MagneGas Corp.
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Ticker (Exchange)	MNGA (NASDAQ)
Recent Price (10/28/2016)	$0.71
52-week Range	$0.53-$2.50
Shares Outstanding	~50.8 million
Market Capitalization	$36.0 million
Average 3-month Volume	549,596
Insider Ownership >5%	12.5%
Institutional Ownership	3.2%
EPS (Qtr. ended 06/30/2016)	($0.10)
Employees	39

MNGA One-Year Stock Chart

MagneGas Plasma Arc Flow® Gasifier Unit

Company Description

MagneGas Corp. (or "the Company") is an alternative energy company that has developed and commercialized a patented **plasma arc†** technology platform, Plasma Arc Flow®, that converts certain renewables and liquid wastes into hydrogen-based fuels. Using its novel technology, MagneGas is bringing a new, clean-burning fuel to the metal cutting market as a faster and safer replacement to **acetylene**. The Company's tests have shown that use of its MagneGas2® fuel results in significant advantages in flame temperature, cutting speed, safety, environmental impact, and costs, when compared to alternatives such as acetylene. MagneGas' market strategy entails three key sales channels: (1) a distribution network, both independent and wholly owned; (2) equipment sales with technology licensing; and (3) special markets, such as military and first responders. The Company has cultivated a list of customers and partners that include the U.S. military, several fire departments (including in New York City), several of the largest utilities in the U.S., and one of the world's largest auto manufacturers. In addition, MagneGas' fuel is in use in multiple high-profile construction projects, including NASA's Kennedy Space Center build-out and two major amusement parks in Florida. MagneGas is also developing its technology for use in the wastewater treatment market, where the Company has created equipment to sterilize bio-contaminated liquid waste, and the electric and power utility sector, where the Company is capitalizing on the high flame temperature of MagneGas™ fuels for the **co-combustion** of **hydrocarbon fuels**, such as coal, resulting in enhanced combustion efficiency and a reduction in harmful **hydrocarbon emissions**.

Key Points

- To the Company's knowledge, MagneGas2® is the only renewable gas fuel produced entirely in the U.S. and the only renewable metal cutting gas in the world.
- MagneGas has focused on independent verification of its technology and product claims. Such tests have demonstrated that MagneGas2® displays a top flame temperature in the 10,500°F range (higher than any other industrial gas).
- Independent tests have further shown a significant advantage for MagneGas2® in terms of cutting speed and oxygen consumption over both acetylene and **propane**, with MagneGas2® cutting 2-inch steel 38% faster than acetylene and 44% faster than propane.
- MagneGas' first equipment sale and licensing agreement was announced in November 2015, when the Company agreed to sell a $775,000 plasma arc gasification system to Green Arc Supply, LLC, a Louisiana-based gas distributor. Construction of the system was completed in September 2016, and it is expected to be delivered in the fourth quarter 2016.
- As of June 30, 2016, the Company reported cash and cash equivalents of approximately $3.8 million.

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Executive Overview

MagneGas Corporation ("MagneGas" or "the Company") is an alternative energy company involved in the development and commercialization of a patented plasma arc technology process that converts various renewables and liquid wastes into hydrogen-based fuels. Plasma Arc Flow®, the Company's proprietary technology platform, is a plasma arc-based process that gasifies liquid feed and creates MagneGas™ fuels, a clean-burning fuel that lends itself to a wide range of advanced applications. In particular, the Company is currently taking food bean oil, which is renewable, and gasifying it into MagneGas2®, which it sells to the industrial gas market.

MagneGas is focused on the commercialization of its plasma arc technology and MagneGas™ fuels within three different industries, as illustrated in Figure 1: (1) the industrial gas market, where the Company currently sells MagneGas2® into the metal working market as a faster and safer replacement to acetylene; (2) the wastewater treatment market, where MagneGas develops equipment for the sterilization of bio-contaminated liquid waste for various industrial and agricultural markets; and (3) the electric and power utility market, where the Company is capitalizing on the high flame temperature of MagneGas™ for co-combustion of hydrocarbon fuels and other advanced applications.

Figure 1

MARKETS FOR MAGNEGAS TECHNOLOGY

Market Segment	Industrial Gas	Sterilization and Waste Remediation	Electric Utilities and Co-combustion
Value Proposition	MagneGas™ higher flame temperature and safety profile provides benefits over existing fuels, such as acetylene	Plasma Arc Flow technology sterilizes liquid waste quickly and efficiently	The high flame temperature of MagneGas™ burns existing fuels cleaner through combustion
Validation	Independently tested by the City College of New York at temperatures of 10,500°F	Independent sterilization testing confirmed to meet EPA and EU requirements	Independent third party verification underway

Source: MagneGas Corporation

MagneGas has focused on independent testing and verification of the Company's technology and product claims, including tests on its technology, its fuel's flame temperature, as well as confirmation of internal test results from its sterilization and co-combustion projects, as referenced in Figure 1.

Plasma Arc Flow® Technology

MagneGas' Plasma Arc Flow® technology is a form of plasma arc gasification platform that allows for the treatment of liquid feed. A plasma arc is where an electrical arc is struck between two electrodes, converting electrical energy into intense thermal (heat) energy, and generating high temperatures, typically approaching 10,000°F. When used in waste treatment applications, the extreme heat causes a process called **molecular disassociation**, in which the molecular bonds of the **feedstock** material are broken down into their elemental atoms, gasifying the carbon based part of waste materials into a synthetic gas (known as "syngas"). The Company's Plasma Arc Flow® recycler units force a high volume flow of liquid waste or biomass through a submerged plasma arc, instantly gasifying the liquid and generating MagneGas™, a hydrogen-based fuel that rises to the surface for collection.

According to the Company, Plasma Arc Flow® technology has three main advantages over other plasma systems currently used to treat waste products: (1) its ability to treat liquid waste; (2) its small size; and (3) its lower capital expenditure. The Company believes that a key factor that differentiates MagneGas' Plasma Arc Flow® technology is the ability to treat liquid feedstock, since traditionally, plasma arc technology has only been used for the treatment of solid waste. Through years of research, the Company managed to find a way to efficiently mix electricity and water, a normally unstable combination. The Company's patented, advanced computerized electronic control panel takes the submerged electric arc and stabilizes it, allowing the use of plasma arc technology in liquid feedstock.

In addition, the simple operation and small installed footprint of the units, which can be placed in a 10 foot by 10 foot space, and its lower capital expenditure when compared to traditional plasma waste treatment units (under $1 million for a MagneGas unit compared to tens of millions of dollars for a traditional arc waste treatment gasifier), allows for the placement of units in mobile platforms or remote locations, facilitating expansion of the Company's applications and distribution.

The MagneGas™ fuel production system can be set-up using various types of feedstock. In particular, MagneGas works with two types of biomass materials—oil-based and water-based waste liquids—and can operate its Plasma Arc Flow® technology in two different modes: (1) the gasification mode, where the liquid feedstock is completely gasified inside the unit, with this mode most suitable for the elimination of oily or hazardous wastes and optimal for the maximum conversion of liquid to syngas fuel; and (2) the sterilization mode, where the system destroys impurities in liquid wastes such as sewage, agricultural wastes, or **leachates**, resulting in a sterilized liquid final product, where in this mode the liquid is retained but completely sterilized, while also producing syngas.

MagneGas plans to capitalize on the inherent advantages of plasma technology, coupled with its system's lower cost and smaller size, to target the following three industries: (1) the industrial gas market; (2) the water treatment and sterilization market; and (3) the power utilities' co-combustion market, noting that the main target is currently the commercialization of its proprietary syngas, MagneGas™, to the industrial gas market (a project that is currently generating revenue).

Industrial Gas Market Operations

The Company is currently taking a specific liquid oil-based feedstock and gasifying it into MagneGas™, which it then sells into the metal working market as a replacement to acetylene. The metal cutting and manufacturing industry is dominated by acetylene, with propane and propylene also being used consistently. Global demand for acetylene is expected to reach $6 billion in 2020. Despite its widespread use as a metal cutting agent due to its high flame temperature, which can reach 6,300°F, acetylene's unstable and explosive nature creates hazards and difficulties for producers and end users. Tests conducted by MagneGas have shown that the use of MagneGas2®, the Company's current fuel offering to the metal cutting industry, results in significant advantages in terms of flame temperature, cutting speed, productivity, safety, environmental impact, and costs, when compared to alternatives such as acetylene, as outlined in Figure 2.

Figure 2

MAGNEGAS ADVANTAGES

Properties	Rationale
Flame Temperature	Independent tests of MagneGas2® by the City College of New York showed MagneGas2® displaying a top flame temperature in the 10,500°F range, higher than any other industrial gas
Cutting Speed	Independent tests by Edison Welding Institute (EWI), a U.S. Navy contractor, showed that MagneGas2® was able to cut 2-inch steel 38% faster than acetylene and 44% faster than propane
Productivity	MagneGas2® use results in little to no slag, no top edge rollover, limited soot, and a narrow heat affected zone, translating into a more efficient and higher quality cutting process than acetylene
Safety	MagneGas2® is more stable, less toxic, and does not pool at ground level if it leaks, reducing the risks of explosion and providing a better safety profile than acetylene
Environmental Impact	MagneGas2® is the only renewable source cutting gas in the world, and since its hydrogen based, the main emission is water vapor, versus acetylene which is a hydrocarbon-based fuel

Source: MagneGas Corporation.

MagneGas™ Commercialization

Through its commercialization of MagneGas™, the Company has penetrated key vertical market segments including utilities, infrastructure and demolition companies, first responder markets, and government and military sectors. These efforts have resulted in a list of customers and partners that include the U.S. military, several fire departments (including the Fire Department of New York City [FDNY]), several of the largest utilities in the U.S., and one of the world's largest auto manufacturers. In addition, the Company's fuel is currently being used in multiple infrastructure projects and high-profile construction projects, including metal work at the National Aeronautics and Space Administration's (NASA) Kennedy Space Center build-out and in two major amusement parks in Florida. The Company plans to achieve further market expansion by focusing on three key sales channels: (1) its distribution network, both independent and wholly owned distributors; (2) equipment sales, which encompass licensing of its technology; and (3) special market segments, such as military markets and first responders.

Distribution Efforts

MagneGas has been focusing on the expansion of its distribution network, which includes over a dozen independent gas distributors throughout the U.S., as listed in Figure 20 (page 29), as well as its wholly owned distributor, Equipment Sales and Services, Inc. (ESSI), as further described on pages 29-30. At the end of 2014, the Company acquired a distribution arm, ESSI, for $3 million as a testing platform to show that by using MagneGas™ as a door opener, distributors can expand their customer base and sales, resulting in growth above the typical market trend. According to MagneGas, ESSI operations—which generated $2.4 million in revenue in 2015—have shown that the use of MagneGas™ as a differentiator can increase a distributor's sales by 20%, and lead to new client acquisition. Following the success of ESSI, the Company plans to continue its acquisition of distributors, increasing its geographic footprint and facilitating the expansion of its products and services.

Equipment Sale

According to the Company, a key issue that makes faster penetration of the metal cutting industry more difficult is transportation constraints, as the Company currently produces MagnaGas2® in its Florida headquarters, and the delivery of large volumes of MagneGas2® to different locations can be expensive and a logistical difficulty. In order to address this issue, MagneGas plans to conduct sales and licensing of its proprietary Plasma Arc Flow® technology to certain marquee markets where the Company believes there is an existing distributor that has the appropriate infrastructure and market potential to launch the technology. In November 2015, the Company entered into its first equipment sale and licensing project, signing an agreement to manufacture and sell a $775,000, 100 kW plasma arc gasification system to Green Arc Supply, LLC, a Louisiana-based gas distributor. The unit's construction, which was completed on September 22, 2016, and is expected to be delivered in the fourth quarter 2016, will allow Green Arc to produce and distribute MagneGas2® on location, and pay royalty payments equal to approximately 6% of gross sales to MagneGas.

MagneGas believes that this first domestic equipment sale could open the door for additional equipment sales nationwide. The Company expects its licensing and equipment sale initiative to be a key factor for its geographic expansion and revenue growth plans.

A clear example of this is the Letter of Intent (LOI) the Company signed on October 2016 with a German-based company to manufacture and deliver: (1) A 300 kW stationary gasification system; (2) A 100 kW mobile sterilization system; (3) 250 cylinders full of MagneGas2®; and (4) 50 MagneGas regulators. A deposit of $25,000 has been received, with progress payments totaling $2.625 million due upon signature of the definitive agreements, construction completion, and delivery of systems with related supplies. The LOI calls for exclusive distribution rights in Germany, with an option to purchase rights to certain additional countries with system deployments. The sterilization system is expected to be used for demonstrations and small service contracts with the goal of entering the agriculture and municipal wastewater treatment markets in Germany. MagneGas has agreed to keep the name of the German company and the exact details of the LOI confidential until the parties enter into the definitive agreements. The sale is part of the continued efforts by the Company to expand the availability of its technology and MagneGas2® fuel across the European continent.

Special Market Segments

The Company aims to penetrate additional specialty markets, such as the military and first responders, through direct sales efforts. The U.S. Navy has been working with the Company to explore the use of MagneGas2® for metal working, conducting an initiative that is undergoing the procurement process for the U.S. Navy. In addition, many emergency management teams and fire and rescue organizations have adopted or are in the process of testing MagneGas2® for metal cutting in rescue operations, including the FDNY and Florida's Pinellas County Fire Department.

Waste Remediation—Sterilization

MagneGas' second target market is wastewater treatment, where the Company plans to utilize its Plasma Arc Flow® technology to sanitize biologically active liquid waste without the use of any chemical additive. The Company's efforts in this market segment are based on the sterilization mode of MagneGas' plasma arc technology. MagneGas plans to use its patented technology to treat liquid manure or waste, converting it into a **Class A** material that can be used as a fertilizer or even clean water that can be used for irrigation.

The Company has completed an engagement with one of the largest privately owned hog farms in the U.S., located in Indiana, to test its technology's ability to process liquid manure wastes into sterilized biosolids for agricultural use. Utilizing a 50 kW plasma arc system on a mobile platform, the Company conducted multiple successful tests at the farm with increasing flow and efficiency rates, achieving full sterilization of different types of manure from different parts of the farm, and at the same time, producing a natural gas alternative that can be used on the farm. Independent verification of MagneGas' sterilization technology indicated that the resulting material met U.S. Environmental Protection Agency (EPA) standards to bring the liquid waste from a **Class B** waste to a safer Class A, eliminating any restriction of usage and providing the ability to field-spread the manure and still use the land the next day.

The Company is also assessing the application of its wastewater remediation technology for the treatment of septic tanks. In June 2016, MagneGas deployed a 50 kW mobile sterilization system to a Florida septic wastewater treatment facility for testing of its developmental wastewater sterilization equipment. Initial testing was successful, with the processed samples—analyzed by an independent laboratory—showing a significant reduction in pathogens and other elements.

MagneGas™ Co-Combustion

The third business line that the Company is pursuing is the use of MagneGas™ co-combustion capabilities in the electric and power utility markets. MagneGas is currently developing and verifying a co-combustion technology based on its fuel's extremely high flame temperature. The project aims to take the **coal flue** gas or smoke exhaust generated from the hydrocarbon-based energy production process (e.g., coal processing), mix it with MagneGas™ fuel, and reignite it, maximizing the utilization of the available fuel inside coal and other hydrocarbon fuel sources and resulting in enhanced combustion efficiency and a reduction of harmful hydrocarbon emissions.

The Company, working with its partner, FuturEnergy PTY, LTD in Australia and a confidential partner in Michigan, has completed internal testing of the effect of combusting MagneGas2® with hydrocarbon fuel exhaust and has demonstrated reduced **greenhouse gases** and hydrocarbon emissions as well as increased heat, which could lead to a greater energy creation potential. Through the work with its partners in Australia and the U.S., in December 2015, MagneGas was able to identify a specific engineered fuel whose characteristics lead to optimized combustion and superior co-combustion results.

Based on these results, the Company has filed provisional patents related to the proprietary characteristics of this fuel and applications. The Company is working toward obtaining independent validation and verification of these results from a leading coal technology research center that is associated with one of the nation's largest utility companies.

Corporate History and Employees

MagneGas Corp. was organized in the state of Delaware on December 9, 2005, under the name 4307, Inc. On April 2, 2007, all the issued and outstanding shares of 4307, Inc. were purchased by Clean Energies Tech Co., a private company owned by Dr. Ruggero Santilli, the inventor of the Plasma Arc Flow® technology. Following this stock purchase, the Company's name was changed to MagneGas Corporation.

In April 2016, the Company moved into its new Company headquarters, an 18,000-square-foot facility located in Clearwater, Florida. The bigger facility provides increased space for MagneGas2® production as well as areas for research and development and product demonstrations. The new facility allows the Company to bring three gas production units online, doubling its current capacity and helping it to meet existing demand and expand its business. MagneGas currently has 39 full-time employees.

In addition, the Company has entered into joint venture agreements with the following technology partners: (1) FuturEnergy PTY for the formation of MagneGas Australia, and a term sheet with a confidential party from Michigan, to research and develop its co-combustion technology; and (2) Nuova MagneGas Italy, for the assessment of the Company's sterilization technology in the European country.

On June 27, 2016, the Company entered into an agreement with a single institutional investor for a registered direct placement and concurrent private placement of up to approximately $10.6 million. The Securities Purchase Agreement provides for the sale of initial gross proceeds of approximately $4 million, which is composed of $3 million of pre-funded warrants and a $1 million Senior Convertible Debenture. The Securities Purchase Agreement also provides for the issuance of an additional investment "**greenshoe**" common stock purchase warrant for the investor to purchase up to an additional $6.6 million of common stock and warrants at $1.01 per share (approximately 31% premium to the closing market price) during the three-month period after shareholder approval is obtained and deemed effective.

Growth Strategies

MagneGas is focused on the commercialization of its proprietary syngas, MagneGas™, to the industrial gas market (a project that is currently generating revenue). MagneGas' growth strategy relies on the acquisition of marquee customers that can facilitate its penetration of key vertical market segments, including utilities, demolition companies, and first responder markets, as well as government and military sectors. The Company plans to achieve this by focusing on three key sales channels: (1) a distribution network, both independent and wholly owned distributors; (2) equipment sales, which entails licensing of its technology; and (3) special market segments, such as military markets and first responders.

Distribution Network

MagneGas has aggressively worked to expand its in-house sales and marketing programs and its distribution network. The Company has achieved this through the acquisition of over a dozen independent distributors throughout the U.S., as listed in Figure 20 (page 29), covering many of the major hubs in the eastern half of the U.S. as well as California. A key factor that MagneGas plans to use to its advantage is the fact that obtaining new marquee customers in the industrial gas market is difficult, as competition for business is high and the main product offering is the same (i.e., acetylene), resulting in a price-based sale. Thus, the Company believes that using MagneGas™ as a differentiator could represent a way for distributors to acquire marquee customers.

Thus, at the end of 2014, the Company acquired a distribution arm, Equipment Sales and Services, Inc. (ESSI), for $3 million as a testing platform to show that by using MagneGas™ fuel as a door opener, distributors can expand their customer base as well as increase sales across the board for all other ancillary products, resulting in growth above the typical market trend. Through the operations of ESSI, the Company was able to confirm the successful use of MagneGas™ as a door opener. According to MagneGas, ESSI business results have shown that the use of MagneGas™ gases as a differentiator can increase a distributor's sales by 20%, and lead to new client acquisition. Through this strategy, the Company was able to work with various marquee customers, including several electric utility companies, technical rescue organizations, and auto manufacturers, which have either purchased or are testing MagneGas2® for evaluation purposes. Following the success of ESSI, the Company plans to continue its strategy of acquiring distributors, increasing its geographic footprint and facilitating the expansion of its products and services.

Sale of Equipment

Current production of MagneGas™ is done in its entirety at the Company's headquarters in Florida, and shipped throughout the U.S., which the Company believes is not economically viable for the long run due to shipping costs and logistic difficulties. To address this issue, MagneGas plans to complement its distribution-based efforts with sales and licensing of its proprietary Plasma Arc Flow™ technology to certain marquee markets where the Company believes there is an existing distributor that has the appropriate infrastructure and market potential to launch the technology.

