



The EcoPro[®] Series

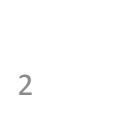
An Ecological Protection solution capability for medical, e-wastes, industrial sludge and other hazardous waste deposits and materials

Allied Plasma, and its' strategic partners, have designed advanced plasma gasification systems for the environmentally safe remediation of a broad spectrum of hazardous waste materials – Solids, Liquids and Coal-Ash, and the conversion of those waste streams into marketable products.



Plasma Gasification

for processing wastes

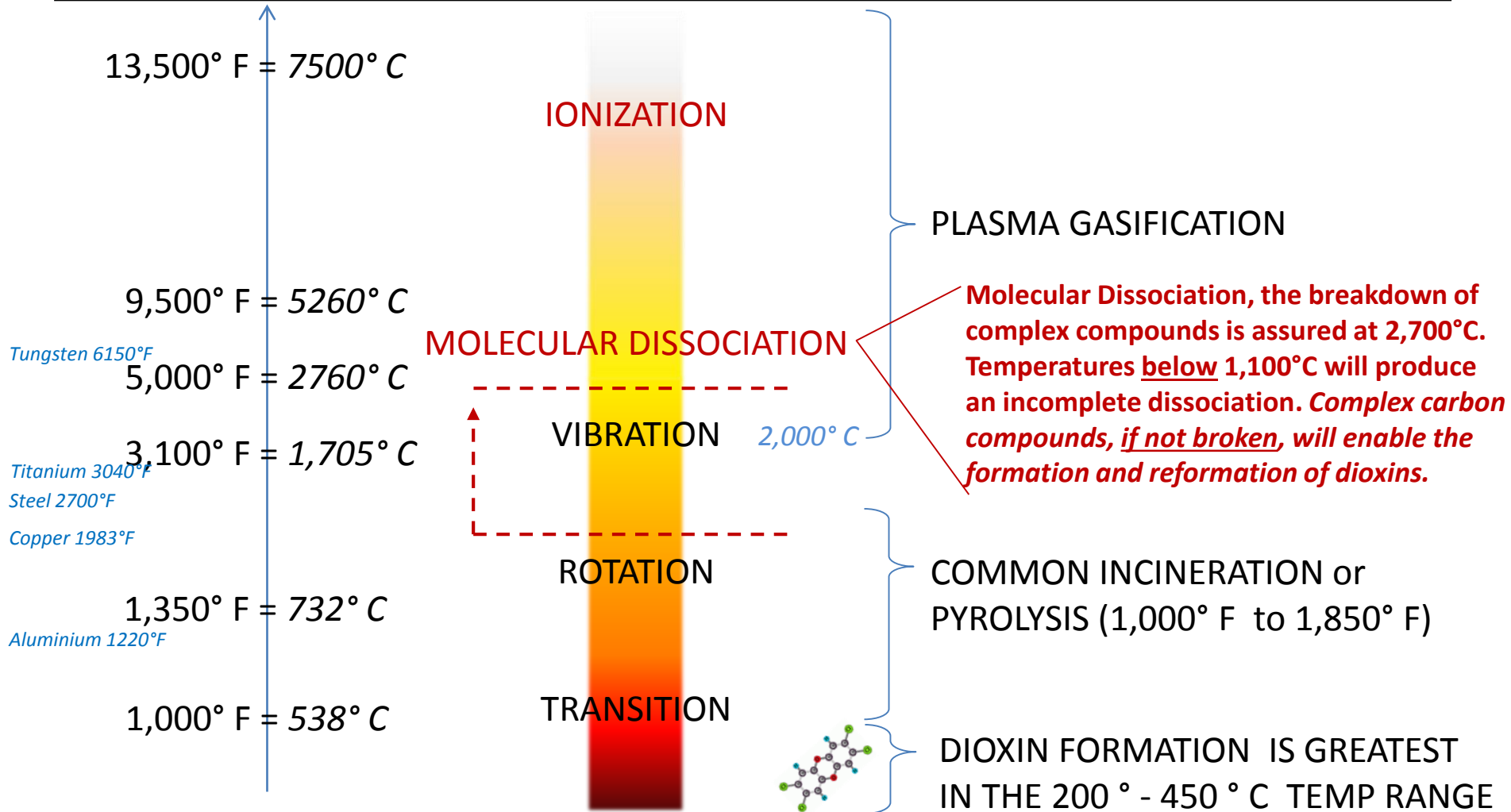


- Plasma Gasification is a thermo-chemical conversion process.
 - Organic solids and liquids, including complex hydrocarbon compounds, are converted to a synthesis gas (syngas) of Carbon, Hydrogen, & Nitrogen in an oxygen controlled process.
 - Syngas is a BTU fuel similar to methane.
 - Inorganic materials, such as metals and minerals, are melted, and fully recoverable in what the industry refers to as ‘slag’.
 - Metals are recovered/recycled.
 - Silica based minerals, will be in a vitrified or obsidian-like form suitable for many industrial uses.
- Plasma Gasification is the most versatile remediation method for virtually all hazardous materials.
 - Carcinogenic PCBs, dioxins and furans are positively destroyed, and cannot reform as in common incineration or pyrolysis methods.



Plasma Gasification

a thermo-chemical reactive environment





The EcoPro[®] I Mobile Plasma Gasification System

- Allied Plasma's proprietary mobile plasma gasification system is designed to be operated by a crew of two to three trained technicians.
- Designed to function within the footprint of two 40' ISO* HC containers.
 - A complete ISO containerized system is transportable in a single military transport or equivalent civilian heavy lift aircraft.
 - ISO containers are also readily shipped by rail, surface ship or flat bed semi-trailers.
- The mobility of the design supports rapid deployment to a hazardous material (hazmat) generating location or in response to a national or natural disaster site.
- For high BTU content waste generators, such as oil shale development sites or military forward operating bases (FOBs), the EcoPro[®] I system can potentially provide excess electrical power.

****ISO Container configuration is planned to be in one 40' ISO HC container and two 20' ISO containers that would house the control room and diesel generator set separately. The shipping configuration (air, rail, barge, truck) will fit the footprint, weight and volume of two 40' ISO containers.***



EcoPro[®] I

Five Focused Feedstocks

- The EcoPro[®] I baseline system is designed for these five primary hazardous, problematic solid waste generators:
 - Medical & Pharmaceutical hazardous and nonhazardous wastes
 - Industrial & Commercial hazardous and nonhazardous wastes
 - Military Forward Operations Base (FOB) waste
 - Remote oil drilling and shale development camps have similar wastes
 - Disaster generated hazardous and nonhazardous wastes
 - Electronics waste (e-waste)
- System training addresses the various operational and maintenance issues related to the different feedstock types.
 - Allied Plasma can modify the EcoPro[®] I baseline system design to support specific customer requirements and feedstock types



The EcoPro[®] II Liquid Mobile Plasma Gasification System

- Allied Plasma's *second* in the series of proprietary mobile plasma gasification systems.
- The EcoPro[®] II is designed to process liquid-only hazardous materials, including contaminated oil wastes, oil well hydraulic fracturing (*fracking*) fluids and other high hazardous wastes including chemical weapon fills.
- The EcoPro[®] II Liquid handling system is simpler than the reducing shredder components of the EcoPro[®] I system, and will process a higher rate of wastes by weight per day.
- The mobility is consistent with the EcoPro[®] I and also supports rapid deployment to a hazardous material (hazmat) generating location or in response to a national or natural disaster site.
- Like the EcoPro[®] I, the EcoPro[®] II can be regionally sited to limit transportation needs and can provide assurance that the hazmat wastes have been fully remediated in a timely and environmentally responsible manner.
 - The difficulties of handling, storing, packaging and transporting liquid hazmat is significantly more costly and dangerous than solid waste hazmat.
 - Accidental spills of liquid hazmat affects water resources, air quality and soils far quicker than most solid hazmat wastes.



The EcoPro[®] III Coal Ash Remediation & Conversion System

- Allied Plasma's third proprietary plasma gasification system remediates toxic coal-ash and converts the ash into safe and marketable rock-wool type insulation.
- The EcoPro[®] III plasma reactor's high thermal environment will readily break apart any resident toxic compounds into a safe synthesis gas, while melting the remaining inorganic materials.
- Melted inorganic material is fed into a spinning mechanism that produces an environmentally stable, leach free, rock-wool like insulation material.
 - This insulation material is more correctly called "plasma-wool". It is 45% more efficient than conventional rock-wool insulation. The conversion rate is approximately 15% of the plant coal-ash input, so a 100 ton per day system will yield 15 tons of plasma-wool.
 - Plasma-wool has a current market value of \$2000-2500/ton.



