

# **Solid Waste Management in York County**





# **What is YCSWA?**



**York County Solid Waste Authority**  
**2700 Black Bridge Road**  
**York, Pa 17406**  
**[www.ycswa.com](http://www.ycswa.com)**



# What is YCSWA?

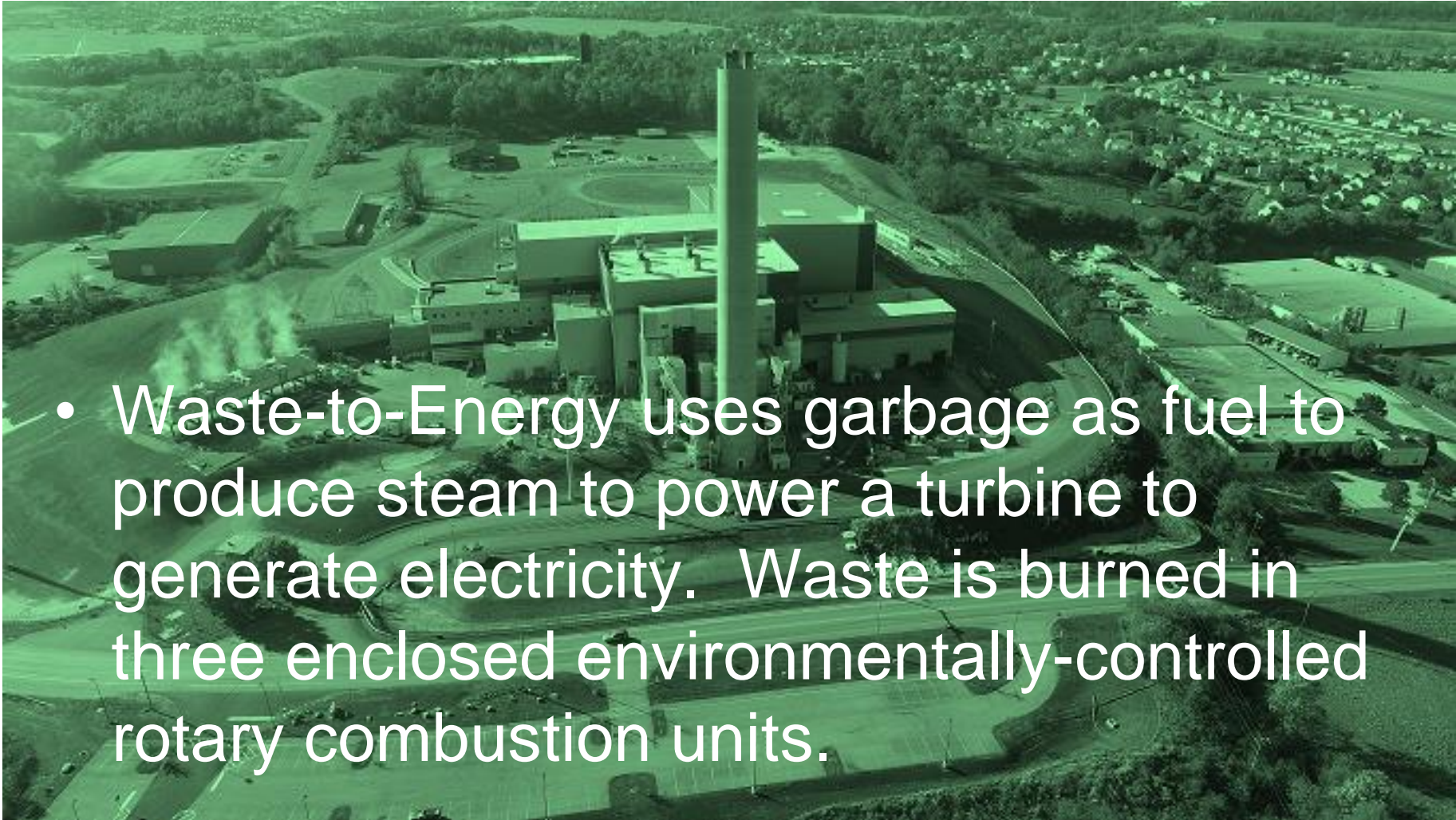
- **Municipal Authority**

- **Mission:**

Facilitate responsible solid waste management



