



Transforming Waste

Into Energy & Critical Materials

Innovative Upcycling Technologies without Emissions



Company Overview

Company Name	Wastewerx
Industry	Waste Management, Fuels, Advanced Materials
Segment	Waste to Energy and Advanced Materials
Innovative Solutions for Waste	Create solutions for Waste
Uniqueness	Proprietary equipment and IP
Vision	Advance our technologies and be in the Tier 1 markets by 2027 and the Tier 2 markets by 2030
Key Executives	Vincent Tizio II, CEO; Ismael Rodriguez CTO; Gus Faulkner, CPO; Michael Duhs, CCO

The Problem – Waste Crisis in the U.S.

Unhealthy Methane Emissions

U.S. landfills emit 25% of total U.S. methane emissions (EPA, 2022)



“The U.S. will run out of landfill space within 18 years.” EPA.gov

Landfill Overflow



1,960+ Active Landfills in the U.S. (EPA, 2022).



7 States will run out of landfill space within 5 years

- NY, CT, MA, NH, VT, ME



22 States will be at a dangerous landfill capacity status within only two decades.

- Landfills are nearing capacity, and many are taking in hazardous materials that can cause long-term environmental damage.

Unwanted Waste in Soil & Water

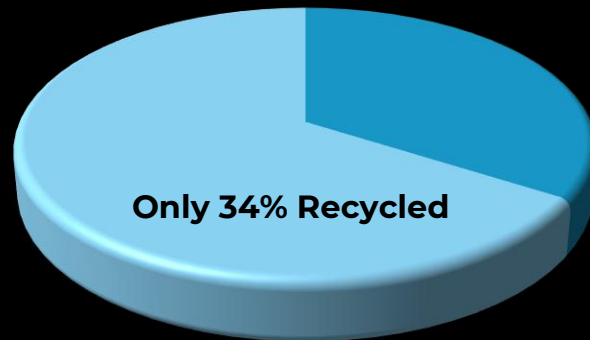
Contaminated drinking water for over 110 million Americans

- Harmful chemicals such as PFAS (per- and polyfluoroalkyl substances)
- Will persist for hundreds of years

Key Waste Streams & Their Challenges

Municipal Waste:
80 million tons/year produced
 in the U.S.

EPA, 2021



Opportunity to recover valuable materials such as metals, plastics, and paper.

Summary of U.S. Waste-with the Opportunity to Upcycle



Plastics

Plastic Waste	35 million tons/year
Recycled	~40%



Tires

Tires Discarded Each Year In The U.S.	300 million
Recycled	~40%



Organic Waste

Organic Waste (Wood Chips, Ag Waste, And Railroad Ties)	90 million tons/year
Currently Diverted From Landfills	15%



E-Waste

Electronic Waste	2 million tons/year
Recycled	15%



Hazardous & Medical Waste

Hazardous Waste	35-40 million tons
Medical Waste /Yr.	5.9 million tons
Recycled	60%

The Opportunity



Growing Waste Crisis

U.S. waste generation is increasing at 2.5% annually, while landfill capacity is shrinking (EPA, 2021).



National Security



- Critical Materials in high demand for U.S. produced Advanced Materials
- Essential for electronics, defense systems, and renewable energy infrastructure

Waste to Energy



Biochar / Carbon Black



Syngas



Sustainable
Aviation Fuel (SAF)



Diesel / Mogas /
Motor Oil / Lubricants



Graphene /
Activated Carbon

Proprietary Core Technologies & IP

Emissions

One-of-a-kind emissions proprietary technology that reduces emissions by **99%**.

Competitive Advantage

Wastewerx' ability to extract valuable products from various petroleum waste streams at high efficiency gives it a distinct competitive edge in the waste-to-value sector.

