

**WTE:**

**Critical Infrastructure for Florida**

**February 20, 2024**

**SWANA Winter Conference**



FLORIDA  
**WASTE-TO-ENERGY**  
COALITION

# WASTE TO ENERGY: CRITICAL INFRASTRUCTURE FOR FLORIDA

## Florida: Where EVERYTHING grows!

- Florida's 2023 population: 22.6 million
  - Up by 600,000+ year over year
  - 800 new residents move to Florida every day
- Annual visitors to Florida: 137 million in 2022
- Florida's 2023 GDP: \$1.4 trillion
  - Up by 14 percent year over year
  - 16<sup>th</sup> largest economy in the world
- Total Solid waste in Florida: 50.6 million tons in 2022
  - Up by 1 percent year over year



# WASTE TO ENERGY: CRITICAL INFRASTRUCTURE FOR FLORIDA

## Overview

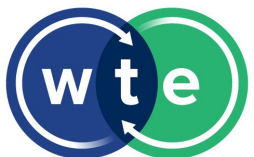
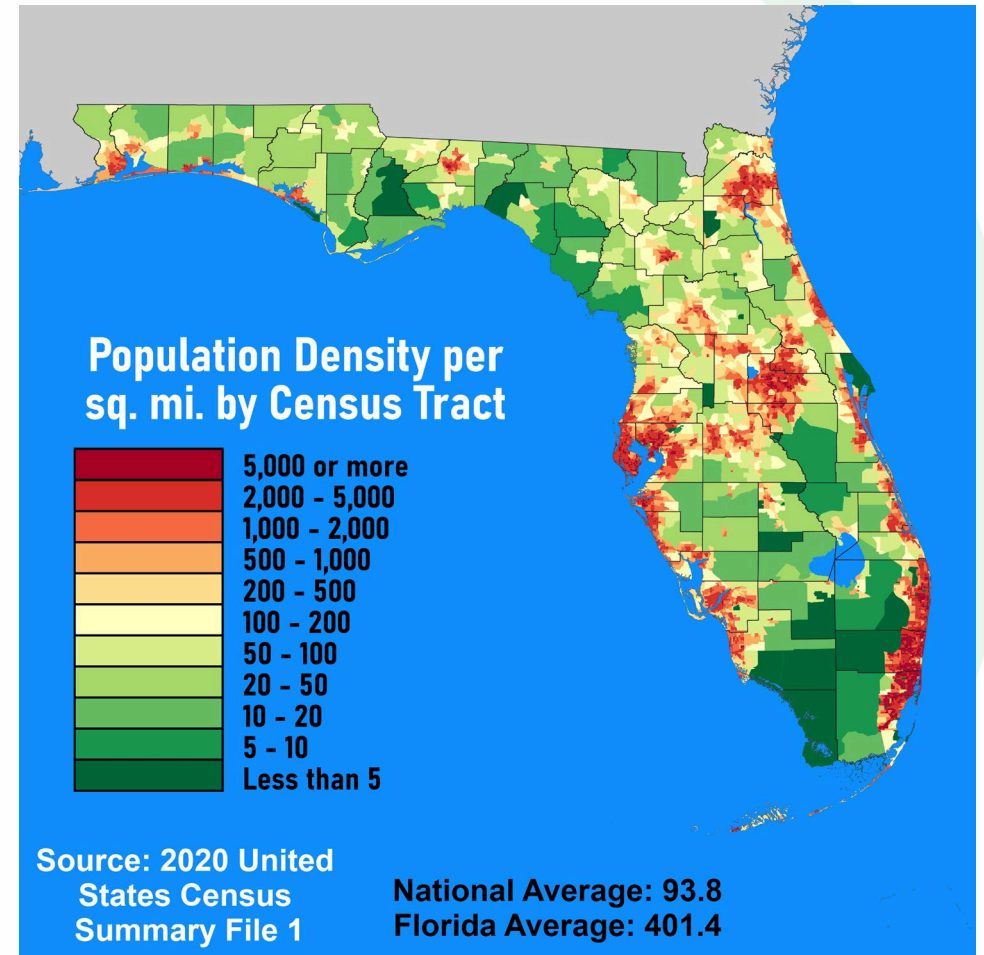
With **10 facilities**, Florida has **more WTE facilities** – with more processing capacity – than any state in the nation



# WASTE TO ENERGY: CRITICAL INFRASTRUCTURE FOR FLORIDA

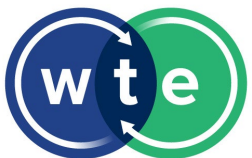
## Overview

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# WHAT IS WASTE-TO-ENERGY?