MagneGas' first effort in this area was announced in November 2015, when the Company entered into an agreement to manufacture and sell a $775,000, 100 kW plasma arc gasification system to Green Arc Supply, LLC, a Louisiana-based gas distributor. The system allows Green Arc to produce and distribute MagneGas2®. In addition to the $775,000, the agreement calls for the Company to receive royalty payments that equate to approximately 6% of gross sales of MagneGas™ by Green Arc. The unit's construction was completed on September 22, 2016, and is expected to be delivered in the fourth quarter 2016. According to MagneGas, Green Arc has notified the Company that they plan to expand aggressively with the purchase of several additional systems in the coming months, and in response, the Company has begun expanding its manufacturing capability.

MagneGas believes that this first domestic equipment sale acts as proof of concept for its sale and technology licensing efforts, and could open the door for additional equipment sales nationwide. The Company expects that its licensing and equipment sale initiative will be a key factor in its geographic expansion and revenue growth plans, with future sales projected by MagneGas in the range of $800,000 to $1 million.

Special Markets

In addition to its distribution and product sales efforts, the Company aims to penetrate additional specialty markets, such as military markets and first responders, through direct efforts to conduct testing of MagneGas2®. The Company's efforts have resulted in two initiatives where MagneGas believes its metal cutting fuel is ideally suited due to the speed of cut, the small heat-affected zone, and its safety attributes: (1) sale to the U.S. Navy; and (2) the first responder market.

These efforts have resulted in the use of MagneGas™ as the fuel of choice by several emergency management teams and fire and rescue organizations, including FDNY, which is reportedly looking to expand its use of MagneGas2® in other areas and additional fire stations. Florida's Pinellas County Fire Department's team of emergency responders, the Technical Rescue Team, have also selected MagneGas2® as their preferred metal cutting tool.

International Efforts

In addition to the continued expansion of its domestic distribution network, MagneGas is also focused on international markets. The Company has joint research and distribution partnerships in Australia (MagneGas Australia Pty), Italy (Nuova MagneGas Italy), as well as its first independent international distributor, California-based Complete Welding and Cutting Supplies, Inc., whose operations in Mexico signify MagneGas' entry into the Mexican metal cutting market.

On October 2016, MagneGas announced that it had entered into its largest equipment sale to date with a Letter of Intent (LOI) to manufacture and deliver certain equipment and supplies to a company based in Germany. The sale is part of the continued efforts by the Company to expand the availability of its technology and MagneGas2® fuel across the European continent.

Under the terms of the LOI, MagneGas is expected to manufacture and deliver: (1) A 300 kW stationary gasification system; (2) A 100 kW mobile sterilization system; (3) 250 cylinders full of MagneGas2®; and (4) 50 MagneGas regulators. A deposit of $25,000 has been received, with progress payments totaling $2.625 million due upon signature of the definitive agreements, construction completion, and delivery of systems with related supplies. The LOI calls for exclusive distribution rights in Germany, with an option to purchase rights to certain additional countries with system deployments. The sterilization system will be used for demonstrations and small service contracts with the goal of entering the agriculture and municipal wastewater treatment markets in Germany. MagneGas has agreed to keep the name of the German company and the exact details of the LOI confidential until the parties enter into the definitive agreements.

Milestones

In the past 12 months, the Company has achieved significant milestones as listed below and aims to accomplish additional key milestones in the near term (as outlined at the bottom of the page).

Recent Milestones

- Moved its headquarters to an 18,000-square-foot facility located in Clearwater, Florida, doubling its current production capacity and helping to meet existing demand and expand its business.
- Expanded its distribution network by signing multiple independent distributors, including its first independent international distributor, Complete Welding and Cutting Supplies, Inc., operating in California and Mexico.
- Expanded the operations of its wholly owned gas distributor, Equipment Sales and Services, Inc. (ESSI), to a total of four locations, including a joint venture facility located in North Florida.
- Conducted it first equipment sale, a $775,000, 100 kW plasma arc gasification system to Green Arc Supply, LLC, a Louisiana-based gas distributor, which is scheduled for delivery ahead of schedule in the fourth quarter 2016 (signifying a new era in the Company's operating model).
- Entered into its largest equipment sale to date with a letter of intent to manufacture and deliver certain equipment and supplies to a company based in Germany. MagneGas is expected to receive $2.65 million for its proprietary gasification and sterilization systems and will supply MagnesGas2® fuel and cylinders.
- Obtained independent verification of its sterilization project, confirming that the fecal coliform content of the processed hog manure samples gets reduced to undetectable levels, and meeting EPA standards to bring the liquid waste from a Class B waste to a safer Class A.
- Deployed a 50 kW mobile sterilization system at a Florida septic wastewater treatment facility, and conducted results of the processed samples, analyzed by an independent laboratory. Results indicated significant reductions in pathogens, as well as reductions in nitrogen, phosphorus, and potassium.
- Identified a new specific engineered fuel for its co-combustion efforts, which the Company believes leads to optimized combustion and superior co-combustion results, and filed provisional patents related to proprietary characteristics of this new MagneGas™ fuel.
- MagneGas™ fuel was named The New Economy's overall winner of the Best Alternative Fuel Solutions 2015 award, recognizing MagneGas for its success in using the patented plasma arc gasification to provide a clean, safe, and efficient fuel that prioritizes a lower rate of **carbon dioxide (CO_2)** emissions versus acetylene.

Potential Milestones

Over the next 12 months, the Company plans to assess the acquisition of additional companies, including gas distributors as well as companies MagneGas believes to be complementary to its industrial gas or sterilization business. In addition, following the installation of its first licensed equipment in Louisiana, MagneGas plans to focus on completing additional equipment sales and licensing agreements. Specifically, the Company aims to achieve the potential milestones outlined below.

- Ship the plasma arc gasification system to Green Arc in the fourth quarter 2016.
- Open its fourth ESSI location in Sarasota, Florida, scheduled for the fourth quarter 2016.

Intellectual Property

MagneGas Corp. owns and licenses the intellectual property for the MagneGas™ technology for the territories of North, South, and Central America. The Company's patent portfolio, listed in Figure 3, covers all different phases of the technology, including its Plasma Arc Flow® platform, the MagneGas™ fuel, and the use of MagneGas™ for different applications.

Figure 3

INTELLECTUAL PROPERTY SNAPSHOT

ISSUED PATENTS		
Patent #	Title	Issue Date
6,183,604	Durable and efficient equipment for the production of a combustible and non-pollutant gas from underwater arcs and method therefor	February 6, 2001
6,540,966	Apparatus and Method for Recycling Contaminated Liquids	April 1, 2003
6,663,752	Clean Burning Liquid Fuel Produced Via a Self -Sustaining Processing of Liquid Feedstock	December 16, 2003
6,673,322	Apparatus for making a novel, highly efficient, nonpollutant, oxygen rich and cost competitive combustible gas and associated method	January 6, 2004
6,926,872	Apparatus and Method for Producing a Clean Burning Combustible Gas with Long Life Electrodes and Multiple Plasma-Arc-Flows	August 9, 2005
6,972,118	Apparatus and Method for Processing Hydrogen, Oxygen and Other Gases	December 6, 2005
7,780,924	Plasma-arc-flow apparatus for submerged long lasting electric arcs operating under high power, pressure and temperature conditions to produce a combustible gas	August 24, 2010
8,236,150	Plasma-Arc-Through Apparatus and Process for Submerged Electric Arcs	August 7, 2012
9,433,916	Plasma-arc-through apparatus and process for submerged electric arcs with venting	September 6, 2016

PUBLISHED PATENT APPLICATIONS		
Application #	Title	Filing Date
20140299463	Method and Apparatus for the Industrial Production of New Hydrogen-Rich Fuels	April 3, 2014
20150122632	Apparatus for Flow-Through of Electric Arcs	October 31, 2014
20150151269	Apparatus for Flow-Through of Electric Arcs	December 24, 2014
20150218474	Fluid with Charged Carbon Particles and Method of Production	February 4, 2015
20150300637	Incineration using Magnegas	April 9, 2015
20150321200	Reclamation of Metals from a Fluid	May 4, 2015
20150315504	Arc-Produced Gas Mixed with other Gases	May 4, 2015
20150360196	Control System for Gas Production	June 12, 2015
20160017247	Gas Production from an Oil Feedstock	July 14, 2015
20160018107	Using an Arc-Produced Gas in the Production of Energy from Biomass	July 17, 2015
20160016144	Control of Feedstock During Gas Production	July 17, 2015
20160109117	Secondary Burning of Gases from the Combustion of Fossil Fuels	December 18, 2015

Sources: U.S. Patent and Trademark Office (USPTO) and MagneGas Corporation.

In addition to the above-listed utility patents, MagneGas is the assignee of multiple pending provisional applications and non-provisional utility patent applications. Furthermore, MagneGas is the owner of record for the registered trademark “MagneGas” in both the U.S. and Mexico, as well as other terms, as listed in Figure 4.

Figure 4
TRADEMARKS

	Serial Number	Reg. Number	Word Mark	Live/Dead
1	87111849		SUBMERGED PLASMA ARC GASIFICATION	LIVE
2	86642367		MAGNEGAS 2	LIVE
3	86816532		MAGNETOTE	LIVE
4	86454770	4952283	VENTURI	LIVE
5	78039484	2812824	MAGNEGAS	LIVE

Source: USPTO.

MagneGas is exploring filing patents under the Patent Cooperation Treaty (PCT) in other areas of the world as needed. MagneGas has a 20% ownership interest in MagneGas entities that control the intellectual property in Europe, Africa, and China.

Leadership

Management

Figure 5 summarizes the Company's executive leadership, followed by brief biographies.

Figure 5
MANAGEMENT

Ermanno P. Santilli	Chief Executive Officer, Director
Luisa Ingargiola	Chief Financial Officer, Director
Jack Armstrong	Executive Vice President of Strategic Alliances
Richard Conz	Vice President of Engineering

Source: MagneGas Corporation.

Ermanno P. Santilli, Chief Executive Officer, Director

Mr. Santilli has invested over 15 years with Fortune 500 brands such as Club Car, Bobcat, Thermo King, and Trane at Ingersoll-Rand plc (IR-NYSE). He successfully stewarded global and international businesses with diverse teams of sales, marketing, engineering, sourcing, finance, and distribution. After graduating with a Bachelor of Science degree from Boston College's Carroll School of Management, Mr. Santilli obtained a Masters of Business Administration from the Indiana University Kelley School of Management. More recently, Mr. Santilli founded MagneGas Europe where he became an expert in the MagneGas technology and business model and its various applications.

Luisa Ingargiola, Chief Financial Officer, Director

Mrs. Ingargiola graduated in 1989 from Boston University with a Bachelor degree in Business Administration and a concentration in Finance. In 1996, she received a Master's degree from the University of South Florida. In 1990, she joined Boston Capital Partners as an investment advisor in their Limited Partnership Division. In this capacity, she worked with investors and partners to report investment results, file tax forms, and recommend investments. In 1992, she joined Metropolitan Life Insurance Company (MET-NYSE) as a budget and expense manager. In this capacity she managed a $30-million-dollar annual budget. Her responsibilities included budget implementation, expense and variance analysis, and financial reporting.

Jack Armstrong, Executive Vice President of Strategic Alliances

Mr. Armstrong has over 20 years of experience in the capital markets. He was a managing director at Piper Jaffray Companies (PJC-NYSE), head of trading at ThinkEquity LLC, and recently the senior vice president of the Corporate Client Group at Northland Capital Markets, assisting companies in strategy and capital raises. Over his career, Mr. Armstrong has worked with senior level management at several of the largest investment companies through the process of raising an estimated $5 billion of funds. Mr. Armstrong received a Bachelor of Administration in economics from Arizona State University.

Richard Conz, Vice President of Engineering

Mr. Conz has more than 30 years of engineering, program management, and new business development experience, which included 28 years with the Raytheon Company (RTN-NYSE). His expertise includes component and system level design, integration and test, production, deployment, and maintenance of complex electro-mechanical systems. He is well-trained and versed in engineering processes, strategy development, and project scoping, planning, execution, and budget and resource management throughout the entire program life cycle. In 2011, he received a patent for performing complex cost-performance trades to determine system best value solutions. In 2013, Mr. Conz launched a successful consulting business, providing business development, program management, and engineering services. In this role, he provides leadership and direction in the areas of

company/program assessments, market analysis, business intelligence, Price-To-Win assessments, and has a solid reputation as a Subject Matter Expert (SME) in multiple markets. He received a B.S. in electrical engineering from Wayne State University and held program management, capture management, and Six Sigma certifications.

Board of Directors

Members of MagneGas' Board of Directors are listed in Figure 6 and profiled thereafter.

Figure 6
BOARD OF DIRECTORS

Robert L. Dingess	Chairman of the Board
Ermanno P. Santilli	Chief Executive Officer, Director
Luisa Ingargiola	Chief Financial Officer, Director
Carla Santilli	Director
Kevin Pollack	Director
Christopher Huntington	Director
William W. Staunton, III	Director
Joe C. Stone	Director

Source: MagneGas Corporation.

Robert L. Dingess, Chairman of the Board

Mr. Dingess has extensive experience in managing franchise operations. He has been the CEO of Ideal Management Services, Inc., d/b/a Ideal Image Central Florida, a laser hair removal company, since April 2004. From 1992 to 2002, Mr. Dingess served as the CEO and owner of Dingess & Associates, Inc., a healthcare consulting and management company. From 1986 to 1992, Mr. Dingess was a partner in Ernst & Young's Southeast Region Healthcare Operations Business Officer Practice, where he advised over 200 healthcare clients. Mr. Dingess holds an MBA from Virginia Commonwealth University and a Bachelor's of business administration from Marshall University.

Ermanno P. Santilli, Chief Executive Officer, Director

Biography on page 13.

Luisa Ingargiola, Chief Financial Officer, Director

Biography on page 13.

Carla Santilli, Director

Mrs. Santilli holds a Master's Degree in human services administration from the School of Social Work of Boston University. She held positions of clinical social worker and community programs coordinator for the State of Massachusetts. Since the late 1980s, Mrs. Santilli has been employed as president and CEO of Hadronic Press, Inc., a physics and mathematics academic publishing company. In this capacity, Mrs. Santilli directed the growth of this company from start-up to become one of the world's leading physics and mathematics publishing companies. Books and journals published by Hadronic Press can be found in all of the leading university libraries across the world. Mrs. Santilli has been involved in the private sector as grant administrator and public relations specialist in the fields of academic publishing and environmental sciences.

Kevin Pollack, Director

Mr. Pollack has served as a director since June 21, 2012. Since 2012, Mr. Pollack has been CFO of Lightlake Therapeutics Inc. (now Opiant Pharmaceutical, Inc. [LLTP-OTC]), a biopharmaceutical company. From 2007 until 2013, Mr. Pollack was a managing director at Paragon Capital LP, a private investment firm focused primarily on U.S.-listed companies. Since 2003, Mr. Pollack has also served as president of Short Hills Capital LLC. Prior to that, Mr. Pollack worked as an investment banker at Banc of America Securities LLC, focusing on mergers and acquisitions, corporate finance, and the media and telecom sectors. Mr. Pollack started his career at Sidley Austin LLP (formerly Brown & Wood LLP) as a securities attorney. Since 2012, Mr. Pollack has served as a member of the boards of directors of Lightlake Therapeutics Inc. and Pressure BioSciences, Inc. (PBIO-NASDAQ). Mr. Pollack graduated magna cum laude from the Wharton School of the University of Pennsylvania and received a dual J.D./MBA from Vanderbilt University, where he graduated with Beta Gamma Sigma honors.

Christopher Huntington, Director

Mr. Huntington has served as director of MagneGas since August 14, 2012. In 2010, Mr. Huntington co-founded the strategic consulting firm, New Energy Fund Advisors, LLC. In 2007, Mr. Huntington co-founded Skyfuel, Inc., a solar thermal power technology company (now part of Sunshine Kaidi New Energy Group CO, Ltd), where he was the vice president of business development from 2007 until 2010. In 2006, Mr. Huntington founded Redhook Renewable Energy Ventures, LLC, a consulting firm advising renewable energy and clean-tech companies on fund-raising, marketing, and media strategies, which he was a principal until 2007. Mr. Huntington worked at the Cable News Network (CNN), (part Time Warner Inc. [TWX-NYSE]) from 1989 to 2006 as a financial news producer and correspondent. Prior to his employment at CNN, Mr. Huntington worked at Pacific Securities/Robert C. Brown & Co. as an assistant bond trader. Mr. Huntington attended the University of California, Berkley and was awarded a B.A. in rhetoric and a special diploma in Social Studies from Oxford University.

William W. Staunton, III, Director

Mr. Staunton brings extensive experience in the semiconductor industry, with specific background in military and space contracting. Mr. Staunton has been the president of Accel-RF Corporation, a provider of RF Reliability test systems for compound semiconductor devices since 2012. In 2011, Mr. Staunton founded Kokua Executives, LLC, which provides guidance and interim executive level-leadership to companies. From 2000 to 2011, Mr. Staunton served as the CEO and a Director of Ramtron International Corporation (now part of Cypress Semiconductor Corporation [CY-NASDAQ]), which designs, develops, and markets specialized semiconductor memory, microcontroller, and integrated semiconductor solutions. From March 1999 until December 2000, Mr. Staunton served as chief operating officer of Maxwell Technologies (MXWL-NASDAQ), which designs and manufactures multi-chip modules and board products for commercial satellite applications. Previously, Mr. Staunton was executive vice president of Valor Electronics Inc. from April 1996 until February 1999. Mr. Staunton holds a B.S. in electrical engineering from Utah State University.

Joe C. Stone, Director

Mr. Stone has an extensive background in the oil and gas industry. He has been a partner at Pace Petroleum, LLC since 2006, a private oil and natural gas company. From 2000 to 2006, Mr. Stone was a senior vice president of Global Mergers and Acquisitions at the financial services firm of Lehman Brothers. From 1996 until 2000, Mr. Stone was a vice president in investment banking at Deutsche Banc Alex. Brown Inc. Additionally, Mr. Stone was a manager in audit and business advisory services at Price Waterhouse from 1991 until 1996. Mr. Stone holds an MBA from McCombs School of Business, University of Texas, and a Bachelor's of Business Administration in accounting from Baylor University.

Core Story

MagneGas Corp. ("MagneGas" or "the Company") is an alternative energy company involved in the development and commercialization of a patented plasma arc technology process that converts various renewables and liquid wastes into hydrogen-based fuels. Plasma Arc Flow®, the Company's proprietary technology platform, is a plasma arc-based process that gasifies liquid feed, creating a clean-burning fuel—MagneGas™—that is essentially interchangeable with natural gas, but with lower greenhouse gas emissions. Characteristics of MagneGas™, mainly its high flame temperature, faster cutting speed, little changeover costs, and enhanced safety features, lend itself to a wide range of advanced applications, including as a metal cutting agent for the industrial gas market, as well as a variety of additional uses in the power, utility, and agricultural sectors.

MagneGas is focused on the commercialization of its technology and MagneGas™ fuels in three different industries, as outlined below and illustrated in Figure 7:

(1) the industrial gas market, where the Company currently sells MagneGas™ into the metal working market as a faster and safer replacement to acetylene;

(2) the wastewater treatment market, where MagneGas develops equipment for the sterilization of bio-contaminated liquid waste (such as pig manure or leachates) for various industrial and agricultural markets; and

(3) the electric and power utility markets, where the Company is capitalizing on the high flame temperature of MagneGas™ for co-combustion of hydrocarbon fuels and other advanced applications.

Figure 7
TARGETED INDUSTRIES

Industrial Gas

The higher flame temperature of MagneGas™ and its safety profile provide benefits over existing fuels, such as acetylene.

Wastewater Treatment

MagneGas™ sterilizes liquid waste quickly and efficiently, using Plasma Arc Flow® technology.

Electric Utilities (Co-combustion)

The high flame temperature of MagneGas™ burns existing fuels cleaner through combustion.

