

# Aloha Carbon



Renewable Natural Gas at a Scale that Matters

## ABOUT US– Simonpietri Enterprises LLC

- Small business based in Hawaii
- Expertise in waste-to-value, renewable fuel, & conversion technology since 2006
- Launched Aloha Carbon in 2020
- Former industrial consultant on renewable fuel manufacturing and sustainability

***Committed to circular economy innovations to reduce human impact***





01

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## Business-as-usual of landfilling waste is inefficient and archaic

- Landfill gas only recovers ~2% of the energy in the waste
- Pierce County's sole landfill is near max height & projected to close by ~2035 if no diversion action taken
- Tipping fees already high; landfill contract unplanned increase by \$90 million in 2024 alone
- Default disposal is rail transport to Oregon, at largest landfill in U.S.A.



02

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## Business-as-usual of fossil energy is polluting and unpopular

- LNG terminal in Tacoma bitterly opposed by tribe and community
- De facto ban on new fossil energy in City of Tacoma since 2021
- City of Tacoma & Puyallup Tribe declared climate emergency 2019
- Promise made to displace LNG with renewable natural gas has not been kept



03

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## Hazards of Climate Change are costing \$ Billions

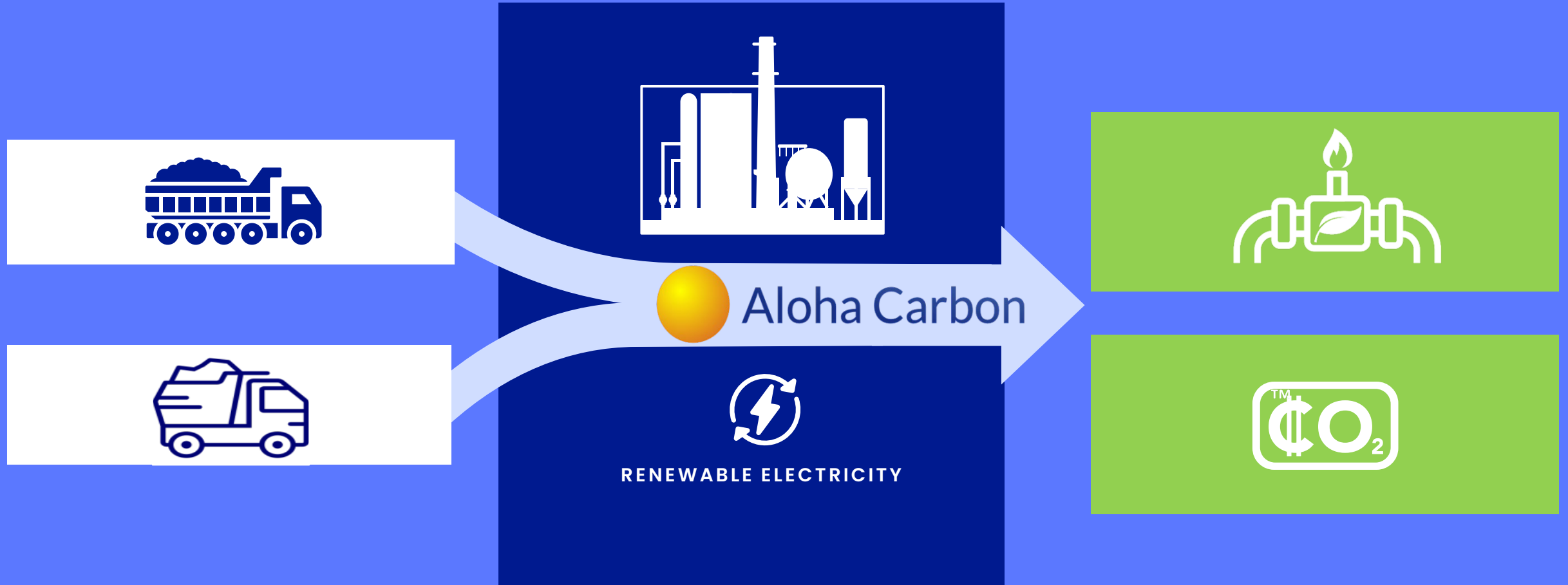
- 2 million acres burnt by wildfire in Washington and Oregon in 2024
- \$24 Billion "high tide tax" cost from sea level rise alone to WA coastal communities projected from 2024
- Drinking water and renewable hydropower supply are threatened by drought & decreased snowpack

An outline map of the state of Hawaii is positioned on the left side of the slide. The map shows the main island of Hawaii and the surrounding islands. A horizontal line is drawn across the top of the map, starting from the left edge and extending towards the center.

