



GPROSYS.COM
Green Production Systems (GPROSYS) Corp.

Plasma Array Generator (PAG)

High Performance Plasma Solutions For Sustainable Energy Systems



OUR PRODUCTS INCLUDE

- Plasma Array Generator (PAG)
- Smart Micro Energy Grid
- Smart Flywheel Energy Generator and Storage

WE PROVIDE THESE SERVICES

- Smart Distributed FACTS
- Planning Tool for Transportation Infrastructures
- Fault Diagnostics
- HSE Management
- Control Designs
- Real-Time Process Simulation
- Energy Supply Chain
- Integrity/Maintenance Management
- Supply Chain Management

About Us

GPROSYS Corp. is an energy technology provider and consultancy firm providing solutions and expertise in plasma generation technology, engineering based analyses and advanced engineering management training. GPROSYS team includes experts in plasma engineering and applications, and their implementation on WTE facilities and other industrial applications of plasma. Dr. Hossam Gaber is the principle investigator chief scientist in GPROSYS, where number of technologies are developed including PAG technology and their applications on clean energy and waste-to-energy production facilities, with innovative safety and protection system design, and intelligent control systems for high performance energy and production facilities. The team includes members specialized in plasma simulation, diagnostics, measurement, and experimentations. The offered innovations include energy saving plasma generation technology with high profit and reduced ROI compared with other plasma generation technologies. The proposed solution includes ultrahigh vacuum technology, electronics, feedback control systems, data acquisition and signal processing systems.

Current / Previous Clients

- ADNOC—UAE
- PI—UAE
- KOC, KNPC—Kuwait
- QATAR GAS—Qatar
- Oman Refinery—Oman
- UOIT—Canada
- Shell—UAE
- Japan Oil—Japan
- Yokogawa—Japan
- UOIT—Canada
- Egypt Electricity Company—Egypt
- Qatar National Research Foundation—Qatar
- QU—Qatar
- PI—USE
- OCE, Canada
- Honeywell, USA

WHY PLASMA?

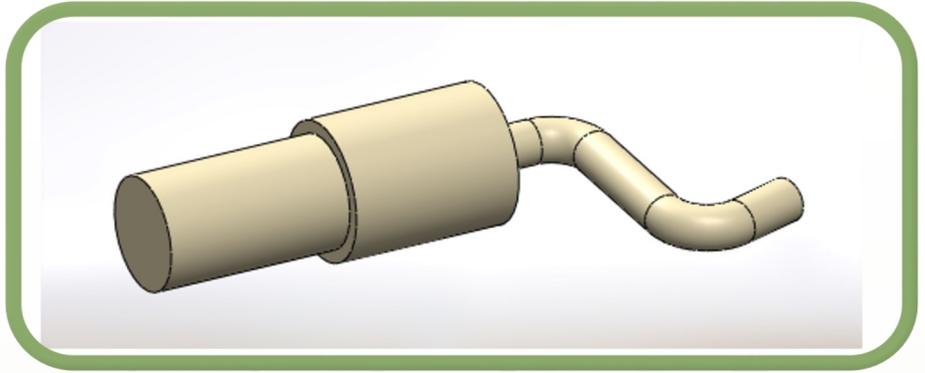
Plasma is considered as fourth state of matter. Technically, plasmas can reach the temperatures of millions of degree Celsius which is controllable depending on the power input. Our plasma solutions will support wide range of industrial applications.

APPLICATIONS OF PLASMAS

- Fusion
- Waste-to-Energy Plants
- Material Processing
- Plasma Cutters
- Aerospace Industries
- Plastic-to-Oil Plants

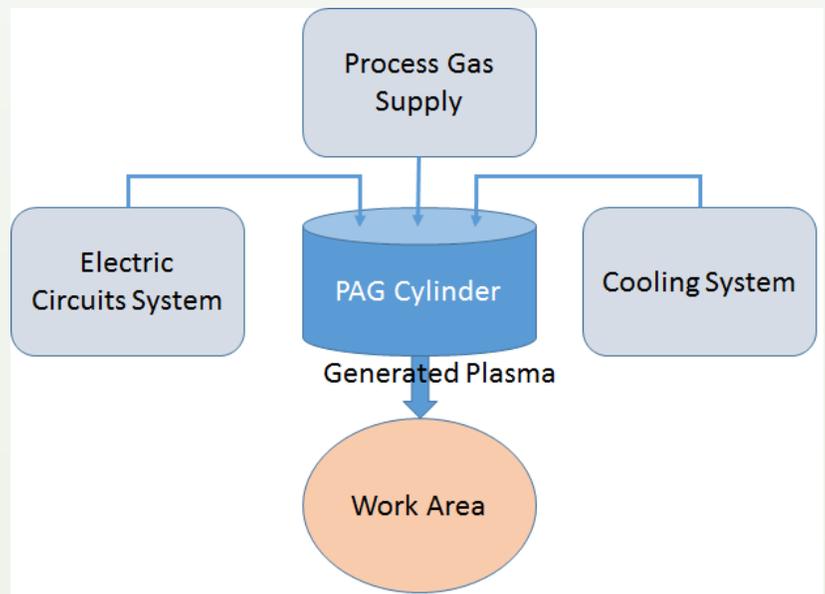
..... And more!