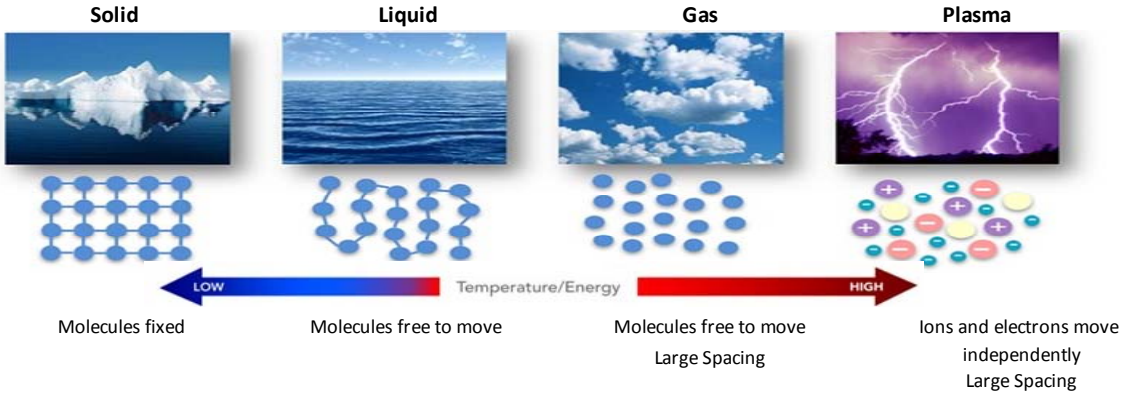
Source: MagneGas Corporation.

Through its commercialization of MagneGas™, the Company has achieved penetration into key vertical market segments including utilities, infrastructure and demolition companies, first responder markets, and government and military sectors. These efforts have resulted in a list of customers and partners that include the U.S. military, several fire departments (including the Fire Department of New York City [FDNY]), several of the largest utilities in the U.S., and one of the world's largest auto manufacturers. In addition, the Company's fuel is in use in multiple infrastructure projects and high-profile construction projects, including metal work at the National Aeronautics and Space Administration's (NASA) Kennedy Space Center build-out, two major amusement parks in Florida, a historic pier demolition/rebuild project in St. Petersburg, Florida, as well as bridge building and repairs for the Florida Department of Transportation (FDOT).

PLASMA ARC FLOW® TECHNOLOGY

MagneGas' Plasma Arc Flow® technology is a form of plasma arc gasification platform that allows for the treatment of liquid feed and waste. Considered the fourth state of matter, plasma is a superheated column of ionized or electrically charged gas that is formed when an electrical discharge passes through a gas. As illustrated in Figure 8, when energy is added to a solid (first state), it becomes a liquid (second state). With more added energy, it becomes a gas (third state), and when further energy is added, it eventually dissociates into **ions** and electrons to become a plasma. Examples of plasma are lightning, fluorescent lights, arc welding, and the aurora borealis lights.

Figure 8
PLASMA



Source: grinp.com.

Energy is needed to strip electrons from atoms to make plasma, and with insufficient sustaining power, plasma can recombine into neutral gas. The energy can be of various origins: thermal, electrical, or light (ultraviolet light or intense visible light from a laser). Through the use of electric or magnetic fields, plasma flow can be accelerated and steered, which allows it to be controlled, resulting in many possible advanced technological applications (Source: Plasmas.org).

Use of Plasma Technology in Waste Treatment

Plasma technologies have been used for over 30 years in a variety of industries, including the chemical and metals sectors. Historically, the primary use of this technology, mainly in the form of plasma arc gasification, has been to decompose and destroy hazardous wastes, but advancements in the technology have expanded its use into the waste-to-energy industry (Source: Gasification & Syngas Technologies Council).

When utilized for waste treatment, plasma gasification refers to the use of plasma arcs or plasma torches as the heat source, as opposed to conventional fires and furnaces. A plasma arc is where an electrical arc enclosed in a chamber is struck between two electrodes, converting electrical energy into intense thermal (heat) energy, and generating high temperatures, typically approaching 10,000°F. Plasma torches have the advantage of being one of the most intense heat sources available while being relatively simple to operate (Source: Gasification Technologies Council's *Gasification: the Waste-To-Energy Solution*, 2014).

Figure 9
PLASMA GASIFICATION REACTOR

Source: Westinghouse Plasma Corporation (WPC).

The gasification process starts when the feedstock—such as municipal waste, **sludge**, medical waste, hazardous waste, or agricultural waste—comes in contact with the extreme heat from the plasma arc inside a sealed, air-controlled reactor, as shown in Figure 9. During gasification, carbon-based materials break down into gases and the inorganic materials melt into a liquid **slag**. For organic materials, the intense heat causes a process called molecular disassociation, in which the molecular bonds are broken down into their elemental atoms, gasifying the carbon-based part of waste materials into a synthetic gas (syngas).

The syngas consists primarily of **carbon monoxide** and hydrogen, the basic building blocks for fertilizers, substitute natural gas, and liquid transportation fuels. Thus, plasma gasification can be used to convert carbon-containing materials to syngas that can be used to generate power and other useful applications (Source: Gasification & Syngas Technologies Council).

A number of cities in the U.S., as well as various industries that generate hazardous wastes as part of their manufacturing processes, are examining or working with plasma gasification companies in an effort to reduce both the economic and environmental impact of managing municipal solid waste and other waste products (Source: Gasification & Syngas Technologies Council). Meanwhile, corporations such as Waste Management, Inc. (WM-NYSE) are actively channeling funds toward research on plasma gasification and similar technologies, and the technology's potential has also been noticed by the U.S. Department of Agriculture (USDA), which is supporting research of plasma technology through loans and grants programs (Source: Yale Scientific's *Turning Trash into Gas: The Future of Plasma Gasification*, 2013).

Advantages and Limitations of Plasma Gasification

Gasification is superior to other traditional waste treatment options, such as incineration, and offers a significant advantage in environmental impact, energy performance, and ability to treat different waste elements. One key aspect is the fact that since plasma arc gasification is a low oxygen process, this technology generates significantly less pollutants, such as **nitrous oxides**, than the use of traditional incinerators (Source: *Waste Management World*). In addition, plasma arc systems have a very high destruction efficiency and can reliably eliminate most materials, including the most hazardous, high-grade, and hard-to-treat forms of waste (e.g., chemical weapons, asbestos, toxic incinerator ash, hazardous medical waste, toxic metals, and electronic components).

Plasma gasification is even being assessed for mixed radioactive waste treatment, but it is only recently that these processes have been optimized for energy capture and fuel production (Sources: *Waste Management World* and The Center for Public Environmental Oversight). However, according to MagneGas, plasma gasification has been traditionally used only for the treatment of solid waste, with the preparation process normally involving the use of a wide range of drying and separation equipment to make the feed uniform and dry. This limitation prevents the use of this technology for the treatment of liquid waste, and makes it difficult to treat waste with high humidity content or that is not easily dried.

Plasma Arc Flow® Technology—Submerged Gasification

MagneGas' Plasma Arc Flow® technology is a form of plasma arc gasification platform that allows for the treatment of liquid feed. The technology converts renewable and liquid waste into a hydrogen-based fuel that the Company sells to the metal working industry as an alternative to acetylene. The technology is based on the use of plasma arc to treat waste. The plasma arc consists of an electric arc between two carbon electrodes inside a plasma or lightning chamber. The flow of electricity between the electrodes forms a plasma arc and generates temperatures as high 10,000°F. The Plasma Arc Flow® power plant process, shown in Figure 10, forces a high volume flow of liquid waste or biomass through a submerged plasma arc, instantly gasifying the liquid and generating MagneGas™, a hydrogen-based fuel that rises to the surface for collection.

Figure 10

MAGNEGAS™ POWER PLANT

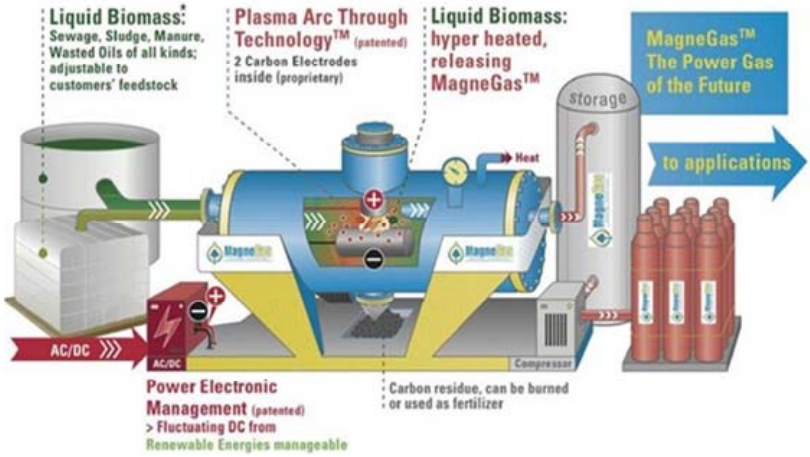
1 Polluted liquids enter the Plasma Arc Flow™ chamber

2 An electric current passes through the liquid heating it to 10,000°F

3 The liquid breaks down to atomic levels, separating it into base elements

4 Some of these elements naturally form into MagneGas™ and rise for collection

5 The byproducts are sterilized water and carbon residue



Source: MagneGas Corporation.

MagneGas can operate its Plasma Arc Flow® technology in two different modes, as summarized below.

(1) Gasification mode, where the liquid feedstock is completely gasified inside the unit. This mode is most suitable for the elimination of oily or hazardous wastes and is optimal for the maximum conversion of liquid to fuel.

(2) Sterilization mode, where the system destroys impurities resulting in a sterilized, liquid, final product. This mode is used to sterilize target liquid wastes such as sewage, agricultural wastes, or leachates, where eliminating bacteriological activity is beneficial. In this mode, the liquid is retained but completely sterilized, while also producing syngas.

Oil-Based or Water-Based Feedstock

The MagneGas™ fuel production system can be set-up using various types of liquid feedstock. In particular, MagneGas works with two types of biomass materials: oil-based and water-based liquids. On the oil-based side, the Company is currently taking a specific food bean oil feedstock, which is renewable, and gasifies it into MagneGas2®, which it sells to the industrial gas market. In addition, the process generates small amounts of carbon and oil residue, which can be burned or used to produce electricity. The other type of feedstock used is water-based waste, such as sewage, sludge, or manure. In particular, MagneGas is focused on the treatment of manure. The use of the Company's technology not only instantly sterilizes the manure for use in fertilization, but also creates a natural gas alternative that can be used on the farm.

Advantages over Conventional Plasma Arc Technology

According to the Company, its Plasma Arc Flow® technology has three key advantages over other plasma systems currently used for the treatment of waste products: (1) its ability to treat liquid waste; (2) its small size; and (3) its lower capital expenditure. The Company believes that a key factor that differentiates MagneGas' Plasma Arc Flow® technology is the ability to treat liquid biomass, since traditionally, plasma arc technology has only been used for the treatment of solid waste.

MagneGas owns the intellectual property related to the submerged electric arc, which allows it to use plasma technology for the treatment of liquid waste. Through years of research, the Company managed to find a way to efficiently mix electricity and water, a normally unstable combination. The Company's patented advanced computerized electronic control panel takes the submerged electric arc and stabilizes it. Once the liquid flows through the electricity inside the lightning chamber, it is exposed to the high temperatures, making it an efficient way to gasify liquid waste.

In addition, the system requires only three key components: electricity, liquid feedstock, and electrodes. This allows for the construction of Plasma Arc Flow® recycler units in a range of sizes and throughput capacities. As shown in Figure 11, the simple operation and small installed footprint of the units, which can be located in a 10 foot by 10 foot space or placed in mobile units built to fit flatbed trailers allowing for simple transportation, also allows for the MagneGas™ fuel production systems to be easily set-up in different locales using various types of feedstock. This capability provides the Company an advantage, as fuels can be manufactured onsite, potentially eliminating the time and expense of shipping. For comparison, Figure 12 (page 21) shows two traditional plasma gasifiers, Westinghouse Plasma Corporation's G65 unit (with the intended hosting facility under construction) and Westinghouse's smaller W15 unit.

Figure 11

MAGNEGAS GASIFIER SYSTEMS

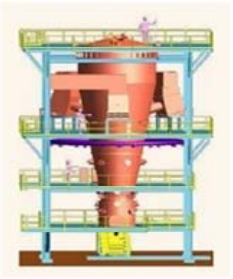
Source: MagneGas Corporation.

Another factor facilitating the installation of MagneGas' gasifiers in different locales is the significant lower capital expenditure compared to traditional plasma waste treatment units. The cost of a traditional plasma arc waste treatment gasifier varies according to the capacity of the unit, but can easily exceed tens of millions of dollars. For example, Air Products and Chemicals, Inc. (APD-NYSE) acquired two G65 plasma gasifier units from Westinghouse Plasma Corporation for $21 million to $22 million per unit, for a waste-to-energy facility in Tees Valley, North East England, with Air Products spending a total of $800 million for the project, which has since been terminated. Smaller units also surpass tens of millions of dollars, with Westinghouse Plasma Corporation selling its W15 gasifier for a waste-to-energy facility in Bijie, China, for $15 million (Source: Waste Management World). Capital expenditure for MagneGas' Plasma Arc Flow® units, conversely, is typically in the range of $500,000 to $1 million.

Figure 12

TRADITIONAL PLASMA ARC WASTE TREATMENT GASIFIERS

G65 Gasifier and Facility	W15 Gasifier



Source: Westinghouse Plasma Corporation.

Although MagneGas is using plasma technology for the processing of waste products, the Company does not believe it directly competes with companies in the waste remediation industry. MagneGas plans to capitalize on the inherent advantages of plasma technology, coupled with its system's lower cost and smaller size, to target three industries outside the solid waste remediation market (industrial gas market, wastewater treatment and sterilization, and power utilities' co-combustion) with the main target being the commercialization of its proprietary syngas, MagneGas™, to the industrial gas market—a project that is currently generating revenue.

INDUSTRIAL GAS MARKET

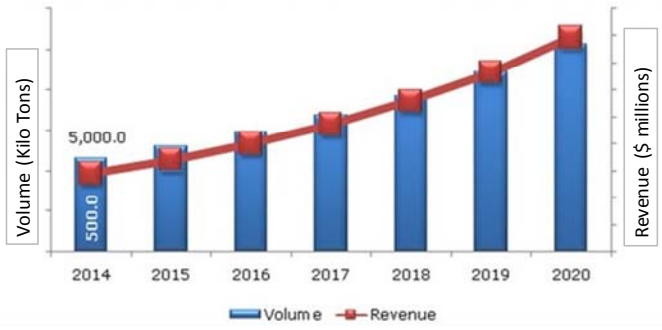
The Company is currently taking a specific liquid oil-based feedstock and gasifying it into MagneGas™, which it sells into the metal working market as a replacement to acetylene. The liquid feedstocks MagneGas uses in its process are readily available and renewable, and include soybean oil and other vegetable oils. The Company's first offering, MagneGas™1, was significant, as it allowed the Company to begin commercialization of its syngas, provide proof of concept, and demonstrate its manufacturing capability and market interest. In July 2014, MagneGas introduced its second generation syngas, MagneGas2®, which solved three key issues of the original offering: (1) the flame was difficult to see, (2) the gas was difficult to set up, and (3) the consumption was high. The Company's testing has shown that the use of MagneGas2®, its current offering to the metal cutting industry, results in a product that is safer, faster, more cost-effective, and more efficient than alternatives on the market.

Industrial gases belong to a special class of chemicals with a wide array of applications in several end use industries, including oil and gas, medical, metal cutting and welding, water treatment, pharmaceuticals, power and mining, and environmental protection, among others. The global market for industrial gases is expected to grow from $68.7 billion in 2015 to $80.9 billion in 2020 (Source: BCC Research's *The Global Industrial Gas Business*, January 2016). In terms of market size, chemicals and petroleum refining-related industrial processing leads the global industrial gases market, followed by the metal manufacturing and fabrication industry (Source: Persistence Market Research's *Industrial Gases Market - Global Industry Analysis and Forecast to 2020*, October 2016).

Acetylene and the Metal Cutting Gas Industry

The metal cutting and manufacturing industry, in particular, is dominated by acetylene, with propane and propylene also being used consistently. Global demand for acetylene gas was valued at approximately $5 billion in 2014 and is expected to reach $6 billion in 2020, as shown in Figure 13. Chemicals, welding and cutting, and other applications are key markets for the acetylene, with chemical production leading the global acetylene market demand, followed by the metal welding and cutting industry (Source: Zion Research Analysis' *Acetylene Gas Market for Chemical Production, Welding & Cutting and Other Applications: Global Industry Perspective, Comprehensive Analysis and Forecast, 2014 – 2020*, November 2015).

Figure 13
GLOBAL ACETYLENE GAS MARKET

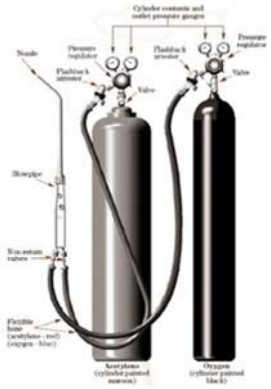


Source: Zion Research Analysis.

The growth in the metal cutting and welding gas industry is expected to be driven by the increasing use of electric arc furnaces, advanced production methods requiring industrial gases, and rising demand for products manufactured using stainless steel (Source: Report Linker's *Global Industrial Gases Industry Overview*). However, the growth may be restrained by the increasing environmental regulations related to the manufacture and use of industrial gases, coupled with high cost of transportation and storage associated with them (Source: Grand View Research Inc.'s *Industrial Gases Market Analysis, Market Size, Application Analysis, Regional Outlook, Competitive Strategies and Forecasts, 2014 To 2020*).

Acetylene's Properties

Figure 14
ACETYLENE TORCH ASSEMBLY



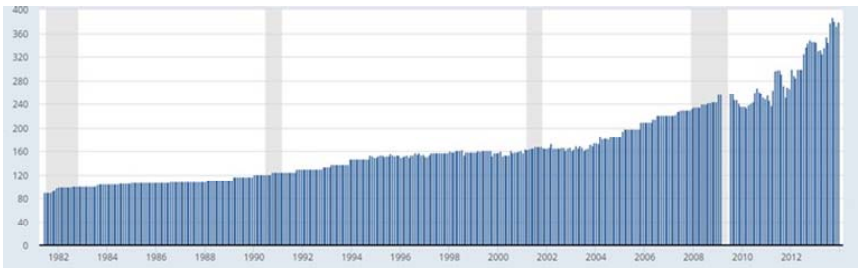
Source: Metals4U.com.uk.

Only a handful of industrial gases can achieve the high temperatures needed in metal cutting applications, with acetylene being the most commonly used. When mixed with pure oxygen in a cutting torch assembly, as shown in Figure 14, an acetylene flame can theoretically reach temperatures up to 6,300°F. Acetylene (C_2H_2) is a highly flammable hydrocarbon gas that belongs to the group of alkynes, and consists of two hydrogen atoms and two carbon atoms. The two carbon atoms are held together by a triple carbon bond. This bond stores substantial energy that can be released as heat during combustion. However, the triple carbon bond is also unstable, making acetylene gas very sensitive to conditions such as excess pressure, excess temperature, or mechanical shock (Source: U.S. Department of Labor).

Acetylene may be generated by the chemical reaction between calcium carbide (limestone) and water, by partial combustion of methane, or by **pyrolysis** of hydrocarbons. Most of the acetylene produced for the metal cutting industry is produced using calcium carbide, with the methane and hydrocarbon-based production mostly used on or near the production site to make other organic chemicals (Source: Advameg, Inc.). Despite its widespread use as a metal cutting agent due to its high flame temperature, acetylene's unstable and explosive nature creates hazards and difficulties for producers and end users. For example, acetylene is stored under special conditions, in which the acetylene is dissolve in liquid acetone and then the mix is stored in the acetylene cylinder, which is filled with a porous (sponge-like) cementitious material.