## SOLUTION

Apply these problems against each other, with the integrated **Aloha Carbon** project to make renewable fuel from solid waste

# Waste to Renewable Natural Gas



# Aloha Carbon Process: Converting Waste to Renewable Natural Gas

## Materials Recycling Facility

Construction and demolition debris is sorted and dried to prepare biomass feedstock

STEP 01



STEP 02

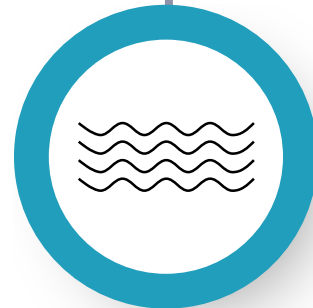
## Gasification

Converts biomass feedstock into raw syngas using steam

## Syngas Processing

Tar and acid gas removal plus hydrogen production via water gas shift reaction and wet scrubbing technology

STEP 03



STEP 04

## Methanation

Catalytic conversion of clean syngas and hydrogen to high-purity methane.  
Transforms syngas to RNG

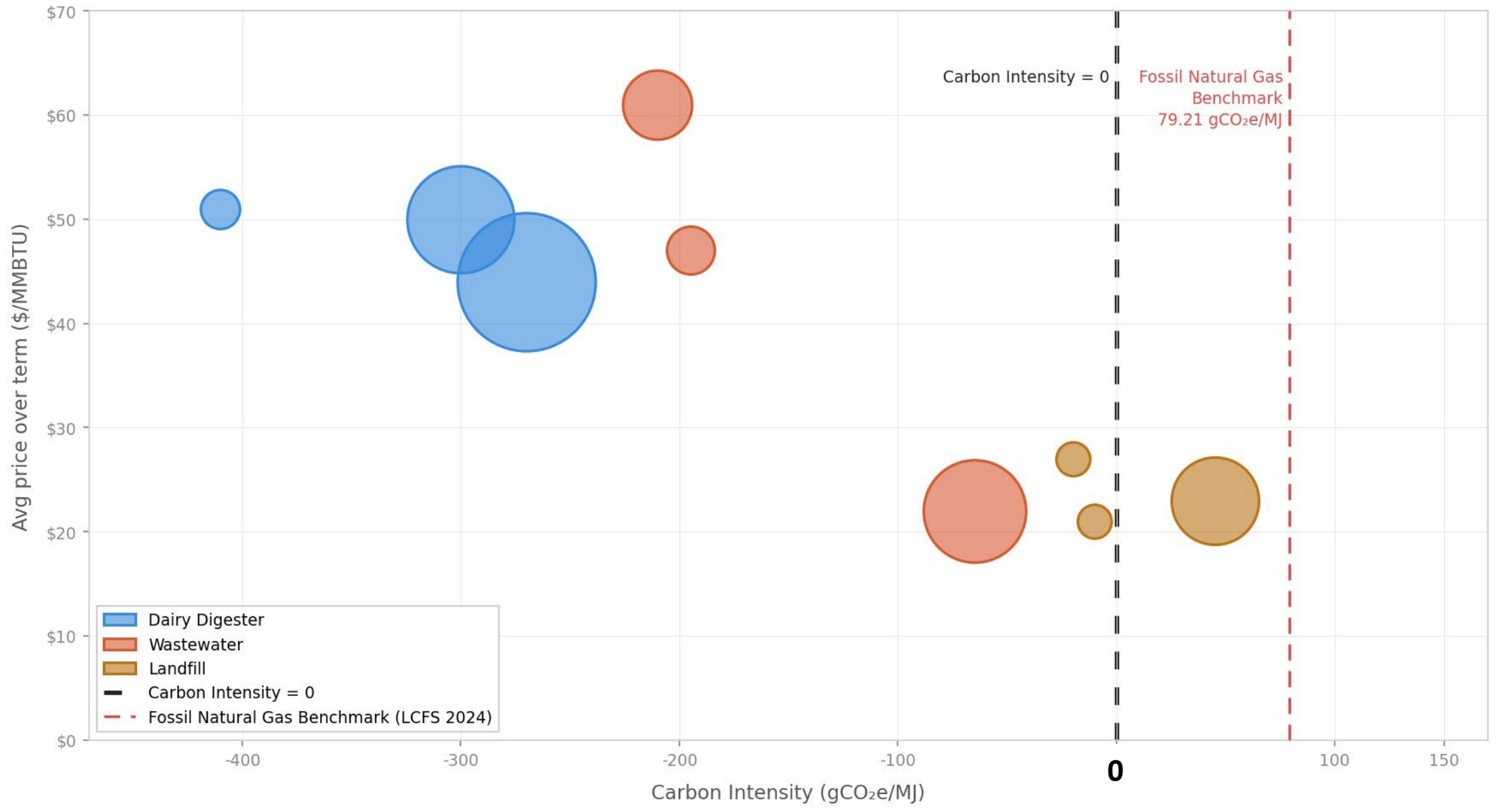
## RNG Product

Carbon dioxide removal as food-grade product to make 97% purity RNG fuel ready for injection into gas pipeline

