



An (almost) MBT Facility

Presented to

SWANA

Western Regional Symposium

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JRMA
ARCHITECTS ENGINEERS



Solid Waste Experience

Architects, Structural Engineers & Planners

Founded in 1982

Designed over 200 Transfer Stations, 75+ MRFs, and over 30 Organic Processing Projects

Current Staff of 75+ Professionals

Office Locations: Brea, CA / San Carlos, CA / Portland, OR / Houston, TX / Omaha, NE / Lexington, KY

Organics Experience

Operational AD Facilities in CA (designed by JRMA)

Escondido Disposal Resource Recovery Facility | Escondido, CA

2 high-solids digesters with total capacity of over 90,000 tpy (Phase 1)

Residential yard waste & commercial food waste

Digesters integrated within transfer station & MRF complex

[JRMA.com Escondido Disposal AD Facility](http://JRMA.com/Escondido%20Disposal%20AD%20Facility)

CR&R Environmental Center & Bioenergy Facility | Perris, CA

4 high-solids digesters with total capacity of over 80,000 tpy

Residential yard waste & food waste

[JRMA.com CR&R Environmental Center AD Facility](http://JRMA.com/CR%26R%20Environmental%20Center%20AD%20Facility)

Operational AD Facilities in CA (designed by JRMA)

Zero Waste Energy Anaerobic Digestion Facility | San Jose, CA

Dry fermentation AD system with total capacity of over 90,000 tpy
Residential/Commercial yard waste & food waste
16 digester units and 4 in-vessel composting units

[JRMA.com ZWEDC AD & Compost Facility](http://JRMA.com_ZWEDC_AD_&_Compost_Facility)

Blue Line Biogenic AD & RNG Facility | South San Francisco, CA

8 SMARTFERM AD units with total capacity of over 11,000 tpy
Convert organics into BioCNG for onsite fueling for collection vehicles

[JRMA.com Blue Line Biogenic AD & RNG Facility](http://JRMA.com_Blue_Line_Biogenic_AD_&_RNG_Facility)

MBT Facility

Range of technologies used to stabilize and separate waste into beneficial output streams

An aerial photograph of a large industrial facility, likely a waste treatment plant. The facility consists of several large, rectangular buildings with flat roofs, some of which have solar panels installed. There are various pipes, roads, and parking areas within the site. The surrounding area includes trees and some smaller structures.