The EcoPro[®] III Coal Ash Remediation & Conversion System (cont'd)

- Siting the EcoPro[®] III system at large coal-ash legacy deposits will ensure that the environmental toxic effects are fully negated and that the physical mud slide disaster potential is positively removed.
 - Such land site deposit areas are fully recoverable.
- While the EcoPro[®] III system is available to remediate accumulated coal-ash deposits, Allied Plasma Inc. is partnered with other advanced technology companies that will ensure a more thorough and cleaner front-end “burn” of the energy rich coal.
- This front-end and back-end solution set is key for the effective, efficient and environmentally responsible use of coal as a vital U.S. national energy resource.

The EcoPro[®] III-based concept is *a strategic remediation solution to the coal-ash pond legacy and ash generation problems.*



EcoPro[®] Plasma Technology

Key Characteristics

- US EPA compliant remediation of controlled toxins and hazardous carbon-based compounds.
- Advanced high temperature ceramic filtering negates the need for extensive cooling equipment. Enables mobility!
- SCADA interface controls allows for extended life-cycle operations by optimizing sub-systems performance.
- Systems are transportable to and fully operational at hazardous waste sites.
- Zero waste footprint; nothing hazardous is left behind.
- Produces marketable products from inorganic feedstock.



EcoPro[®] Series

Allied Plasma Business Models

- Company owned assets in regional US locations.
 - Regional manager reports to and works directly for the parent company (Allied Plasma Inc.)
 - Each regional US location is a likely separate cost center.
 - May be tasked by the parent company to provide EcoPro[®] systems and personnel to respond to a national disaster, or to support a parent company customer.
- Direct customer sales and service packages.
 - Initial and recurring training for operations, safety & routine maintenance.
 - 18 month recurring parts package.
- System leasing option and service packages.
 - Initial and recurring training for operations, safety & routine maintenance.
 - 18 month recurring parts package.
- The USA-Brazil strategic partner company 'Allied Plasma do Brasil' will provide a similar business case structure.



The Consumer Value Proposition – Assessing the Total Life Cycle Costs

Pros & Cons of a mobile plasma gasification system

Cons:

- A moderately higher relative system operating costs of plasma vs pyrolysis or incineration
- In state and federal agencies, the technology of what true plasma gasification is, is not well understood
 - current language for governing licensing and permits do not accurately define or address plasma gasification technology
- Representative politicians, news reporters, and the general public do not readily understand the plasma gasification process
 - *most will incorrectly refer to it as “some type of incineration”, which is technically incorrect*



The Consumer Value Proposition – Assessing the Total Life Cycle Costs

Pros & Cons of a mobile plasma gasification system

Pros:

- USEPA: Molecular dissociation by gasification in a plasma reactor is the most environmentally clean approach for hazmat remediation – no flue gases & no ash
- USEPA and other federal agency environmental regulations are placing significant costs on existing pyrolysis and incineration systems to keep up with ever-changing constrictive policies at federal, state and local levels
- Rising costs in transportation fuels, new fees, reporting requirements and transportation incident fines are increasing annually at both state and federal levels... Mobile plasma gasification positively reduces these “added burden” costs
 - Fees and fines are often applied to both the hazmat generator source and the hazmat transporter
- USDOT constraints on hazmat shipping distances, storage time limits, crash-proof containers, and documentation add considerable costs
- Liabilities are greatly reduced by plasma gasification technology for hazmat generators and for hazmat handlers and transporters – the assumption here is that mobile systems would be regionally sited to reduce interstate highway use, and that would also reduce any storage time which in some states is a significant factor for hazmat handling
- The advanced technologies incorporated in the EcoPro Series system, along with its inherent mobility are key advantages for state and federal agency crisis response needs as well as for military forward operations basing needs



Investment Opportunity

Allied Plasma is seeking a \$12.5M equity-based investment to fund the development and demonstration of two EcoPro[®] Series pre-production prototypes.

