

MagneGas™ Technologies

***“ONE MAN’S TRASH IS ANOTHER
MAN’S TREASURE”***

Applications at a Glance

- Pollution free liquid waste recycling.
- Production of value added pollution free fuels MagneGas and hydrogen.
- Production of sterilized waters.

Our Technology Starts With The Total Recycling of Unwanted Wastes:



Untreated Human Sewage



Untreated Farm Animal Sewage

Our Technology Starts With The Total Recycling of Unwanted Wastes:



Human Side of Cleanups

Workers use pompoms to cleanup gross oil



Workers spraying down the rock beaches in an effort to clean off the oil and force into water

Thousands of bags of oil soaked material



Oil & Automotive Wastes, Refinery Hydrocarbon Waste streams, Low value heavy crude oil

Our Technology Starts With The Total Recycling of Unwanted Wastes:



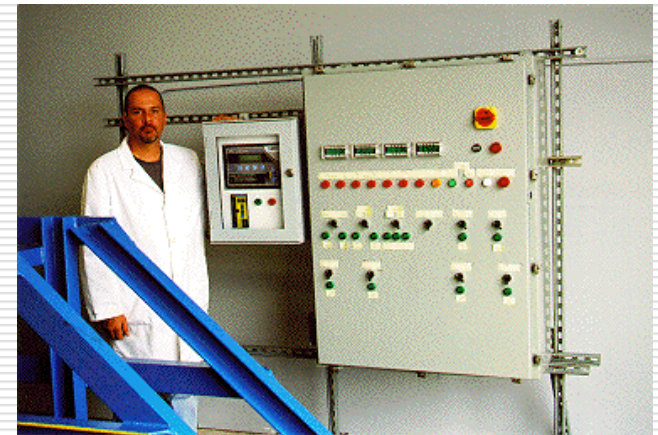
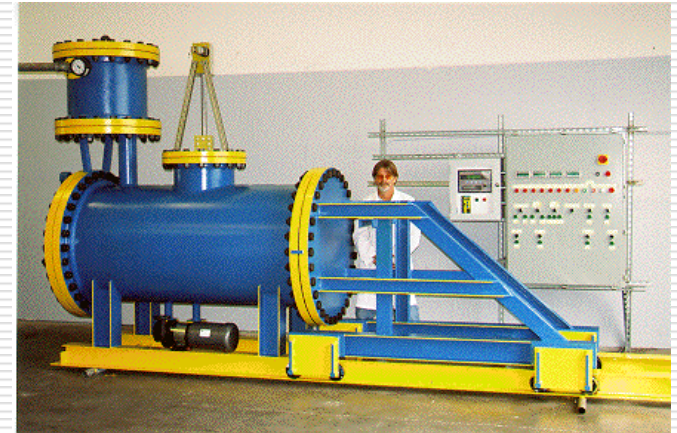
**Chemicals, Paints &
Other Toxic Liquid
Wastes who's
removal is paid for**

“ONE MAN’S TRASH IS ANOTHER MAN’S TREASURE”

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- ❑ The MagneGas Technology enables one to convert current problems into new financially rewarding opportunities
 - ❑ The conversion of Heavy Crude Oil, or Hydrocarbon Liquid waste streams produced by oil refineries & Chemical factories together with city/farm sewage into a high added value environmentally friendly energy product, makes the MagneGas Technology one which turns “Trash into Treasure”.
 - ❑ For every one barrel of Heavy Crude Oil or other Hydrocarbon Liquid waste; 2 barrels of water (city sewage, well water, etc..) are mixed in to produce large volumes of MagneGas.

Waste Materials Are Our (Free) FEEDSTOCK & Are Totally Recycled Pollution-Odor Free On Site:

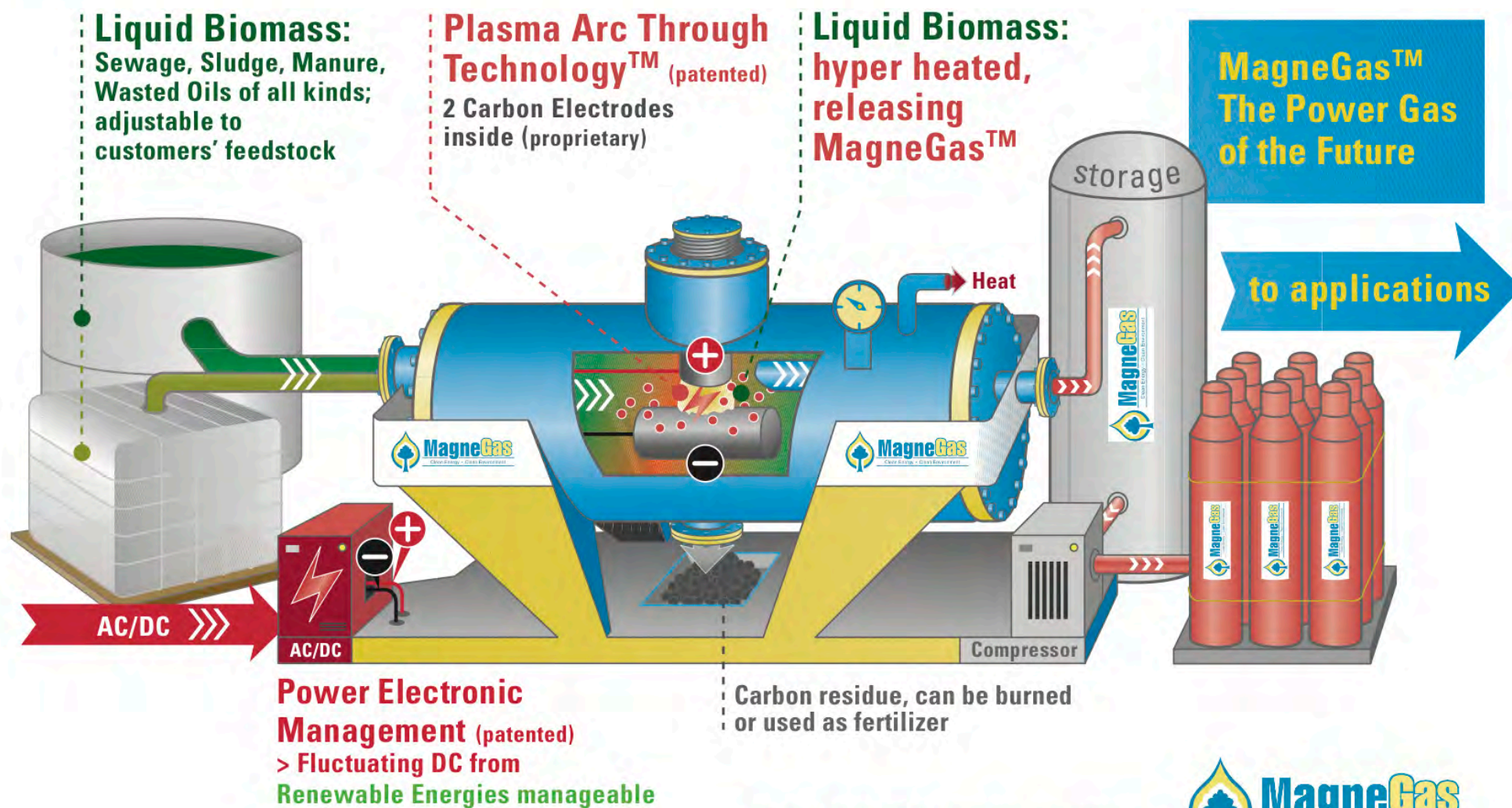
- During the recycling process the waste materials are exposed to 10,000° F temperature, about 5,000 ampere current, powerful magnetic fields, extremely powerful Ultraviolet rays. All these actions sterilize the liquid and bake all substances in suspension.
- The liquid is then treated via fully established technologies, such as centrifuges for the removal of carbonized substances, and various filters to remove substances in solution to meet or exceed local EPA requirements.



Plasma Arc Flow™ Recyclers are Available in Various Sizes and Configurations & Customized and Engineered for the Individual Liquid Waste Recycling Tasks and Requirements demanded by the client. The technology is modular, portable, and scaleable:



> A typical MagneGas™ Power Plant

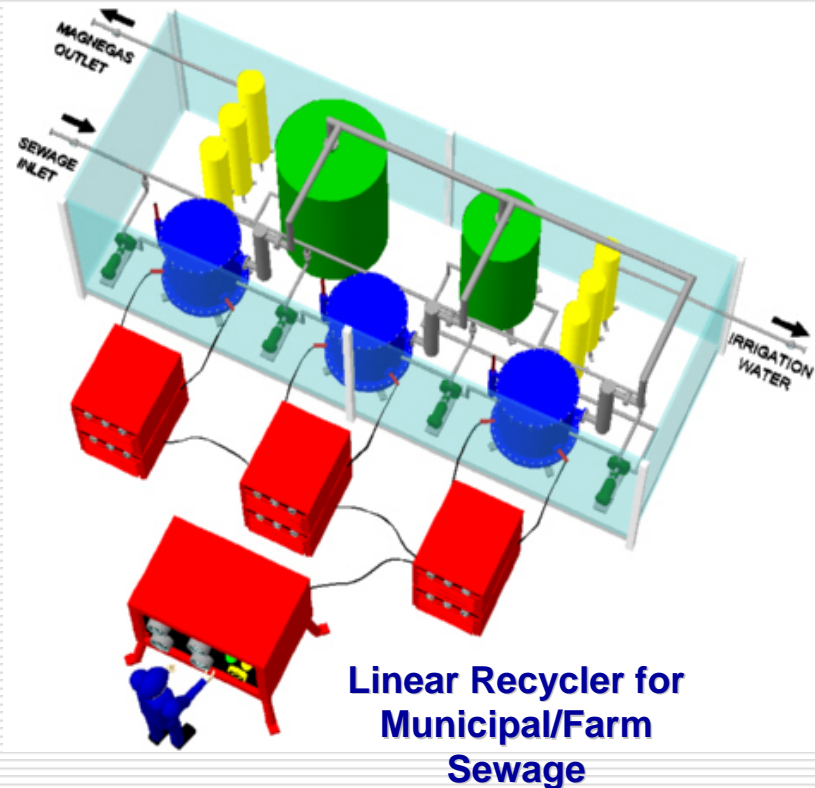


Further information at: www.magnegas.com

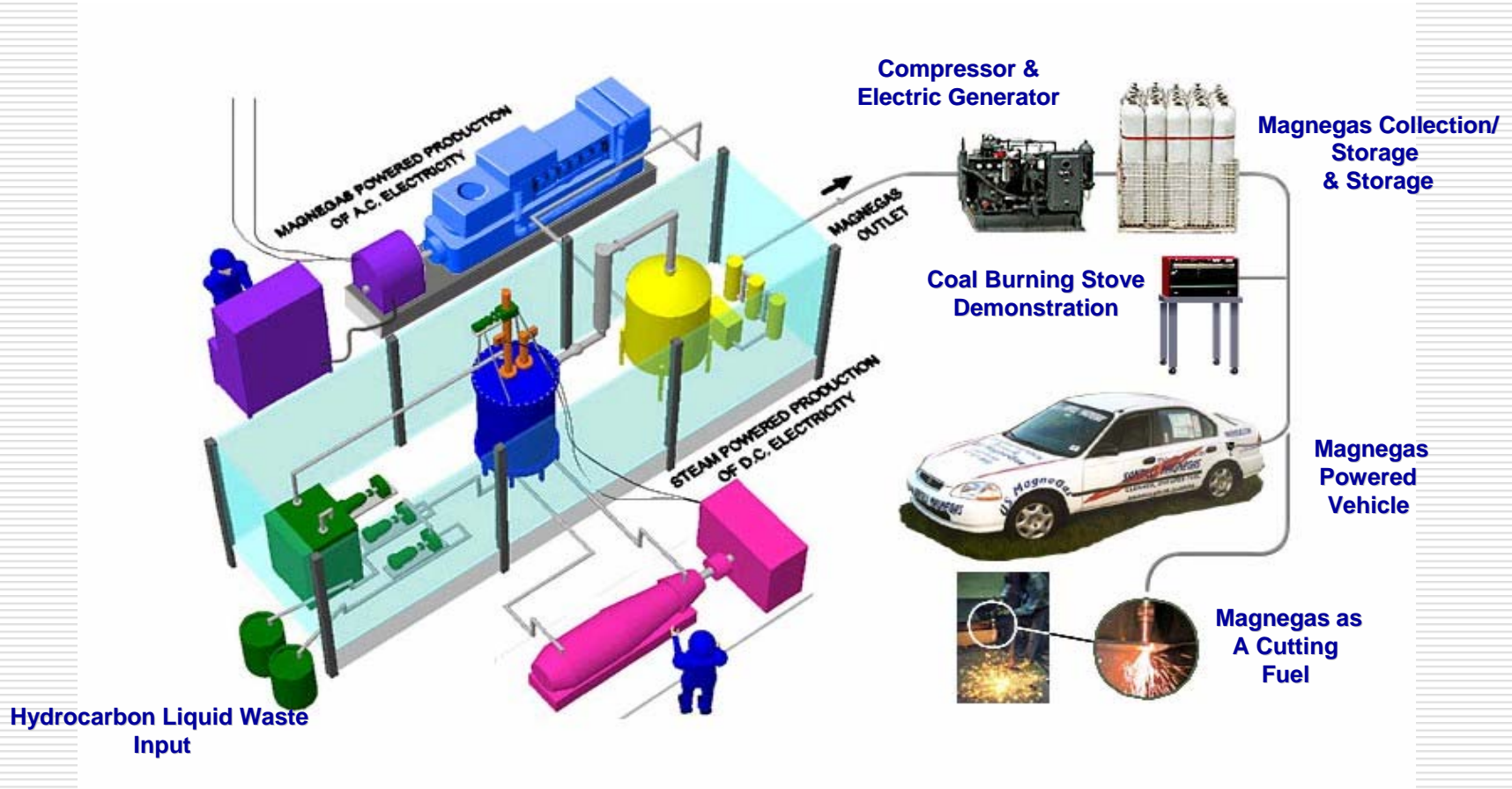
MagneGas is Produced as a Direct Value Added By-Product of Our Recycling Process.

MagneGas is dramatically cleaner and less expensive to produce than any other alternative fuel and is effectively usable in any existing gasoline engine with only external modification. Recycled directly from waste products and sewage MagneGas has an unlimited and universal source of feed stock supply. Reproduced in the slides below is a table containing results of emissions tests conducted by an EPA accredited automotive laboratory in Long Island, New York, on equivalent Honda Civic cars running on MagneGas, natural gas and gasoline.