In spite of these precautions, if acetylene is exposed to excess temperature, pressure, or mechanical shock, pure or less than pure acetylene gas can undergo a violent, explosive decomposition reaction. For example, acetylene cylinders should be kept upright, limiting its use in some jobs in enclosed quarters. Furthermore, if a cylinder is dropped or transported in a horizontal position, it should be returned to the upright position and left alone for at least two hours or more before using it to allow it to settle (Sources: UK Health and Safety Executive and the State of Virginia Division of Mineral Mining). In addition to its instability, acetylene's high ignition potential can also create other issues. Care to prevent flashbacks, where ignited acetylene can propagate back into the storage cylinder through the supply hose (causing it to explode violently), is a key safety feature in the use of acetylene. Furthermore, any acetylene leak tends to pool at ground level, creating an extremely hazardous situation. Acetylene also has productivity and cost-related drawbacks. Since acetylene uses an oxidized flame, metal cutting with acetylene generates a slag, which needs to be scraped off, reducing productivity. Also, since it is the standard gas used in metal cutting, companies often look at the gas price as the only purchasing factor when choosing suppliers or other gases, and as such, acetylene prices behave like a commodity, with high fluctuations depending on demand and supply shortages. As shown in Figure 15, acetylene prices during the five-year period ending December 2013 (the last data point available from the U.S. Bureau of Labor Statistics) increased approximately 54.8%, with the price of acetylene over the last 10 years more than doubling, increasing 118.8%.

Figure 15
ACETYLENE PRICE INDEX



Source: Federal Reserve Bank of St. Louis.

Acetylene's Safety Risks Pose Manufacturing and Distribution Challenges

Acetylene is a highly flammable gas that is considered hazardous by the Occupational Safety and Health Administration (OSHA) per the administration's Hazard Communication Standard 29 CFR 1910.1200. It is known to explode when heated, and forms explosive mixtures with air. In addition, the gas displaces oxygen, which can cause rapid suffocation. There are serious risks to personnel who are exposed to inhaling the gas in an improperly vented area or whose eyes, skin, or clothing has come into contact with the acetylene chemical, and environmental risks to sewers, waterways, soil, and air (Source: Material Safety Data Sheet [MSDS] from acetylene supplier, Airgas USA, LLC, dated June 7, 2016).

An Explosive History

The chemical makeup of acetylene entails a type of triple carbon bond that is known to be unstable and can violently decompose (combust) in response to excess pressure, temperature, static electricity, or mechanical shock. What makes this gas particularly volatile when compared to other fuel gases, however, is just how easy it is to ignite. Taking the example of static electricity, a person walking across carpet on a dry day creates a static charge that is 1,700 times greater than that capable of igniting acetylene (Source: the U.S. Department of Labor's "Special Hazards of Acetylene"). Or, if acetylene is exposed to pressure over 30 psi, it can auto-ignite and explode by itself, without a spark or flame (Source: the Virginia Department of Mines, Minerals, and Energy). The Department of Labor reports that the ignition energy of acetylene in air is 17 times lower than that of methane, and in pure oxygen (air is not pure oxygen), acetylene's ignition energy is almost 100 times even lower.

There are consistently news reports of small acetylene-fueled explosions. In the past year alone, acetylene has ignited at convenience stores, storage units, recycling plants, welding workshops, academic laboratories, the Maryland National Guard Havre de Grace Readiness Center, a business that builds transformers, a trailer manufacturer, farms, and residences, and even in vehicles, causing accidents from the sudden explosion of oxy acetylene bottles in transport. Deaths have been recorded in almost all of these blasts. It is not just the users of acetylene fuel who are at risk. Explosions of the gas have killed or injured employees at acetylene production and service plants around the world, including at the Acetylene Service Company plant in Perth Amboy, New Jersey; Kentucky's Carbide Industries, which produces calcium carbide for acetylene gas manufacture; and Southwest Industrial Gases, a welding gas distribution facility in Texas. Southwest Industrial's explosion occurred as acetylene gas was being delivered on a tractor-trailer to Southwest's loading dock. A gas supply system was hooked up wrong, leading to a chain of as many as 40 explosions that caused more than $2.3 million in damage. Fiery debris and 100-foot-high flames required officials to create a one-mile evacuation zone around the site and close two of Dallas' busiest interstates.

The volatility of acetylene fuel is a global problem, with the gas being recently implicated in a series of blasts at a French hospital annex that was under construction. Approximately 650 patients had to be evacuated from the hospital in July 2016 due to the combustion of two acetylene gas canisters stored in the annex. One of the deadliest events occurred in August 2015 at the port of Tianjin in northern China. A warehouse at the port had stored calcium carbide, which reacts with water to form acetylene. Firefighters were at the port spraying water on a blaze, when it is believed that the water reacted with the stored calcium carbide to form acetylene, which then exploded (Source: *BBC News*, August 17, 2015). The chain reaction of explosions was so intense that the blasts were picked up in satellite images, and ultimately killed over a hundred people, with hundreds more injured and wide swathes of the city decimated.

Manufacturing and Use Impacts

Because acetylene is highly explosive, its distribution is carefully regulated. In most cases, acetylene stored in special storage containers still cannot be transported via passenger-carrying flight, rail, or ship (with some exceptions), but it can be transported as cargo. Distribution through gas pipelines requires that pressure is kept very low, and the pipeline length must be very short. The use of acetylene as a fuel source is also discouraged by some. For example, Transport for London has long banned the use of acetylene gas cylinders by businesses that operate on its land (e.g., construction firms, garages), as a result of a high number of fires that were difficult to extinguish. For such companies, the choice is to find an alternative fuel source or face eviction (Source: *BBC News*, July 24, 2007).

Due to safety concerns, acetylene manufacturing plants have been heavily regulated, with manufacturing sites increasingly being moved away from metropolitan centers. Moreover, the impact of government regulation on acetylene suppliers and rising insurance premiums has made the gas costlier to produce and distribute. For many, it may make more sense to find an alternative fuel than continue to face the risks of storing and transporting acetylene gas.

MAGNEGAS2®

The Company utilizes its patented Plasma Arc Flow® technology for the generation of MagneGas2®, which it sells into the metal working market as a replacement to acetylene. The Company's testing has shown that the use of MagneGas2® as a metal cutting fuel results in a product that has competitive advantages in terms of speed, productivity, safety, environmental impact, and cost when compared with other alternatives on the market, including acetylene. Figure 16 shows a comparison between MagneGas2® and acetylene in key attributes.

Figure 16

MAGNEGAS™ ACETYLENE COMPARISON

	MagneGas	ACETYLENE
Properties		
Flame Temperature	10,500°F	6,000°F
Productivity		
Slag	Little to none	Significant
Top Edge Rollover	None	Significant
Soot	Limited	Significant
Heat Affected Zone	Narrow	Wide
Usable Gas in the Cylinder	100%	80%
Safety		
Noxious/Harmful fumes	Minimal	Significant Hazard
Pooling if leaked	None (lighter than air)	Significant Hazard
Environment		
Renewable Raw Material	Yes	No
Burns clean	Yes	No

Source: MagneGas Corporation.

Higher Flame Temperature

Over the last 24 months, MagneGas has focused on independent testing and verification of the Company's technology and product claims. One of the first efforts was the testing of MagneGas2® flame temperature by the City College of New York's Institute for Ultrafast Spectroscopy and Lasers. Results of this third party verification efforts showed MagneGas2® displaying a top flame temperature in the 10,500°F (5,800 C) range, higher than any other industrial gas.

Faster Cutting Speed

MagneGas asked Edison Welding Institute (EWI), a U.S. Navy contractor that studies welding systems, to evaluate its products along with acetylene and propane, with respect to travel speed and gas consumption during gas cutting of steel plates. EWI performed testing with each fuel gas to determine maximum travel speed and the corresponding gas consumption for producing fabrication quality cuts on 1-inch and 2-inch uncoated steel, with key results listed in Figure 17. Overall, the experiments showed that MagneGas2® has a significant advantage in terms of cutting speed and oxygen consumption over both acetylene and propene.

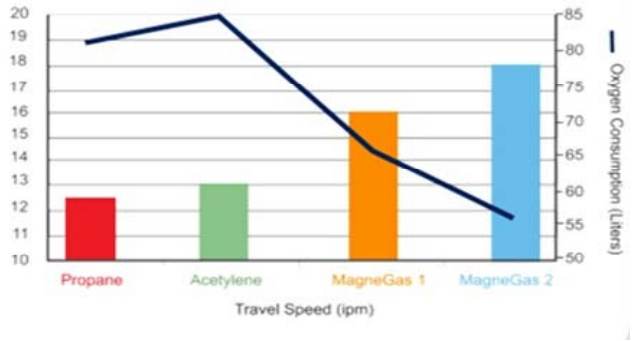
Figure 17
EWI'S MAGNEGAS™ TESTING

Fuel Gas	Thickness	Travel Speed (ipm)	MagneGas2® advantage	Fuel Consumption (lt)	Oxygen Consumption (lt)
MagneGas2®	**1"**	**21.0**		**14.2**	**34.4**
MagneGas™1	1"	18.0	17%	24.2	41.1
Acetylene	1"	17.4	21%	8.3	50.9
Propane	1"	15.0	40%	10.8	56.4
MagneGas2®	**2"**	**18.0**		**14.4**	**57**
MagneGas™1	2"	16.0	13%	28.1	65.8
Acetylene	2"	13.0	38%	8.3	84.7
Propane	2"	12.5	44%	9.5	81.4

Source: Edison Welding Institute.

Results indicate that for deliverable cuts made on each plate thicknesses, MagneGas2® provided the highest travel speeds followed by MagneGas1™, acetylene, and then propane. For each plate thickness, oxygen consumption increased approximately with the inverse of travel speed. For deliverable cuts made on 1-inch plate, MagneGas2® had the lowest oxygen consumption, followed by MagneGas1™, acetylene, and propane. For deliverable cuts made on 2-inch plate, MagneGas2® had the lowest oxygen consumption followed by MagneGas1™, propane, and then acetylene.

Figure 18
2-INCH STEEL CUT COMPARISON



Source: MagneGas Corporation.

For example, as shown in Figure 18, MagneGas2® was able to cut 2-inch steel at a rate of 18 inches per minute, which was 38% faster than acetylene and 44% faster than propane. In addition, MagneGas2® used oxygen more efficiently, 34% less than acetylene and 31% less than propane, providing savings on both oxygen and gas.

More Efficient and Cost-Effective

According to the Company, MagneGas2®'s higher temperatures and low oxygen requirements result in a cleaner cut with little to no slag or top edge **rollover** and insignificant amounts of **soot**, translating into a more efficient cutting process. MagneGas2® flame also produces a narrower heat-affected zone than acetylene by concentrating the heat at the precise point of the cut, resulting in narrower kerf (the slit made by cutting) and a higher quality cut. Furthermore, MagneGas2® plug-and-play tanks can be connected to pre-existing welding infrastructure without changes, facilitating the transition.

In addition to the economic benefits of faster cutting speeds and lower oxygen consumption, the MagneGas2® percentage of gas utilization is higher. According to MagneGas, since for safety reasons, acetylene is stored in tanks containing porous filler and acetone as a stabilizer, as much as 20% of the contents of each acetylene cylinder purchased by the customer may be returned to the distributor as unused gas still in the tank, while MagneGas2® utilization is close to 100%.

Safer to Operate

According to the Company, MagneGas2® has safety advantages over acetylene in all three facets of its life cycle: (1) production, (2) storage, and (3) usage. The Company conducted independent analysis, through the Georgia Institute of Technology (Georgia Tech) and EWI, to test the stability of its cutting fuel, with results showing MagneGas™ to be superior to acetylene in stability. In addition, unlike acetylene, MagneGas™ does not pool at ground level in the event of a leak, preventing not only ingestion of the gases but also reducing the possibility of an accidental ignition of the gas. These attributes make the Company's fuel gas safer to produce, giving MagneGas the ability to place permanent or mobile gasifiers on site for large users or projects, facilitating distribution. For example, for a pipeline construction, the Company could place a MagneGas2® producing gasifier on a truck or a mobile platform, where the system could follow the pipeline down as construction progresses. In similar fashion, a stationary unit could be constructed to provide MagneGas2® to a large-scale operation, such as a ship building program. Finally, MagneGas™ is safer to use as it minimizes the risk of a flashback during cuts, has a lower toxicity than acetylene, and emits lower and safer emissions.

Lower Environmental Impact

According to the Company, MagneGas™ usage results in a lower negative environmental impact than acetylene and other alternative cutting fuels due to two key factors: (1) its production from renewable sources; and (2) its cleaner burn. To the Company's knowledge, MagneGas2® is the only renewable gas fuel produced entirely in the U.S. and the only renewable metal cutting gas in the world. While acetylene production requires calcium carbide, MagneGas2® is produced using renewable liquid feedstock in the form of readily available liquid biomass, such as sewage, sludge, manure, and waste oils. In addition, since MagneGas™ is hydrogen based, the main emission generated during its use is water vapor, versus acetylene, which is a hydrocarbon-based fuel. The cleaner burn of MagneGas™ was confirmed in testing by an EPA-accredited laboratory, with results indicating MagneGas™ to be suitable for use as automotive fuel while surpassing all current EPA requirements for combustion exhaust emissions, as shown in Figure 19.

Figure 19
EPA LABORATORY COMBUSTION RESULTS

	MagneGas	Gasoline	Natural Gas	EPA Standards
Hydro-carbons (gm/mil)	0.026	0.234	0.380	0.410
Carbon Monoxide (gm/mil)	0.262	1.965	5.494	3.400
Nitrogen Oxides (gm/mil)	0.281	0.247	0.732	1.000
Carbon Dioxide (gm/mil)	235	458	464	No EPA standard
Oxygen	9%-12%	0.5%-0.7%	0.5%-0.7%	No EPA standard

Source: MagneGas Corporation.

The data were obtained using a Honda Civic adapted to run on natural gas and used with MagneGas™. The data on gasoline were obtained via the use of an identical Honda Civic running on gasoline. All data were obtained using the complex EPA routine simulating various city and mountain driving conditions. Results indicate that the quality of MagneGas™ exhaust is dramatically better than that of natural gas and gasoline. MagneGas™ exhaust is much lower than EPA requirements, has roughly 50% fewer greenhouse gases (such as carbon dioxide [CO_2]) than gasoline exhaust, and contains 9% to 12% oxygen. The Company believes that these results not only indicate the low environmental impact of MagneGas™ but also its potential to be used as an additive to fossil fuels to improve their exhaust characteristics.

In December 2015, the Company's MagneGas™ fuel was named The New Economy's overall winner in the Best Alternative Fuel Solutions 2015 award category, recognizing MagneGas for its success in using the patented plasma arc gasification to provide a clean, safe, and efficient fuel that prioritizes a lower rate of CO_2 emissions. The Clean Tech Awards are presented by The New Economy, a quarterly publication whose goal is to stimulate financial investment and encourage discussion and debate of appropriate strategies for the promotion of global economic growth.

MAGNEGAS™ FUEL COMMERCIALIZATION AND DISTRIBUTION

MagneGas' strategy for the distribution and commercialization of its metal cutting fuel relies on the acquisition of marquee customers that can create a solid platform for future growth as well as its sales penetration of key vertical market segments including utilities, demolition companies and first responder markets, as well as government and military sectors. According to the Company, its fuel is in use at three of the five largest utility companies in the U.S., one of the largest U.S. auto manufacturers, several private and public infrastructure and demolition companies (including the Florida Department of Transportation), as well as the first responder markets (e.g., FDNY). The Company plans to achieve further market expansion by focusing on three key sales channels: (1) distribution network, both independent and wholly-owned distributors; (2) equipment sales, which encompass licensing of its technology; and (3) special market segments, such as military markets and first responders.

Distribution Network

The gas produced for the metalworking industry is compressed, bottled into cylinders, and sold through its growing network of distributors. MagneGas has aggressively worked to expand its in-house sales and marketing programs and its distribution network, which includes over a dozen independent distributors, listed in Figure 20 (page 29) throughout the U.S., as well as its wholly owned distributor, Equipment Sales and Services, Inc. (ESSI).

MagneGas' initial focus was to obtain widespread distribution on the East Coast of the U.S. as well as in California, which are markets that have significant metal cut operations and also value renewable products. The Company believes that through the expansion of its distribution network, it has achieved distribution coverage in many of the major hubs in the eastern half of the U.S. as well as in California. In addition to the continuing expansion of its domestic distribution network, MagneGas is also focused on the international market. The Company has joint research and distribution partnerships in Australia (MagneGas Australia Pty) and Italy (Nuova MagneGas Italy), as well as its first independent international distributor, California-based Complete Welding and Cutting Supplies, Inc., whose operations in Mexico signify MagneGas' entry into the Mexican metal cutting market.

Figure 20
MAGNEGAS U.S. DISTRIBUTORS

ESSI	Florida	**Haun Welding Supply**	New York, Vermont, Pennsylvania
Accugas	Michigan	**Holston Gases**	Tennessee, Kentucky, Alabama, Virginia, Georgia, South Carolina, and North Carolina.
AWISCO	New York, New Jersey, Connecticut	**Piners Welding Supply**	California
Blue Water Industrial Products	Michigan	**Sidney Lee Welding Supply**	Georgia
Berger Welding Supply	Indiana	**TriCo Welding Supplies**	California
Complete Welding and Cutting Supplies, Inc.	California, Mexico	**York Welding Supply**	Pennsylvania
Green Arc Supply	Texas, Louisiana		
GTW Welding Supplies	Michigan		
Harris Gas	California, Nevada		

Source: MagneGas Corporation.

Equipment Sales and Services, Inc. (ESSI)

The industrial gas market is a commodity market, with most distributors selling acetylene, propane, and oxygen. In most cases, the only distinguishing factor between distributors is better service or reduced prices. Thus, the Company believes that using MagneGas™ as a differentiator could represent a door opener for distributors to acquire marquee customers. According to the Company, MagneGas2® has different sales angles—safety, productivity, cost, and environmental effect—that provide an opportunity for distributors to obtain new clients, who then proceed to buy not only gas, but all their welding and metal cutting supplies from the distributor. However, obtaining new marquee customers is difficult, as competition for the customers' business is high and the main product offering is the same (i.e., acetylene), resulting in a price-based sale. In addition, priced-based sales are straightforward, but an initial MagneGas™ sale is more difficult, since it is benefit-based and requires an explanation of the product, its advantages over other alternatives, and usage characteristics.

To solve this issue, the Company acquired a distribution arm, Equipment Sales and Services, Inc. (ESSI) at the end of 2014 for $3 million as a testing platform to show that by using MagneGas™ fuel as a door opener, distributors can expand their customer base as well as increase sales across the board for all other ancillary products, resulting in growth above the typical market trend (Figure 21).

Figure 21
ESSI

Source: MagneGas Corporation.

ESSI is a full line distributor of welding gases, welding tools, hardware, welding equipment, and safety products, conducting business across southwest, central, and northern Florida through its different locations. MagneGas fully owns ESSI facilities in Clearwater, FL and Lakeland, FL, is in the process of opening a new location in Sarasota, FL (scheduled to open during the fourth quarter 2016), and has a joint venture facility located in North Florida with Suwannee Ironworks & Fence, Inc.

Through the operations of ESSI, which generated $2.4 million in revenue in 2015, the Company was able to confirm the successful use of MagneGas™ as a door opener, working with marquee customers, including several electric utility companies, technical rescue organizations, and auto manufacturers, which have either purchased or are testing MagneGas2® for evaluation purposes. According to MagneGas, ESSI business results have shown that the use of MagneGas™ gases as a differentiator can increase a distributor's sales by 20%, and lead to new client acquisition.

Another benefit of the operation of its wholly owned distributor is that it provides MagneGas with the ability to leverage its existing distribution channels to expand revenue streams by adding new gas products and partnerships. For example, in July 2016, the Company announced that it became an authorized distributor for Global Calibration Gasses (GCG), a premier supplier of calibration gases and custom specialty gas mixtures based in Florida. The calibration gases will be distributed through the Company's ESSI operations. Following the success of ESSI, the Company plans to continue its acquisition of distributors, increasing its geographic footprint and facilitating the expansion of its products and services.