Mechanical Biological Treatment

Vattenfall Europe New Energy Ecopower

Veolia Umweltservice Nord



Tipping Floor



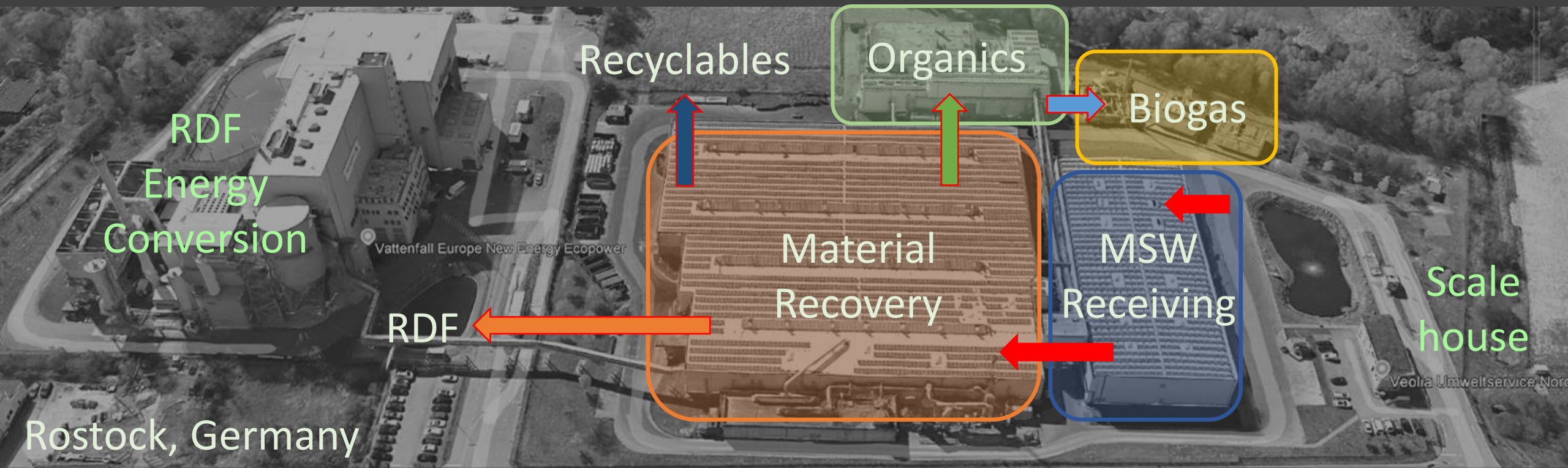
MSW Processing



Anaerobic Digestion



Biogas Cogen



SB 1383

Reduce landfill disposal
of organics by 75%*

The background of the lower half of the slide consists of three vertical panels. The left panel shows a close-up of food waste, including red tomatoes and green vegetables, being processed. The middle panel shows a pile of