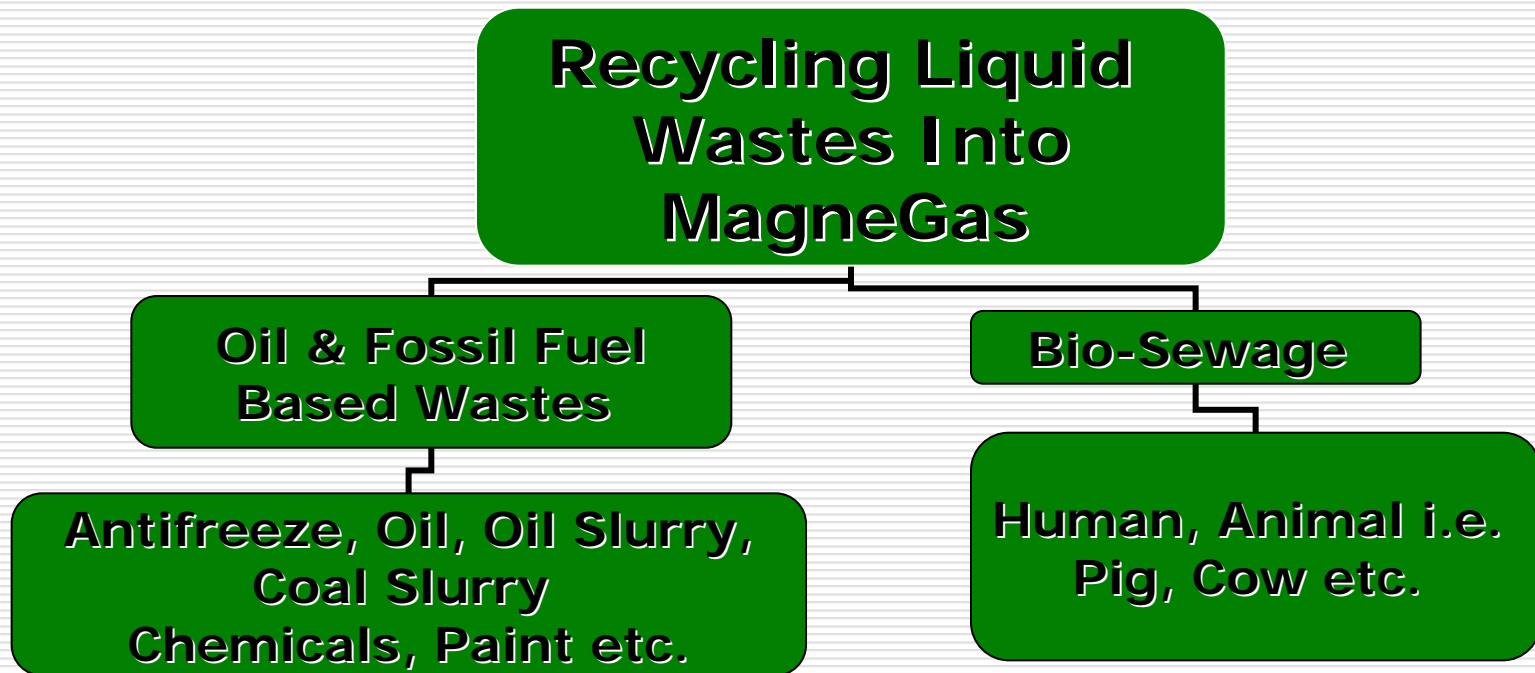
The tests were done via a rather complex computerized EPA routine simulating three different trips under identical conditions, each test being repeated several times to reach acceptable statistical averages