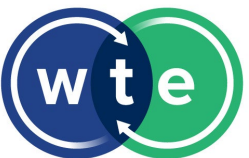
Video  
presentation



# WASTE TO ENERGY: CRITICAL INFRASTRUCTURE FOR FLORIDA

## Why so many WTE facilities in Florida?

- Per Florida Statute Ch. 403.706, counties in Florida are charged with “the operation of solid waste facilities that meet the needs of all incorporated and unincorporated areas of the county.”
- In 1977, the Florida Legislature enacted the Florida Resource Recovery Act, which mandated that the state’s 19 most populous counties study WTE as part of their Solid Waste Master Plans.
- The counties in which WTE provides the primary method of solid waste disposal are Florida’s most populous and economically vibrant communities. Land resources for new landfills are dwindling, and in some communities are non-existent.





# WASTE TO ENERGY: CRITICAL INFRASTRUCTURE FOR FLORIDA

WTE communities comprise *47 percent* of Florida's population

Population of Florida's WTE communities			
County	No. of cities	Population	% of state population
Florida	412	22.2 million	
Miami-Dade	34	2.76 million	12.4 percent
Broward	31	1.97 million	8.8 percent
Palm Beach	39	1.53 million	6.8 percent
Lee County	15	800,989	3.6 percent
Hillsborough County	3	1.54 million	6.9 percent
Pinellas County	17	974,685	4.3 percent
Pasco County	5	610,714	2.7 percent
Lake County	14	414,749	1.8 percent
<b>Total WTE communities</b>	175	10.59 million	47.3 percent

\* Source: Bureau of Economic and Business Research, University of Florida



# WASTE TO ENERGY: CRITICAL INFRASTRUCTURE FOR FLORIDA

Florida's WTE communities comprise *more than half* of the state's economy

## How much do Florida's WTE communities contribute to the state's economy?

Region	Gross Domestic Product *	Percent of total
Florida	\$1.4 trillion	n/a
Miami-Dade, Broward, Palm Beach	\$344 billion	34.4 percent
Tampa, St. Petersburg, Clearwater	\$146 billion	14.6 percent
Cape Coral – Fort Myers	\$27.9 billion	2.8 percent
WTE regions combined	\$517.9 billion	51.8 percent

\* Source: Bureau of Economic Analysis, U.S. Dept. of Commerce





# WASTE TO ENERGY: CRITICAL INFRASTRUCTURE FOR FLORIDA

## Florida's 10 WTE facilities annually:

- Avoid the landfilling of 6.5 million tons of solid waste.
- Reduce the volume of solid waste by 90 percent.
- Reduce greenhouse gas emissions by 6.5 million tons of CO<sub>2</sub>.
- Recycle 212,000 tons of metal, enough to build 156,000 cars.