mixed household and commercial trash, including plastic bags, cardboard, and other debris. The right panel shows a wide view of a landfill site with large mounds of garbage and plastic waste.

Reduce Emissions
Short-lived climate pollutants**

*by 2025, compared to 2014 levels

**below 2013 levels by 2030

Separation & Treatment of Organic Waste

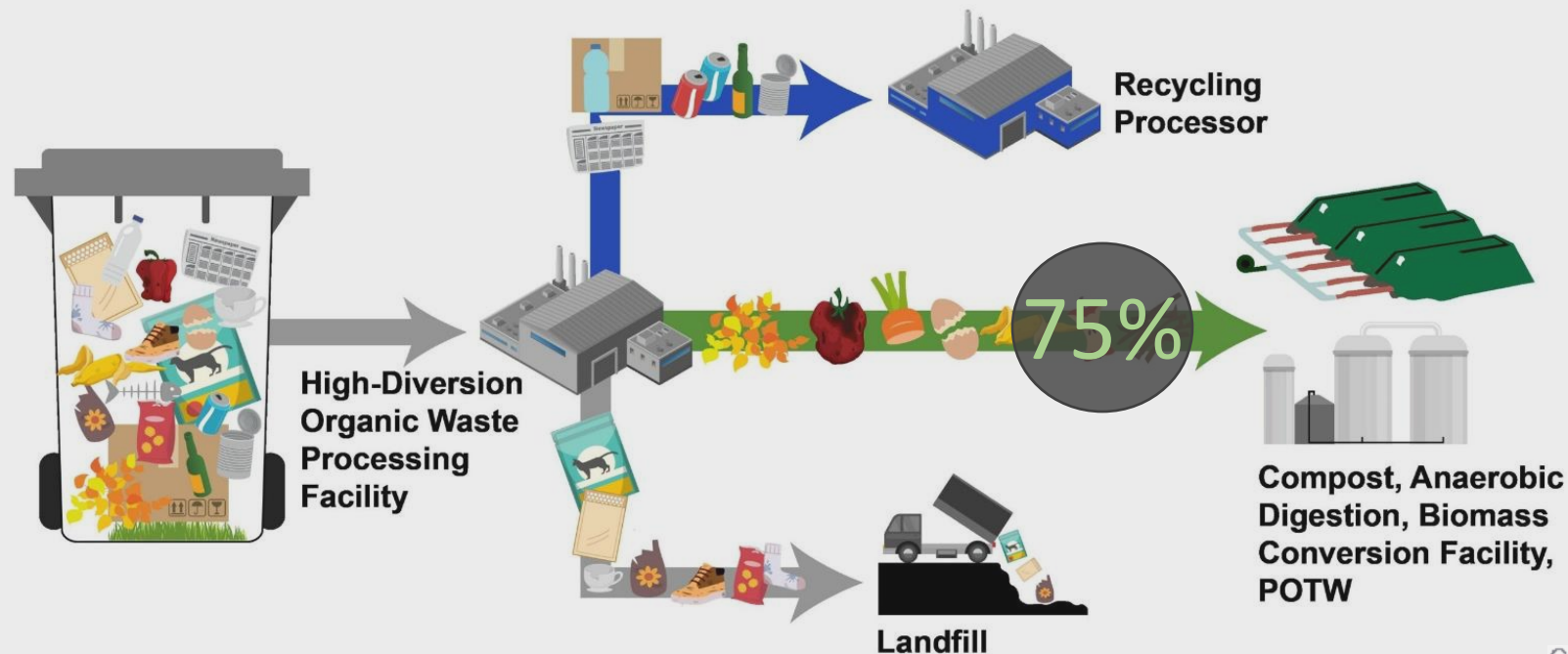
Source-separated organic waste collection; **or**
Single container waste collection and separated at:

An architectural rendering of a large industrial facility, likely a waste treatment plant. The building is long and low, with a corrugated metal roof and several tall, dark vertical exhaust stacks. A central section features a glass-enclosed entrance. The foreground shows a paved area and some smaller structures.

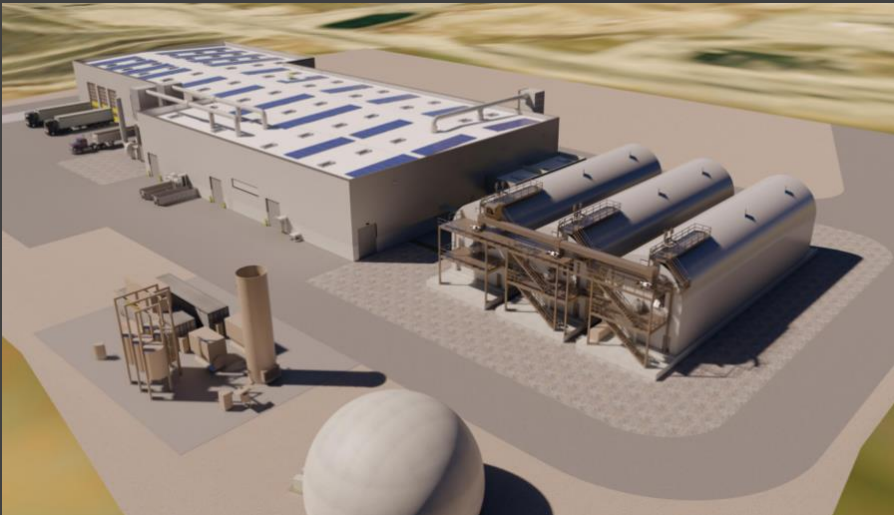
High Diversion Facility

High Diversion Organic Processing

Separates material into multiple streams:
recyclables, organics, and landfill residual

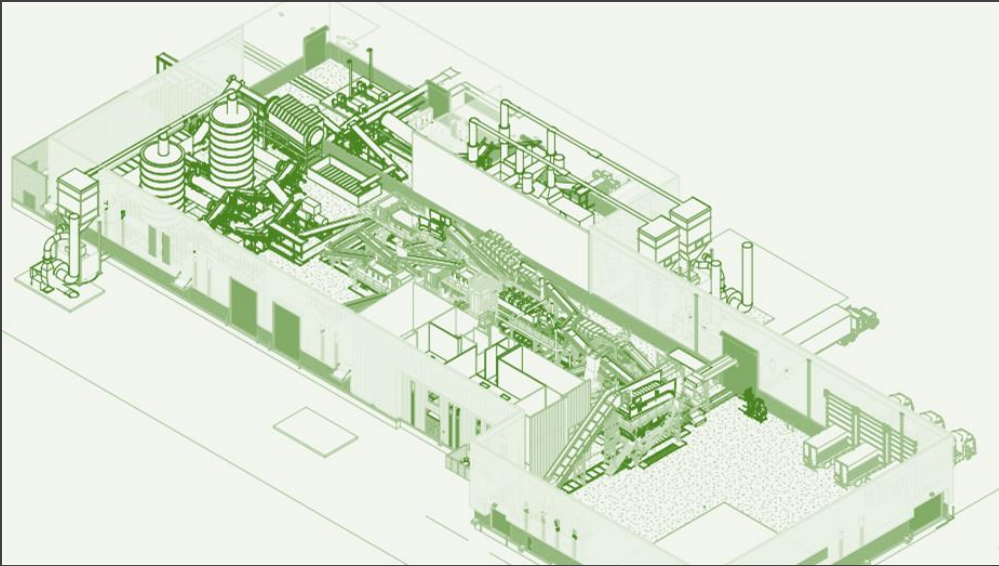


High Diversion Facility



Integrated system of advanced processing technologies to recover and divert organic waste