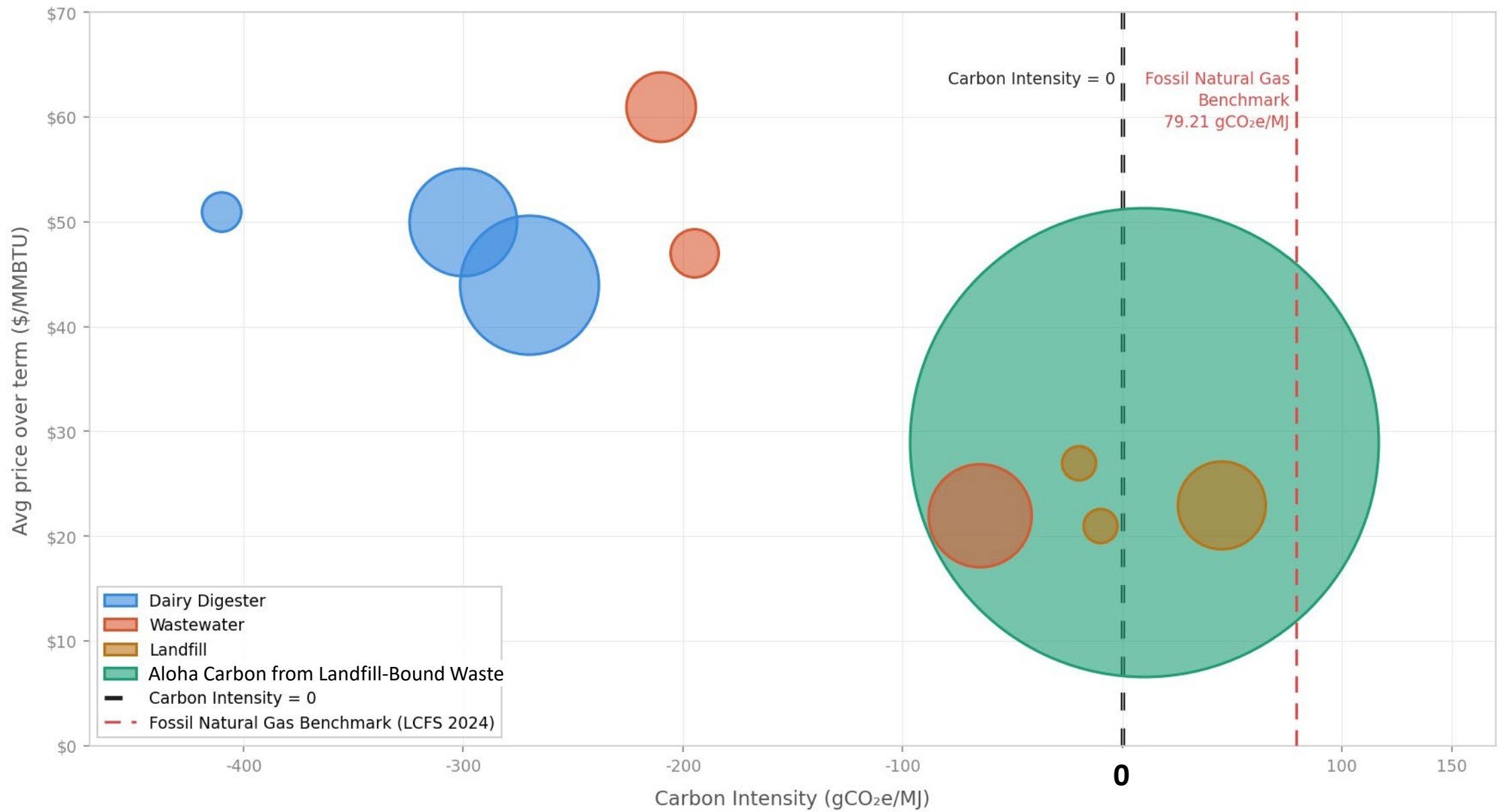
STEP 05



# Renewable Natural Gas sample supply offers in U.S.A.



# Aloha Carbon's Renewable Natural Gas from C&D Waste



# IMPACT

## TACOMA PROJECT BY THE NUMBERS

1. RNG production capacity: 1.4 million MMBTU/year
2. Waste diverted: 500 dry tons per day
3. Site Size needed: 10 acres

## TACOMA MARKET POTENTIAL

1. 1.2 million tons per year of waste landfilled in Pierce County
2. Over 500,000 tons per year of waste already aggregated in the Port and City of Tacoma alone
3. Puget LNG terminal capacity is 74 million gallons/year