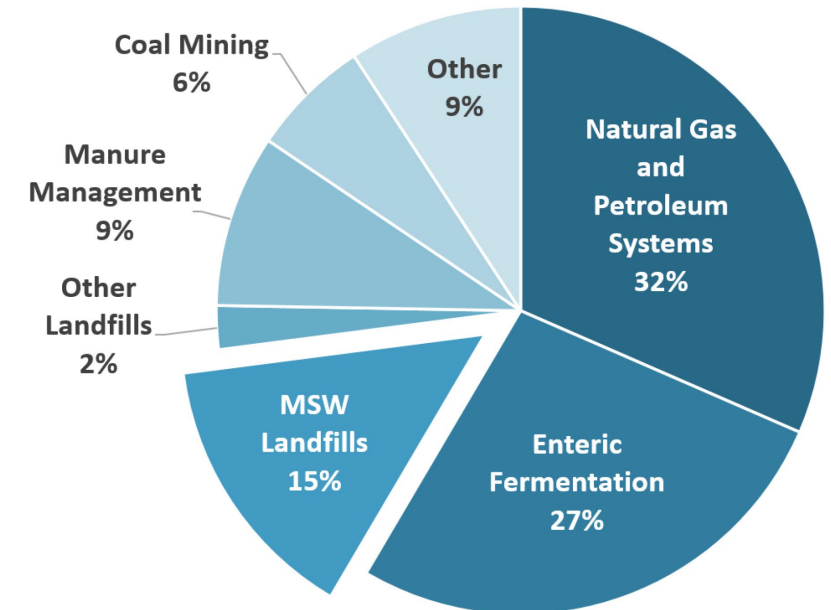


# WASTE TO ENERGY: CRITICAL INFRASTRUCTURE FOR FLORIDA

## Proven Environmental Advantages

- Methane emitted by landfills is a significant contributor to global climate change.
- New data show methane is even more damaging than previously thought. (Source: *Scientific Truth about Waste-to-Energy*, Castaldi, City College of New York, May 2021)
- Every ton of waste processed in a WTE facility avoids a ton of CO2 equivalent emissions, when the Greenhouse Gas savings from recycling recovered metals are included. Nationally, 700,000 tons of metal are recovered and recycled annually in WTE facilities. (Source: Castaldi)

2020 U.S. Methane Emissions, By Source



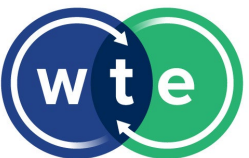
Note: All emission estimates from the *Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2020*. U.S. EPA. 2022.



# WASTE TO ENERGY: CRITICAL INFRASTRUCTURE FOR FLORIDA

## The economics of WTE

- Financially, Florida's WTE facilities are supported by three streams of revenue: Tipping fees, electricity sales and the sale of recyclable metals.
- Federal law (PURPA) requires utilities to purchase power from "qualified independent power producers," (i.e., WTE facilities), but allows states to determine the pricing formula, also known as the "standard offer."
- Over the past 20 years, changes in how the Florida calculates the basis of the standard offer have dramatically reduced what utilities are willing to pay for WTE-generated electricity.





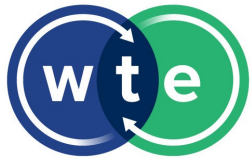


# ABOUT FWTEC

## Accomplishments

- Incorporated on June 1, 2021
- Articles of Incorporation & Bylaws adopted
- Established bank account & accounting system
- Filed for 501(c4) status
- Developed website: <http://fwtec.us>





# ABOUT FWTEC

## Accomplishments - External

- SB 1741
- Op-Eds published in the Orlando Sentinel and Miami Herald.
- Advocacy with members of Congress, the Florida Legislature & U.S. EPA
- Hillsborough facility tour
- US Conference of Mayors
- Indonesian Trade Delegation



### GUEST COLUMNIST

## Waste-to-energy is critical infrastructure for Florida

Waste-to-energy (WTE) is critical infrastructure for the state of Florida, and at the same time, may be one of the state's best available environmental tools. That's why Gov. Ron DeSantis should sign a new bill just passed by the Florida Legislature to create a firm financial footing for municipalities that own WTE facilities.

What is waste-to-energy? It is the direct combustion of municipal solid waste in a facility that uses extremely high temperatures — around 1,500 to 1,800 degrees Fahrenheit — to turn that garbage into a chemically inert ash, reducing the volume of solid waste by 90 percent. The heat is used to create steam to generate electricity.

Hence, the term: Waste-to-energy, or WTE.

WTE protects Florida's environment in multiple ways. Here's how:



By Joe Kilsheimer

of waste processed in a WTE facility, you avoid the equivalent generation of a ton of carbon dioxide.

That's why Europe has more than 400 WTE facilities and is forging ahead with the construction of new plants. By comparison, the United States has 75 WTE facilities. Florida has 10, more than any single state.

Florida's WTE facilities primarily serve our most populous counties. Indeed, if you add up the populations of our WTE counties, it comes to 48 percent of Florida's population. And if you combine the economies of our WTE communities, it amounts more than half of the state's economy.

That makes WTE critical infrastructure for Florida. Moreover, our unique geography — a peninsula surrounded by water on three sides — means that WTE will forever play a role in Florida assuring safe and environmentally responsible





# ABOUT FWTEC

**Incorporated June 1, 2021**

## **Municipal members**

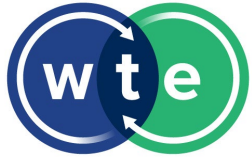
(Founding)

- Palm Beach County SWA
- Miami-Dade County
- Lee County
- Hillsborough County
- Pinellas County
- Pasco County
- City of Tampa



**FLORIDA**  
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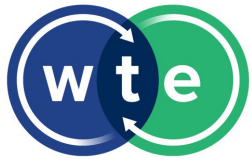


# ABOUT FWTEC

## Common issues for Florida WTE communities

- Energy pricing
- Definition of “renewable energy.”
- Renewable portfolio standard?
- Many Florida WTE communities are approaching inflection points
- Regulatory issues affecting WTE often are decided in Tallahassee and/or Washington, D.C. with little or no regard for their impact on WTE communities



