



# WHITE LION ENERGY GROUP

CARBON-NEGATIVE INFRASTRUCTURE

REGISTERED · VERRA CARBON REGISTRY

## TURNING THE WORLD'S **WASTE** INTO IT'S NEXT ENERGY SOURCE FOR MICRO GRID DATA CENTERS

### STAGE 01

#### WASTE IN

Scrap tires, biomass, agricultural residue — collected, classified, fed into the reactor.



### STAGE 02

#### CARBON STABILIZED

Indirect heated thermal decomposition no combustion. Carbon permanently partitioned into stable forms.



### STAGE 03

#### VALUE OUT

Alt diesel, electricity, carbon black, graphene, RIN credits, and carbon capture credits simultaneously.

### THE TECHNOLOGY

#### INDIRECT HEATED THERMAL DECOMPOSITION

White Lion's Thermal Decomposition Pyrolytic Reactor (TDPR) operates without combustion. Three thermal zones break down feedstock under oxygen-free conditions. Carbon is not released as CO<sub>2</sub> — it is permanently partitioned into fuel oil, stable biochar, or refined further into graphene. Syngas recycles to power 85%+ of the reactor's own energy demand.

### CUBE-MOUNTED DESIGN

#### DEPLOYABLE ANYWHERE — WITHOUT CONCRETE

Every unit ships as a fully assembled, factory-tested, containerized system. No foundation pour. No excavation. Compliant with CEQA, UL, NFPA, AQMD, and CARB at the factory level. Rapid commissioning — ideal for tribal lands, remote sites, and municipal programs.

# THE NUMBERS TELL THE STORY

A Rare Kind of Investment for People, Planet, Profit



**~430 to 6,500 gal**

Of sellable alternative diesel per ton of scrap tire feedstock. Feedstock is free — industries pay to dispose of it.

**2.4 to 48 MW PER DAY**

Of on-site electricity per plant — from waste, at a fraction of conventional cost. Built for the AI data-center power crisis.

**\$60B**

Projected voluntary carbon market value by 2030. Registered with the Verra Carbon Registry — credits from day one.

**15-20 yr**

Operating life per plant. Fuel, power, carbon credits, graphene, and RIN credits — all flowing simultaneously.



## SIMULTANEOUS REVENUE STREAMS



### CARBON CREDITS

Verra Carbon Registry certified. RIN credits qualify. Market up 72.5% in 2 yrs.



### ELECTRICITY

Up to 10 MW per plant. On-site generation from syngas — ideal for AI centers.



### CARBON BLACK / BIOCHAR

~35% of input mass. QA-supported for market-ready specs.



### RIN CREDITS

Renewable Identification Number credits qualify under EPA programs.

## WHO WE WORK WITH



### AI & Data Centers

Massive on-site power from waste. Clean-energy credentials built in — no grid dependency.



### Industrial Facilities

Your waste stream is a hidden revenue line — disposal cost becomes fuel, power, credits.



### Remote & Island Communities

Energy independence using local biomass and waste — no grid access required.



### Developers & Investors

Proven technology. Multiple concurrent revenue streams. Carbon upside from day one.

# PE3-P SPECIFICATIONS

## Core Technical Data



### PE3-P Thermal Decomposition Reactor

Parameter	PE3-P Specifications
Input Capacity	3 tons/day (~0.125 t/hr)
Crude Oil Output (45%)	~1.35 t/day (approx. 430 gal/day)
Carbon Black / Biochar (35%)	~1.05 t/day
Syngas (20%)	~0.6 t/day (reused for heat)
Voltage	208/230 V, 3-phase, 60 Hz
Power Consumption	~4.2 kW continuous
Startup Fuel (Heavy Oil)	1.8 gal/hr
Material	15-7 Stainless Steel Reactor
Control System	Schneider PLC with remote monitoring
Staffing	2 operators per shift



## Physical & Site Requirements

Item	PE3-P Requirement
Footprint	40 ft L x 9 ft W x 9.5 ft H (containerized)
Recommended Pad	4,000 psi reinforced concrete
Building Type	Open yard or under roof
Power Integration	Off-grid capable via 100 kW genset / 2.4 MW battery
Environmental Controls	Dual scrubber + condensate recovery (ISO 14001)



A new **category of infrastructure** – carbon-negative by design, energy-producing by operation, and built entirely from the world's waste streams.