Acquisition of Marquee Customers and High-Profile Jobs through Distribution Efforts

MagneGas' distribution and commercialization efforts not only have resulted in the sales penetration of key vertical market segments, but has created a solid platform for future growth as it facilitates the use of its cutting fuel in high profile projects and companies, increasing the market presence and credibility of the Company's products as well as its brand recognition.

An example of the effect of the expansion of MagneGas' distribution network on the acquisition of marquee customers can be seen by the following three initiatives: (1) the distribution agreement with a major Southeast distributor with over 20 locations in Georgia, Tennessee, Kentucky, Alabama, Virginia, South Carolina, and North Carolina, which is expected to supply MagneGas2® to an existing utility customer; (2) its agreement with Berger Welding Supply of Indiana, which is also expected to supply MagneGas2® to a local Fortune 100 company; and (3) its agreement with AWISCO Corporation, the Company's New York distributor, that resulted in two divisions of the New York City Department of Transportation selecting MagneGas2® for metal cutting and repairs, as well as New York Iron Workers Joint Apprentice Training Facility adding MagneGas2® to its training program.

In addition, through direct efforts or the initiative of its independent distributors, the Company has secured the utilization of MagneGas2® in a number of high-profile jobs and locations, which are detailed below and on page 31.

National Aeronautics and Space Administration (NASA)

In December 2015, the Company announced that S&R Enterprises LLC, a lead subcontractor on NASA's Kennedy Space Center build-out, placed its first order for MagneGas2® fuel, to be used for the metal cutting portion of the project. The Kennedy Space Center build-out is part of a two-year, $100 million plan to modify the Vehicle Assembly Building for NASA's Space Launch System. S&R Enterprises was first introduced to MagneGas2® during a demonstration arranged by Suwannee Ironworks, MagneGas' partner in the Company's subsidiary, ESSI of North Florida. S&R also chose to purchase their other welding supplies from ESSI of North Florida, showing once again that MagneGas2® can be a unique differentiator and catalyst for growth in the industrial gas sector. In addition to S&R, Suwannee Ironworks itself was also hired to handle fabrication products and repairs on the Kennedy Space Center build-out, becoming the second contractor in the $100 million project that has chosen to make MagneGas2® its fuel of choice.

Auto Manufacturing Plant

In July 2016, MagneGas announced that a global auto manufacturing company based in the Midwestern U.S. opted to switch to MagneGas2® as its sole fuel of choice for metal working at one of its top award-winning factories. The auto company chose MagneGas2® to be its exclusive fuel and to discontinue use of acetylene after several successful demonstrations and tests of the use of the fuel for metal cutting. A local MagneGas distributor has received purchase orders from the auto company for MagneGas2®, which will likely be used for cutting, brazing, and other operations inside the factory.

Furthermore, in October 2016, MagneGas announced that following the full rollout of MagneGas2® as a replacement of acetylene in the factory, the auto manufacturing company began the procurement process at a second facility. The automaker has indicated an interest in continuing expansion into other factories as part of a larger rollout program. MagneGas believes these initial purchase orders will open the door to other larger opportunities with this customer

According to the Company, the decision of the auto manufacturing company to switch to MagneGas2® as the sole metal cutting fuel in their production line increases MagneGas' credibility and facilitates the expansion of its fuel usage within the auto industry as well as throughout other related markets.

Other Projects

In addition to its work in the Kennedy Space Center, Suwanee Ironworks has been able to secure two large construction projects in which it plans to use MagneGas2® as the fuel of choice: (1) as a subcontractor for steel fabrication projects at two major amusement parks in Florida, where Suwanee Ironworks is expected to use MagneGas2® for the preparation and installation of steel structures of these large construction projects; and (2) as a subcontractor for the construction of two nationally recognized hotels in Clearwater Beach, Florida, where MagneGas® is expected to be used to prepare the steel for installation.

Furthermore, in January 2016, Condotte America, Inc., following extensive testing of MagneGas2®, announced that it plans to switch to MagneGas2® as its exclusive fuel of choice for metal cutting operations. Condotte specializes in the construction of complex transportation projects that include roadway, bridges, interchanges, mass transit, and tolling facilities. MagneGas believes that Condotte's use of its metal cutting fuel can expand the footprint significantly as Condotte has completed an extensive list of high-profile projects in Florida and the eastern U.S., including work for the Florida Department of Transportation, the Miami-Dade Expressway Authority, and several Miami Dade County agencies, as well as work in the Acosta Bridge Project in Jacksonville, FL; the Chesapeake and Delaware Canal Bridge in Wilmington, Delaware; and the Sidney Lanier Bridge Project in Brunswick, Georgia. In addition, Condotte has expanded its market reach beyond the U.S. boundaries, establishing ventures in Panama and El Salvador.

Equipment Sale and Licensing Operation

According to the Company, a key issue that makes further market share acquisition and faster penetration of the metal cutting industry more difficult is distribution constraints, as the Company currently produces MagnaGas2® in its Florida headquarters, and the shipping and delivery of MagneGas2® to different locations, especially when dealing with large volumes, can be expensive and a logistical difficulty. To solve this issue, MagneGas plans to complement its distribution-based efforts, both through independent distributors as well as thorough the purchase and expansion of its own distributors, with sales and licensing of its proprietary Plasma Arc Flow® technology to certain markets where the Company believes there is an existing distributor that has the appropriate infrastructure and market potential to launch the technology.

MagneGas' first effort in this area was announced in November 2015, when the Company entered into an agreement to manufacture and sell a $775,000, 100 kW plasma arc gasification system to Green Arc Supply, LLC, a Louisiana-based gas distributor, which would allow Green Arc to produce and distribute MagneGas2®. Through the agreement, Green Arc received exclusive distribution rights for certain regions of Louisiana and Texas with non-exclusive distribution rights in the remaining regions of Louisiana and Texas, all of Arkansas, Mississippi, and Oklahoma. Green Arc has the right to expand its exclusivity in those states with the purchase of additional systems.

On September 22, 2016, MagneGas announced that it had successfully completed construction of the Plasma Arc Gasification system. Pursuant to the terms of the agreement, the Company has received a total of $583,750 toward the construction of the system. A distribution and license Agreement with Green Arc signed at the same time as the gasifier agreement calls for Green Arc to pay MagneGas royalty payments that equate to approximately 6% of gross sales of MagneGas2® fuel and other products by Green Arc. The Company expects to ship the unit to Green Arc in the fourth quarter 2016, when the final payment should occur.

According to MagneGas, Green Arc has notified the Company that it plans to expand aggressively with the purchase of several additional systems in the coming months, and in response, the Company has begun expanding its manufacturing capability. MagneGas believes that this first domestic equipment sale acts as a proof of concept for its sales and technology licensing efforts, and could open the door for additional equipment sales nationwide. The Company expects its licensing and equipment sales initiative to be a key factor in its geographic expansion and revenue growth plans.

A clear example of this is the Letter of Intent (LOI) the Company signed on October 2016 with a German-based company to manufacture and deliver: (1) A 300 kW stationary gasification system; (2) A 100 kW mobile sterilization system; (3) 250 cylinders full of MagneGas2®; and (4) 50 MagneGas regulators. A deposit of $25,000 has been received, with progress payments totaling $2.625 million due upon signature of the definitive agreements, construction completion, and delivery of systems with related supplies. The LOI calls for exclusive distribution rights in Germany, with an option to purchase rights to certain additional countries with system deployments. The sterilization system is expected to be used for demonstrations and small service contracts with the goal of entering the agriculture and municipal wastewater treatment markets in Germany. MagneGas has agreed to keep the name of the German company and the exact details of the LOI confidential until the parties enter into the definitive agreements. The sale is part of the continued efforts by the Company to expand the availability of its technology and MagneGas2® fuel across the European continent.

Special Market Segments

In addition to its distribution and product sales efforts, the Company aims to penetrate additional specialty markets, such as military markets and first responders, through direct efforts to conduct testing and sales of MagneGas2®. As part of this effort, in December 2015, MagneGas was sponsor and exhibitor of the Florida Defense Contractors Association Expo. According to the Company, the exposure it received led to numerous requests for additional private meetings from domestic and international companies as well as different government agencies. While the names of the companies requesting meetings must remain confidential, the specific companies provide services in the following areas: national security, aerospace, defense, energy, maritime (engineering, vessel design, construction management), and a military agency providing vital support for a division of the U.S. Armed Forces. The Company's efforts have resulted in two key initiatives where MagneGas believes its metal cutting fuel is suited due to the speed of cut, the small heat-affected zone, and its safety attributes: (1) sales to the U.S. Navy; and (2) the first responder market.

U.S. Navy

The U.S. Navy has been working with the Company to explore both the use of MagneGas2® for metal working and the use of the Plasma Arc Flow® system for liquid waste processing. Two U.S. Navy contractors, the National Center for Manufacturing Sciences and the Edison Welding Institute, have completed testing of MagneGas fuel as an ecofriendly alternative for major metal cutting projects. The National Center for Manufacturing Sciences' tests focused on the fuel's ability to reduce emissions during the breakup and recycling of retiring vessels.

Following an initial demonstration by the Company, the U.S. Navy contacted MagneGas and purchased its first order of MagneGas2®. Subsequently MagneGas was invited to perform a two-day "hands-on" demonstration and testing session at a designated U.S. Navy facility that concluded on May 12, 2015. While at the U.S. Navy yard, the MagneGas team performed "head to head" travel speed demonstrations against acetylene and achieved a 100% faster cutting speed on 2-inch plate using a track torch, resulting in a verbal commitment to purchase additional fuel. According to the Company, MagneGas has been invited back to demonstrate to the demolition function of this particular yard, representing a new opportunity within the U.S. Navy. MagneGas is currently undergoing the procurement process for the U.S. Navy.

Fire Departments

Several emergency management teams and fire and rescue organizations have been adopting or are in the process of testing MagneGas2® for metal cutting in rescue operations. In particular, the FDNY has begun using MagneGas2® and is reportedly looking to expand its use into other areas and additional fire stations. The Special Operations Team of Florida's Clearwater Fire & Rescue Department has selected MagneGas2® as their preferred cutting fuel, and the Pinellas County Fire Department's team of emergency responders, the Technical Rescue Team, have selected MagneGas2® and the MagneTote™ as their preferred metal cutting tool.

MagneTote™

Working closely with these teams has enabled the Company to develop its patented "emergency extraction" system called MagneTote™, as shown in Figure 22. This is an all-in-one cutting tool that enables responders to replace multiple metal cutting tools in their inventory. MagneTote™ is a lightweight, fully portable, all-in-one metal cutting torch system that features an aluminum cage designed to securely hold two portable aluminum cylinders containing oxygen and MagneGas2®. It also comes with a detachable torch, hose, and extra tips. The cage can unclasp and open for immediate access to the hose and torch, which allows for a speedy setup and easy use. The Company also designed an alternative configuration to be worn as a backpack holding all of the same equipment. These compact and portable systems provide the user with up to 90 minutes of cutting time and address the needs of fire and rescue crews as well as other applications in harsh, mobile, or dangerous environments.

Figure 22
MAGNETOTE™

Portable, lightweight, and compact design
Up to 90 minutes of metal cutting
Ideal for emergency responders and bucket lift applications
Dimensions: Height – 24"
Width – 17.25"
Depth – 13"
Weight: 70 lbs. approximately

Source: MagneGas Corporation.

The Company supports its efforts in the first responder market through its "Best for the Best" program, in which it works with emergency management officials throughout the state of Florida to help them train in the event that a metal cutting rescue or extrication is necessary. As part of its educational efforts, MagneGas conducted a training session for the members of Florida's Pinellas County Technical Rescue Team, along with some of the local firefighters. As a direct result of this program, MagneTote™ has since been adopted as the preferred metal cutting tool for the entire Pinellas County Technical Rescue Team.

In addition to the first responder market, where the Company believes that the portability of MagneTote™ can substantially decrease the amount of time needed to set up (time that could be critical to saving a life), MagneGas is also targeting other customers, including construction or bucket lift applications, where MagneTote™ can save time and increase safety, both of which translates into cost savings on the job. In addition, the Company believes that MagneTote™'s capability to operate in harsh, mobile, or dangerous environments also opens military opportunities, which the Company is pursuing.

WASTEWATER TREATMENT–STERILIZATION

MagneGas' second target market is wastewater treatment, where the Company plans to utilize its Plasma Arc Flow® technology to sanitize biological active liquid waste without any chemical additive. The Company's efforts in this market segment are based on the sterilization mode of MagneGas' plasma arc technology, in which liquid agricultural, municipal, or industrial waste can be treated, removing any bacteria or pathogens, resulting in a clean liquid byproduct with a wide range of uses.

Although MagneGas believes that its plasma arc technology has applications in the treatment of sewage, sludge, or manure, the Company's initial focus is in the treatment of manure, a less competitive market in which the Company's technology can solve some of the major issues affecting alternative products. MagneGas plans to use its patented technology to treat liquid manure or waste, converting it into a Class A material that can be used as a fertilizer or even clean water that can be used for irrigation.

The Plasma Arc Flow® refinery forces a high volume flow of liquid, sterilizing the bio-contaminants within the waste without the need to add any chemical disinfecting agents. The Company believes that this ability, coupled with MagneGas' small technology footprint, speed of processing, and sterilization capabilities, provides a competitive advantage over alternative methods. In addition, while sterilizing the liquid, a clean burning syngas is produced, which can be used to power industrial equipment.

Sludge and Manure Disposal–Background and Regulation

When industry, hospitals, and households send their waste to wastewater treatment plants, the plants remove as many contaminants as possible from the water and then discharge the water as effluent. The leftover material is referred to as sludge. Currently, sewage sludge is disposed of via landfills through anaerobic digestions and incineration, as well as land application. According to the U.S. Environmental Protection Agency (EPA), about half of all sewage sludge is applied to land, but it is only applied to about one percent of the nation's farmland.

The application of sludge or other bio-waste to farm land–or even golf courses, home gardens, and, in the past, the White House lawn–reduces the need for chemical fertilizers. The use of sludge has been shown to produce significant improvements in crop growth and yield due to the nutrients found in it, such as nitrogen, phosphorus and potassium. However, agricultural use of biosolids and sludge needs to meet strict quality criteria and application rates imposed by the EPA.

Sludge and other bio-waste materials that are applied to farmland have two EPA classifications: Class A and Class B. The only regulatory difference between the two is the level of fecal coliform, which is lower in Class A. While no crop harvesting restrictions apply to the use of a Class A material, the use of Class B materials requires site restrictions to minimize the potential for human and animal contact with the remaining pathogens. In particular, Class B materials' application into farmland brings certain crop harvesting restrictions, as listed below.

(1) Animals shall not graze on the land until 30 days after application.

(2) Food crops with edible parts that do not touch the surface of the soil shall not be harvested until 30 days after application.

(3) Food crops with harvested parts that touch the soil mixture and are totally above ground shall not be harvested until 14 months after application.

(4) Food crops with harvested parts below the land surface cannot be harvested until 20 months (when the class B material remain on the land surface for 4 months or longer prior to mixing into the soil) or 38 months (when they remain on the land surface for less than 4 months prior to mixing).

Manure Management

Each year, farm animals in the U.S. produce over 335 million tons of manure, which is roughly the weight of 1,000 Empire State Buildings (Source: *Modern Farmer*, August 2014). The U.S. Department of Agriculture (USDA) estimates that the manure from 200 milking cows produces as much nitrogen as sewage from a community of 5,000 to 10,000 people (Source: Enviroment360's *As Dairy Farms Grow Bigger, New Concerns About Pollution*, May 2014). Hog farms in Minnesota, for example, generate approximately 11 million tons of manure every year, containing 73,000 tons of nitrogen, 55,000 tons of phosphorus equivalent fertilizer, and 58,000 tons of potassium equivalent fertilizer (Source: The University of Minnesota). Thus, manure management plays a crucial role in determining how these nutrients impact the environment.

Normally, farmers handle the bio-waste in two main ways: (1) through anaerobic digestion, with the manure collected in large ponds where added bacteria treats the waste, and (2) through application of the waste directly to land. However, these solutions bring another set of issues and constraints. Anaerobic treatment ponds create an odor problem, as well as the possibility of environmental accidents, with spills from these systems affecting water quality of nearby streams. For example, in the past few years, major waste spills have occurred on hog farms in Iowa, Georgia, and Illinois, among others. Within 30 days of each other, a hog farm in Missouri spilled 10,000 gallons of waste into a stream, while a farm in North Carolina also spilled 100,000 gallons to the natural waterways (Source: National Geographic, October 2014). In addition, over-application of animal manures to the land can degrade soil quality, decreasing crop yields, and are a major source of water pollution across the U.S. (Source: Enviroment360's *As Dairy Farms Grow Bigger, New Concerns About Pollution*, May 2014).

INDIANA HOG FARM BETA TEST

In order to prove its technology's potential to treat manure safely and efficiently, the Company engaged with one of the largest privately owned hog farms in the U.S. located in Indiana to test its ability to process liquid manure waste into sterilized biosolids for agricultural use. To support this initiative, the Company developed a new generation of mobile systems for use in its sterilization efforts, which entails a 50 kW plasma arc system in a mobile platform, seen in Figure 23.

Figure 23

50 KW MOBILE PLASMA ARC FLOW® TESTING UNIT

Source: MagneGas Corporation.

The Company then conducted multiple tests at the farm with increasing flow and efficiency rates, successfully treating different types of manure from different parts of the farm. The pilot plant achieved full sterilization of manures processed through the 50 kW pilot system without adding any chemicals, and at the same time producing a natural gas alternative that the farmer can use for boilers and any other natural gas uses in the farm. The resulting material met EPA standards to bring the liquid waste from a Class B waste to a safer Class A, eliminating any restriction of usage and providing the ability to field-spread the manure and still use the land the next day.

MagneGas then proceeded to obtain independent verification that the resulting material met the EPA standards for Class A fertilizer. Figure 24 shows the results of chemical analysis conducted, where the fecal coliform content of the samples gets reduced to undetectable levels. Results of the recent swine manure sterilization trials meet **Rule 503.32** requirements for making swine manure suitable for Class A treatment.

Figure 24

BETA TEST RESULTS

	Inlet	Outlet
Fecal Coliform	1,600 cfu/100ml	Undetectable
Total Suspended Solids	730 mg/L	282 mg/L

Source: MagneGas Corporation.

SEPTIC WATER TREATMENT TEST

The Company is also assessing the application of its wastewater remediation technology for the treatment of septic tanks. The Florida Department of Environmental Protection estimates that approximately one-third of Florida residents use septic systems for disposal of their wastewater. Septic waste is generally collected and treated by privately-owned corporations. The Company believes that the barriers to entering this market are lower than the municipal government owned sewage treatment facilities.

In June and July of 2016, MagneGas deployed its 50 kW mobile sterilization system at a Florida septic wastewater treatment facility for testing of its developmental wastewater sterilization equipment. Initial testing was successful, with the processed samples (analyzed by an independent laboratory) showing a significant reduction in pathogens and other elements, including reductions in nitrogen, phosphorus, and potassium levels. MagneGas provided a final report to the waste treatment facility, based on the analysis of the independent laboratory, and plans to continue to test its technology's potential at this facility.

INTERNATIONAL EFFORTS

Figure 25

POST-TREATMENT STERILIZED WATER

Source: MagneGas Corporation.

The ability of MagneGas' wastewater remediation technology to sterilize liquid biowaste and produce sterilized water as a byproduct, as depicted in Figure 25, opens additional markets. Specifically, the system can be used to sterilize manure, sewage, sludge, and landfill leachates, among others, making the resulting water ideal for irrigation and other uses, especially in locales where water is in short supply.

The Company is pursuing international equipment sales in strategic areas of the world through social media, industry events, and a network of independent brokers. In addition, MagneGas has also retained experienced consultants with substantial experience in wastewater and hazardous waste remediation for the acquisition of international contacts and leads.

As a result of these efforts, the Company secured its first sterilization equipment sale as part of the LOI signed with a German-based company and detailed on page 32. In addition to MagneGas' gasification system, the project involves the sale of a 100 kW mobile sterilization system to the German company, expected to be used for demonstrations and small service contracts with the goal of entering the agriculture and municipal wastewater treatment markets in Germany.