Core Technologies



Pyrolysis

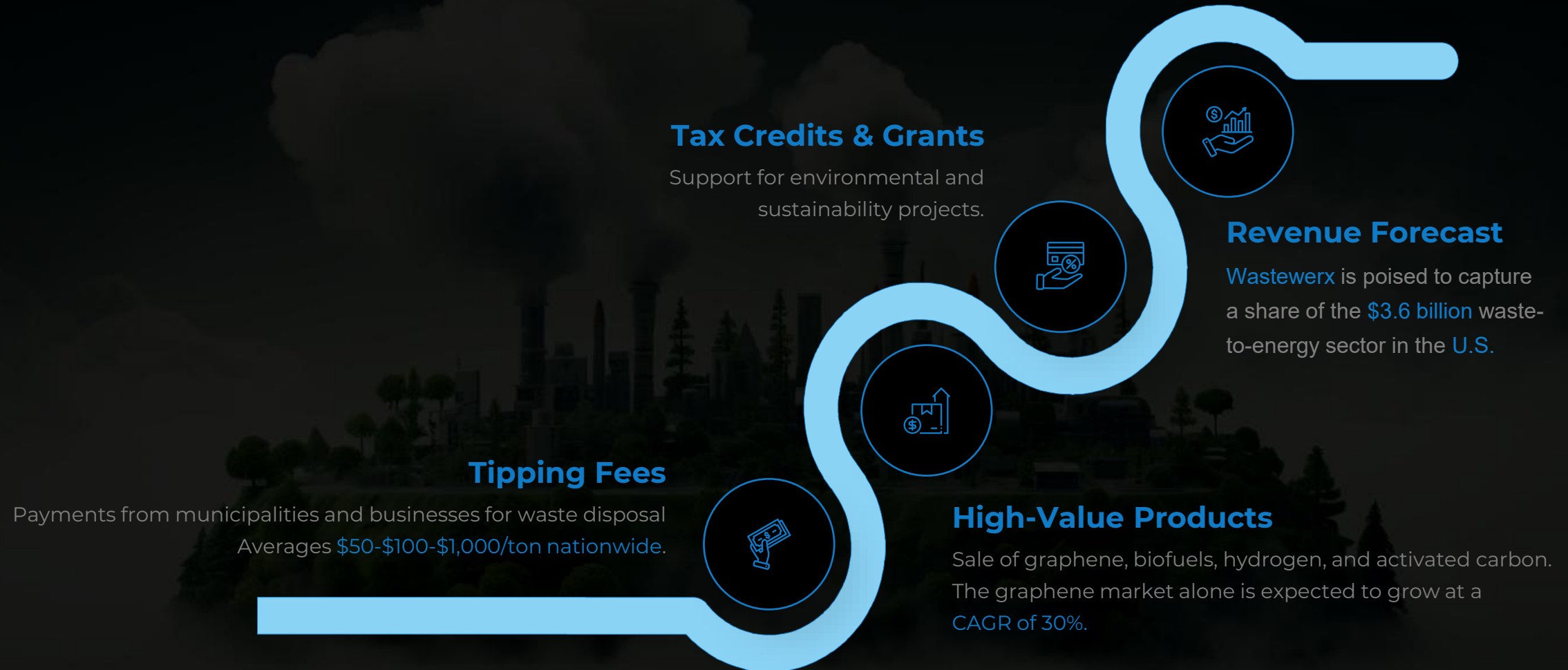
- Converts waste into biochar, syngas, and biofuels, providing a sustainable source of energy and material.
- Converts up to 95% of organic waste into valuable byproducts.



Plasma Gasification

- Uses plasma arcs to decompose waste, creating syngas, converted into clean hydrogen or used to generate electricity.
- Process Potential up to 100 tons/day of waste, producing low-emission energy.

