sorting plus hand-sorting 47 t/5 hours

Tel : 042-722-3111 (representative)
Open all year round 7:00 a.m. to 7:00 p.m.

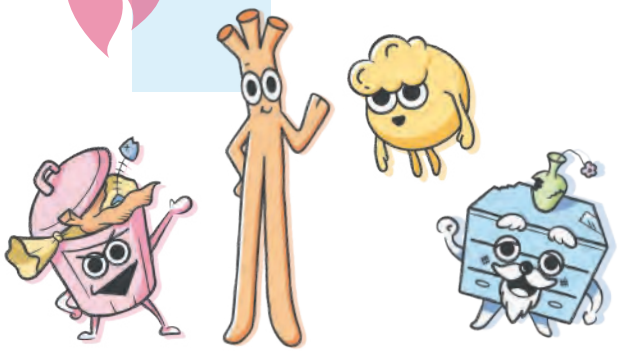
Machida City website : https://www.city.machida.tokyo.jp/shisei/shiyakusyo/kankyo01.html

Machida City Bio-Energy Center website (Managing company website) : http://machidashi-bioenergycenter.com/

Note: “Bio-Energy” is a term used to denote energy made from biomass.

MBEC

Machida City Bio-Energy Center

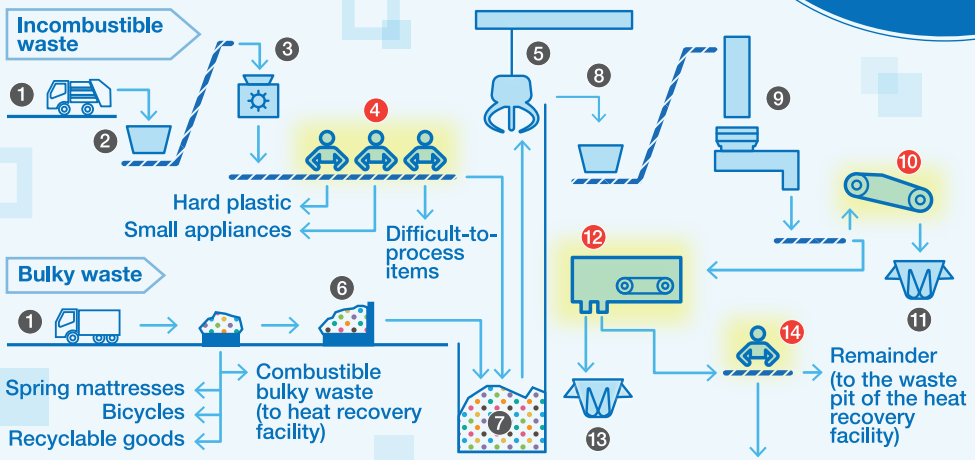


MACHIDA City

See the flow of waste processing!

Resources in non-burnable garbage and bulky waste are sorted and removed by hand and machine to reduce the amount processed as garbage.

Incombustible/ Bulky Waste Treatment Facility



1. Platform (Incombustible/bulky waste)
2. Incombustible waste receiving hopper
3. Incombustible waste bag-breaking machine
4. Hand-sorting conveyor for non-burnable waste
5. Incombustible/ bulky waste crane
6. Receiving yard
7. Incombustible/ bulky waste pit
8. Incombustible/ bulky waste receiving hopper
9. High-speed gyratory crusher
10. Magnetic sorter
11. Steel storage hopper
12. Aluminum sorter
13. Aluminum storage hopper
14. Remainder conveyor