POWER UTILITIES CO-COMBUSTION

The third business line that the Company is pursuing is the use of MagneGas™ in co-combustion in the electric and power utility markets. MagneGas is currently developing and verifying a co-combustion technology based on the extremely high flame temperature of MagneGas™. The project aims to take the exhaust generated from the hydrocarbon-based energy production process (e.g., coal processing), mix it with MagneGas™ fuel, and reignite it, ultimately resulting in an enhanced combustion efficiency and a reduction of harmful hydrocarbon emissions. The Company has completed internal testing both in the U.S. and Australia on the effect of combusting MagneGas2® with hydrocarbon fuel exhaust and has demonstrated reduced greenhouse gases and hydrocarbon emissions along with increased heat, which could lead to additional power.

Coal Industry Background

Electricity is one of the fundamental forms of energy of the modern world. The global energy mix is primarily dominated by fossil fuels, with coal being the major contributor. Coal generation is projected to provide 36.6% of U.S. electricity in 2016, and despite gains in market share by natural gas, nuclear, and renewable energy sources, coal is projected to remain the dominant fuel for electricity generation in the U.S. through 2030 (Source: American Coalition for Clean Coal Electricity's *Coal Facts*). However, increasing concerns on the adverse effect of the emissions and pollution arising from coal conversion technologies and the gradual depletion of the fossil fuel reserves results in major challenges for the energy sector.

Combustion of coal is associated with the production of harmful emissions and the release of vast quantities of greenhouse gases, with carbon dioxide (CO_2) making up the vast majority of greenhouse gas emissions from the sector, but smaller amounts of methane (CH_4) and nitrous oxide (N_2O) are also emitted. Coal-fired power plants are the single largest source of pollution and greenhouse gas emission in the U.S., accounting for approximately three-quarters of the carbon emissions from the energy sector, even though it generates just over one-third of the electricity. It is also the dominant source of mercury and other toxics pollutants (Sources: AIP Conference Proceedings 1648, 510021, 2015; and the EPA). In order to combat the production of greenhouse gases by the industry, coal companies were projected to spend $26 billion for emission controls between 2014 and 2016, with at least 15 clean coal technologies being used (Source: American Coalition for Clean Coal Electricity's *Coal Facts*).

A key factor in the production of greenhouse gases during coal burning is the fact that when burning coal for thermal power, the process leaves the coal incompletely burnt. Hydrocarbons that are emitted as pollutants are simple un-combusted hydrocarbons, meaning that the burning process does not achieve a hot enough temperature to fully combust the hydrocarbons, and as such, they go in the atmosphere. In burning fossil fuel such as coal, about 60% of energy in the original fuel is wasted due to the poor combustion characteristics, representing a dual loss in terms of energy as well as environmental damage (Source: AIP Conference Proceedings 1648, 510021, 2015).

Coal-Related Legislation

The Company believes that recent developments regarding legislation to curtail greenhouse gases could be a catalyst for a more robust market for renewable technologies such as MagneGas' co-combustion solution. In particular, the following regulations could have a direct impact on the need for the Company's technology.

Clean Power Plan

The primary law regulating air quality in the U.S. is the U.S. Clean Air Act. Congress established much of the basic structure of the Clean Air Act in 1970, with major amendments taking place in 1977 and 1990. The Clean Air Act imposed national air quality requirements and placed administrative responsibility with the newly created EPA. Under the Clean Air Act, the EPA is required to regulate emission of pollutants that "endanger public health and welfare," with state and local governments also monitoring and enforcing Clean Air Act regulations.

On August 3, 2015, President Obama, using the authority of the Clean Air Act, announced the Clean Power Plan. The plan is divided into three requirements: (1) a 32% overall reduction in greenhouse gas emitted by existing power plants from 2005 levels by 2030; (2) power plants built in the future to produce about half the rate of the pollution now produced by current power plants; and (3) state targets for reducing emissions and the delivery of a draft plan by the States for how to do it by 2016 and a final plan by 2018.

However, implementation of the Clean Power Plan has been halted by a Supreme Court decision to "stay" the plan until litigation over its legality is finished. The litigation was brought by States with significant coal operations, as the Clean Power Plan is expected to negatively affect the coal industry. For example, recent projections assuming the implementation of the Clean Power Plan estimate U.S. coal production to decline by about 26% between 2015 and 2040, while the assumption that the plan is never implemented projects coal production levels to remain stable during the same period (Source: U.S. Energy Information Administration).

The 2015 United Nations Climate Change Conference (COP21)

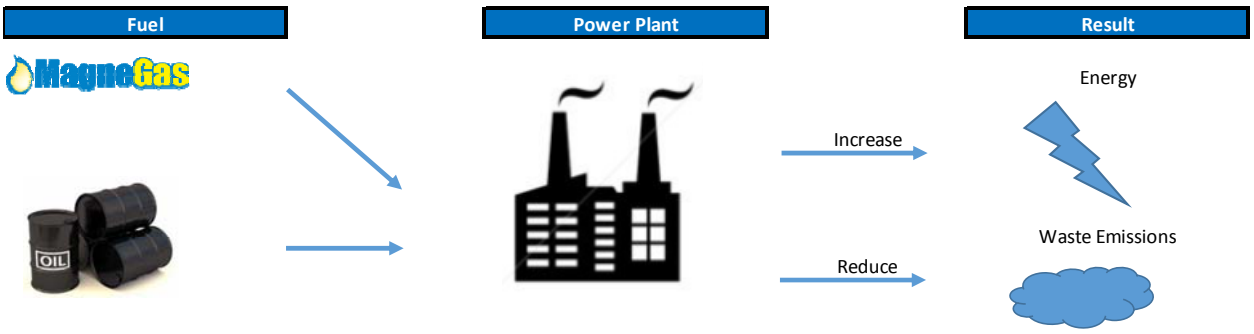
In December 2015, the participating 195 countries of the 2015 United Nations Climate Change Conference negotiated the Paris Agreement, a measure aimed at reducing emissions as part of the method for reducing greenhouse gas. The documents call a goal of limiting global warming to less than 2°C compared to pre-industrial levels, with zero net anthropogenic greenhouse gas emissions to be reached during the second half of the 21st century. In the adopted version, the parties will also "pursue efforts" to limit the temperature increase to 1.5°C, which according to some scientists, will require zero emissions sometime between 2030 and 2050.

MAGNEGAS CO-COMBUSTION

The Company plans to capitalize on the high flame temperature generated by its MagneGas™ fuel to develop a co-combustion process that results in a clean and complete combustion of the existing fossil fuel. The Company's process, depicted in Figure 26, is based on mixing MagneGas™ fuel with the coal flue gas or smoke (that is primarily responsible for the emissions) and reigniting it in a specially designed chamber, maximizing the utilization of the available fuel inside coal and other hydrocarbon fuel sources and reducing the emission of pollutants and greenhouse gases.

Figure 26

MAGNEGAS CO-COMBUSTION PROCESS



Source: MagneGas Corporation.

MagneGas believes that the co-combustion technology may prove to be a valuable emissions reduction tool to coal electric power companies and other fossil fuel industries. While legacy technologies address emissions from coal fired power plants using complex and costly pollution control systems, MagneGas' new technology transforms the exhaust from hydrocarbon fuels into a fuel by igniting it using MagneGas™, at what the Company believes would be a fraction of the cost of current technologies such as scrubbers.

Current Use of Co-Combustion

The need and interest to lessen the emission of greenhouse gases in the power generating industry has resulted in an increased interest in the co-combustion of coal with various types of biomass (i.e., wood, straw, or animal manure). The use of co-combustion—or the simultaneous combustion of two or more fuels for energy production—has been gaining popularity as the use of coal with a biomass as a supplementary fuel is considered one of the least complicated and more cost-efficient ways of reducing fossil fuel utilization and emission of pollutants (Source: *Waste and Biomass Valorization*, Vol. 6[6]:947–957, 2015).

A small amount (roughly a few percent of total fuel power) of biofuel fired together with coal can reduce carbon waste and replace coal by biomass utilization, resulting in a potential reduction of the consumption of coal, thereby decreasing the emissions of greenhouse gases. However, biomass combustion in itself is related to significant pollutant formation, and can result in the formation of ash, soot, slagging, and corrosion of the equipment. In addition, the temperatures reached by the ignition of readily available biomass is not high enough to ensure a complete burn of the carbon inside the fossil fuels, as the higher the temperature reached by the supplementary fuel, the more complete the combustion of the fuel and the cleaner the emissions. Thus, to optimize the effective emission reduction during energy production, the specific fuel properties of the co-combustion agent need to be considered (Source: *Energy & Fuels*, Vol. 17:1510-1521, 2003).

MagneGas Co-Combustion Project

The Company believes that the high flame temperature of MagneGas™ can unlock greater energy creation potential with fewer emission from hydrocarbon fuels. MagneGas' co-combustion process is being conducted in two phases: (1) verification of claims, aimed at determining the effect of MagneGas™ co-combustion on the emission of pollutants; and (2) validation of claims, aimed at confirming the results of the first phase while determining the optimal mix between MagneGas™ and coal flue gas. MagneGas is currently working with its partner, FuturEnergy PTY, LTD in Australia and a confidential partner in Michigan, to advance the technology and obtain independent verification of significant coal emission reductions using its proprietary fuel and co-combustion technology.

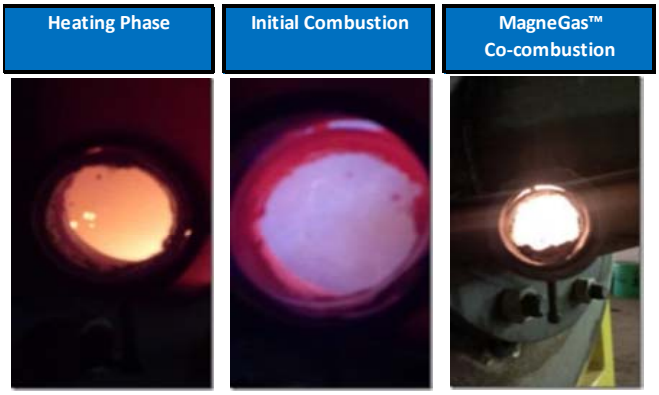
Internal Verification of Claims

In September 2014, the Company and FuturEnergy PTY, LTD of Australia signed a term sheet in order to form a Joint Venture (JV LLC Australia) for the purposes of pursuing the co-combustion of MagneGas2® fuel with hydrocarbon fuels to reduce emissions. However, MagneGas has been working with its partners in Australia since late 2009, when Dr. Fantelly initially identified the unique combustion characteristics of MagneGas™. Dr. Fantelly began working indirectly with MagneGas Australia, assessing MagneGas™ co-combustion potential in diesel and coal. Initial tests of the effect of MagneGas™ co-combustion with both coal and diesel conducted by FuturEnergy resulted in significant decrease of pollutants while confirming the increased temperature provided by MagneGas™ during coal co-combustion.

Following these results, the Company proceeded to conduct additional studies to validate the effect of its fuel in co-combustion applications, with a special emphasis on coal combustion. MagneGas is aware that results can be affected by how the system is set up, the many parameters (coal amount, fuel specifications, pressure, etc.), and the time of co-combustion, and as such, is conducting tests that it hopes can be replicated in actual applications outside of a testing environment. According to the Company, internal testing continues to demonstrate that MagneGas, in combination with specific co-combustion technology, can help significantly increase the efficiency of burning coal fuel smoke, substantially reduce emissions, and cause an increase in fuel stack temperatures.

Figure 27

CO-COMBUSTION TEMPERATURES



Source: MagneGas Corporation.

Figure 27 shows actual pictures of the co-combustion process: the heating phase is on the left, where the yellow smoke can be seen; the middle picture is actual combustion, when the coal combusts and is producing heat and the darker gases are evident; and on the right is the exact same exhaust pipe while being co-combusted with MagneGas™, displaying a cleaner and hotter burn.

Internal testing of the process has shown a reduction of greenhouse gases and an increase in heat (the latter even when utilizing less coal). Although a reduction of greenhouse gases is important, the Company believes that the heat increase is also a key factor when gauging the benefits of MagneGas™ co-combustion. During coal combustion for energy production, energy is generated through heat.

Thus, an increase in heat production can lead to the generation of more power using the same amount of coal. For example, the Company experimented with certain set-ups and parameters that resulted in a slight increase in CO_2, but generated significantly more heat, leading to the potential generation of more power. MagneGas believes that even a set up that slightly increases or maintains the levels of emitted CO_2, but generates significant more power from the same amount of coal, can generate significant value to the industry, especially with the added benefit of reduced greenhouse gases, and other pollutants.

Independent Verification and Validation of Claims

The Company is working toward obtaining independent validation of these results from a leading coal technology research center that is associated with one of the nation's largest utilities. To this end, in March 2015, the Company and FuturEnergy finalized an agreement with a confidential U.S.-based party for the creation of a partnership to pursue coal co-combustion systems in electric power utility companies, called Supplemental Energy Solutions LLC. The agreement aims to continue research on the technology and to attain verification by an independent agency of the co-combustion technology.

Through the work with its partners in Australia and the U.S., in December 2015, MagneGas was able to identify a specific engineered fuel whose characteristics lead to optimized combustion and superior co-combustion results. Based on these results, MagneGas has filed provisional patents related to the proprietary characteristics of this fuel and applications. The Company believes that the specific engineered fuel, and changes made by the co-combustion team to the combustion chamber, provides MagneGas with a consistent set of parameters that allowed the project to move into independent testing of its capabilities.

MagneGas engaged a major research center in the U.S. specializing in coal technology and associated with a large utility company, to pursue the independent validation and verification of its co-combustion claim. The utility research center, which is currently conducting third-party testing and validation, is observing the preliminary internal testing being performed on a larger combustion unit.

Potential Competition

Although MagneGas is using plasma technology for the processing of waste products, the Company does not believe that it directly competes with other companies in the solid waste remediation industry since MagneGas targets the sectors where it feels the competitive landscape is less active and where the advantages of its plasma-based systems—ability to treat liquid feedstock, small size, and lower capital expenditure—provide the Company with a competitive edge. These include the industrial and metal cutting gas market, the treatment of bio-contaminated liquid waste, and the co-combustion of hydrocarbon fuels for power utilities.

As the Company continues to commercialize and expand the applications of its Plasma Arc Flow® technology and MagneGas™ fuels, it could encounter competition from other companies working with plasma-based gasification systems, specifically those involved in the waste treatment and remediation industry, as well as companies and distributors involved in the industrial gas markets or the production of new renewable fuels and gases. The following description is not intended to be an exhaustive collection of potential competitors to MagneGas; however, it is believed to be representative of the type of competition the Company may encounter as it seeks to further commercialize its proprietary technology and fuels.

PLASMA TECHNOLOGY

The Company believes that a key factor that differentiates MagneGas' Plasma Arc Flow® technology is its ability to treat liquid feedstock, as traditionally, plasma arc technology has been used for the treatment of solid waste. In addition, the simple operation and small installed footprint of the units, which can be placed in a 10 foot by 10 foot space, and its lower capital expenditure when compared to traditional plasma waste treatment units (under $1 million for a MagneGas unit compared to tens of millions of dollars for a traditional arc waste treatment gasifier), allows for the placement of units in mobile platforms or remote locations. This capability provides the Company an advantage as fuels can be manufactured onsite, potentially eliminating the time and expense of shipping.

Advanced Plasma Power Limited (APP)

Advanced Plasma Power Limited (APP) is a waste-to-energy and advanced fuels technology company. APP utilizes its Gasplasma® process, a clean, modular, and scalable advanced waste-to-energy and fuels technology, which delivers high efficiencies while minimizing visual and environmental impact. The Gasplasma® process is a combination of two established technologies—gasification and plasma treatment—both of which have decades of proven commercial operation. The Gasplasma® technology converts waste and/or the outputs from any waste gasification process into two products: (1) a clean, hydrogen-rich syngas, which can be used to generate electricity directly in gas engines, turbines, or fuel cells and can also be converted into substitute natural gas, hydrogen, or liquid fuels; and (2) an inert product (Plasmarok®) that has applications as a high-value construction material. Its technology is patented internationally. APP has headquarters in Swindon, Wiltshire, England, UK. In 2015, APP was awarded £11 million of funding from the Department of Transport and £6 million from Ofgem (the government regulator for gas and electricity markets in Great Britain) to develop and erect the first commercial gasification facility based on the Gasplasma® process. The process consists of gasification, plasma gas treatment, syngas polishing, and gas engine power generation. It is designed to produce gas for powering vehicles, power, heat, and aggregate glass from processing 7,500 tonnes of refuse-derived fuel annually. Construction was expected to start during 2016. APP was a spin-off of Tetronics International, a leader in the supply of Direct Current Plasma Arc systems for a wide range of applications, including waste recovery, hazardous waste treatment, metal recovery and production processes, as the exclusive licensee of Gasplasma® technology.

Alter NRG and Westinghouse Plasma Corporation (WPC)

Alter NRG and Westinghouse Plasma Corporation (WPC) have over 30 years of plasma technology development and over 13 years of commercial operating experience in processing municipal solid waste (MSW). Alter NRG and WPC are wholly owned by Sunshine Kaidi New Energy Group CO., Ltd, a multi-billion-dollar Chinese environmental energy company with a focus on waste treatment and, in particular, technologies that create an overall reduction in greenhouse gas emissions. Alter NRG provides alternative energy solutions that utilize its Westinghouse Plasma (WPC) Torch systems and has a significant commercial history of plants that turn household waste into clean energy since 2002. Alter NRG and Westinghouse plasma gasification technology is already at work in several facilities around the world to produce electricity from more than 40 different waste streams—including MSW, commercial waste, and industrial waste. Following a successful pilot-scale 24 ton/day MSW gasification plant in Yoshii, Japan (co-developed with Hitachi Metals Ltd), Alter NRG and WPC designed and implemented additional full-scale plants, including facilities in Mihama-Mikata and Utashinai Japan, which began commercial operation in 2002 and 2003, respectively, and continue operating today, and a gasifier that was commissioned in 2009 by SMSIL in Pune, India.

Fulcrum BioEnergy, Inc.

Fulcrum is a waste management company focused on the development and commercialization of a reliable and efficient process for transforming everyday household garbage into low-carbon transportation fuels, including jet fuel and diesel. Fulcrum has developed a global platform to produce renewable transportation fuels by building, owning, and operating commercial MSW-to-fuel production plants. The company's business model combines its access to large volume, long-term MSW feedstock agreements with a thermochemical process. Its first facility is the Sierra BioFuels Plant, a biorefinery that has been designed to produce more than 10 million gallons per year of renewable syncrude from approximately 200,000 tons of prepared MSW feedstock, which is expected to be upgraded and processed into a low-carbon jet fuel product. The Sierra BioFuels Plant is set to begin commercial operations late 2017. The gasification system used in the process has been licensed from ThermoChem Recovery International Inc. Fulcrum financing from the project comes in part from a $105 million loan guarantee the U.S. Department of Agriculture (USDA) awarded the project under the USDA's Biorefinery Assistance Program, as well as a $70 million grant through a contract under the U.S. Department of Defense's Defense Protection Act.

PyroGenesis Canada Inc. (PYR-TSX)

PyroGenesis is a technology company involved in the design, development, manufacture, and commercialization of advanced plasma processes. The company provides engineering and manufacturing expertise, contract research, as well as turnkey process equipment packages to the defense, metallurgical, mining, additive manufacturing, oil and gas, and environmental industries. In addition, PyroGenesis markets its plasma torch systems, which are used for a wide array of applications, including waste-to-energy and waste remediation solutions.

METAL CUTTING INDUSTRY

MagneGas has commercialized its clean-burning fuel, MagneGas™, into the metal cutting market as a faster and safer replacement to acetylene. The Company's tests have shown that the use of MagneGas2®, the Company's current offering to the metal cutting industry, results in significant advantages in terms of flame temperature, cutting speed, productivity, safety, environmental impact, and costs, when compared to alternatives such as acetylene. The industrial gases in the metal cutting market have been dominated by large companies such as Praxair, Inc. (U.S.), Air Liquide S.A. (France), Airgas, Inc. (U.S.), Air Products and Chemicals, Inc. (USA), The Linde Group (Germany), and Messer Group GmbH (Germany). Since the metal cutting and manufacturing industry is dominated by acetylene, these companies have large investments in acetylene infrastructure and long-term relationships with distributors and end-users, and will likely compete with MagneGas in the metal cutting fuel market. However, despite this, the Company has received interest by some of these large gas companies to distribute MagneGas™, making them both competitors and potential future partners.

