



March, 2025

JCM Project Case study - Waste to Energy

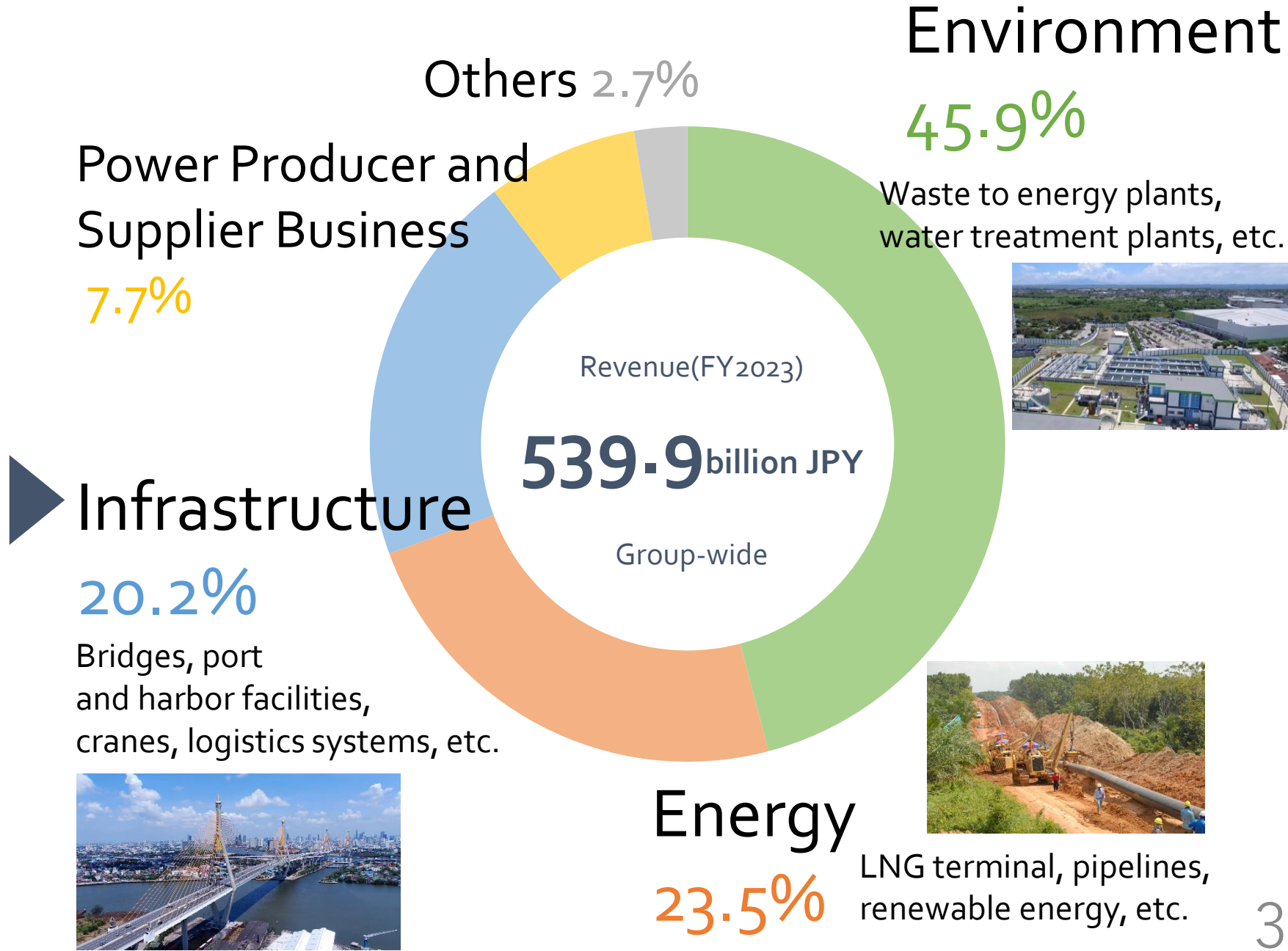
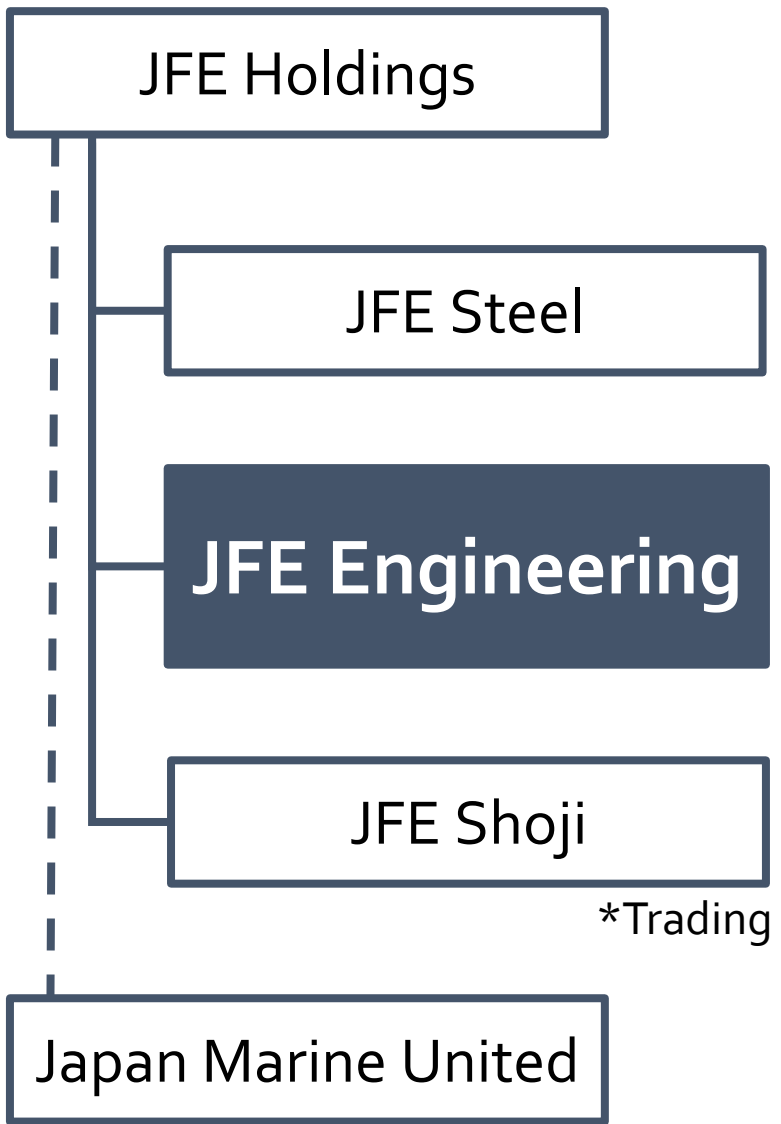