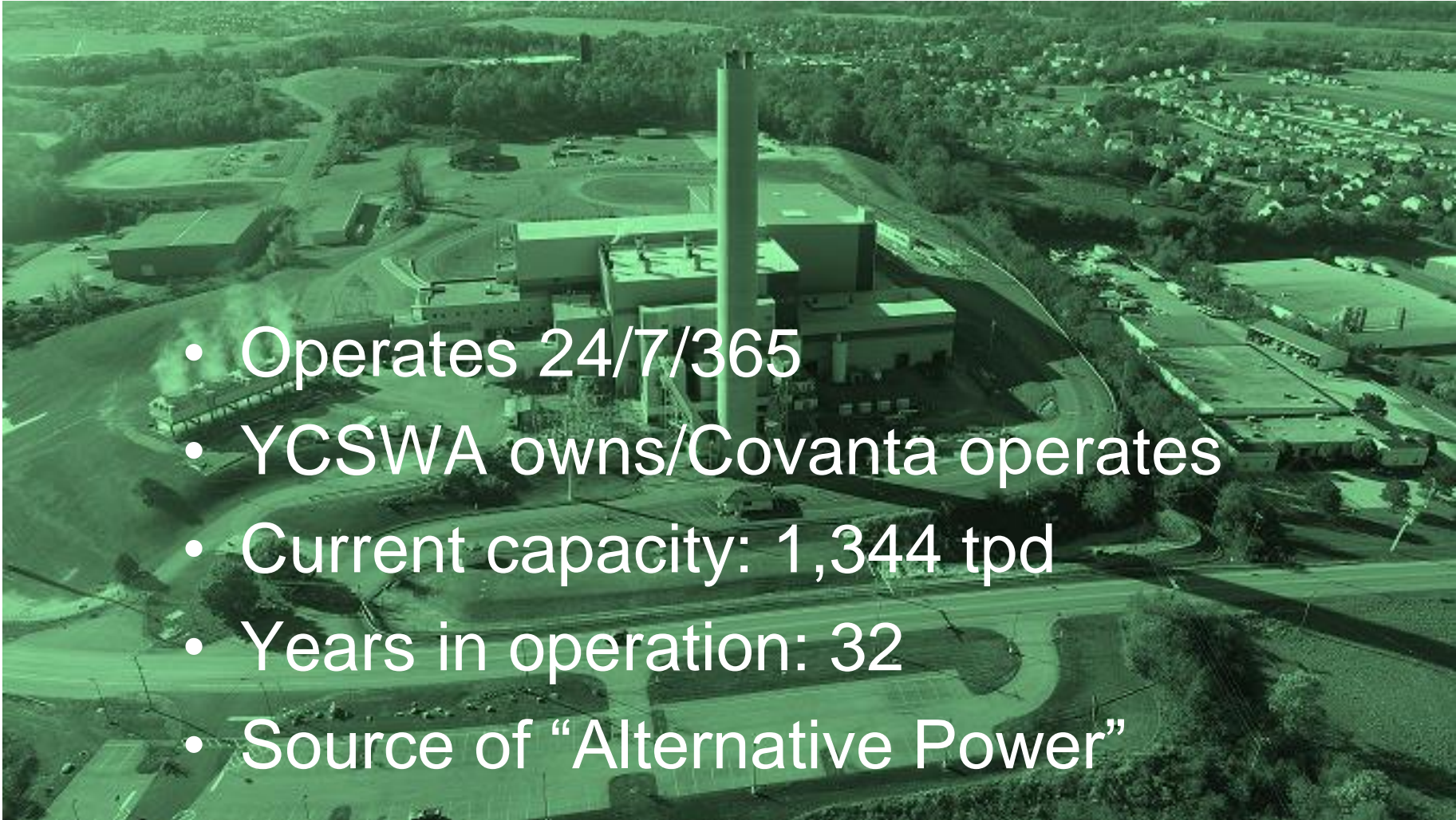
# What is Waste-to-Energy?

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- Waste-to-Energy uses garbage as fuel to produce steam to power a turbine to generate electricity. Waste is burned in three enclosed environmentally-controlled rotary combustion units.