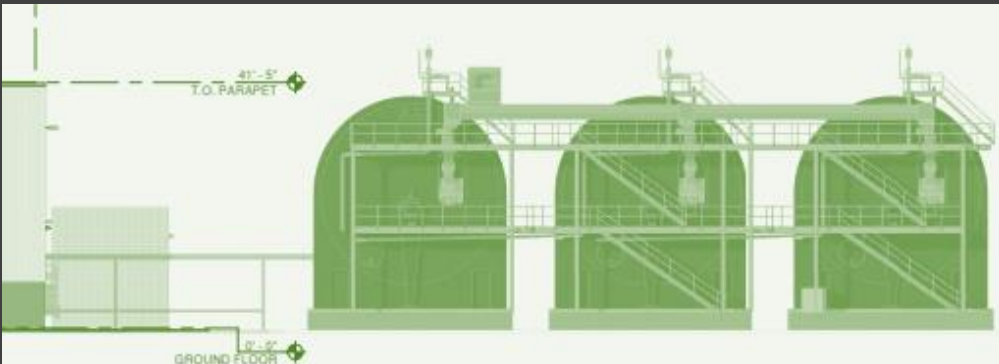
High Diversion Facility



High Level Description:

Material Processing/Recovery

- Recyclables
- Landfill Residual
- Treated Organic Feedstock



High-Solids Anaerobic Digesters

Biogas Upgrading to RNG (pipeline)

Digestate to Compost / Fuel (SEF)

Case Study: Proposed Kern County WastAway Project

Project Summary: Total Project Site: 60 Acres (Facility Area: 5 Acres)
Total Building Area: 65,000 SF (+ 35,000 SF AD Area)

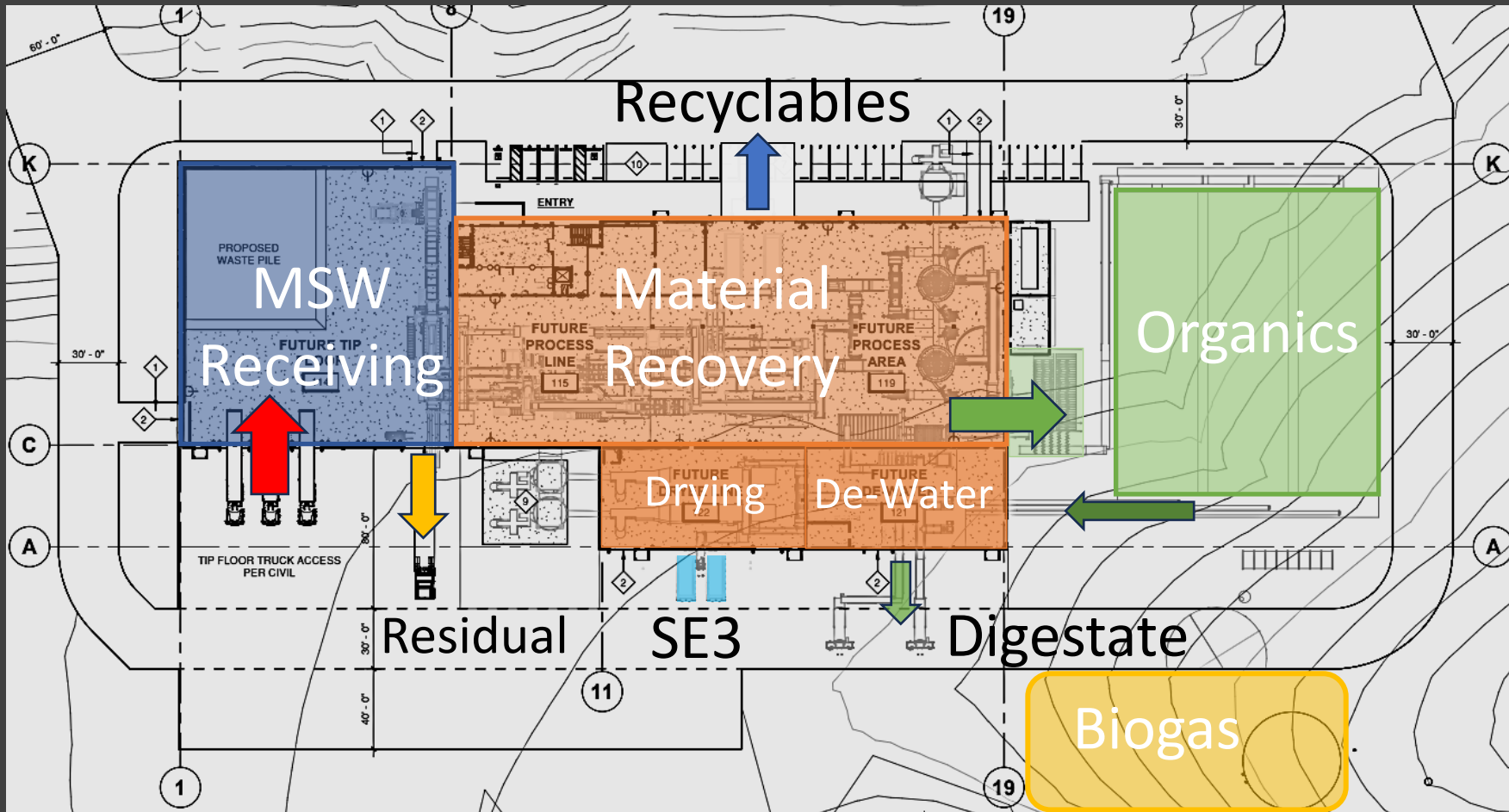
Incoming MSW: 140,000 TPY (400 TPD)