Allied Plasma Inc has:

- Completed the EcoPro[®] Series Level A-Specification design phase; including SCADA controls.
- Identified key supply chain companies positioned to assemble and demonstrate the prototype systems for EPA testing and certification, followed by full rate production.
- Prepared a master schedule for development, test and demonstration and assembly production line. Full rate production is planned at 20 to 24 months.
- Generated a Business Development Plan including Pro Forma sales projection and SWOT analysis; available on request.



Strategic Partners & Supply Chain Companies



Allied Plasma Inc.
Reno – Nevada - USA

Allied Plasma do Brasil
Londrina – Paraná - Brasil

- **Hood EIC, Inc.**
Sparks, Nevada, USA
- **Jumbo Industria Mechanical**
Assai, Paraná, Brazil
- **Leading Edge Plasma, Inc.**
Calgary, Alberta, Canada
- **Epsilon Systems Solutions, Inc.**
San Diego, California, USA
- **Nevada Venture Accelerator**
Reno, Nevada, USA
- **Internet Marketing Media**
Oceanside, California, USA
- **Design Star Media**
Oceanside, California, USA
- **Logical Systems Inc.**
Bartlett, Tennessee, USA
- **Phoenix Solutions Co.**
Minneapolis, Minnesota, USA
- **Borla Performance Industries, Inc.**
Johnson City, Tennessee, USA
- **American Pulverizer, Inc.**
St. Louis, Missouri, USA
- **Pinnacle Ozone, Inc.**
Cocoa Beach, Florida, USA
- **Applied Plasma Arc Technologies, LLC**
Atlanta, Georgia USA



Contact

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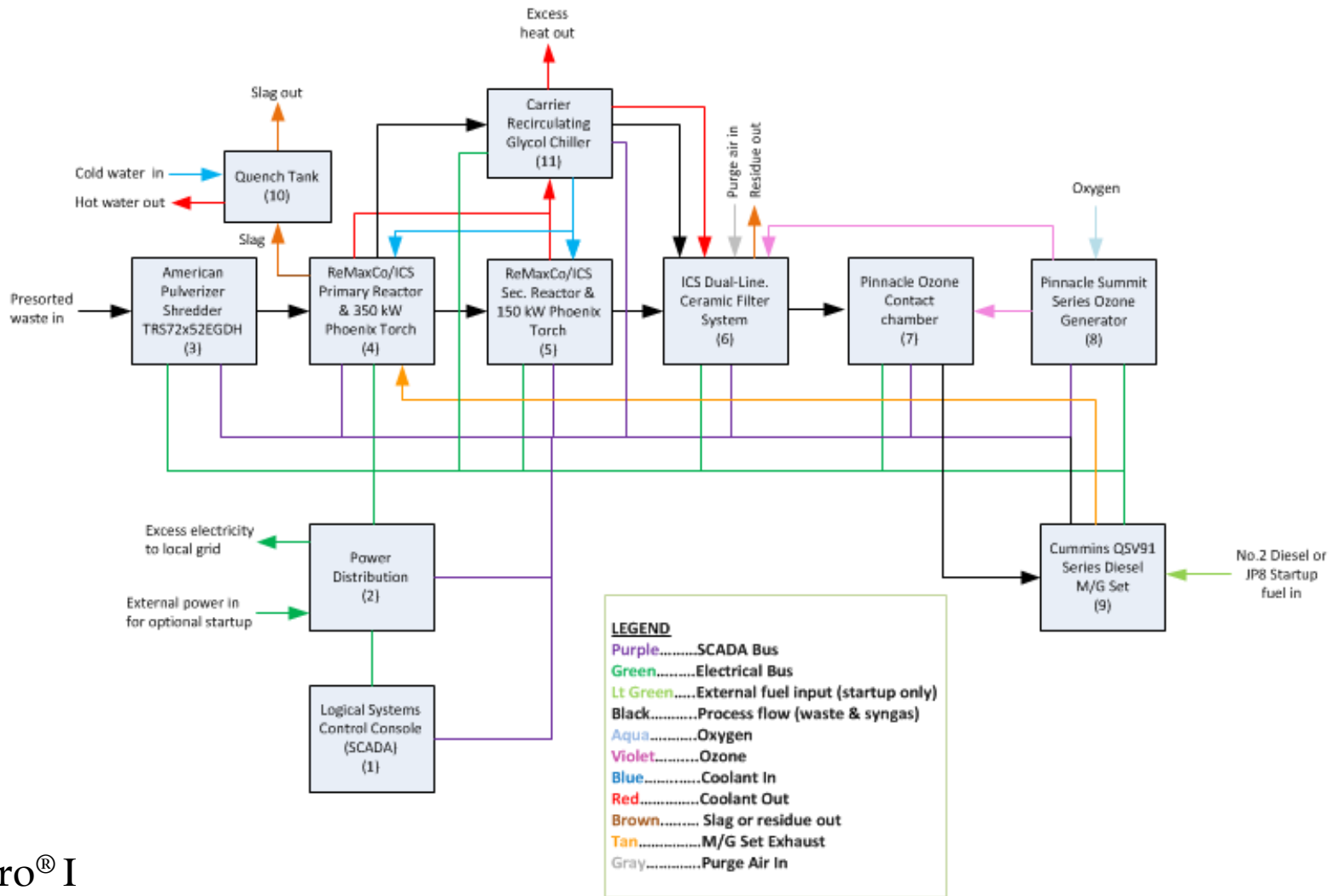
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"The world always seems brighter when you've just made something that wasn't there before." — Neil Gaiman