Revenue Streams



Key High-Value Products

Graphene

Electronics, Batteries, And Energy
Growing CAGR. A Revolutionary Material With Applications
35%

SAF and Renewable Fuels

Sustainable Aviation Fuel (SAF)
Tip Annually Is Driven By The Aviation Sector's Sustainability Efforts. 20%

Biochar / Carbon Black

A soil Amendment that improves agricultural productivity and aids in carbon sequestration.
Projected Growth to CAGR. 18%

Activated Carbon

Essential For Water Treatment And Air Filtration.
Expected To Reach By 2025. \$7 Billion

Hazardous & Medical Waste

Year	Growth
2023	\$120 billion
2030	\$300 billion



Impact on Municipalities & Communities

Waste Diversion

Wastewerx helps municipalities divert millions of tons of waste from landfills and transfer stations annually, reducing landfill overflow and emissions.

Local Jobs

Our approach generates skilled jobs in R&D, engineering, operations, and maintenance, contributing to local economies.



Education Outreach

Working with South Florida State College on course credit creation and their own waste to energy solution, leading to additional employment and higher incomes

Sustainable Infrastructure

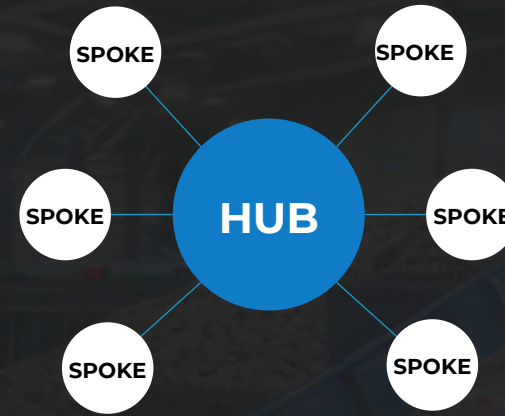
Reduce waste-related costs by up to 30%, and increase recycling rates by 50%

Earn new revenue sources

The Hub-and-Spoke Model

Decentralized Approach

- 01 Wastewerx deploys localized Waste Hubs close to waste sources
- 02 Reducing transportation costs and minimizing environmental impact.
- 03 Each unit can process 72+ tons of waste per day



Efficiency:

Our model enables fast processing and the extraction of critical materials while maximizing recycling rates.



Scalability:

Our approach is easily replicable, allowing for nationwide expansion

Addressing Environmental & Economic Challenges

Environmental Impact



Wastewerx reduces methane emissions by converting landfill gases into clean energy.



The only Pyrolysis system to reduce CO2 emissions by 99% compared to conventional waste incineration



Economic Benefits



Our technologies create new revenue streams



Reduce waste disposal costs



Provide economic opportunities for local communities

Foundational Projects

Map of Florida with these two location marked on a map



Highlands County (Global Headquarters)

- › **Joint Cooperation:** Avon Park Airport, Avon Park and South Florida State College
- › **Waste to High Value Products:** Two pyrolysis units providing waste to products for Highlands County and two for Avon Park Airport.



Jasper, FL (Hamilton County)

- › Two pyrolysis units to be strategically placed for best diversion
- › These are expected to be installed by 2026.