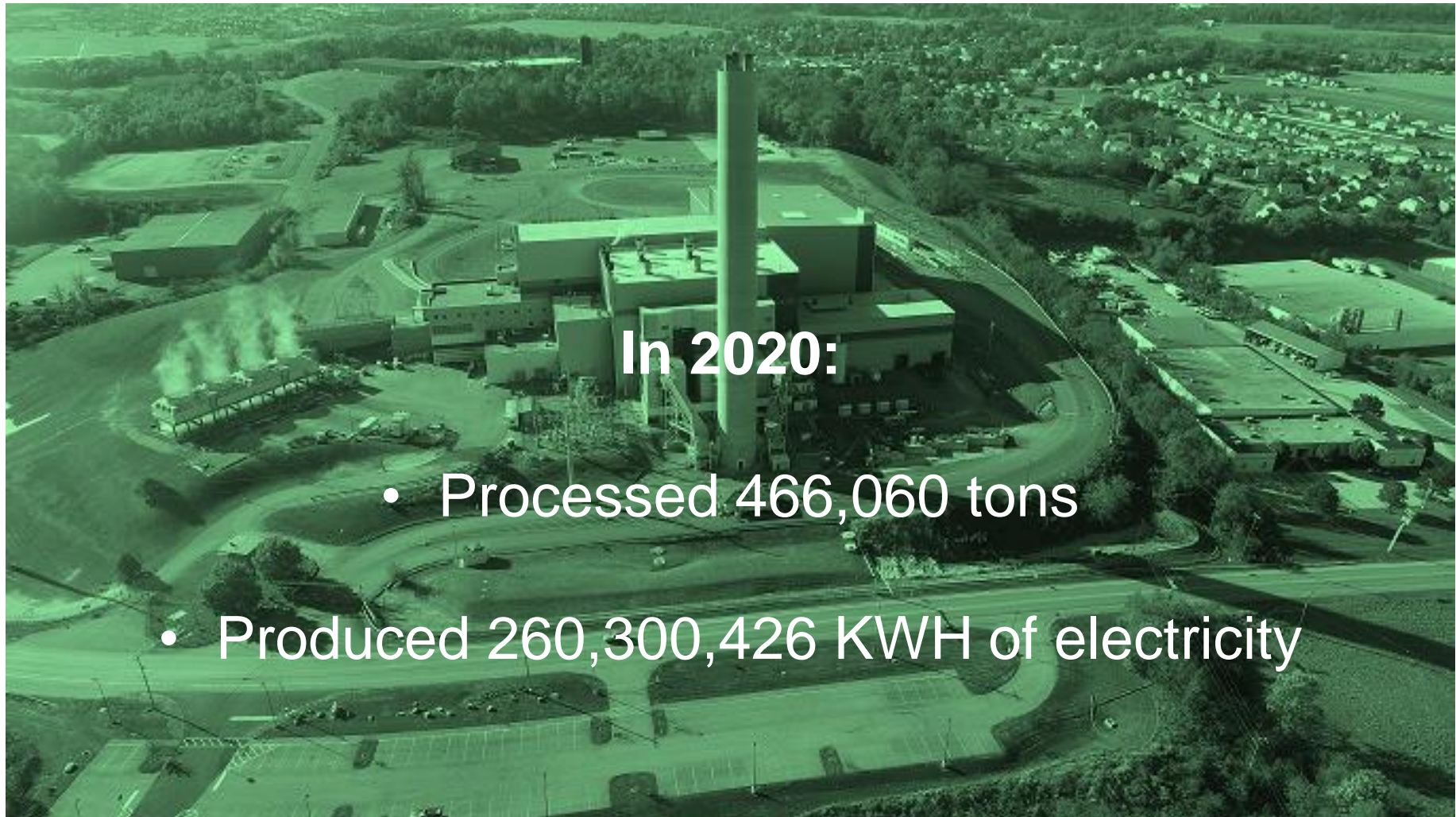
# What is Waste-to-Energy?