EcoPro® I

ALLIED PLASMA RENO DESIGN PROTOTYPE UNIT (DPU) FLOW DIAGRAM

NOTE: for simplicity, valves, switches, and small ancillary components are not shown.

Dwg. 1 Rev. 13 A. Tompkins

Proprietary to Allied Plasma Inc.



Quench Tank (10)
 Slag level
 Coolant level
 Fresh water in

Dual Carrier Recirculating Glycol Chiller (11)
 On/off control
 Heat flow rate in
 Heat temp in
 Heat temp out
 Heat bypass control
 Syngas temp in
 Syngas temp out
 Syngas bypass control

American Pulverizer Shredder TR572x52EGDH (3)
 Weight
 Moisture
 Feed rate
 Input voltage
 Input current

ReMaxCo/ICS Primary Reactor & 350 kW Phoenix Torch (4)
 Reactor temp
 Reactor pressure
 Syngas temp out
 Syngas analysis
 Syngas flow rate
 Input voltage
 Input current
 Bypass control
 Reactor start/stop
 Slag level
 Slag outlet

ReMaxCo/ICS Sec. Reactor & 150 kW Phoenix Torch (5)
 Reactor temp
 Reactor pressure
 Syngas temp in
 Syngas temp out
 Syngas analysis
 Syngas flow rate
 Input voltage
 Input current
 Bypass control
 Reactor start/stop
 Slag level
 Slag outlet

ICS Dual-Line Ceramic Filter System (6)
 Filter temp
 Syngas in line pressure
 Syngas out line pressure
 Syngas temp in
 Syngas temp out
 Syngas analysis out
 Syngas flow rate out
 Direct output control
 Syngas direction control
 Residue out control
 Heat in control
 Heat in temp
 Ozone in control
 Purge air in control

Pinnacle Ozone Contact chamber (7)
 Chamber temp
 Chamber pressure
 Ozone flow rate in
 Syngas temp in
 Syngas temp out
 Syngas flow rate out
 Syngas analysis
 Bypass control
 Direct output control

Pinnacle Summit Series Ozone Generator (8)
 Ozone flow rate out
 Ozone CC bypass
 Ozone volume
 Ozone pressure
 Ozone temp
 Input voltage
 Input current
 On/off control

Input voltage
 Input current
 Output voltage
 Output current
 System security

Power Distribution (2)

Logical Systems (SCADA) Console (1)
 All data points in
 All control points in
 All control points out
 All control & data points alarmed
 Aux control input/output for laptop
 All points emergency shutdown
 System security

Cummins QSV91 Series Diesel M/G Set (9)
 Start/stop control
 Syngas flow rate in
 Syngas temp
 Motor coolant temp
 Motor RPM
 Motor oil temp
 Motor exhaust gas temp
 Motor exhaust direction control
 Motor fuel flow rate
 Motor coolant level
 Gen output voltage
 Gen output current

EcoPro® I

ALLIED PLASMA RENO DESIGN PROTOTYPE UNIT PLC DATA POINTS

Dwg. 3 Rev. 4 — 1/22/2013 — A. Tompkins

Proprietary to Allied Plasma Inc.