Expected Diversion Rate of 85%

Technology Providers:

- **WastAway** (Thermal Hydrolysis)
- **BHS** (Material Recovery System)
- **Kanadevia INOVA** (AD & Biogas)

Facility Site Layout



Separated
Recyclables

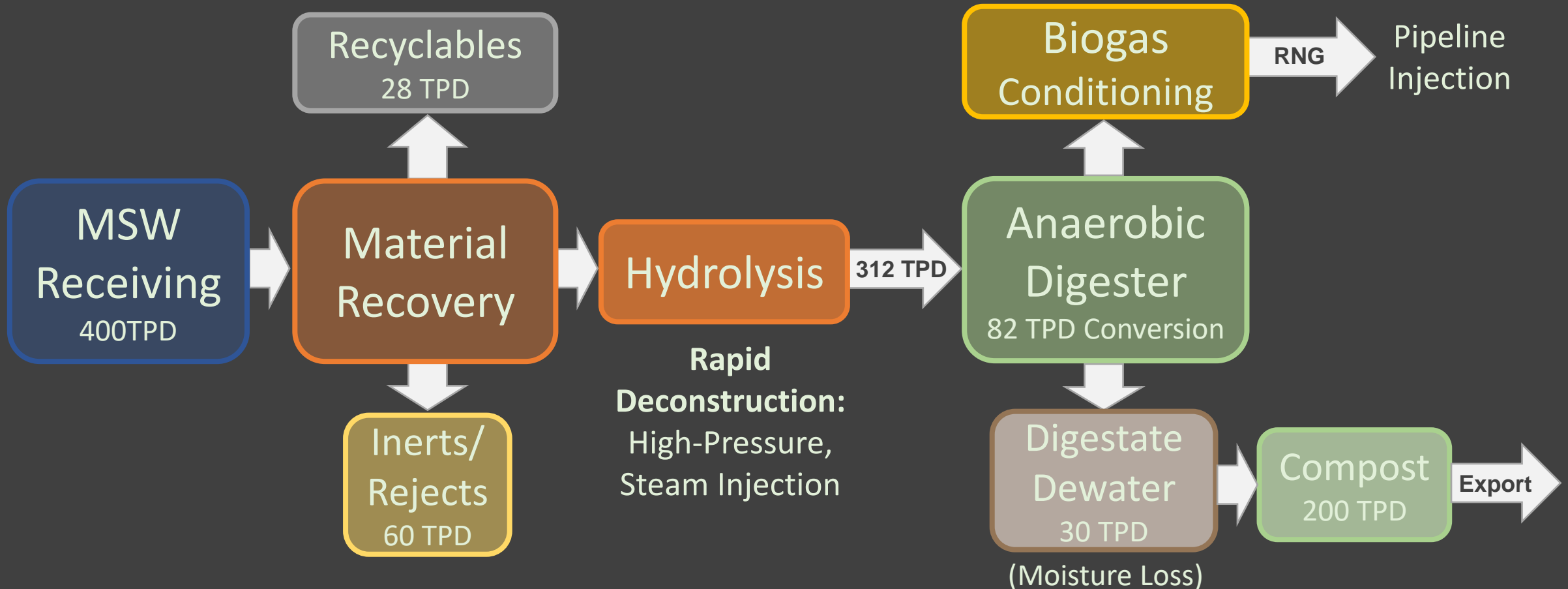
Recovered and
Treated Organics

Renewable
Natural Gas (RNG)