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- Operates 24/7/365
  - YCSWA owns/Covanta operates
  - Current capacity: 1,344 tpd
  - Years in operation: 32
  - Source of “Alternative Power”





# What is Waste-to-Energy?



**In 2020:**

- Processed 466,060 tons
- Produced 260,300,426 KWH of electricity





# How Does WTE Work?





# The Scale House





# The Scale House



# The Tipping Floor





# The Waste Storage Pit

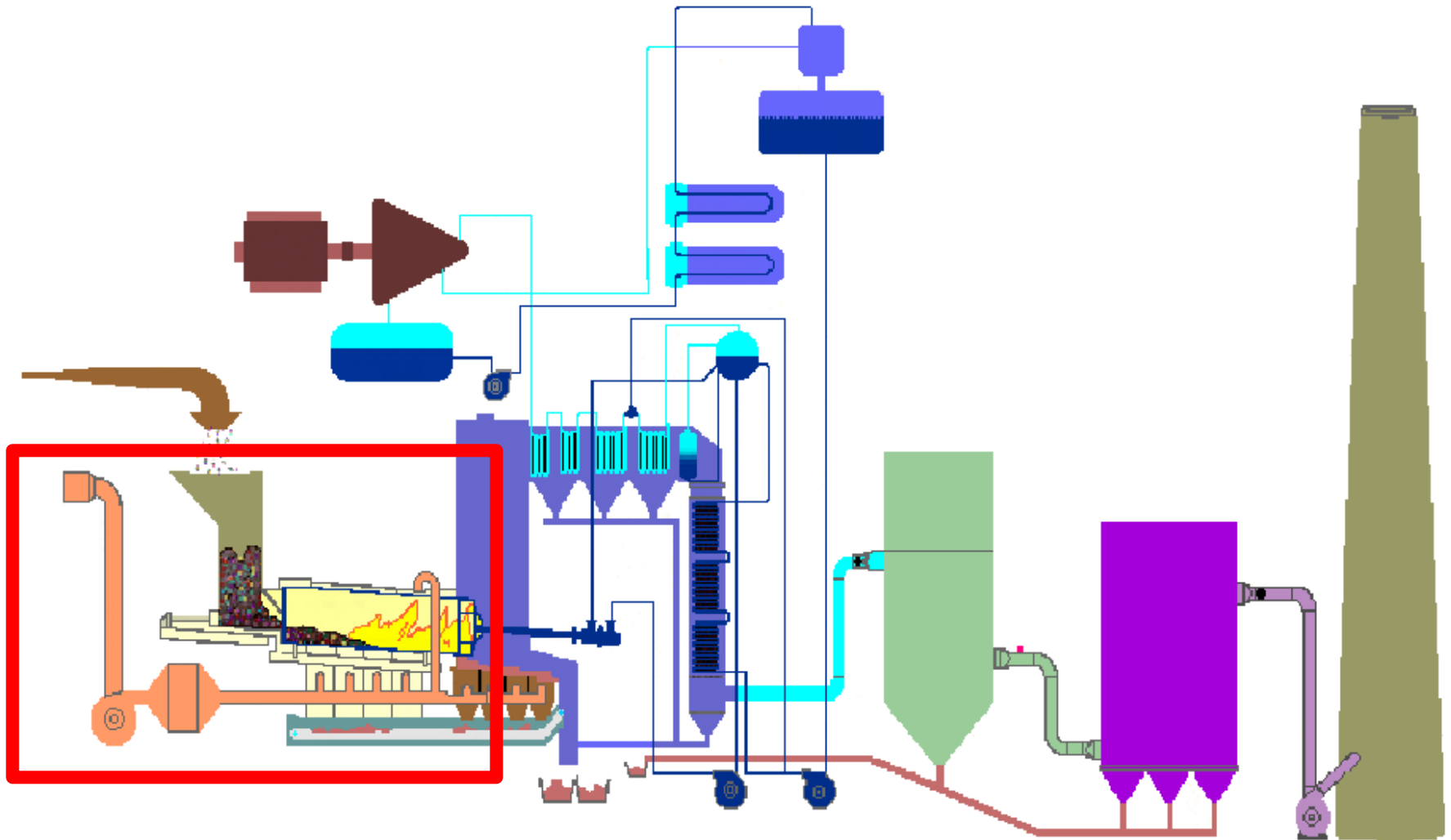


# Overhead Grapple Cranes





# Waste is Loaded into Rotary Combustion Units



# Hydraulic Ram Feeders



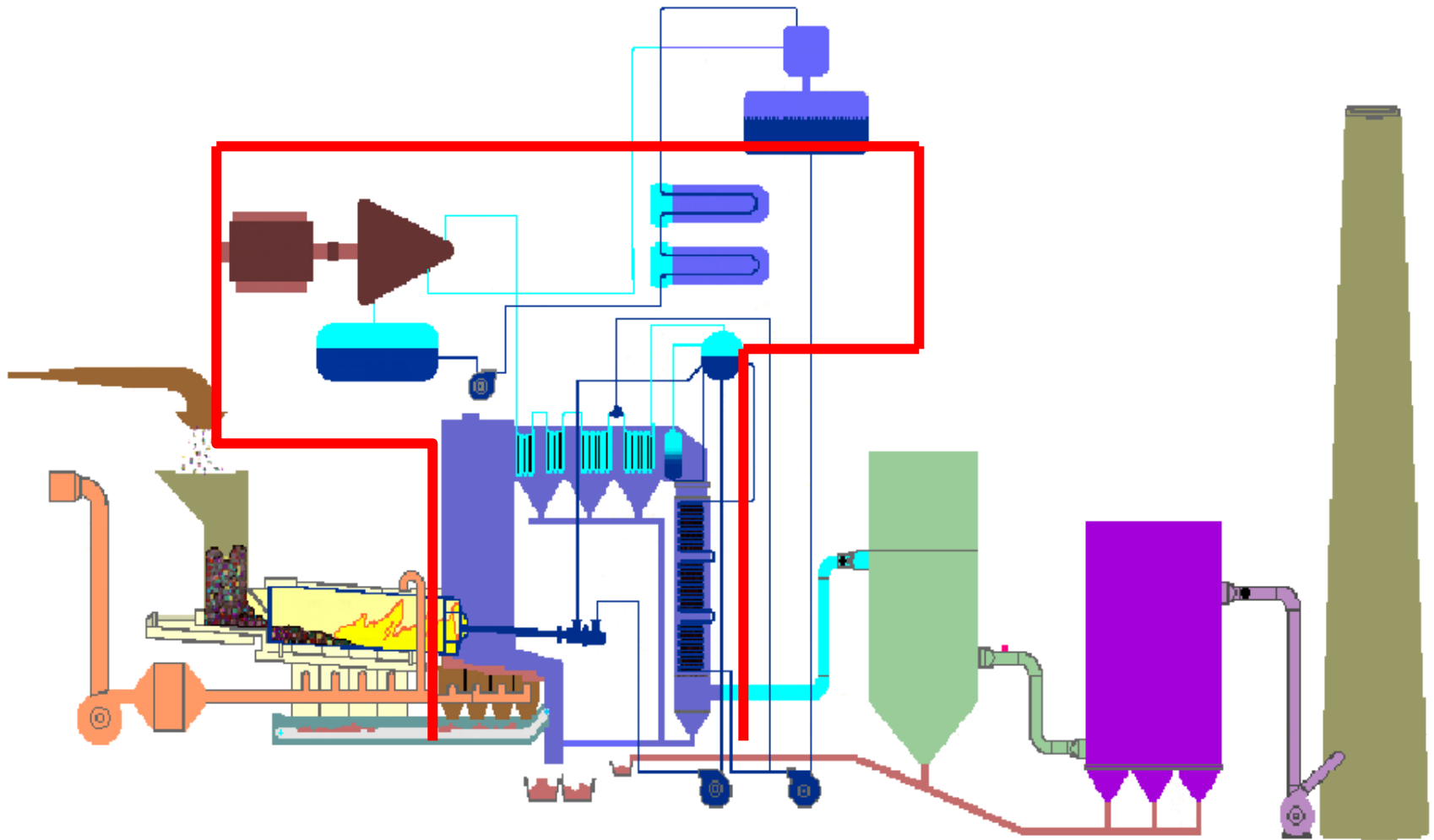