→ Flow of garbage and resources

High-speed Gyratory Crusher

Biogasification Facility

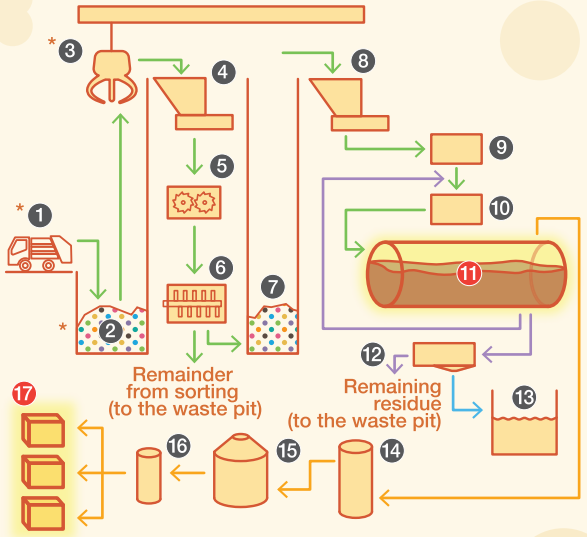
Fermentation Tank

Inside the Fermentation Tank

1. Platform
2. Waste Pit
3. Waste Crane
4. Waste hopper for sorting/ crushing
5. Crusher
6. Sorter/Crusher
7. Food waste pit
8. Biogasification waste hopper
9. Thermal refining unit
10. Substrate heat exchanger
11. Fermentation Tank
12. Dehydrator
13. Recovered water processing equipment
14. Desulfurization equipment
15. Gas retention equipment
16. Equipment to remove trace toxins
17. Biogas Generator

→ Flow of garbage
→ Flow of biogas
→ Flow of the remaining residue
→ Flow of recovered water

* ① & ② & ③ are shared with the heat recovery facility

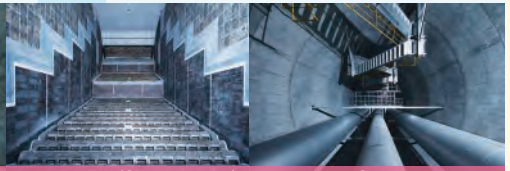


Heat Recovery Facility

Garbage is burned in an incinerator! The flue gas has toxic elements removed and is released clean from the stack. Also, the heat from burning the garbage is used to make steam! The steam is then used to generate power and even heat the water at the Machida Municipal Indoor Pool!

1. Platform
2. Waste pit
3. Waste crane
4. Waste feed hopper
5. Incinerator
6. Boiler drum
7. Superheater
8. Economizer
9. No. 1 Bag filter
10. SCR* Reactor (*Selective Catalytic Reduction)
11. No. 2 Bag filter
12. Induced draft fan
13. Stack
14. Ash pit
15. Ash crane
16. Fly ash storage tank
17. Kneader
18. Treated fly ash pit
19. Steam turbine generator
20. Air cooled condenser

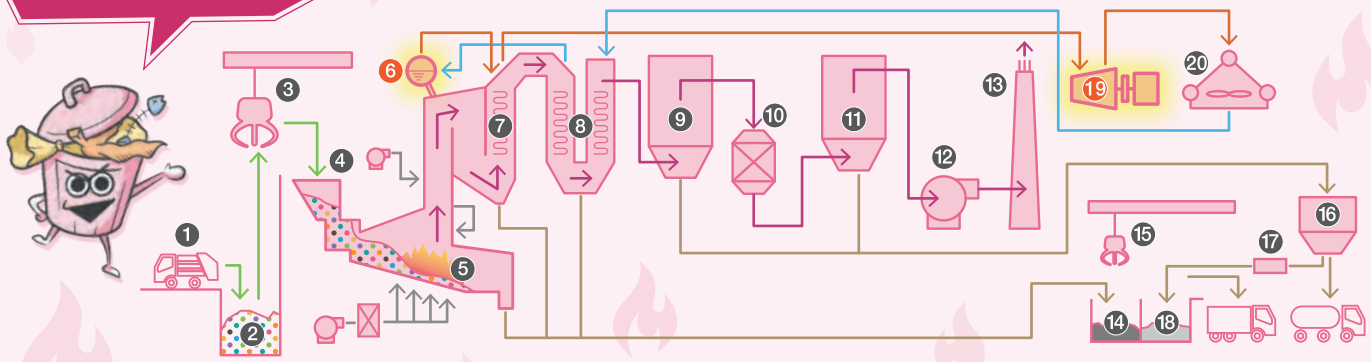
→ Flow of garbage
→ Flow of air
→ Flow of flue gas
→ Flow of condensate
→ Flow of steam
→ Flow of ash



Waste Pit/Waste Crane

Incinerator(Stoker type)

Inside the Stack



Organic waste is sorted out from the burnable garbage and sent to the fermentation tank. In the tank, the waste is fermented by methanogens to produce biogas. The biogas is then used to generate power!