Compost/
Engineered Fuel

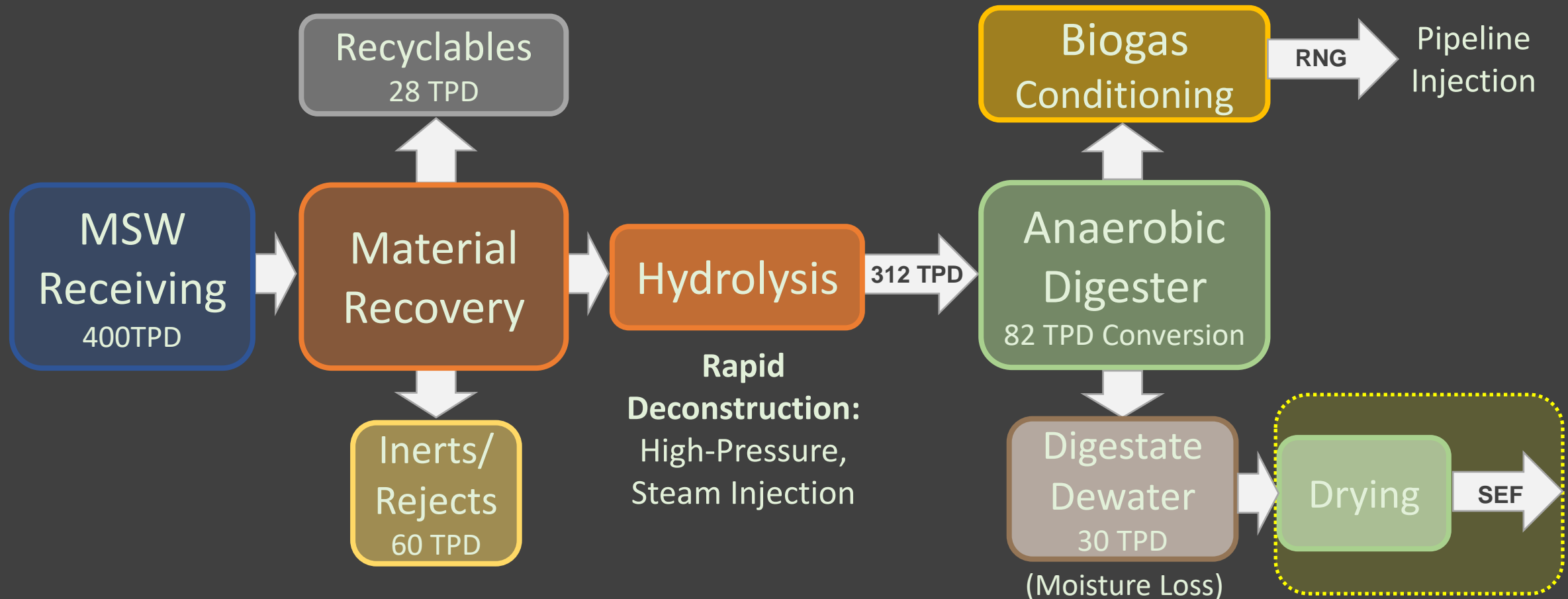
Material Flow Diagram

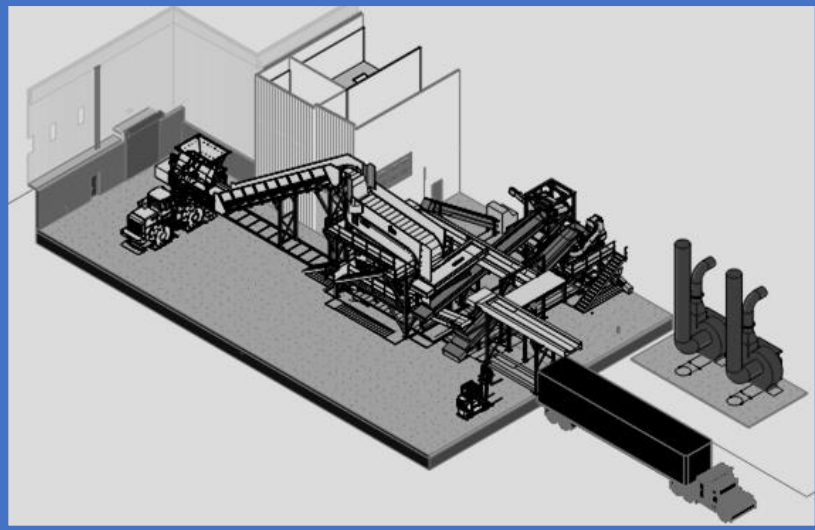
Phase 1: Initial Two Years of Operations (Off-Site Composting)



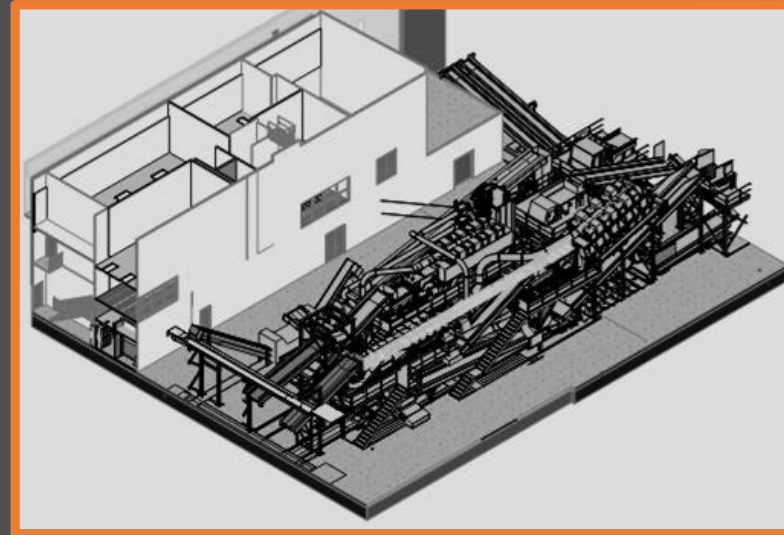
Material Flow Diagram

Phase 2: Post Carbon Footprint Validation (Sustainable Engineered Fuel)