Pipeline of Projects

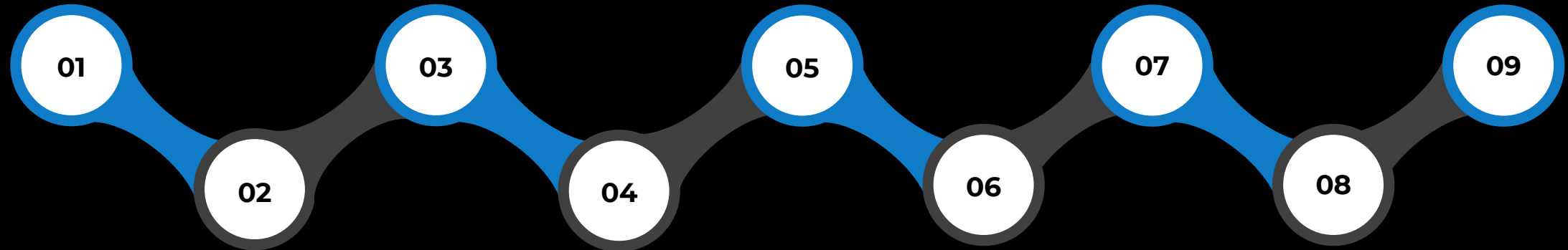
Highlands County–
Plastics / Tires

Raleigh, NC – C&D,
Woody Biomass

Denver,
CO – Railroad ties

Houston,
Pyrolysis

Hamilton County FL ,
Tires, Plastics, Pyrolysis



Columbia County,
FL – Woody Biomass

Tarheels, SC – Plastic from
Smithfield Plants

San Luis,
AZ – Hemp

Venice, FL ,
Pyrolysis

Our Team



Vincent Tizio

C E O

is a visionary entrepreneur and seasoned leader with a diverse background spanning agriculture, science, and biomedical innovation. He has a deep-rooted passion for scientific exploration in genetics, physics, and thermal combustion. With over 30 years of experience driving innovation across telecommunications, logistics, sales, and biomedical industries, he continues to push boundaries as a founding member and Chief Strategy Officer of Graphwerx LLC and Wastewerx. Vincent excels in collaborating with economic development groups within municipalities, skillfully gaining local, regional, and state support to optimize growth opportunities that mutually benefit companies and communities. His adept ability to navigate the complexities and requirements of project development within legislative frameworks ensures compliant, efficient, and impactful outcomes. His strategic vision and commitment to excellence have solidified his reputation as a transformative figure in biotechnology and business development.



Ismael Rodriguez

C T O

Ismael Rodriguez is a business-oriented mechanical engineer with 19 years of experience in the recycling industry and with a strong focus on sustainability. Holding a bachelor's degree in mechanical engineering and an MBA in Total Quality Management, Ismael Rodriguez has developed expertise in plant operations, thermos processes, heat transfer applications, mechanical and machine design. In leadership roles, Ismael Rodriguez has driven advancements in process automation and machine design, integrating custom-built machinery and automation technologies to streamline operations and reduce waste. In plant management, Ismael Rodriguez has overseen end-to-end production processes, ensuring quality control, resource optimization, and sustainable practices. Passionate about environmental responsibility, Ismael Rodriguez focuses on applying advanced mechanical and fabrication techniques to develop efficient and sustainable solutions for complex engineering challenges.



Gus Faulkner

C P O

is a highly strategic and innovative leader with over 10 years of experience driving product development and commercialization success across diverse industries. He is a recognized subject matter expert with a deep understanding of science, technology, manufacturing, and supply chain management, coupled with a passion for emerging technologies. Gus has a proven track record of building and leading high-performing PD teams in various verticals. Beyond his technical expertise, Gus possesses a unique blend of leadership skills, entrepreneurial drive, and a deep understanding of the product lifecycle. This allows him to effectively bridge the gap between scientific innovation and market demand, making him an invaluable asset in the rapidly evolving field of advanced materials, also a founder of Graphwerx.



Michael Duhs

C C O

is a dynamic leader and integrator across the energy, infrastructure, and critical materials sectors, known for pioneering innovative solutions that strengthen U.S. infrastructure. As a Director of Graphwerx and Quad Energy, Michael plays a vital role in aligning technological innovation with partnership development, brand expansion, joint ventures and strategic infrastructure development. Michael brings over 30 years of experience spanning power generation, onsite energy resiliency, real estate development, and advanced He has been instrumental in the deployment of renewable energy systems, smart building materials, and sustainable infrastructure across the Americas. His extensive product and project knowledge gives him a key advantage in knowing and being able to work on many sides of the enterprise, including the corporate vision, product design, portfolio connectedness, and commercialization, making him a key figure in Graphwerx' strategy and America's energy transition.

Opportunity





Next Steps

Call To Action

- › Join us in transforming the waste management sector
- › Transforming waste into valuable resources
- › The future of waste management, energy production, and sustainability.

Contact



www.Wastewerx.com



Sales@Wastewerx.com



RD@Wastewerx.com