## NEEDS MET:

- 40% of waste diversion
- 22% of LNG consumption

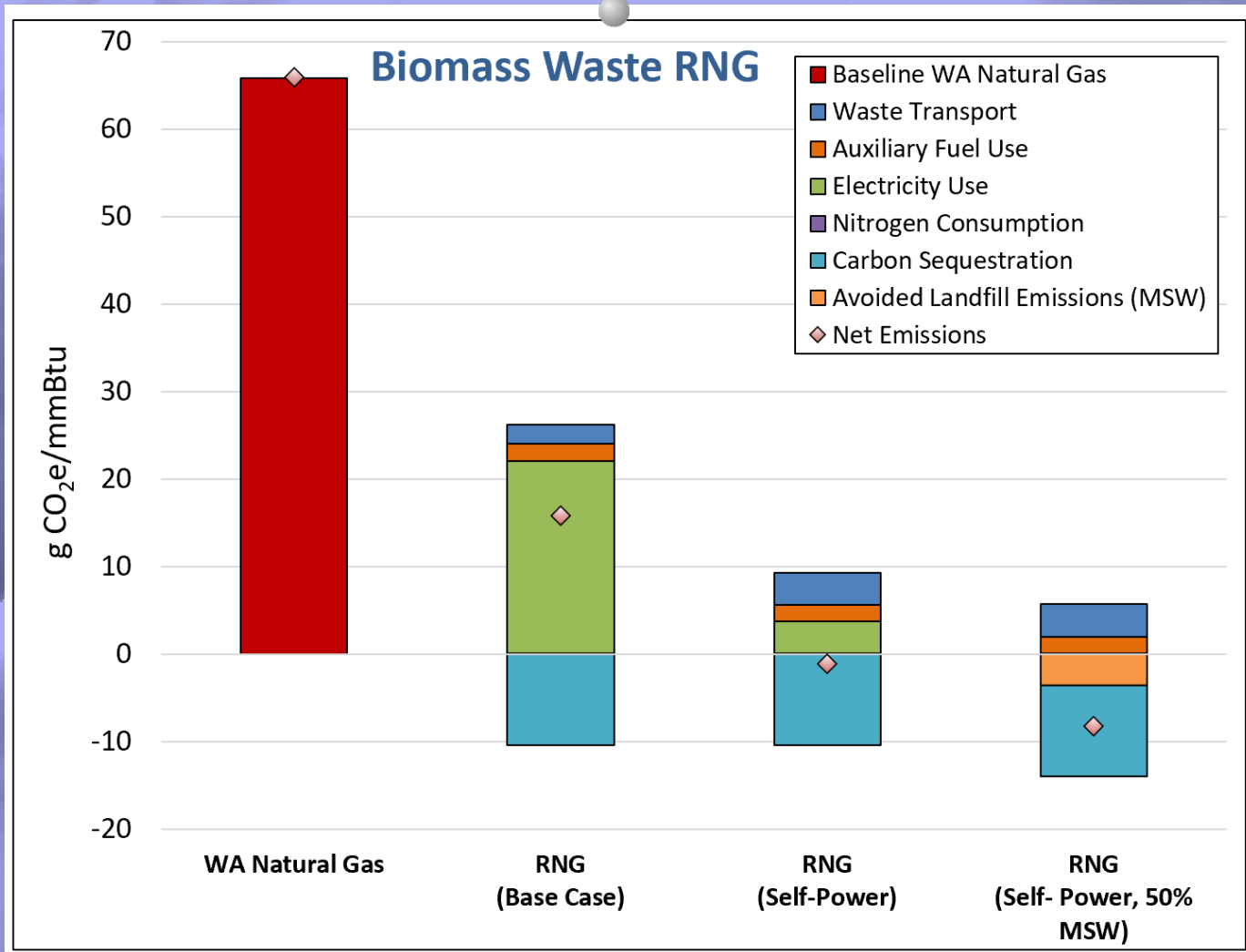


Currently assessing suitable sites



Aloha Carbon

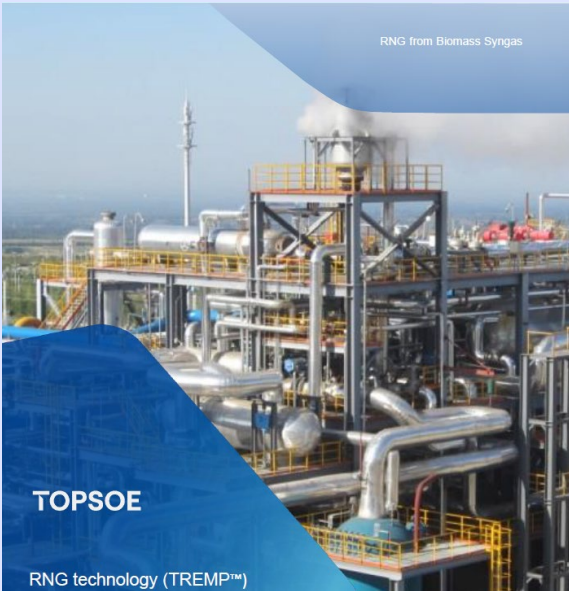
# Near-Zero Carbon Intensity



# GAME-CHANGING INNOVATIONS