Total Recycler for Hydrocarbon Liquid Waste Processing

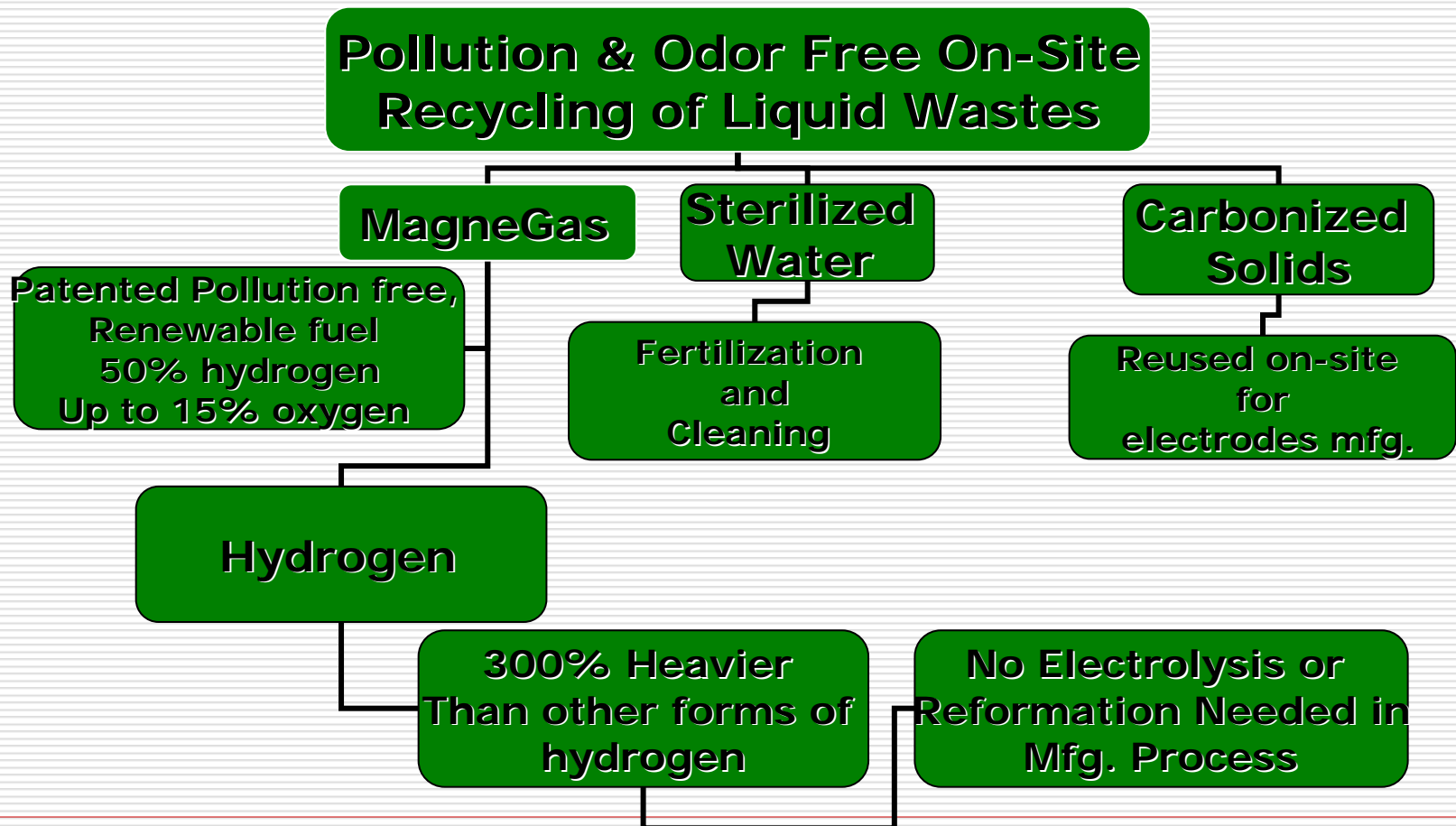


MagneGas Is Made From Recycled Unwanted Wastes



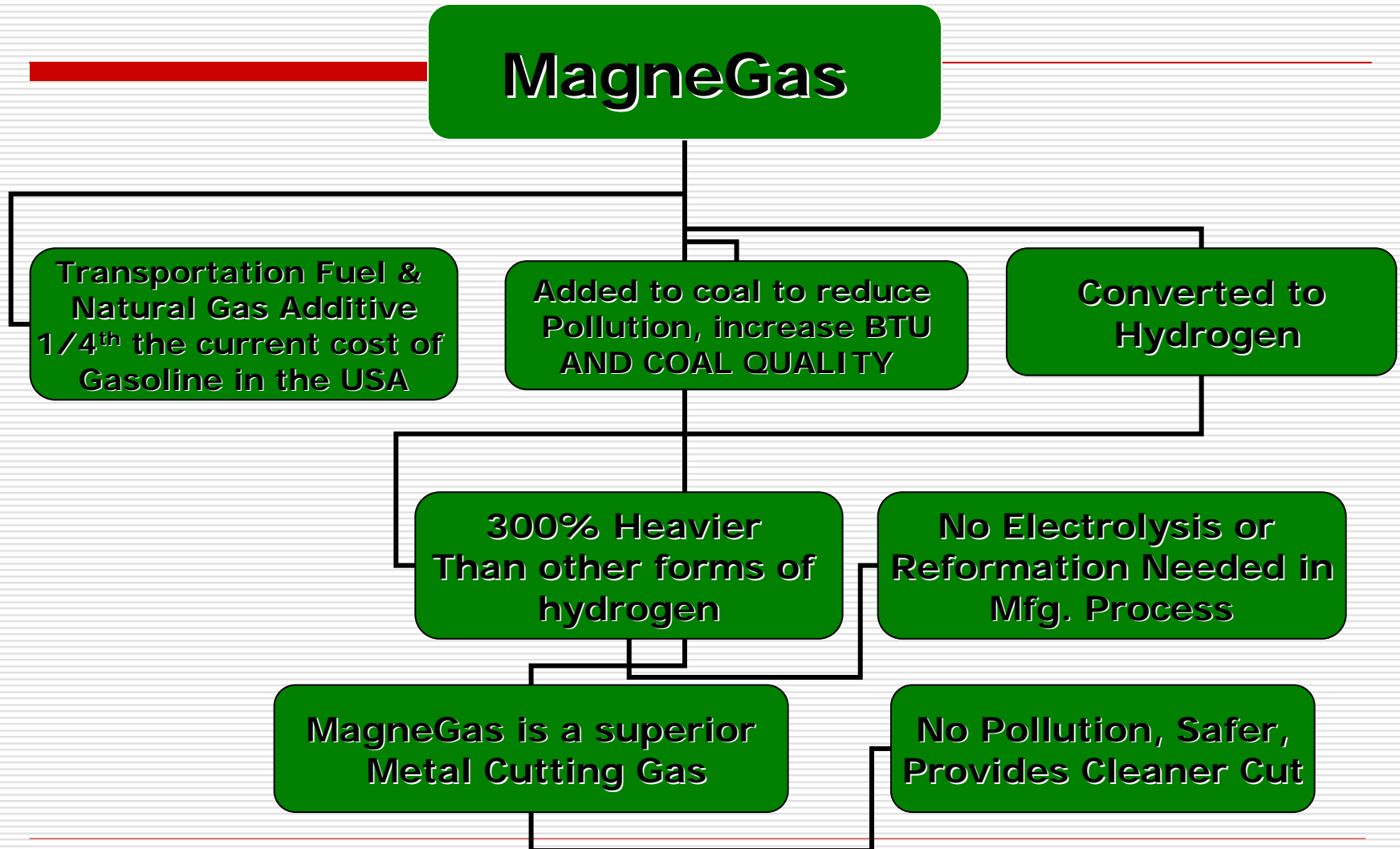
MagneGas Technology:

A Variety of Value Added Applications



MagneGas Technology:

Value Added Applications



MagneGas Is A Certified Clean High Octane (150 octane) Renewable Non-Polluting Fuel, Now Available in Unlimited Quantities on Site:

How does Manmade, Pollution Free, Renewable MagneGas compare to other alternative fuels?

- MagneGas is dramatically cleaner and less expensive to produce than other currently or proposed alternative fuels and is effectively usable in any existing gasoline engine with only external modification. Recycled directly from waste products and sewage MagneGas has an unlimited and universal source of feed stock supply.
- MagneGas Compared to Other Fuels**

- *“David Rogers helped me get US MagneGas to a reputable EPA test facility in NY and the results are remarkable.”* EPA’s David Hamilton June 15, 2005

MagneGas Compared to Other Fuels

EPA Certified Test Results

Element	MagneGas (MG)	Natural Gas	Gasoline	EPA Standards
Hydro-carbons	0.026 gm/mi	0.380 gm/mi 2460% of MG emission	0.234 gm/mi 900% of MG emission	0.41 gm/mi
Carbon Monoxide	0.262 gm/mi	5.494 gm/mi 2096% of MG emission	1.965 gm/mi 750% of MG emission	3.40 gm/mi
Nitrogen Oxides	0.281 gm/mi	.732 gm/mi 260% of MG emission	0.247 gm/mi 80% of MG emission	1.00 gm/mi
Carbon Dioxide	235 gm/mi	646.503 gm/mi 275% of MG emission	458.655 gm/mi 195% of MG emission	No EPA standard exists for Carbon Dioxide
Oxygen	9%-12%	0.5%-0.7% 0.04% of MG emission	0.5%-0.7% 0.04% of MG emission	No EPA standard exists for Oxygen

MagneGas: A Valuable Fuel With Many Applications and PROFIT centers (Transportation, Energy Creation, Hydrogen, Kyoto emissions credits)

(Scientific Data) <http://www.i-b-r.org/docs/combus.pdf>

- ❑ **FUEL:** A view of a dual Ford Accord 2000, running on gasoline/natural gas, that is regularly run on MagneGas. **Racing Ferrari** competing successfully on just MagneGas for its sole fuel source.
- ❑ **Existing gasoline powered** vehicles can be easily and inexpensively converted to operate totally and efficiently on MagneGas.
- ❑ The first, and perhaps most important contribution made by the MagneGas fuel is that of dramatically reducing the pollution caused by both natural gas and gasoline combustion. In fact, the above tests included the use in the same car of MagneGas and natural gas (due to their interchangeability with minimal adjustments) and established that:
- ❑ MagneGas exhaust contains about 1/15-th of the EPA requirements without the need of current catalytic converters, has about 50% less green house gas (CO₂) than gasoline exhaust; **and contains 14 % breathable oxygen in the exhaust. Therefore, MagneGas is the only known fuel whose exhaust can sustain life (hydrogen exhaust cannot sustain life because of the lack of oxygen).**