JFE Engineering Corporation



Photo : CII

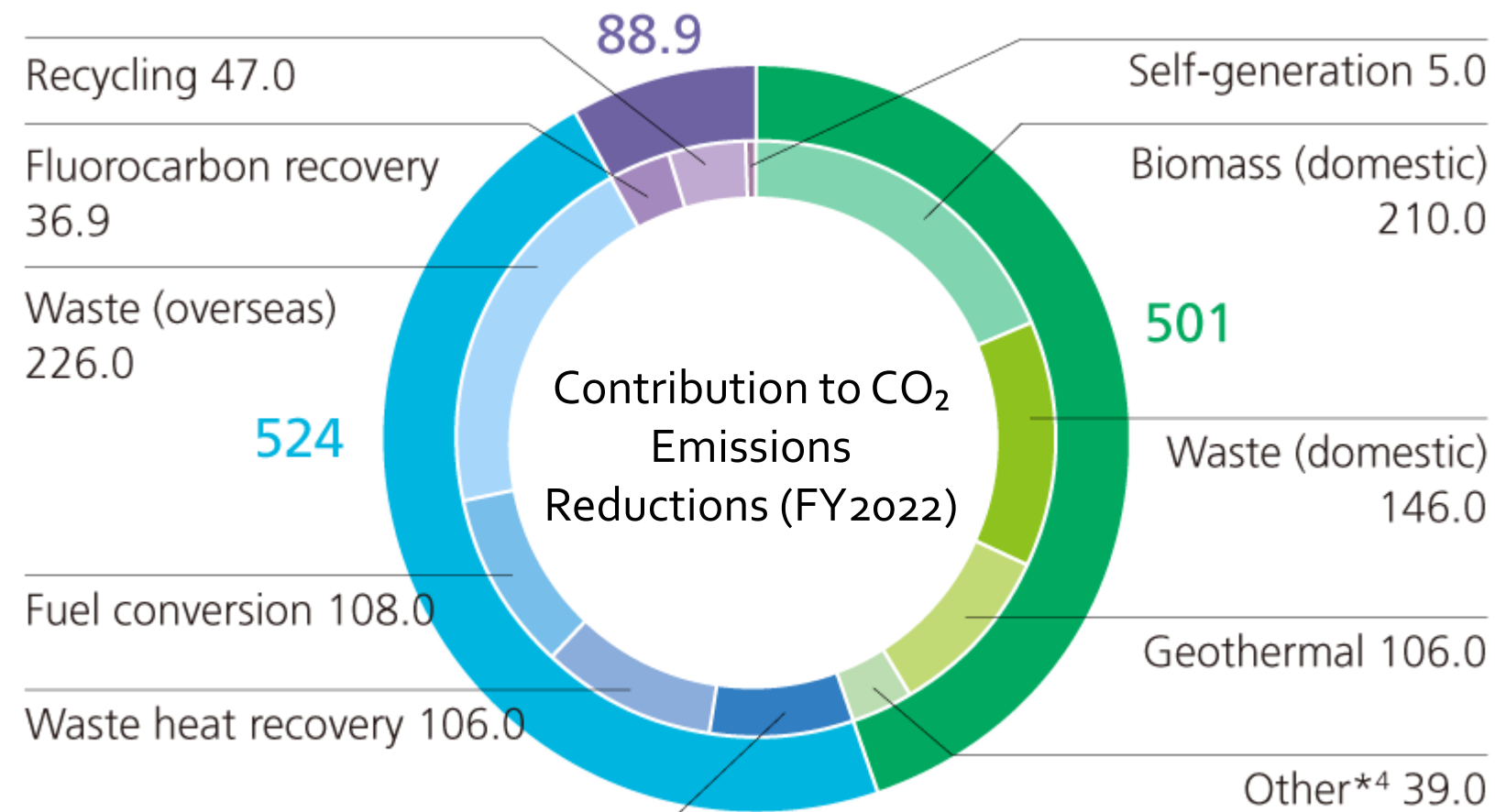
JFE Business at a Glance - Leading Environmental Solutions Provider



Proven Environmental Performance

11,140,000 t-CO₂/y

■ Domestic plants*¹
■ Overseas plants*²
■ Recycling*³



Power generation by waste heat recovery in the PT Semen Indonesia (Persero) Tbk factory in Tuban - JCM Registered Project ID013

*¹ Data cover JFE Engineering.

*² Data cover JFE Engineering and Standardkessel Baumgarte GmbH (SBG), a German subsidiary of JFE Engineering Corporation.

*³ Data cover J&T Recycling Corporation and JFE Urban Recycle Corporation.

*⁴ Other includes solar, wind, digestion gas, sludge incineration, PPA, and energy service

JCM: Potential Future Funding Source

- Pending India-Japan JCM agreement (strongly anticipated)
- **JFE Engineering**: Only company with JCM experience in WtE
- Ready to lead JCM subsidy application for Indian WtE

JCM Model Project: Basic Rules

- Purpose: To reduce greenhouse gas
 - Maximum support: Up to 2 billion JPY per project
 - Support rate: Up to 50% of total cost
 - Cost target: Must reduce CO2 at less than 4,000 JPY/CO2-t
- *Other conditions and requirements apply.

Yangon WtE



Bac Ninh (VN) WtE





Waste to Energy project in Bac Ninh Province



[Expected GHG Emission Reductions] 41,805 tCO₂/year (average)

[Capacity] 500 ton/day (MSW+ISW), 11.6 MW



Breaking Financial Barriers through JCM

Ceremony of completion (11 Jan. 2024)



Ministry of the Environment

JCM subsidy



Equity(55%)



Equity(45%)