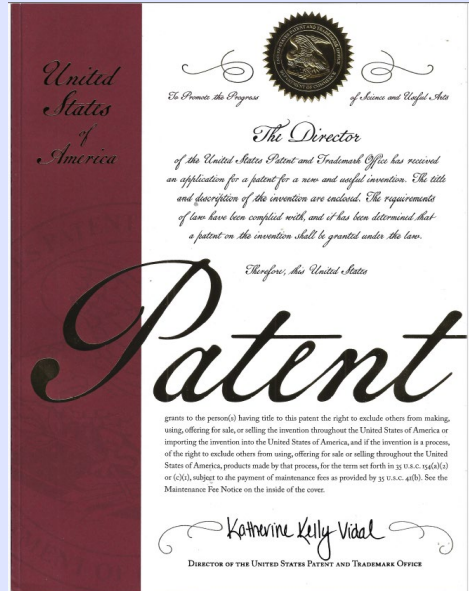
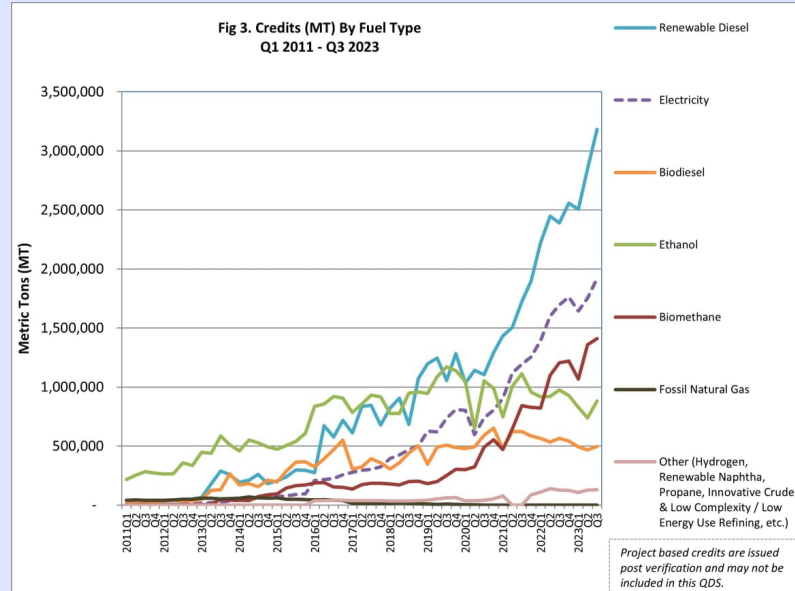
1. Maturation of gasification technology
2. Warranties on fuel refining technology
3. Emergence of renewable fuel market
4. Patented techniques for C&D waste gasification