Fun fact: Plasmas can be accelerated and steered by applying magnetic field.



PLASMA ARRAY GENERATOR (PAG)

The gas flow control and supply provide the work gas or also known as process gas at a rate required to treat a work surface. This rate will be dynamically tuned in order to increase or decrease the intensity of the plasma. The cooling components from cooling system assures that the plasma generator case does not disintegrate, and prolongs the operational lifetime of the device, depending on the power rating of the device the cooling can be achieved either via the forced gas convection or by liquid circulation. Plasma Array Generator includes the following three primary electronic components: power control, high field generator, and RF coupling circuit. These components are working together to generate plasma.

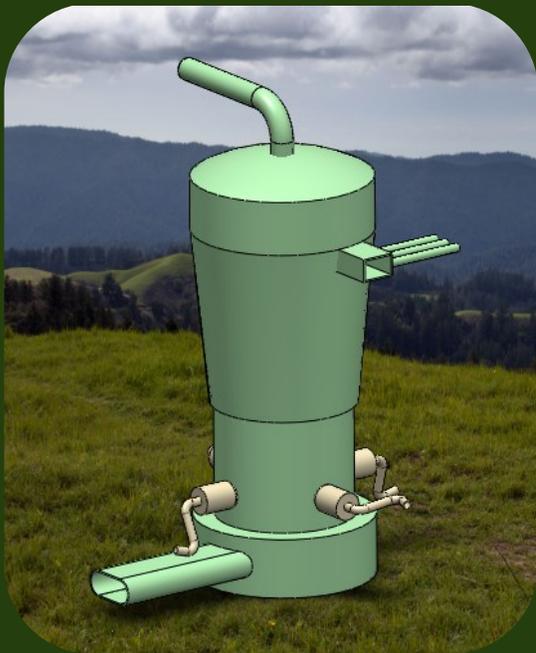


WASTE MANAGEMENT

Waste Management is serious global issue as it impacts greenhouse gas emissions and climate change. GPROSYS introduces plasma assisted gasification by the implementation of PAG technology inside a gasifier chamber to achieve sustainable Waste-to-Energy solutions.

ENVIRONMENTAL AND ECONOMIC BENEFITS

- No combustion
- No harmful gases
- Production of useful syngas and slag
- Reduced power and operating costs



WASTE-TO-ENERGY: PLASMA ASSISTED GASIFIER

Generally, the conventional gasifiers operate using biomass fuel and fire assisted burning of that fuel in order to generate steam and conversion of mechanical energy into electrical energy occurs. Now a days many waste management plants throughout the world operate with municipal solid wastes (MSWs) as a fuel in order to produce steam to turn the turbines. The ultimate goal of PAG implementation is to generate energy from waste and reduce the volume of the waste by producing high value syngas and useful slag by-product via plasma gasification technology.

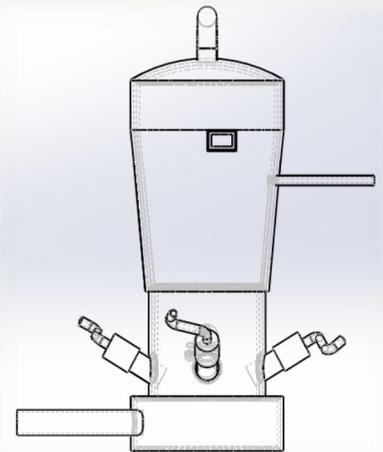
IMPLEMENTATION OPTIONS

GPROSYS offers two options to implement PAG in WTE solutions:

Option—A: GPROSYS will provide complete engineering design of the entire gasifier plant including PAG units.

Option—B: GPROSYS will provide the engineering design and installation of PAG units in an existing gasifier.

GPROSYS will provide engineering services for process design, operation, data analyses, maintenance and training.





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We Believe in Protecting
the *Environment!*

GPROSYS Corp.

Ontario, Canada
Phone: +1-647-975-8574
Fax: +1-647-800-1837
Email: manager@gprosys.com
www.gprosys.com