# Rotary Combustion Unit



# Steam & Power Production







# Turbine Generator





# RRC Turbine





# Switch Yard



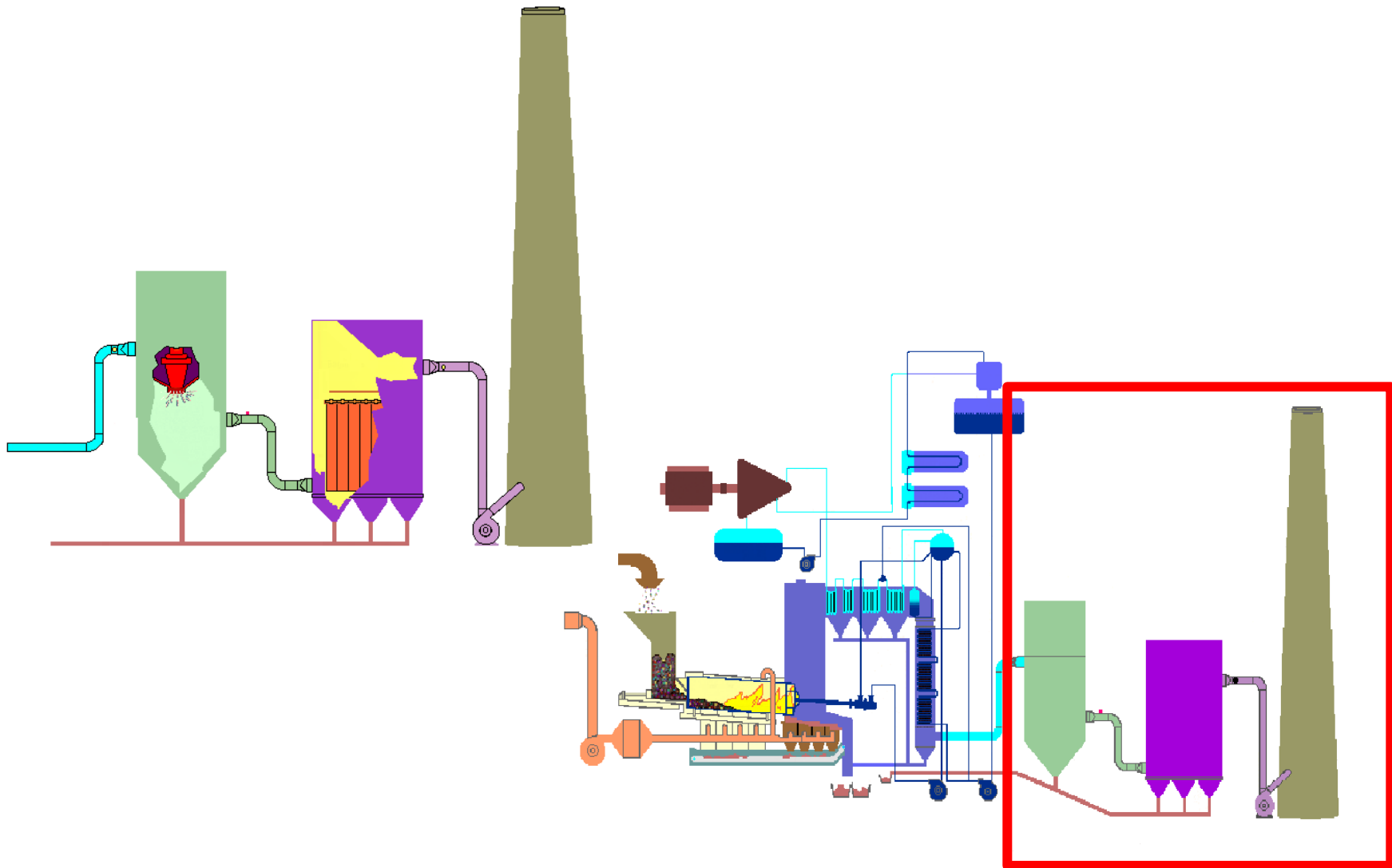


# Sale of Electricity

PJM Interconnection is a regional transmission organization (RTO) that coordinates the movement of wholesale electricity in all or parts of Delaware, Illinois, Indiana, Kentucky, Maryland, Michigan, New Jersey, North Carolina, Ohio, Pennsylvania, Tennessee, Virginia, West Virginia and the District of Columbia.



# Air Pollution Control



# Lime & Carbon Storage





# Spray Dryer Absorber (Scrubber)





# Baghouse System





# Air Emissions

PARAMETERS												
	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV
EMISSION												
CO (24-Hr)	0	0	0	0	0	0	0	0	0	0	0	0
SO <sub>2</sub> (24-Hr)	0	0	0	0	0	0	0	0	0	0	0	0
HCL (24-Hr)	0	0	0	0	0	0	0	0	0	0	0	0
NO <sub>x</sub> (24-Hr)	0	0	0	0	0	0	0	0	0	0	0	0
Opacity (10%)	0	0	0	0	0	0	0	0	0	0	0	0
Opacity (30%)	0	0	0	0	0	0	0	0	0	0	0	0
OPERATIONAL												
Furnace Temp.	0	0	0	0	0	0	0	0	0	0	0	0
Baghouse Temp.	0	0	0	0	0	0	0	0	0	0	0	0
Steam Flow	0	0	0	0	0	0	0	0	0	0	0	0

## NOTE

(1) The values presented represent the number of emission/operational excursions for each parameter.