IFC Loan
+ Finland-IFC Blended
Finance for Climate Program

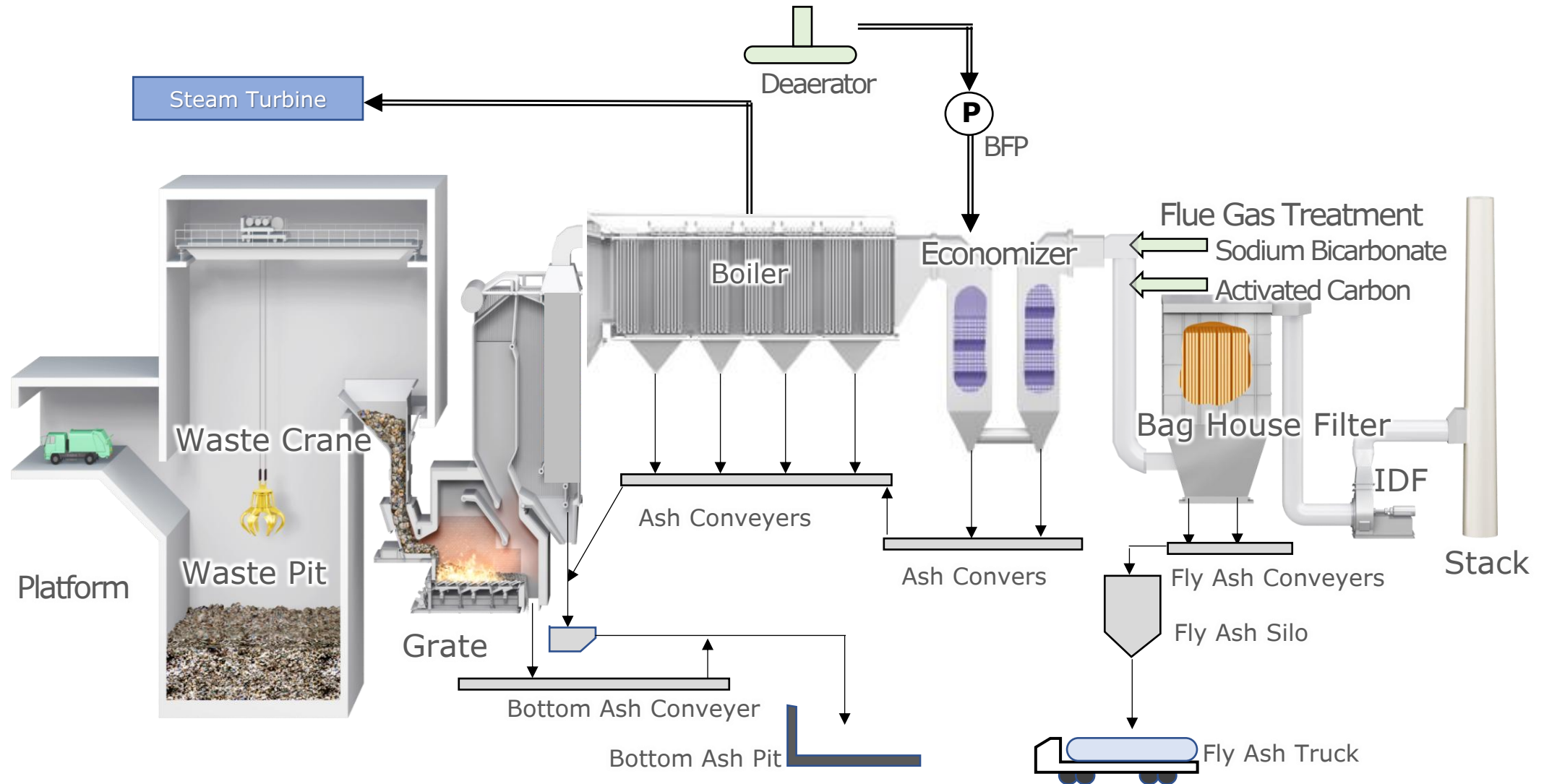
Financially supported as a Joint Crediting Mechanism (JCM) Model Projects by MOEJ, and IFC is providing a its financing package, Vietnamese local waste management company Thuan Thanh Environment and JFE are sharing the equity of the SPC.