Date  
August 13, 2024

## TOPSOE

Customer Site Country	Feedstock	Capacity Nm <sup>3</sup> /h	Product	Year of start-up	Contractor
TotalEnergies Hydrogen Holdings USA, LLC Undisclosed USA	CO <sub>2</sub> / Green Hydrogen	25,500	eNG	2027	Undisclosed
NORTH HUAIJIN REFINING AND PETROCHEMICAL COMPANY LIMITED China	Coal	50,000	SNG	2024	China Tianchen Engineering Corp. (TCC)
CPI Xingang China	Coal	2x131,800	SNG	2024	Hualu Engineering & Technology
Huineig Inner Mongolia China	Coal	115,600	SNG	2021	Hualu Engineering & Technology
Shenhong Refining & Chemical Lianyungang China	Coal	2x90,000	SNG	2020	Hualu Engineering & Technology
Wulan Inner Mongolia China	Coal	78,700	LNG	2020	Wilson Engineering
Hengli Petroleum Dalian China	Coal	130,000	SNG	2019	China Tianchen Engineering Corp. (TCC)



# TRACTION

Confidential

Confidential

Confidential



Confidential

Fuel Customers



DEPARTMENT OF ENVIRONMENTAL SERVICES  
KA 'OIHANA LAWELAWE KAIAPUNI  
CITY AND COUNTY OF HONOLULU  
800 LILUOHA STREET, SUITE 308 • KAPOLEI, HAWAII 96707  
PHONE: (808) 798-3999 • FAX: (808) 798-3847 • WEBSITE: hawaii.gov



City of Tacoma  
Mayor Victoria Woodards

October 27, 2025

Ms. Joelle Simonpietri, President  
Simonpietri Enterprises LLC  
515A Keolu Drive  
Kailua, Hawaii 96734

**Subject: Commitment to Support Proposed Renewable Natural Gas Production Facility**

Dear Ms. Simonpietri,

I am writing to confirm our support for your proposed 'Aloha Carbon' project to build a renewable natural gas production plant in our City.

- We are excited at the potential your project presents, to address several challenges we face:
- our sole remaining municipal solid waste landfill has reached its height limits and is projected to have to close within 10 years;
  - we have a lack of recycling options for construction and demolition debris and green waste;
  - increasing demand for renewable natural gas to fuel either our vehicles or the private fleets operating within our Port of Tacoma;
  - lack of firm year-round renewable power generation for us to meet our resident's needs and also reach our ambitious climate goals;
  - export of dollars from our economy to purchase renewable fuel credits.

Your project represents a compelling option to meet our ongoing disposal needs as we chart our path towards sustainable waste management. We also welcome the economic benefits associated with the project, including significant permanent living-wage job creation, ongoing tax revenues, and supplying a vital product for several local businesses.

Currently an average of 200,000 tons of municipal solid waste and 31,000 tons of green waste are collected by our Environmental Services department each year. Our last landfill reached capacity and has been closed since 2012. All of this waste is currently disposed at the Pierce County landfill, approximately 20 miles from the City limits and costing us \$4,800,000 per year in waste hauling alone.

Waste Customers



Confidential

Technology Providers



April 30, 2024

Ms. Marie-Joelle Simonpietri  
President



Grant Agreement with

Simonpietri Enterprises LLC

through

The Office of Economic Development & Competitiveness

25-76210-010

For

The purpose of this contract is to help facilitate a feasibility engineering study for a plant in the Port of Tacoma to convert over 500 tons per day of organic waste separated from industrial, construction and demolition debris (C&D), and municipal solid waste into approximately 6 million cubic feet per day of renewable natural gas for fuel consumers within the Port.

Dated: Upon Execution

Financing

# PROJECT PIPELINE

## Integrated Waste To Value Projects:

Innovating to replace landfilling of waste, starting in Hawaii and then Washington

### 01 ALOHA SUSTAINABLE MATERIALS RECYCLING FACILITY

- **Location:** Honolulu
- **Scale:** 50 tons per day C&D waste
- **Target Start Date:** Q1 2027

### 03 Aloha Carbon TACOMA RNG

- **Location:** Tacoma Washington
- **Scale:** 500 TPD C&D waste
- **Target Start Date:** Q4 2030

### 02 Aloha Carbon HONOLULU RNG

- **Location:** Honolulu Hawaii
- **Scale:** 500 TPD C&D waste
- **Target Start Date:** Q4 2029

### 04 Aloha Carbon *Your Location Here*

- **Location:** TBD
- **Scale:** 1000 TPD Trash
- **Target Start Date:** Q1 2034

# LEADERSHIP TEAM Deep Renewable Energy and First-of-a-Kind Project Experience



Joelle Simonpietri  
FOUNDER & PRESIDENT

Renewables & Innovation Team Lead, Par Hawaii Refining; SAF supply chain dev, U.S. Dept of Defense; Industrial waste & Waste-to-energy investment, Waste Management Inc.