MagneGas: A Valuable Fuel With Many Applications and PROFIT centers

- ❑ **Fuel for transportation:** MagneGas is cheaper to produce than gasoline and is non-polluting, MagneGas has 150 octane and is a non hydrocarbon fuel thus substantially increasing vehicle performance while decreasing maintenance costs.
- ❑ **Energy Creation:** MagneGas has many advantages in power generation and storage:
 1. Can be utilized in current electric power plants utilizing any hydrocarbon fuel (NG, Coal, low grade Fuel Oil, etc...) as an additive in a 1:3 ratio and thereby doubling burn efficiency of current fuel while reducing emissions from 80%-90% qualifying it as green electric power and qualifying for millions of \$\$\$ in Kyoto Emissions Trading Credits.
 2. MagneGas can be produced utilizing off peak surplus electricity now being wasted at night and stored for later use in the gas turbines to supply power to meet daytime peak electrical demands. If for example you have a 100 Megawatt Power Plant, at night (Off Peak Hours), on average, only 50% of the power is in demand thus wasting 500 MWH of power every day "If you don't use it, You loose it". Now the Energy can be recapture and stored for later use. A power plant of this size can not be turned on and off, or turned down at night. This factor alone can increase a power plants annual bottom line by many millions of \$\$\$\$. It should also be remembered that you are being paid to treat waste liquids which offsets the cost of producing MagneGas and may even provide for an additional cash income. The MagneGas essentially becomes a value added byproduct.

MagneGas: A Valuable Fuel With Many Applications and PROFIT centers

Hydrogen

Production:

MagneGas is composed of 50% hydrogen. When MagneGas as a feedstock is fed into readily available Pressure Swing Absorption (PSA) equipment (Pictured on left), the MagneGas is separated into 99.99% pure Magne-Hydrogen, and MagneCO. The Magne-Hydrogen is 7.5 times more dense than conventional Hydrogen which enables it to be stored & transported in conventional LPG containers thus reducing 20% of the cost of storage & transportation logistics of conventional Hydrogen which must be stored in special cryogenic containers at pressures of 10,000 psi. The MagneCO can be utilized just as Natural Gas. Because the MagneGas produced is a byproduct of the treatment of liquid waste streams who's removal is paid for, this now make the production of Hydrogen the most economical and profitable means to produce Hydrogen which is a \$ 3 trillion USD per year commodity traded on the global market place.



The sleek, compact QuestAir H-3200 unit comes skid-mounted, ready for fast and simple installation.

MagneGas: A Valuable Fuel With Many Applications (Inexpensive and Viable Coal or Natural Gas Power Plant Cleanup).



MagneGas: A Valuable Fuel With Many Applications (Inexpensive and Viable Coal Power Plant Cleanup)



- Many millions of dollars of income are lost daily up the smoke stack as unutilized fuel (coal). Added to this the un-necessary payment of fines and current and future lawsuits, the industry should take note of our technology to clean up their operations and to save a substantial amount of money that even in the short term will more than pay the cost for this technology addition to their facilities.

- What's going up the smoke stack? Simple as it may sound, the contaminants that pollute our environment are actuality fuel and residue that has not been fully combusted nor utilized, i.e. wasted resources, fuel and money.

- In fact, it has been known in chemistry for about 100 years that the injection of hydrogen in the flame of fossil fuels can entirely burn (depending of relative proportions) all un-combusted fossil fuel, thus cleaning the exhaust while substantially reducing fuel consumption for the same energy produced.

- This is due to the fact that *hydrogen has the flame with the highest temperature and speed among all known fuels. Therefore, when appropriately injected in the flame, hydrogen does indeed burn all un-combusted fuel.* This chemical law is the foundation of this technology application.

MagneGas: A Valuable Fuel With Many Applications (Inexpensive and Viable Coal Power Plant Cleanup)

(Scientific Data) <http://www.magnegas.com/technology/part444.htm>



- ❑ Acid Rain is generally regarded as the worst of all coal burning legacies and up until now a major problem without solution. Acid rain is a result of un-combusted coal or fuel burning. With the addition of appropriate amounts of MagneGas to the coal burning process, practically all of the coal is burned and results in the entire elimination of this highly polluting environmentally damaging substance.
- ❑ Traditional thought is that hydrogen cannot be used to clean the combustion of fossil fuels because it's too expensive and there are no efficient and available technologies for this process. Our technology can and does prove that there is an alternative that is clean, available and cost competitive for this process.

MagneGas: A Valuable Fuel With Many Applications (MagneGas Conversion to Hydrogen)

(Scientific Data) <http://www.i-b-r.org/docs/magneh.pdf>



- ❑ **The MagneGas Technology** is the only known technology industrially available **NOW** capable of providing a major reduction in hydrogen production costs. The MagneGas Technology provides the environmentally and economically best known ways for the large scale production, storage and use of hydrogen.
- ❑ **How it works:** PlasmaArcFlow Recyclers are dramatically more efficient than electrolysis for the separation of liquids, **by at least a ten-fold factor**, because the primary energy source in electrolysis is electricity, while the primary energy source in PlasmaArcFlow Recyclers is carbon, electricity being the smallest energy source. In fact, after the initiation of a submerged electric arc, the resistance of then liquid drops to small fractions of a Ohm, and the liquid essentially becomes superconducting, thus requiring minimal electric energy to maintains the arc, as every serious technicians can easily verify with a simple Ohmmeter.
- ❑ **MagneGas contains hydrogen in minimum of 50% by volume as a mixture with other gases without valence bonds**, thus permitting an easy separation of hydrogen via PSA (Pressure Swing Absorption) technology. By comparison, in all currently preferred methods, such as electrolysis or steam reformation of natural gas processes, hydrogen must be produced via the breaking of the very strong valence bonds. The dramatic savings in hydrogen production costs permitted by the MagneGas Technology as compared to the cost of existing products methods cannot be denied without instant disqualification for evident reason.
- ❑ Due to certain magnetic polarization of individual hydrogen atoms (rather than the H₂ molecules, since the latter is diamagnetic) caused by exposure to the electric arcs of the PlasmaArcFlow Technology, **the hydrogen produced from MagneGas has no seepage through container walls, thus reducing dramatically the serious threat to the ozone layer caused by ordinary hydrogen.**



