# Cloprousa.com presents

# Energe

# Plastic to Fuel Technology – City of Rialto

## **Daily Fuel Consumption**



Source: US Energy Information Administration. <u>https://www.eia.gov/dnav/pet/pet\_sum\_snd\_d\_nus\_mbbl\_a\_cur.htm</u>







## **The Problem**

Microplastic has been found in our rivers, our highest mountains, our deepest oceans, and even in our **OWN DIGESTIVE TRACKS** 

Less than **10% OF PLASTIC** has ever been recycled

> 30+ MILLION TONS of plastic are dumped annually in the US alone.

Plastic in landfills **LEAK TOXIC CHEMICALS**, into the ground and water supply as it decomposes



An estimated **8MM METRIC TONS** of plastic end up in the ocean every year









Clandestine plastic burning **RELEASES TOXIC GASSES** into the atmosphere



Plastic has been found in **AT** LEAST 180 MARINE SPECIES, including 100% of sea turtles



5.25 trillion pieces of plastic float on the ocean's surface, creating **MASSIVE PLASTIC ISLANDS** 



## **The Solution**

A Plastic to Fuel (P2F) Repurposing Plant with patent-pending technology that converts plastic back to its hydrocarbon state.



Removing the problem of non-recyclable, dirty waste plastic



Eliminating the **need** for the US to export waste plastic to Asian and African countries





**Producing clean**, high-performance gasoline and certified diesel for automobiles, commercial trucks, and buses



## **Timeline of Development**



#### Theory

Completed numerous laboratory tests and trials. Successfully isolated gasoline, diesel, kerosene and paraffin from plastic.



## Development

Started developing the process of converting plastic to fuel.



Built first pilot plant. Scaled plant for industrial use.



#### Testing

**Environmental Analysis** ASTM Standards Fuel Refined Kerosene to Jet Fuel Fuel Production Log Mexican Patent



### Production



### Market

Ready for Market. US Patent Pending.



## **The Conversion Process**

Enerra can process ALL types of plastics at the same time

Enerra's THERMAL PHYSICAL REFORMATION **PROCESS** converts ALL waste plastic back into hydrocarbons of several forms (gas, liquids and wax).

The process starts with shredding the plastic waste into pellets or chips.

> **Closed** loop system, no harmful emissions produced



No hazardous chemicals (catalysts) are used in the REFORMATION **PROCESS.** 

> A small amount of the gas produced, provides the energy needed for the process.



## **Air Quality and Green House Gas Emissions Results**

An Air Quality and Greenhouse Gas Technical Report was conducted to evaluate the potential air quality impacts from construction and operational activities associated with the development and operation of Enerra's facilities. Construction and operation of each facility will have *LESS THAN SIGNIFICANT* Greenhouse gas emissions and impact on Ambient Air Quality.

Enerra's equipment will meet applicable air quality standards of the CA South Coast Air Quality Management District (SCAQMD), including Best Available Control Technology (BACT) requirements. The Project equipment will meet the highest quality standards for health, safety, and air quality, as well as providing on an average 20 jobs in their communities.

## **Comparison of OPERATIONAL EMISSIONS to mass daily significance thresholds**

Project Element	NO <sub>x</sub> (lb/day)	VOC (lb/day)	CO (lb/day)	SO <sub>x</sub> (lb/day)	PM <sub>10</sub> (lb/day)	PM <sub>2.5</sub> (lb/day)
Mobile Sources	1.59	0.13	2.11	0.01	0.40	0.13
Operations	0.87	5.00	10.65	1.76	0.33	0.33
Total Enerra Emissions	2.46	5.13	12.76	1.77	0.73	0.46
SCAQMD Threshold	55	55	550	150	150	55
Exceed SCAQMD Threshold?	No	No	No	No	No	No



Project Element	CO <sub>2</sub> (MT/yr)	CH4 (MT/yr)	N <sub>2</sub> O (MT/yr)	CO <sub>2</sub> e (MT/yr)
Mobile Sources	137.56	0.00	0.01	140.87
Operations	540.58	0.03	0.01	719.56
<b>Total Enerra Emissions</b>	678.14	0.03	0.02	860.43
SCAQMD Threshold				10,000
Exceed SCAQMD Threshold?				No

## **Comparison of GREEN HOUSE GAS EMISSIONS to Significance threshold**





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## **The Process**

## **Equipment schematic of reformers and associated equipment**







## **Flow Diagram**







## **Benefits for our City**

- 2800 4000 TONS of waste plastic diverted from landfills and repurposed Yearly.
- 650,000 900,000 GAL. of Sustainable fuels produced Yearly.
- 20 + High Paying Jobs created.
- Waste Plastic only received in bulk The Facility will not be open to the Public.
- ALL waste plastic will be stored indoors.
- Very low truck traffic Only 4 truck loads per week.

MINDINAO STREET	
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# **ClOprousa is an Technology and Energy Generation developer**



Mr. Elias S. Cortez, CEO and sole proprietor of ClOprousa, who Has extensive experience in delivering successful Integrated Technology solutions and Energy Generation and Conservation Solutions. to both the private and public sectors. Elias Cortez has been consulting in the AEC, Private sector and Municipal Government for over 30 years in both Architecture and Technology. With combined skills and expertise in Architecture, Technology and project management, He has served the underserved in providing an Affordable Integrated Technology solutions which enhance Technology integration to fulfill their specific needs.

We at ClOprousa.com , believe that Public and Private organizations should focus on what they do best, their service and product delivery. Our philosophy is to use innovative technologies and our expert services, which address their distinct fundamental challenges and streamline their organization. In these very challenging times, using technology strategically to grow organizations business performance and create jobs of the future is a must. We enhance our customers People, Process and Technology simultaneously as a pathway to success.