Aaron Ellis  
DIRECTOR OF FINANCE

CFO, Kalona Brand cacao; Dir of Lending, Feed the Hunger Fund; due diligence consultant, Kamehameha Schools; Investment Analyst, Ulupono Impact fund



Mike Turina  
LEAD PROJECT ENGINEER, P.E.

Lead project & construction engineer for Par Hawaii Refining, Tesoro, Transworld Oil, & BHP process units in Hawaii & Malaysia



Jody Allione  
DIRECTOR OF PRODUCT DEVELOPMENT

Lead project developer for Innergex, AES, Hamakua Energy Partners in Hawaii & western U.S.A.



CONSTRUCTION & RENEWABLES



LANDFILL GAS BIOFUEL PRODUCTION



WASTE SORTING OPTIMIZATION



RENEWABLE FUEL DEMONSTRATION



RENEWABLE FUEL COGENERATION



INDEPENDENT POWER COGENERATION

## Opportunities

- Large-Volume Supply
- Long-Term Offtake (20 years)
- Stable-Price Supply
- Co-Location with Consumer
- Circular & Sustainable Economic Development

## Challenges

- Policy: Unable to use U.S. Renewable Fuel Standard RINs
  - Wood Feedstock
  - Marine Use
- Renewable Fuel Production Tax Credit expiration 2029
  - Worth \$14/MMBTU
- Impact Capital needed

# CONTACTS

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## BUSINESS & TECHNICAL

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[Joelle@simonpietri.com](mailto:Joelle@simonpietri.com)

## PROJECT DEVELOPMENT

Jody Allione

[Jody@alohacarbon.com](mailto:Jody@alohacarbon.com)

## COMMUNITY OUTREACH & INPUT

Naomi Kukac

[Naomi@alohacarbon.com](mailto:Naomi@alohacarbon.com)



Aloha Carbon



# FREQUENTLY ASKED QUESTIONS FOR ALOHA CARBON

## IS THIS ANOTHER FOSSIL FUEL PROJECT?

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No, this project is focused on production of renewable fuel from solid waste, to displace both landfilling and fossil fuel use. Simonpietri Enterprises is not a fossil fuel company.

## WHAT IS GASIFICATION, AND IS IT THE SAME AS INCINERATION?

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Gasification is an enclosed air-starved system which indirectly heats the waste to break it down into small molecules = syngas. It is not the same as burning or incineration, where high air flow is required to maintain active flame in contact with the waste.

## HOW SAFE IS THE WASTE ASH FROM THIS PROCESS?

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Ash residue has consistently passed EPA Toxic Characteristics Leaching Protocol (TCLP) for non-hazardous handling and disposal. Simonpietri Enterprises' patented techniques sequester heavy metals in immobile form to reduce leaching and air emissions.

## WHAT IMPACT WILL THIS PROJECT HAVE ON WATER RESOURCES?

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The proposed project design includes water purification and re-use to minimize water demand.

Some water is also produced in the process, since it comes in with the waste.

## HOW DO AIR EMISSIONS FOR THIS TYPE OF PROJECT TECHNOLOGY COMPARE TO OTHERS?

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Gasification is an enclosed and air-starved process, producing 60-90% lower emissions of each criteria air pollutant (NOx, SOx, PM, VOC, CO, & CO2) compared to incineration of the same waste.

## WHAT ECONOMIC BENEFITS WILL THIS PROJECT BRING TO THE AREA?

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While small, the Aloha Carbon project would:

- Employ 40-60 skilled workers and replace lost jobs
- Keep city \$\$ for waste disposal working in the city



# RISK MANAGEMENT through operational gasification technology selection

## EQTEC PLC

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- ▶ 4 plants in commercial operation
- ▶ Over 110,000 operating hours audited by independent engineer
- ▶ Meets process industry standard of <7% unplanned downtime
- ▶ Difficult woody wastes (high potassium, metal contamination)



### EQTEC MOVIALSA MDC SRL 5.9MWE PLANT WITH 4 UNITS

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- ▶ Campo Criptana, La Mancha, Spain
- ▶ Continuous Operation since 2011
- ▶ Feedstock: Olive & Grape Press Cake



### EQTEC CROATIA MDC 1.5MWE PLANT

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- ▶ Belišće, Croatia
- ▶ **Commercial Start:** 2016 @1.2MWe
- ▶ **Expansion to 1.5MWe Start:** 2021
- ▶ **Feedstock:** Forestry Waste