Advanced WtE Technology - JFE's Grate Firing Incinerator

hygienic living environment

Highly efficient clean electricity

Safety and stable operation



Next Generation: CCU-Ready WtE

The entire process from collecting CO₂ to producing methanol



WtE plant
(Clean Plaza Fujimi)

CO₂ capture and
recovery test facility

CO₂

Recovery rate:
90% or higher
Purity:
above 99.5%

H₂



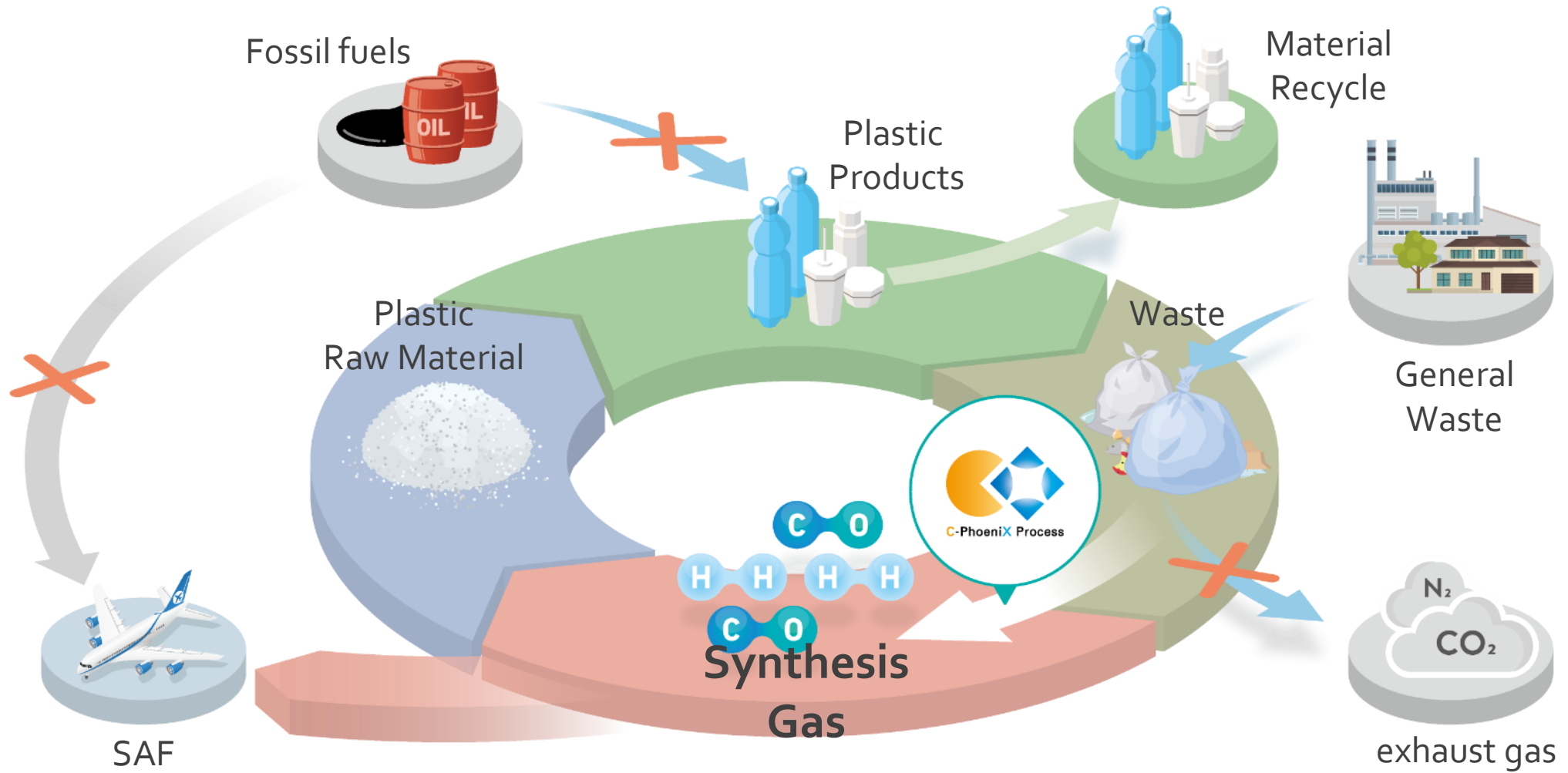
Methanol produced
from CO₂ in the waste

Major usage of methanol (end products)

- Shampoo plastic bottles
- Detergent plastic bottles
- Compact disc cases
- Polyethylene tanks



Future Innovation: Waste to Chemical





Just For the Earth