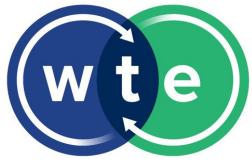


# FWTEC: A LOOK AHEAD

## Expansions in the works

- Pasco County, Unit IV expansion set to begin construction in 2024 and come online in 2025-6.
- Miami-Dade expansion: Beginning stages in the works.
- As Florida grows, additional disposal capacity is needed
- As many as six jurisdictions studying expansions / greenfield projects.

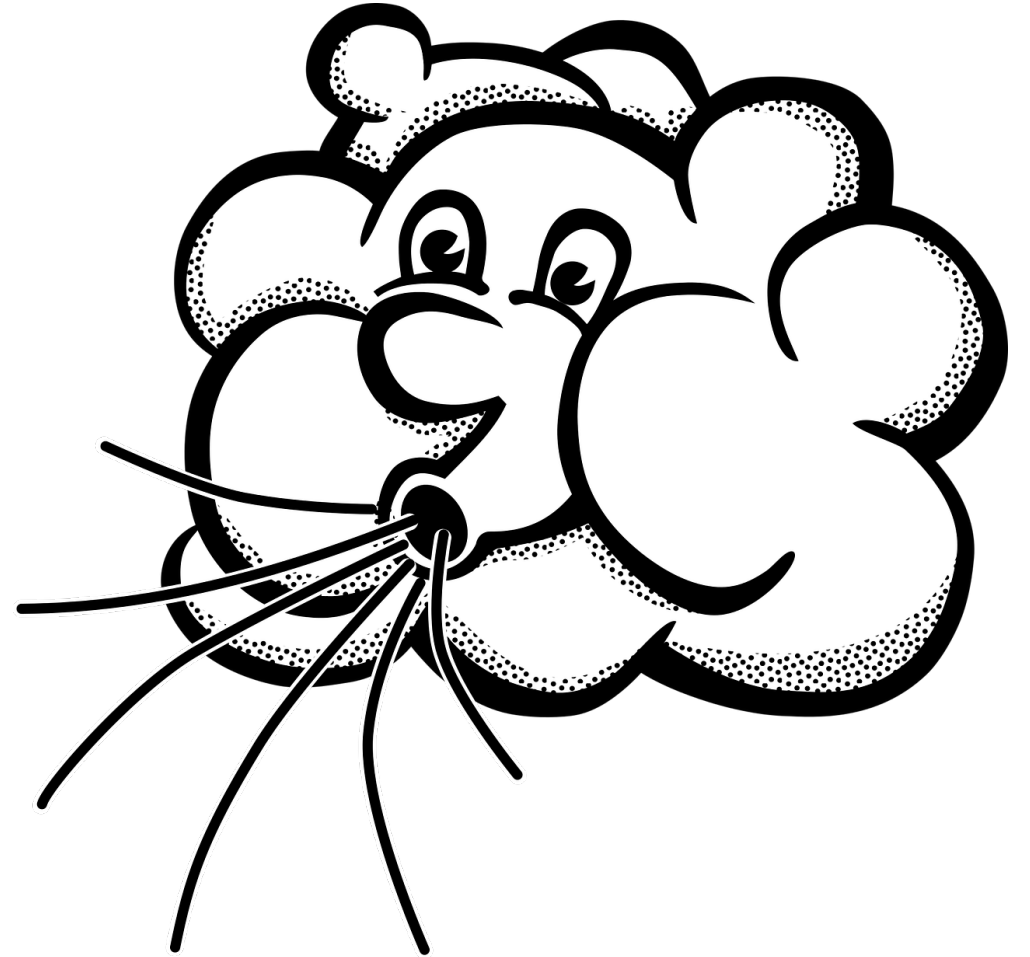




# FWTEC: A LOOK AHEAD

## Headwinds facing the WTE industry

- Increasingly stringent federal emission standards - MACT
- NIMBYs (NOT IN MY BACKYARD)
- Environmental Justice considerations
- Cost – WTE always will be more expensive than landfilling













# Questions?



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For more information, please contact  
FWTEC Executive Director, Joe Kilsheimer.  
407-719-6686 • [joe.kilsheimer@gmail.com](mailto:joe.kilsheimer@gmail.com)