



GEMNRG

**CHANGING THE FUTURE WITH RENEWABLE
TECHNOLOGIES**



THE WORLD TODAY

- ❗ Harmful effects from climate change
- ❗ Extensive pollution and waste generation
- ❗ Devastating fossil fuel emissions
- ❗ Damaged agricultural industry

AND MORE...

SOMETHING HAS TO BE DONE!





GEMNRG is a renewable technology provider bringing forth **sustainable** and **eco-restorative** products and solutions, for the betterment of mankind and our planet.





OUR MISSION

GEM's mission is to provide global solutions for renewable and sustainable products, through investment and industry partnerships, with a direct focus on clean energy, clean waste removal, and other eco-restorative solutions.

OUR VISION

GEM's vision is a cleaner planet with a healthier population, and broad use of amazing technologies that can literally save the planet.



OUR TECHNOLOGIES

1. WASTE TREATMENT & WASTE TO ENERGY
2. WASTE TO BIO-FUEL & BIO-SYNTHETIC WOOD
3. GREEN HYDROGEN PRODUCTION



GEM's technologies meet 9 of the
UN Sustainable Development Goals!

1. CLEAN WASTE TREATMENT

GROUNDBREAKING TECHNOLOGY

Cleanly dispose of ALL types of waste with no harmful emissions, dioxins, or furans.

Patented DuoTherm™ technology – NOT Incineration, Pyrolysis, Plasma, Autoclave, or Gasification.





Mobile units also available

Waste Treatment Redefined

- ✔ No drying or sorting
- ✔ Small footprint
- ✔ Operate inside or outside
- ✔ Unit sizes from 2 tons per day to 400 tons per day
- ✔ Fixed and mobile solutions available



5 ton per day model

Full product specifications available

1. CLEAN WASTE TREATMENT



W2E

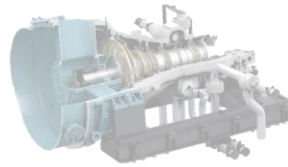
WASTE TO ENERGY

Scalable to any output of clean energy production!

Unit sizes from 22 tons per day to 400 tons per day, with Power Generation Package.

Group units for larger demand!

Emission free energy from all types of waste!



Application	Model	Capacity	Utilization	Gross Electric Power (before Vorax's own consumption)	NET Energy Generation (after Vorax's own consumption)
Waste Treatment Only	Etna	2 ton/day	Solid, Medical	Not applicable	Not applicable
	Kilauea	4 ton/day	Solid, Medical		
	Kilimanjaro	5 ton/day	Solids, Liquids, Pasty, Medical		
	Krakatoa	10 ton/day	Solid, Liquid, Pasty, Medical		
Waste to Energy with Power Generation Package Included	Zeta One	22 ton/day	WDF - TDF 1,04t / MWh - 0,83t / MWh, Medical, Hazardous, Industrial, MSW, Solids, Liquids, Pasty, Medical	0.77 MW	0.60 MWh *
	Zeta Two	36 ton/day	WDF - TDF 1,35t / MWh - 0,83t / MWh, Medical, Hazardous, Industrial, MSW, Solids, Liquids, Pasty, Medical	1.26 MW	0.98 MWh *
	Rigel One	60 ton/day	WDF - TDF 1,04t / MWh - 0,83t / MWh, Medical, Hazardous, Industrial, MSW, Solids, Liquids, Pasty, Medical	2.10 MW	1.64 MWh *
	Rigel Two	72 ton/day	WDF - TDF 1,35t / MWh - 0,83t / MWh, Medical, Hazardous, Industrial, MSW, Solids, Liquids, Pasty, Medical	2.52 MW	1.97 MWh *
	Altair One	110 ton/day	WDF - TDF 1,35t / MWh - 0,83t / MWh, Medical, Hazardous, Industrial, MSW, Solids, Liquids, Pasty, Medical	3.85 MW	3.01 MWh *
	Altair Two	150 ton/day	WDF - TDF 1,04t / MWh - 0,83t / MWh, Medical, Hazardous, Industrial, MSW, Solids, Liquids, Pasty, Medical	5.25 MW	4.10 MWh *
	Procyon	220 ton/day	WDF - TDF 1,35t / MWh - 0,83t / MWh, Medical, Hazardous, Industrial, MSW, Solids, Liquids, Pasty, Medical	7.69 MW	6.01 MWh *
	Orion	400 ton/day	WDF - TDF 1,35t / MWh - 0,83t / MWh, Medical, Hazardous, Industrial, MSW, Solids, Liquids, Pasty, Medical	13.99 MW	10.93MWh *

Full product specifications available

10.93MWh assumes MSW with PCI (Lower Calorific Value of 2780 kCal/kg). Higher outputs achievable depending on types of waste used as feedstock.
Example: TDF (tires) 7000 kCal/kg = 35.22MWh gross = 32.17MWh net (after Vorax consumption).