"Hydrogen car being refueled
(Courtesy of BMW)"

The US has only 3% of the known World oil reserves, yet uses over 25% of the world's supply

- ❑ Today the United States uses more than 90 billion cubic meters (3.2 trillion cubic feet) of hydrogen annually. Most of this hydrogen is used as a chemical, rather than a fuel, in a variety of commercial applications: The global annual market for hydrogen as a commodity is \$ 3 trillion USD.
- ❑ The same polarizations have permitted us to create a new species of hydrogen composed of magnetically and valence bonded clusters of hydrogen atoms and molecules with increased specific weight and energy content.
- ❑ Important to note that this new improved form of hydrogen can now increase the weight (value) of hydrogen by **three times (300%)** as reported by Prof. Santilli's discovery (for which, as a physicist, he has already been nominated since 1985 till the present time for the Nobel Prize in Chemistry & Physics). This technology breakthrough renders a hydrogen equivalent to natural gas in energy content and storage, and that is now ready today for industrial application and production.

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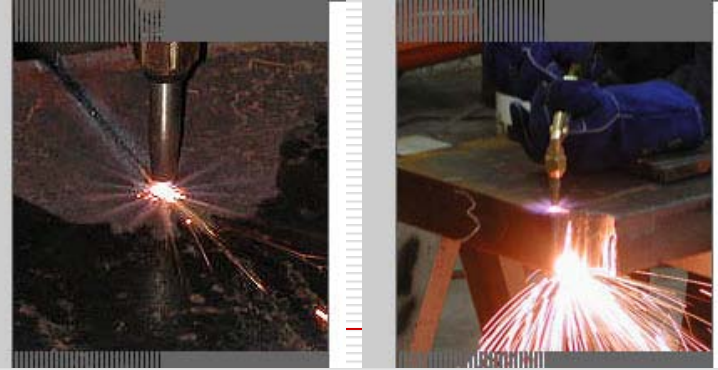
- ❑ Commercial fixation of nitrogen from the air to produce ammonia for fertilizer (about two-thirds of commercial hydrogen is used for this)
- ❑ Hydrogenation of fats and oils, in which vegetable oils are changed from liquids to solids; shortening is an example of a hydrogenated oil
- ❑ Methanol production,
- ❑ Welding
- ❑ Hydrochloric acid production
- ❑ Metallic ore reduction
- ❑ Cryogenics and the study of superconductivity (liquid hydrogen)
- ❑ Hydrogen's main use as a fuel is in the space program. Today hydrogen fuels both the main engine of the Space Shuttle and the onboard fuel cells that provide the Shuttle's electric power.



Recent worldwide production numbers for hydrogen are:

Origin	Amount in billions Nm ³ /year	Percent
Natural gas	240	48
Oil	150	30
Coal	90	18
Electrolysis	20	4
Total	500	100

MagneGas as a Cleaner, Safer, More Effective Cutting Gas



- ❑ MagneGas is a new hydrogen-base superior metal cutting gas that is cost-competitive, faster, safer and cleaner than any other metal cutting gas while replenishing the oxygen depleted by fossil fuels.
- ❑ Based upon the novel technology of polarized hydrogen specifically designed for faster, better, safer, and cleaner metal cutting. Using polarized hydrogen as the basic component, MagneGas concentrates the heat energy in the primary cone, producing outstanding results with a thermal density in the flame bigger than that of cutting fuels, even though the overall thermal content of MagneGas is less. This bigger energy density permits smaller, faster and cleaner cuts. In fact, independent tests have established that MagneGas is the fastest, most precise and most energy efficient cutting fuel available today.
- ❑ Because MagneGas is hydrogen-based, it is unlike all the other cutting fuels and requires slightly different procedures for use in machine cutting applications. These guidelines for using MagneGas have been developed to be quickly adopted, although a short training session with one of our salespersons is recommended. Training CDs will also be made available to customers.
- ❑ MagneGas significantly increases cut speeds and improves cut with far less finishing required.

Sterilized Water is a Major Bi-Product of the MagneGas Recycling of City/Farm Sewage Technology:

- ❑ During the recycling process a clear sterilized water is produced.
- ❑ Nutrient rich, this water is ideal for organic fertilization in Agricultural purposes and possible purification into drinking water



City sewage before & after

MagneGas Israel, LLC.

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