Praxair, Inc. (PX-NYSE)

Praxair, a Fortune 300 company with 2015 sales of $11 billion, is an industrial gas company in North and South America and one of the largest worldwide. The company produces, sells, and distributes atmospheric, process and specialty gases, and high-performance surface coatings. Praxair's operations include products, services, and technologies aimed at a wide array of industries, including the welding and metal fabrications, and the waste water treatment. Proxair's ProStar® product line includes welding supplies, cutting machines, and automation from a large variety of manufacturers, and its strategically distributed plants and hubs supply customers with a full range of industrial and process gases, including acetylene.

Airgas, Inc. (an Air Liquide S.A. company [Al-EPA])

Airgas is one of the leading U.S. suppliers of industrial, medical, and specialty gases, as well as hard goods and related products, through its more than 17,000 associates at over 1,100 locations. Airgas' product portfolio includes a full line of gases, welding equipment, and safety products for the metal cutting industry, as well as a growing distribution network that serves more than one million customers. Air Liquide completed the acquisition of Airgas in May 2016, with the combined businesses accounting for annual sales of more than $22 billion in 80 countries.

Air Products and Chemicals, Inc. (USA) (APD-NYSE)

Air Products is an industrial gas and services company. The company's core industrial gas business provides atmospheric and process gases and related equipment to manufacturing markets, including metal working, refining and petrochemical, metals, electronics, and food and beverage. Air Products also offers solutions related to alternative fuels, energy storage, CO_2 capture, including expertise in waste-to-energy or waste-to-syngas production systems. Offerings in this markets include a portfolio of gas products, technologies, and engineering expertise to improve the productivity, economics, and safety of many bioenergy processes and gasification systems. Air Products has 19,000 employees in 50 countries.

Investment Highlights

- ***MagneGas Corp. is an alternative energy company that has developed and commercialized a patented plasma arc technology platform, Plasma Arc Flow®, which converts certain renewables and liquid wastes into hydrogen-based fuels.*** Using its proprietary technology, the Company has created MagneGas™, a clean-burning fuel that lends itself to a wide range of applications. In particular, the Company is currently taking a specific oil-based feedstock and gasifying it into MagneGas2®, which it sells to the industrial gas market.

- ***MagneGas owns and licenses the intellectual property for its technology for the territories of North, South, and Central America.*** The Company's patents cover its Plasma Arc Flow® platform, the MagneGas™ fuel, and the use of MagneGas™ for different applications. To the Company's knowledge, MagneGas2® is the only renewable source gas fuel produced entirely in the U.S. and the company believes is the only renewable source cutting gas in the world.

- ***MagneGas is focused on the commercialization of its plasma arc technology and MagneGas™ fuels within three different industries:*** (1) the industrial gas market, where the Company currently sells MagneGas2® into the metal working market as a replacement to acetylene; (2) the wastewater treatment market, where MagneGas develops equipment for the sterilization of bio-contaminated liquid waste for various industrial and agricultural markets; and (3) the electric and power utility market, where the Company is capitalizing on the high flame temperature of MagneGas™ for co-combustion of hydrocarbon fuels and other advanced applications.

- ***According to the Company, Plasma Arc Flow® technology has three main advantages over other plasma systems currently used to treat waste products***: (1) its ability to treat liquid waste; (2) its small size; and (3) its lower capital expenditure.

    - The Company's patented, advanced computerized electronic control panel takes the submerged electric arch and stabilizes it, allowing the use of plasma arc technology in liquid feedstock. The Company believes this provides a key competitive advantage since traditionally plasma arc technology has only been used for the treatment of solid waste.

    - The small installed footprint of the Company's Plasma Arc Flow® units, which can be placed in a 10 foot by 10 foot space, and its lower capital expenditure when compared to traditional plasma waste treatment units, allows for the placement of units in mobile platforms or remote locations, facilitating expansion of the Company's applications and distribution.

- ***Through the processing of a specific food bean oil-based feedstock utilizing its proprietary plasma technology, the Company creates MagneGas2®, which it then sells into the metal working market as a replacement to acetylene.*** Tests conducted by MagneGas have shown that the use of MagneGas2® results in significant advantages in terms of flame temperature, cutting speed, productivity, safety, environmental impact, and costs against other metal cutting fuel alternatives.

- ***MagneGas has focused on independent verification of its technology and product claims.*** Such tests have demonstrated that MagneGas2® displays a top flame temperature in the 10,500°F range (higher than any other industrial gas), and have also shown a significant advantage for MagneGas2® in terms of cutting speed and oxygen consumption over both acetylene and propane, with MagneGas2® cutting 2-inch steel 38% faster than acetylene and 44% faster than propane.

- ***Through its commercialization of MagneGas2®, the Company has penetrated key vertical market segments.*** These efforts have resulted in a list of customers and partners that include the U.S. military, several fire departments, several of the largest utilities in the U.S., and one of the world's largest auto manufacturers. In addition, the Company's fuel is currently being used in multiple infrastructure projects and high-profile construction projects, including metal work at the National Aeronautics and Space Administration's (NASA) Kennedy Space Center build-out, and in two major amusement parks in Florida.

- ***The Company plans to achieve further market expansion by focusing on three key sales channels***: (1) its distribution network, both independent and wholly owned distributors; (2) equipment sales, which encompass licensing of its technology; and (3) special market segments, such as military markets and first responders.

  - MagneGas has been focusing on the expansion of its distribution network, which includes over a dozen independent gas distributors throughout the U.S., as well as its wholly owned distributor, Equipment Sales and Services, Inc. (ESSI). According to the Company, ESSI operations have shown that the use of MagneGas2® as a differentiator can increase a distributor's sales by 20%, and lead to new client acquisition. The Company plans to continue its acquisition of distributors, increasing its geographic footprint and facilitating the expansion of its products and services.

  - MagneGas plans to conduct sales and licensing of its proprietary Plasma Arc Flow® technology to certain distributors, which the Company believes have the appropriate infrastructure and market potential to launch the technology. The first such effort is the sale of a $775,000 plasma arc gasification system to Green Arc Supply, LLC, a Louisiana-based gas distributor. The unit, which is expected to be delivered in the fourth quarter 2016, will allow Green Arc to produce and distribute MagneGas2® on location, resulting in royalty payments of approximately 6% of gross sales to MagneGas. The Company expects its licensing and equipment sale initiative to be a key factor for its geographic expansion and revenue growth plans.

  - The Company's second equipment sale initiative is the Letter of Intent (LOI) the Company signed on October 2016 to manufacture and deliver certain equipment and supplies to a company based in Germany. MagneGas is expected to receive $2.65 million for its proprietary gasification and sterilization systems. The sale is part of the continued efforts by the Company to expand the availability of its technology and MagneGas2® fuel across the European continent.

  - The Company aims to penetrate additional specialty markets, such as the military and first responders, through direct sales efforts. The U.S. Navy has been working with the Company to explore the use of MagneGas2® for metal working and the use of the Plasma Arc Flow® System for liquid waste processing. In addition, many emergency management teams and fire and rescue organizations have adopted or are in the process of testing MagneGas2® for metal cutting in rescue operations, including the Fire Department of New York City and Florida's Pinellas County Fire Department.

- ***MagneGas' second target market is wastewater treatment, where the Company plans to utilize its Plasma Arc Flow® technology to sanitize biologically active liquid waste.*** MagneGas is assessing the use of its patented technology to treat liquid manure or waste, converting it into sterilized biosolids for agricultural use. Independent verification of the test results conducted at one of the largest privately owned hog farms in the U.S indicated that the use of MagneGas' sterilization technology to treat hog manure resulted in a material that met EPA standards for unrestricted use as a fertilizer.

- ***The third business line that the Company is pursuing is the use of MagneGas™ fuels co-combustion capabilities in the electric and power utility markets, based on the fuel's extremely high flame temperature.*** Reigniting of coal flue gas or smoke exhaust generated from coal processing using MagneGas™ fuels as the co-combustion agent has resulted in enhanced combustion efficiency, reduction of harmful hydrocarbon emissions, and increased heat, which could lead to a greater energy creation.

  - Through the work with its partners in Australia and the U.S., MagneGas was able to identify a specific engineered fuel whose characteristics lead to optimized combustion and superior co-combustion results. The Company has filed provisional patents related to this fuel and its applications.

- ***In April 2016, the Company moved into its new Company headquarters, an 18,000-square-foot facility located in Clearwater, Florida.*** The facility provides increased space for MagneGas2® production—allowing the Company to bring three gas production units online, doubling its current capacity—as well as areas for research and development and product demonstrations. MagneGas currently has 39 full-time employees.

- ***As of June 30, 2016, the Company reported cash and cash equivalents of approximately $3.8 million.***

Historical Financial Results

Figures 28, 29, and 30 summarize MagneGas' key historical financial statements: its Consolidated Statements of Operations, Balance Sheets, and Statements of Cash Flows, as presented in the Company's Second Quarter 2016 financial report issued on August 15, 2016.

Figure 28
CONDENSED CONSOLIDATED STATEMENTS OF OPERATIONS USD ($)
(UNAUDITED)

	Three Months Ended		Six Months Ended	
	Jun. 30, 2016	Jun. 30, 2015	Jun. 30, 2016	Jun. 30, 2015
Revenue:	$ 837,257	$ 584,445	$ 1,502,920	$ 1,130,093
Cost of Revenues	472,275	372,728	838,038	672,053
Gross Profit	364,982	211,717	664,882	458,040
Operating Expenses:				
Selling, general and administration	2,301,085	2,121,854	4,853,989	3,880,802
Research and Development	167,963	64,224	329,257	126,650
Impairment of joint venture	501,011	0	501,011	0
Depreciation and amortization	175,490	139,696	329,443	276,619
Total Operating Expenses	3,145,549	2,325,774	6,013,700	4,284,071
Operating (Loss)	(2,780,567)	(2,114,057)	(5,348,818)	(3,826,031)
Other Income and (Expense):				
Interest	(8,689)	(5,485)	(19,495)	(10,255)
Non-Cash Interest, derivative liability	(2,622,084)	—	(2,622,084)	—
Loss on sale of property	—	—	—	(483,630)
Other income	20,365	520	21,230	3,342
Change in fair value of derivative liability	240,722	—	1,197,519	—
Total Other Income (Expense)	(2,369,686)	(4,965)	(1,422,830)	(490,543)
Net Loss	(5,150,253)	(2,119,022)	(6,771,648)	(4,316,574)
Net Loss per share:				
Basic and diluted	$ (0.10)	$ (0.05)	$ (0.13)	$ (0.11)
Weighted average common shares:				
Basic and diluted	50,575,879	39,143,593	50,437,143	38,148,600

Source: MagneGas Corporation.

Figure 29

CONDENSED CONSOLIDATED BALANCE SHEETS USD ($)

	Jun. 30, 2016 (Unaudited)	Dec. 31, 2015 (Audited)
Assets		
Current Assets		
Cash	$ 3,848,292	$ 5,319,869
Accounts receivable, net of allowance for doubtful accounts of $129,568 and $109,568, respectively	332,243	373,006
Inventory, net	2,370,154	2,362,014
Prepaid and other current assets	597,124	320,431
Total Current Assets	7,147,813	8,375,320
Property, equipment and leasehold improvements, net of accumulated depreciation and amortization of $1,684,869 and $1,467,123, respectively	6,562,120	6,004,990
Intangible assets, net of accumulated amortization of $373,329 and $345,382, respectively	465,069	493,016
Investment in joint ventures, net	253,590	754,601
Security deposits	26,674	24,113
Goodwill	2,108,781	2,108,781
Total Assets	$ 16,564,047	$ 17,760,821
Liabilities and Stockholders' Equity		
Current Liabilities		
Accounts payable	$ 767,975	$ 425,294
Accrued expenses	492,501	504,855
Deferred revenue and customer deposits	202,250	412,500
Notes payable, current	9,329	7,891
Derivative liabilities	6,342,332	1,241,841
Total Current Liabilities	7,814,387	2,592,381
Long Term Liabilities		
Note payable, net of current maturities	549,981	552,177
Senior convertible debenture, net of debt discount of $1,000,000	—	—
Total Liabilities	8,364,368	3,144,558
Commitments and Contingencies		
Stockholders' Equity		
Preferred stock	—	—
Common stock: $0.001 par; 90,000,000 authorized; 46,549,534 and 45,599,534 issued and outstanding, respectively	46,549	45,599
Additional paid-in capital	51,012,330	50,658,216
Accumulated deficit	(42,860,200)	(36,088,552)
Total Stockholders' Equity	8,199,679	14,616,263
Total Liabilities and Stockholders' Equity	$ 16,564,047	$ 17,760,821
Series A Preferred Stock [Member]		
Stockholders' Equity		
Preferred stock	$ 1,000	$ 1,000

Source: MagneGas Corporation.

Figure 30
CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOWS
(UNAUDITED)

	Six Months Ended	
	Jun. 30, 2016	Jun. 30, 2015
Cash Flows from Operations		
Net loss	$ (6,771,648)	$ (4,316,574)
Adjustments to reconcile net loss to cash used in operating Activities:		
Depreciation and amortization	329,443	276,619
Stock based compensation	144,169	309,405
Stocks issued for services	333,000	638,275
Provision for bad debt	20,000	1,132
Provision for slow moving spare parts	125,000	—
Loss on disposal of fixed assets	131,934	483,630
Provision for impairment of investment in joint venture	501,011	—
Non-Cash Interest for derivative liability	2,622,084	—
Change in fair value of derivative liability	(1,197,519)	—
Changes in operating assets:		
Accounts receivable	20,763	16,669
Inventory	(133,140)	21,088
Prepaid and other current assets	(276,693)	(202,060)
Accounts payable	342,681	80,393
Accrued expenses	(12,354)	68,036
Deferred revenue and customer deposits	(210,250)	(46,666)
Total adjustments to net loss	2,740,129	1,646,521
Net cash used in operating activities	(4,031,519)	(2,670,053)
Cash Flows from Investing Activities		
Purchase of property and equipment	(998,560)	(171,853)
Security deposit	(2,561)	184
Investment in intangibles	—	(44,897)
Proceeds from sale of assets	8,000	400,410
Net cash (used in) provided by investing activities	(993,121)	183,844
Cash Flows from Financing Activities		
Principle payments on notes payable	(758)	—
Proceeds from senior convertible debenture	1,000,000	—
Proceeds from prefunded warrants	2,540,821	—
Cash proceeds from exercise of warrants	13,000	1,462,725
Net cash provided by financing activities	3,553,063	1,462,725
Net decrease in cash	(1,471,577)	(1,023,484)
Cash, beginning of period	5,319,869	5,061,674
Cash, end of period	$ 3,848,292	$ 4,038,190
Interest	$ 21,685	$ 16,900
Supplemental disclosure of non-cash investing and financing activities		
Fair value of warrants and embedded conversion option issued in connection with the debt	$ 1,000,000	—
Reclassification of warrants and conversion option to derivative liabilities	$ 2,675,926	—

Source: MagneGas Corporation.

Recent Events

10/26/2016—MagneGas announced that it has signed a distribution agreement with Holston Gases of Tennessee. Holston will be distributing MagneGas2® for metal cutting as an alternative to acetylene. Holston Gases is one of the largest independent distributors of industrial, propane, medical, and beverage gases in the U.S. with 27 locations in seven states. Holston has received several shipments of cylinders and is expected to make MagneGas2® available in all 27 locations.

10/24/2016—Announced that the New York Iron Workers Joint Apprentice Training Facility has added MagneGas2® to its training program for new iron workers. The fuel will be used for training purposes for new welding and metal cutting apprentices. The fuel will be sourced by MagneGas New York Distributor AWISCO Corporation. This facility is the leading iron workers training facility in the Northeast, training new welders on all aspects of welding, metal cutting, and related safety. MagneGas2® fuel will now be used in this training program as the preferred alternative to acetylene.

10/19/2016—Announced that two divisions of the New York City Department of Transportation have selected MagneGas2® for metal cutting and repairs. The fuel will be sourced by MagneGas New York Distributor AWISCO Corporation.

10/17/2016—Announced that it has entered into its largest equipment sale to date with a Letter of Intent to manufacture and deliver certain equipment and supplies to a company based in Germany. MagneGas is expected to receive $2.65 million for its proprietary gasification and sterilization systems and will supply MagnesGas2® fuel and cylinders. The sale marks a new era for the Company as it seeks to expand the availability of its technology and MagneGas2® fuel across the European continent. MagneGas has agreed to keep the name of the German company and the exact details of the LOI confidential until the parties enter into the definitive agreements.

10/03/2016—Announced that a global auto manufacturing company based in the mid-western U.S. has completed the rollout of MagneGas2®, as a replacement of acetylene, in one factory and has begun the procurement process at a second factory. The automaker has indicated an interest in continuing expansion into other factories as part of a larger rollout program. MagneGas believes these initial purchase orders will open the door to other larger opportunities with this customer

09/26/2016—Announced that it has taken receipt of the final shipment of the previously announced purchase order for 2,000 fuel cylinders. This purchase was the result of a growing demand for MagneGas2®, which has created a customer backlog. The Company believes the additional demand is a direct result of its sales penetration into key vertical market segments including utilities, demolition companies, first responder markets, and major manufacturing companies.

09/22/2016—Announced that it successfully completed construction of the Plasma Arc Gasification system that was previously announced as contracted for sale to Green Arc Supply, LLC of Louisiana. Pursuant to the terms of the Gasifier Agreement, the Company has received a total of $583,750 toward the construction of the system. The final payment of $191,500 is due upon factory acceptance. A Distribution and License Agreement with Green Arc signed at the same time as the Gasifier Agreement calls for Green Arc to pay MagneGas royalty payments that equate to approximately 6% of gross sales of MagneGas2® fuel and other products by Green Arc.

09/12/2016—Announced that MagneGas2® will be used by one of the nation's largest recycling and waste disposal companies. The waste company indicated it will use MagneGas2® for maintenance and repair of the company's fleet of trucks, its dumpsters, and related machinery. The fuel will initially be used in six locations in one state, but the company has indicated plans to expand into eight more neighboring states in the region in the coming months.

08/25/2016—Announced that the Pinellas County Fire Department's team of emergency responders, the Technical Rescue Team, have chosen MagneGas2® and the MagneTote™ as their preferred metal cutting tool. MagneGas2® and the MagneTote™ are currently used by emergency response teams in several other Florida counties as well.

08/04/2016—Announced that it signed a lease to open its fourth location for its subsidiary, Equipment Sales and Services, Inc. (ESSI). This new facility, located in Sarasota, Florida, further expands ESSI's distribution and service of the Company's products, increasing revenue opportunity through an expanded footprint.

07/27/2016—Announced that a global auto manufacturing company based in the Midwestern U.S. chose to switch to MagneGas2® as its exclusive fuel of choice for metal working in one of its top award-winning factories. The company is expected to discontinue its use of acetylene and use MagneGas2® as the sole fuel for cutting, brazing, and other operations. The auto manufacturing company has also indicated an interest in using MagneGas2® at other manufacturing facilities in the future.

07/26/2016—Announced that the Company became an authorized distributor for Global Calibration Gasses, LLC (GCG), a premier supplier of calibration gases and custom specialty gas mixtures based in Florida. The calibration gases will be distributed through the Company's wholly owned distributor, ESSI. This distributorship agreement allows the Company to expand its revenue potential by providing customers with GCG's calibration gases and custom specialty gas mixtures in addition to MagneGas™.

07/20/2016—Announced that it met a benchmark in its agreement with Green Arc Supply, LLC to manufacture and sell a $775,000, 100 kW Plasma Arc Gasification system. The Company originally received payments totaling $392,500 at the signing of the agreement in November 2015, and received an additional $191,250 in early June 2016 upon completion of 75% of the system, ahead of schedule.