This rolling twelve month data is provided by Covanta as preliminary information only. Reports to PADEP are due each calendar quarter for the parameters shown in this table.

## STACK TEST EMISSIONS MONITORING SECTION

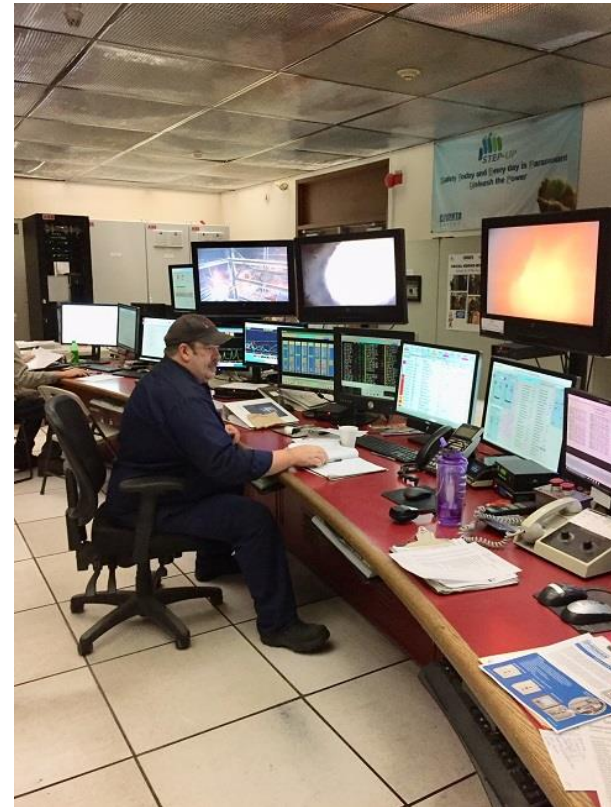
Stack testing is performed two times per year for particulate matter, arsenic, cadmium, hexavalent chromium, nickel, lead, beryllium, and mercury. Stack testing is performed one time per year for PCDD & PCDF (Dioxin & Furans), volatile organic compounds (VOC), and polycyclic aromatic hydrocarbons (PAH).

# Cooling Towers





# The Control Room



# Ash Management

Wet Bottom Ash



Fly Ash System





# New Ash Recycling & Processing Facility







# Ash Management

- Metals received from municipal solid waste on the tipping floor for recycling amounted to 1,198 tons in 2020.
- Ferrous and non-ferrous metals amounting to 17,344 tons were recovered from the combustion ash stream by York Reduction Systems, LP and recycled.



# Ash Management

- The Ash Recycling and Processing Facility (ARPF) is the first of its kind in the United States and utilizes proprietary ash processing and recycling technology.
- Bottom ash generated at the York County Resource Recovery Center (YCRRC) is transported to the ARPF where it is processed using a wet separation technology that captures metals, aggregates and sand for reuse and resale.
- The ash processing and recycling technology is designed to increase recovery of recyclable materials in bottom ash. Once recyclable materials are recovered, the remaining bottom ash is dewatered, forming a “cake”. The cake is then combined with fly ash stored at the YCRRC and subsequently managed at Modern Landfill.
- The ash recycling process has the potential to significantly reduce the overall remaining volume of ash that must be managed in a landfill.





# W-T-E: Working For York County

- Source of Alternative Energy
- Save fossil fuels (equivalent of 375,000 barrels of oil annually).
- Save 13 acres of land annually
- At maximum operation, produces enough continuous electricity to power more than 20,000 homes
- Recycles ferrous/non-ferrous metals from ash
- Excellent safety/environmental record



# W-T-E & Climate Change

- Clean, reliable, renewable energy source
- Reduced reliance on foreign oil/energy
- Avoided methane emissions
- Metals recovery/recycling = reduced GHG
- Carbon dioxide offset: for every ton of waste processed at a WTE plant, the equivalent of 1 ton of CO<sub>2</sub> is avoided.





# W-T-E: Working For York County





# Questions?

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