### EQTEC AGRIGAS 0.5MWE PLANT

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- ▶ Larissa, Greece
- ▶ Commercial Start: Dec 2021
- ▶ Feedstock: Ag Residue (Straw, Stover)



### EQTEC ITALIA MDC SRL 1.1MWE PLANT

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- ▶ Castiglione d'Orcia, Tuscany, Italy
- ▶ Commercial Start: Jan 2023
- ▶ Feedstock: Straw, wood chips

# 100% of gasification ash samples have passed TCLP for disposal in RCRA D Landfill

## Heavy Metals

Metals Analysis TCLP Leachate By Method SW846 1311					Bed Ash		Fly Ash		Bed Ash									
					November 11th 2023	November 12th 2023	November 11th 2023	November 12th 2023	June 6th 2022	June 7th 2022	June 8th 2022	June 8th 2022	June 9th 2022	June 9th 2022	June 10th 2022	June 10th 2022	June 11th 2022	June 11th 2022
Compound	Units	Maximum Contamination Level	Reporting Limit	Method Detection Limit	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	
Arsenic	mg/l	5.0	0.25	0.0870	<0.250	<0.250	0.18	0.15	<0.10	0.11	<0.10	0.30	0.88	1.2	0.15	0.74	1.3	0.95
Barium	mg/l	100	0.45	0.150	<0.450	<0.450	<0.450	<0.450	0.22	0.23	<0.20	<0.20	0.2	0.23	<0.20	0.43	0.36	0.39
Cadmium	mg/l	1.0	0.02	0.0050	<0.0200	<0.0200	<0.0200	<0.0200	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040
Chromium	mg/l	5.0	0.1	0.0340	<0.100	<0.100	<0.100	<0.100	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Lead	mg/l	5.0	0.4	0.0400	<0.400	<0.400	<0.400	<0.400	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Mercury	mg/l	0.2	0.0002	0.00006	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Selenium	mg/l	1.0	0.5	0.170	<0.500	<0.500	<0.500	<0.500	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Silver	mg/l	5.0	0.07	0.0270	<0.0700	<0.0700	<0.0700	<0.0700	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010

Fly Ash										Bed Ash	Fly Ash		
June 6th 2022	June 7th 2022	June 8th 2022	June 8th 2022	June 9th 2022	June 9th 2022	June 10th 2022	June 10th 2022	June 11th 2022	June 11th 2022	July 2025	July 2025	July 2025	July 2025
Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result
0.52	2.7	2.8	2.3	1.8	1.8	2.4	1.2	1.4	2.7	0.680	1.26	1.16	<0.250
4	1.4	0.81	1.1	1.1	1.5	1.2	0.94	1.7	2.5	5.12	1.26	0.703	<0.450
0.053	0.018	<0.0040	0.022	<0.0040	<0.0040	<0.0040	<0.0040	0.0087	0.064	0.0880	<0.0200	<0.0200	<0.0200
<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.100	<0.100	<0.100	<0.100
<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	1.69	<0.400	<0.400	<0.400
<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.500	<0.500	<0.500	<0.500
0.014	0.011	<0.010	0.013	<0.010	0.011	<0.010	<0.010	0.010	0.012	<0.0700	<0.0700	<0.0700	<0.0700

# RISK MANAGEMENT Through early community engagement & support

## CONSULTATION PROCESS:

### 1. Stakeholder interviews:

- City of Tacoma – Solid Waste, Economic Development
- Pierce County – Solid Waste, Economic Development
- Front & Centered
- Environmental Justice Council

### 2. Case studies:

- Tacoma Tideflats Environmental Impact Statement
- Puget Sound Energy LNG Terminal EIS

### 3. Site Visits of other energy and waste projects:

- Pierce County LRI Landfill
- Cedar Grove composting facility
- DTG Recycle Recovery One Materials Recovery Facility
- King County Cedar Hills landfill and landfill gas facility
- Spokane Waste to Energy facility
- Snohomish County waste rail transfer stations



@DTG's Recovery One MRF in Tacoma WA

**TACOMA TIDEFLATS**

### Study Area

- Study area spans over 5,000 acres.
- **Natural context:** Includes shoreline, river deltas, tidal creeks, marshes, naturalized creeks, and river channel corridors.

Economic context: Approx. 10,000 employees in the Tacoma Tideflats and they retain these rights to this day. Let us take this moment to recognize the unique responsibility in being co-stewards with the Tribe over these lands & waters and work with them to safeguard their treaty protected rights.

Map Date: January 2021

Legend:  
Industrial/Commercial Buffer  
Core Industrial Area

# C&D waste composition