**Q.** Inputs- Cars v Semi Tires?

**A.** All units accept standard passenger (PCP) and truck (TBA) Tires. Heavier-wall truck Tires deliver slightly higher mass/ton but similar yield %. Mixed streams are common; ensure metal removal and size reduction per the feed spec in your proposal.

**Q.** Utilities per ton for pre-processing?

**A.** Pre-processing power is site-equipment dependent (shredders, magnets, granulators) and not part of the PE-series utility table. As a planning proxy: include the shredder OEM's kWh/ton plus our reactor table for the pyrolysis stage

**Q.** Additional equipment recommended?

**A.** Yes – typically forklift/telehandler, infeed conveyor or auger, magnetic separation, weigh scale, dust collection (as required by code), and fire-watch/infrared for tire storage. Details are set during pre-FEED.

**Q.** Space requirements - equipment vs working area?

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Indirect heated pyrolysis under **oxygen-free** conditions – carbon partitioning without combustion.

**Q.** What inputs are required for the thermal decomposition reactor?

- A.** The reactor requires:
- Sized tire/biomass feed – shredded to spec from Stage 1
  - Electrical power 208/230V AC, 3-phase, 60Hz
  - Start-up fuel – LP gas, natural gas, or diesel for initial heating only

Once the system reaches operating temperature, it uses recovered syngas for more than 85% of process heat. Auxiliary fuel drops dramatically after stabilization.

**Q.** What ancillary tools and spare parts are recommended?

- A.** A spare pump, instrument air compressor (if not plant-supplied), and routine cleaning tools. White Lion ships a 12-month consumables kit with every unit and defines preventive maintenance (PM) intervals in the O&M manual. Service contract: ~\$30,000/year (quarterly PM). Includes quarterly inspection, scrubber media change, and 36 months of remote diagnostics.



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**Q.** What is the operating cycle and maintenance schedule?

- A.** Reactors are continuous systems
- 60 days continuous run
  - ~3 days planned maintenance per cycle



### Revenue planning basis for oil, carbon black, syngas, and advanced carbon products.

**Q.** What outputs and values should I use as a planning basis?

**A.**

OUTPUT	YIELD	NOTES	PLANNING VALUE
Bio-oil / Crude	~45% of input	~143 gal/ton for tire feed	\$1.50–\$3.00/gal
Carbon Black / Biochar	~35% of input	Value depends on ash, particle size, activation	Market-dependent
Syngas	~20% of input	Recycled internally for process heat (>85%)	Internal use

Oil is sold as pyrolysis crude or upgraded to diesel via the WD-D process. Pricing is contract-dependent; the \$1.50–\$3.00/gal range is the ex-works planning basis used in project proposals.

**Q.** What carbon credits and regulatory credits does the system generate?

**A.** White Lion projects qualify for: **Verra Carbon Registry credits** — registered via the PDD Program. Verified, insurable, and financeable from day one.

**RIN (Renewable Identification Number) credits** — qualifying alternative diesel production under EPA renewable fuel programs. The voluntary carbon market was valued at \$2 billion in 2021 and industry projections put it at \$10–\$60 billion by 2030. Carbon credit prices have risen 72.5% in two years.



## Deployment, environmental controls, certification, and regulatory alignment.

**Q.** What are the advantages of the Cube-mounted (containerized) design?

- A.**
- No concrete foundation required – minimal ground disturbance, low-impact footprint
  - Factory assembly and pre-certification – QA/QC controlled before field deployment
  - Relocatable – a single unit can serve multiple sites sequentially, improving ROI
  - CEQA compliant – suitable for environmentally sensitive zones, tribal lands, and fire-prone regions
  - Pre-engineered compliance – fire suppression, secondary containment, and emergency shutoffs built in.

**Q.** What certifications and regulatory standards does the system meet?

- A.**
- UL – Underwriters Laboratories
  - NFPA – National Fire Protection Association
  - AQMD – Air Quality Management District
  - CARB – California Air Resources Board
  - ISO 14001 – Environmental Management (dual scrubber + condensate recovery)

# THANK YOU

## CARBON NEGATIVE ENERGY INFRASTRUCTURE



## Let's Talk

Thank you for considering White Lion Energy as a potential partner. Take the next step with us and contact our team for a deeper discussion.