1. CLEAN WASTE TREATMENT



2 WASTE TO BIO-FUEL & BIO- SYNTHETIC WOOD

TURN **ALL TYPES** OF WASTE INTO BIO-
FUEL OR BIO-SYNTHETIC WOOD

Proven technology with over 20 years R & D and multiple plants globally.



No Harmful Emissions

- ✔ Does not use water or chemical additives.
- ✔ Does not generate waste.
- ✔ No harmful emissions or pollution.
- ✔ Accepts ALL types of waste.



No Burning
No Residue
No Landfills

=

100%
Viable

Full product specifications available

2. WASTE TO BIO-FUEL & BIO-SYNTHETIC WOOD



An Innovative Technology in Waste Processing



Transforms waste into profit



Uses all waste, including contaminated ones, without washing or sorting



Eliminates your company's waste costs



Zero waste technology



Enables you to create sustainable and profitable products



Enables ecologically attractive new businesses

2. WASTE TO BIO-FUEL & BIO-SYNTHETIC WOOD



3 GREEN HYDROGEN PRODUCTION

A SCIENTIFIC BREAKTHROUGH

Inexpensive mass green hydrogen production from water, converting nearly all diesel generators to run on hydrogen.

The technology can also convert most power plants to run on hydrogen.



Clean Power From Water

- ✔ Zero carbon emissions.
- ✔ Eliminates fossil fuel costs.
- ✔ Conversion of fossil fuel plants and generators to run on water.
- ✔ Turnkey and modular.
- ✔ Minimal or zero grid requirement.

CONVERT MOST POWER PLANTS TO RUN ON HYDROGEN

Gas or Diesel
Natural gas
Coal
Oil

CONVERT NEARLY ALL DIESEL GENERATORS TO RUN ON HYDROGEN

Caterpillar
Kohler
Cummins
MTU
Volvo
MHI
Briggs Stratton
Kipor Power
Generac
Dresser_Rand
MultiQuip
Himoinsa

APR Energy
GE Energy
Pramac
F.G.Wilson
JCB
Wartsila
Yanmar
Wasker Neuson
Atlas Copco
Kirloska
Aggreko



Full product specifications available

Proprietary Thermoplasma Extraction Technology

This proprietary technology is based on an advanced scientific method which includes the invention of using Thermoplasma to extract Hydrogen Gas from Water in high volume for power generation at much lower cost than competing technologies.

The system then utilizes the combined effects of magnetization produced by neodymium magnets, ionization via plasma induction, and resonance brought by radio frequencies, to minimize the energy required to dissociate the water molecule into its element constituent of hydrogen and oxygen atoms. Laser pulses then applied to the water molecules as a final step to split the water into hydrogen and oxygen atoms. The combined effects of the said process requires 95% less energy than typical electrolysis.

Note – This technology is still in R&D and not commercialized. After nearly 20 years of research and development, verification from successful product testing, and proven engineering along with ground-breaking scientific developments; this technology will be commercialized by 2024 and openly available to the public. Early adopters are being sought to help bring this technology to the open market in massive scale.



OPPORTUNITIES

PURCHASE OR LEASE OPTIONS

Multiple purchase and lease options are available for the technologies as demonstrated in this document. For individual products, or packages containing multiple products, **GEMNRG** will ensure the best possible outcome for your needs.

Under a PPA (Power Purchase Agreement) model, **GEMNRG** provides all of the products and technologies as contracted to the Client, with essentially no upfront funds required from the Client. **GEMNRG** brings the internal financing for the projects. Terms and conditions do apply. The PPA structure then allows for the 'outputs' to be purchased, as consumed over time, proving to be a lucrative and feasible solution for the Client.

A bilateral PPA is all about the allocation of risks between the signing parties. Like any contract, the aim is to come out of it with a win-win agreement. The winner doesn't take it all, because in a PPA there must be two winners: both parties must be comfortable with the terms. PPA terms are generally 25 years.



OUR PARTNERS

To provide the best products and solutions globally, **GEMNRG** is proud to have strong industry partnerships with top performing entities and high-level technology manufacturers.

TECHNOLOGIES



WPPENERGY
World Power Production



FINANCING & LEGAL



**HYBRID
FINANCE**



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THANK YOU

FOR MORE INFORMATION, PLEASE CONTACT:
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