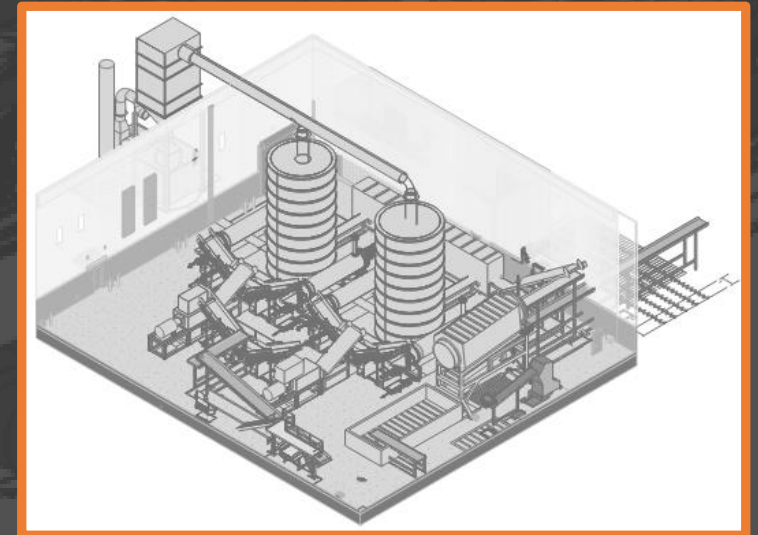


Receiving/Infeed



Material Recovery

Advanced Organic
Recovery with
increased Biogas
Production



Hydrolysis

System Integration
for Efficient
Material Recovery
and Optimized
Performance

Facility Design Elements

Planning and Design

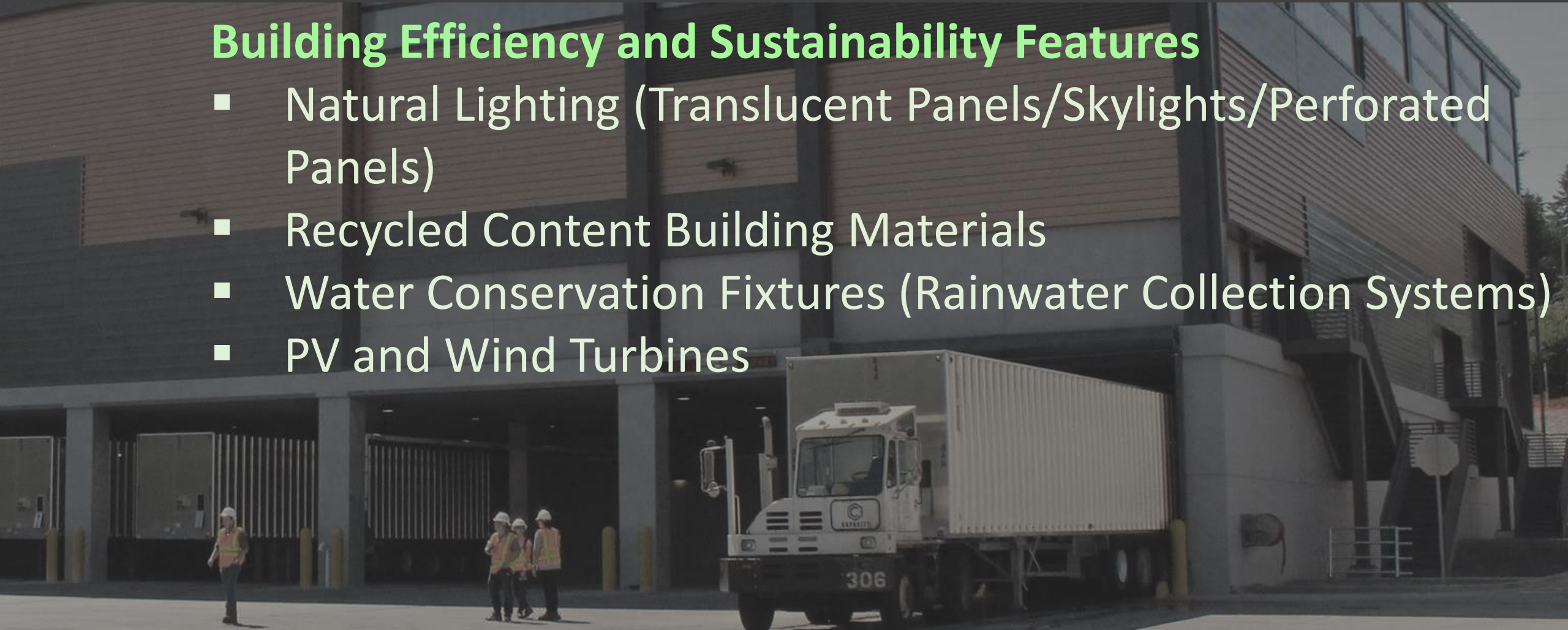
- Optimized Facility Layouts
- Operational Performance
- Flexible/Expandable Operations and Efficient Circulation

Process Integration

- Integration of Material Recovery Systems with Advanced Conversion Technologies
- Enhanced Process Efficiency

Building Efficiency and Sustainability Features

- Natural Lighting (Translucent Panels/Skylights/Perforated Panels)
- Recycled Content Building Materials
- Water Conservation Fixtures (Rainwater Collection Systems)
- PV and Wind Turbines





Thank you



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