07/19/2016—Announced successful preliminary results of its recent testing of its developmental wastewater sterilization equipment. In June 2016, the Company deployed its 50 kW mobile sterilization system at a Florida septic wastewater treatment facility. Initial results of the processed samples, analyzed by an independent laboratory, indicate significant reductions in pathogens, as well as reductions in nitrogen, phosphorus, and potassium.

07/07/2016—Announced the opening of its new location of its subsidiary ESSI in Lakeland, Florida, scheduled for July 28, 2016. The new location is expected to facilitate the direct distribution of MagneGas2®, hard goods, and other gases in to the Central Florida market, where many of the Company's clients are located. The new location is also expected to improve the service logistics for the Company's clients in the eastern part of the state.

06/27/2016—Announced that on June 27, 2016, it entered into an agreement with a single institutional investor for a registered direct placement and concurrent private placement of up to approximately $10.6 million. The Securities Purchase Agreement provides for the sale of initial gross proceeds of approximately $4 million, which is composed of $3 million of pre-funded warrants and a $1 million Senior Convertible Debenture. The Securities Purchase Agreement also provides for the issuance of an additional investment "greenshoe" common stock purchase warrant for the investor to purchase up to an additional $6.6 million of common stock and warrants at $1.01 per share (approximately 31% premium to the closing market price) during the three-month period after shareholder approval is obtained and deemed effective.

06/17/2016—Announced that the Company has signed a distribution agreement with Berger Welding Supply of Indiana (Berger), adding another key distributor to its growing network.

06/02/2016—Announced that its cutting fuel has been selected by Suwannee Ironworks & Fence, Inc. (Suwannee), which is acting as subcontractor for steel fabrication projects at two major amusement parks in Florida.

05/26/2016—Announced that it expects record turnout at its new headquarters for its June 15, 2016, Customer Open House. The 2016 event takes place against a backdrop of the Company's new corporate headquarters, where it has capacity for expanded production and a more centralized location.

05/20/2016—Announced a distribution partnership with Complete Welding and Cutting Supplies, Inc. with multiple locations in California and Mexico, for the distribution of MagneGas2®.

05/11/2016—Announced that it is an invited speaker at the Concrete Strategic Development Technology Forum in San Antonio, Texas, held on May 11, 2016. The Strategic Development Council is a forum where companies can present new technologies to senior levels of the concrete industry.

05/06/2016—Announced that a major distributor, located in the Southeastern U.S., placed its first order of MagneGas2® to supply four of its locations in Alabama. Through these locations, the distributor is also expected to supply an existing utility customer of MagneGas® and become the Company's preferred distributor for MagneGas2® for metal cutting in their territory.

04/20/2016—Announced that MagneGas2® is being used by subcontractor Suwannee for the construction of two hotels on Clearwater Beach, Florida.

04/14/2016—Announced that it was invited to showcase its MagneGas2® product at the upcoming American Welding Society Meetings in Miami-Dade and Broward Counties in Florida, to take place April 20-21, 2016.

04/11/2016—Announced that the Company signed an agreement to lease a building in central Florida to expand its gas distribution footprint. Through this new location, the Company plans to directly distribute MagneGas2® in areas not currently serviced and expand revenue opportunities from industrial gas and welding supplies.

04/06/2016—Announced that it moved its headquarters to an 18,000-square-foot new facility located outside of Tampa, Florida. The building contains more space to conduct demonstration of the MagneGas technology, and includes a larger area for research and development. The bigger facility also allows the Company to bring three gas production units online, doubling its current capacity and helping it to meet existing demand.

02/16/2016—Announced that it received a fuel purchase order from one of the largest gas companies in Mexico. The purchaser is testing MagneGas2® in the Mexican market as a replacement to acetylene.

02/02/2016—Announced that Suwannee, a joint venture partner of the Company, was hired by a lead subcontractor on the NASA project for a major Kennedy Space Center build-out project.

01/28/2016—Announced that Condotte America, Inc. selected MagneGas2® fuel as its fuel of choice for metal cutting.

01/19/2016—Announced that due to growing demand for MagneGas2® that has created a substantial backlog, the Company has issued a purchase order to obtain 2,000 additional fuel cylinders. In addition, ESSI, the Company's wholly owned gas distribution company, has put an additional 400 cylinders into service to help accommodate ancillary gas demand. The Company believes that the additional demand is a direct result of its sales penetration into key vertical market segments including utilities, demolition companies, and first responder markets, as well as government and military sectors.

01/14/2016—Announced that a major waste-to-energy company client, which had placed initial orders of MagneGas2® fuel, expanded use of the fuel into multiple facilities. The client was using MagneGas2® for steel refurbishment and repairs and decided to expand the use of MagneGas2® into a total of six facilities.

01/12/2016—Announced that a major utility and electric holding company that was using MagneGas2® fuel for metal cutting expanded its use of the fuel into multiple locations. The utility has been undergoing a training and rollout program with MagneGas2® for several months at one facility and now wishes to expand the use of MagneGas2® into another two facilities.

Risks and Disclosures

This Executive Informational Overview® (EIO) has been prepared by MagneGas Corporation ("MagneGas" or "the Company") with the assistance of Crystal Research Associates, LLC ("CRA") based upon information provided by the Company. CRA has not independently verified such information. Some of the information in this EIO relates to future events or future business and financial performance. Such statements constitute forward-looking information within the meaning of the Private Securities Litigation Act of 1995. Such statements can only be predictions and the actual events or results may differ from those discussed due to the risks described in MagneGas' statements on Forms 10-K, 10-Q, and 8-K as well as other forms filed from time to time.

The content of this report with respect to MagneGas has been compiled primarily from information available to the public released by the Company through news releases, Annual Reports, and U.S. Securities and Exchange Commission (SEC) filings. MagneGas is solely responsible for the accuracy of this information. Information as to other companies has been prepared from publicly available information and has not been independently verified by MagneGas or CRA. Certain summaries of activities and outcomes have been condensed to aid the reader in gaining a general understanding. CRA assumes no responsibility to update the information contained in this report. In addition, CRA has been compensated by the Company in cash of forty-five thousand U.S. dollars and fifty thousand restricted shares, respectively, for its services in creating this report and for updates. For more complete information about the risks involved in an investment in the Company, please contact MagneGas by calling (727) 934-3448.

Investors should carefully consider the risks and information about MagneGas' business, as described below. Investors should not interpret the order in which considerations are presented in this or other filings as an indication of their relative importance. In addition, the risks and uncertainties overviewed in MagneGas' SEC filings are not the only risks that the Company faces. Additional risks and uncertainties not presently known to MagneGas or that it currently believes to be immaterial may also adversely affect the Company's business. If any of such risks and uncertainties develops into an actual event, MagneGas' business, financial condition, and results of operations could be materially and adversely affected, and the trading price of the Company's shares could decline.

This report is published solely for information purposes and is not to be construed as an offer to sell or the solicitation of an offer to buy any security in any state. Past performance does not guarantee future performance. Additional information about MagneGas and its public filings, as well as copies of this report, can be obtained in either a paper or electronic format by calling (727) 934-3448.

Risks Relating to the Business

There can be no assurance that the Company can achieve or maintain profitability.

The likelihood of MagneGas' success must be considered in light of the problems, expenses, difficulties, complications and delays that the Company may encounter since it is a small business. As a result, it may not be profitable and MagneGas may not be able to generate sufficient revenue to develop as the Company has planned. The ability to achieve and maintain profitability and positive cash flow is dependent upon:

- management's ability to maintain the technology and skills necessary for its fuel conversion services;
- MagneGas' ability to keep abreast of changes by government agencies and in the law, particularly in the areas of intellectual property and environmental regulation;
- the Company's ability to attract customers who require the products and services it offers;
- MagneGas' ability to generate revenues through the sale of its products and services to potential clients; and
- the Company's ability to manage the logistics and operations and the distribution of its products and services.

MagneGas has had operating losses since formation and expects to incur net losses for the near term.

The Company's operating results have recognized losses in the amount of $1,621,395 and $2,197,552 for the three months ended March 31, 2016 and 2015, respectively. MagneGas currently uses approximately $460,000 per month to fund operations. The Company anticipates that it will lose money in the near term and may not be able to achieve profitable operations. In order to achieve profitable operations, MagneGas needs to secure sales of fuel and Plasma Arc Flow® System. The Company anticipates needing to raise additional capital in the near term to satisfy its plan of operations.

The Company will need additional funding to continue operations, which may not be available to it on favorable terms, if at all.

To date, MagneGas has generated only limited revenue from its products and has not achieved positive cash flows or profitability. The Company expects to continue to incur significant operating losses for the foreseeable future as it incurs costs associated with the continuation of its research and development programs, expands its sales and marketing capabilities, increases manufacturing of its products, pursues potential acquisitions, and complies with the requirements related to being a U.S. public company listed on the Nasdaq Capital Market.

Consequently, additional funding will be needed and it may not be available on terms favorable to the Company, or at all. If MagneGas raises additional funding through the issuance of equity securities, the Company's stockholders may suffer dilution and its ability to use its net operating losses to offset future income may be limited. If MagneGas raises additional funding through debt financing, it may be required to accept terms that restrict the Company's ability to incur additional indebtedness, require it to use Company cash to make payments under such indebtedness, force it to maintain specified liquidity or other ratios, or restrict its ability to pay dividends or make acquisitions. If the Company is unable to secure additional funding, its development programs and its commercialization efforts would be delayed, reduced, or eliminated, its relationships with its suppliers and customers may be harmed, and it may not be able to continue its operations.

The growth of the Company's business depends upon the development and successful commercial acceptance of its products.

MagneGas depends upon a variety of factors to ensure that its MagneGas2® and the Plasma Arc Flow® System are successfully commercialized, including timely and efficient completion of design and development, implementation of manufacturing processes, and effective sales, marketing, and customer service. Because of the complexity of the Company's products, significant delays may occur between development, introduction to the market, and volume production phases. The development and commercialization of MagneGas2® and the Plasma Arc Flow® System involves many difficulties, including:

- retention and hiring of appropriate operational, research, and development personnel;
- determination of the products' technical specifications;
- successful completion of the development process;
- successful marketing of MagneGas2® and the Plasma Arc Flow System® and achieving customer acceptance;
- managing inventory levels, logistics, and operations; and
- additional customer service and warranty costs associated with supporting product modifications and/or subsequent potential field upgrades.

The Company must expend significant financial and management resources to develop and market MagneGas2® and the Plasma Arc Flow System®. MagneGas cannot provide assurance that it will receive meaningful revenue from these investments. If unable to continue to successfully develop or modify its products in response to

customer requirements or technological changes, or its products are not commercially successful, the business may be harmed.

Acquisitions constitute a key aspect of the Company's growth strategy and the potential inability to successfully integrate newly acquired companies or businesses could adversely affect the Company's financial results.

MagneGas may pursue acquisitions of other companies or their businesses in the future. Acquisitions are a key aspect of its growth strategy and, as a result, there can be no assurance that these transactions will be successful from an integration or financial perspective. If the Company completes acquisitions, it faces many risks commonly encountered with growth through these transactions. These risks include:

- incurring significantly higher than anticipated capital expenditures and operating expenses;
- failing to assimilate the operations, customers, and personnel of the acquired company or business;
- disrupting its ongoing business;
- dissipating managements resources;
- diluting existing stockholders from the issuance of equity securities;
- liabilities or other problems associated with the acquired business;
- incurring debt on terms unfavorable to it or that the Company is unable to repay;
- becoming subject to adverse tax consequences, substantial depreciation, or deferred compensation charges;
- improper compliance with laws of foreign jurisdictions;
- failing to maintain uniform standards, controls, and policies; and
- impairing relationships with employees and customers resulting from changes in management.

Fully integrating an acquired company or business into MagneGas' operations may take a significant amount of time. The Company cannot assure potential investors that it will be successful in overcoming these risks or any other problems encountered with acquisitions. To the extent the Company does not successfully avoid or overcome the risks or problems related to any acquisition, results of operations and financial condition could be adversely affected. Future acquisitions could also impact the Company's financial position and capital needs, and could cause substantial fluctuations in MagneGas' quarterly and yearly results of operations. Acquisitions could include significant goodwill and intangible assets, which may result in future impairment charges that would reduce the Company's stated earnings.

Failure to comply with government regulations will severely limit the Company's sales opportunities and future revenue.

Failure to obtain operating permits or otherwise to comply with federal and state regulatory and environmental requirements, could affect MagneGas' abilities to market and sell MagneGas2® and the Plasma Arc Flow System® and could have a material adverse effect on its business and operations. The Company and its customers may be required to comply with a number of federal, state, and local laws and regulations in the areas of safety, health, and environmental controls. To the extent MagneGas intends to market the Plasma Arc Flow® System internationally, it will be required to comply with laws and regulations and, when applicable, obtain permits in those other countries. The Company cannot be certain that it will be able to obtain or maintain required permits and approvals, that new or more stringent environmental regulations will not be enacted, or that if they are, that MagneGas will be able to meet the stricter standards.

The preparation of the Company's financial statements involves use of estimates, judgments, and assumptions, and its financial statements may be materially affected if MagneGas' estimates prove to be inaccurate.

Financial statements prepared in accordance with U.S. GAAP require the use of estimates, judgments, and assumptions that affect the reported amounts. Different estimates, judgments, and assumptions could reasonably be used that would have a material effect on the financial statements, and changes in these estimates, judgments, and assumptions are likely to occur from period to period in the future. These estimates, judgments, and assumptions are inherently uncertain, and, if they prove to be wrong, then MagneGas faces the risk that charges to income will be required.

The Company's technology is unproven on a large-scale industrial basis and could fail to perform in an industrial production environment.

The Plasma Arc Flow® System has never been utilized on a large-scale industrial basis. All of the tests that the Company has conducted to date with respect to its technology have been performed on limited quantities of liquid waste and MagneGas cannot assure potential investors that the same or similar results could be obtained on a large-scale industrial basis. The Company cannot predict all of the difficulties that may arise when the technology is utilized on a large-scale industrial basis. In addition, MagneGas' technology has never operated at a volume level required to be profitable. As the Company's product is an alternative to acetylene, the unstable price of acetylene will impact its ability to become profitable and to sell cost competitive fuel. It is possible that the technology may require further research, development, design, and testing prior to implementation of a larger-scale commercial application. Accordingly, the Company cannot assure potential investors that this technology will perform successfully on a large-scale commercial basis, that it will be profitable, or that the MagneGas2® will be cost competitive in the market.

The Company's future success is dependent, in part, on the performance and continued service of Ermanno Santilli and other key personnel. Without their continued service, MagneGas may be forced to interrupt its operations.

MagneGas is presently dependent (to a great extent) upon the experience, abilities, and continued services of Ermanno Santilli, the Company's president and CEO. Ermanno has several years of experience regarding the technical operation and deployment of MagneGas' refineries and has built deep relationships with its partners. The loss of any of his services would delay the Company's business operations substantially.

The Company's related party transactions may cause conflicts of interests that may adversely affect its business.

MagneGas' intellectual property was purchased through a related party transaction with Hyfuels, Inc., a company which MagneGas' former chairman of its Board of Directors, Dr. Ruggero Santilli, serves as the president and chief executive officer, who, through the transaction, became a stockholder of MagneGas. MagneGas currently leases its building through a related party transaction with a company wholly-owned by Dr. Santilli and his spouse and member of the Board, Carla Santilli. In addition, Dr. Santilli has personally contributed a small refinery for MagneGas' use and MagneGas has received various small notes and loans from related parties, all of which have been paid in full. In addition, MagneGas owns a 20% interest in MagneGas Europe, a company whose major stockholder is Ermanno Santilli, MagneGas' chief executive officer.

MagneGas believes that these transactions and agreements that the Company has entered into with these affiliates are on terms that are at least as favorable as could reasonably have been obtained at such time from third parties. However, these relationships could create, or appear to create, potential conflicts of interest when MagneGas' Board is faced with decisions that could have different implications for the Company and these affiliates. The appearance of conflicts, even if such conflicts do not materialize, might adversely affect the public's perception of MagneGas, as well as its relationship with other companies and its ability to enter into new relationships in the future, which could have a material adverse effect on MagneGas' ability to raise capital or to do business.

The Company has the potential risk of product liability, which may subject it to litigation and related costs.

MagneGas' Plasma Arc Flow® System may be utilized in a variety of industrial and other settings, and may be used to handle materials resulting from the user's generation of liquid waste and the creation of a compressed hydrogen based fuel for distribution to end customers. The equipment, cylinders, and gas will therefore be subject to risks of breakdowns and malfunctions. There is also inherent risk in the compression, transportation, and use of MagneGas2® fuel. It is possible that claims for personal injury and business losses arising out of these risks, breakdowns, and malfunctions will occur. The Company's insurance may be insufficient to provide coverage against all claims, and claims may be made against MagneGas even if covered by its insurance policy for amounts substantially in excess of applicable policy limits. Such an event could have a material adverse effect on MagneGas' business, financial condition, and results of operations.

In addition, due to the April 16, 2015 accident (as described above under the heading "Accident at Company Facility"), the Company may subject to a fine by OSHA as well as litigation costs. Such costs could have a material adverse effect on MagneGas' financial condition and results of operations. Since no cause of the accident has been determined, the Company may be subject to sales losses should the cause be determined to require a change in fuel production systems or processes.

Because the Company is smaller and has fewer financial and other resources than many alternative fuel companies, it may not be able to successfully compete in the very competitive alternative fuel industry.

Since fuel is a commodity, there is significant competition among existing alternative fuel producers. MagneGas' business faces competition from a number of producers that can produce significantly greater volumes of fuel than it can or expects to produce, producers that can produce a wider range of fuel products than the Company can, and producers that have the financial and other resources that would enable them to expand their production rapidly if they chose to. These producers may be able to achieve substantial economies of scale and scope, thereby substantially reducing their fixed production costs and their marginal productions costs. If these producers are able to substantially reduce their marginal production costs, the market price of fuel may decline and MagneGas may be not be able to produce biogas at a cost that allows it to compete economically. Even if MagneGas is able to operate profitably, these other producers may be substantially more profitable than it, which may make it more difficult for the Company to raise any financing necessary for it to achieve its business plan and may have a materially adverse effect on the market price of the Company's common stock.

Costs of compliance with burdensome or changing environmental and operational safety regulations could cause MagneGas' focus to be diverted away from its business and the Company's results of operations may suffer.

Liquid waste disposal and fuel production involves the discharge of potential contaminants into the water and air and is subject to various regulatory and safety requirements. As a result, MagneGas is subject to complicated environmental regulations of the U.S. Environmental Protection Agency (EPA) and regulations and permitting requirements of the various states. These regulations are subject to change and such changes may require additional capital expenditures or increased operating costs. Consequently, considerable resources may be required to comply with future environmental regulations. In addition, MagneGas' production plants could be subject to environmental nuisance or related claims by employees, property owners, or residents near the plants arising from air or water discharges. Environmental and public nuisance claims, or tort claims based on emissions, or increased environmental compliance costs resulting therefrom could significantly increase the Company's operating costs.

Because MagneGas2® is new to the metalworking market, it may take time for the industry to adapt to it. In addition, the economy may adversely impact consumption of fuel in the metalworking market, making it more difficult for the Company to sell its product.

MagneGas2® is a replacement for acetylene for the metalworking market. Because MagneGas2® is a new product in the industry, it may take time for end users to consider changing from acetylene to MagneGas2® and as such this may adversely impact sales. In addition, consumption of fuel in the metalworking market is highly dependent

on the economic conditions of the manufacturing industry and as such adverse conditions in the economy may also negatively impact the Company's ability to sell its fuel to market.

The possibility of a global financial crisis may significantly impact the Company's business and financial condition and its ability to attract customers to MagneGas' relatively new technology for the foreseeable future.

The turmoil in the global financial system may adversely impact the Company's ability to raise capital, invest in the development and refinement of its technology, and to successfully market it to new customers. MagneGas may face increasing challenges if conditions in the financial markets do not improve over time. The Company's ability to access the capital markets may be restricted at a time when it would like, or need, to raise financing, which could have a material negative impact on the Company's flexibility to react to changing economic and business conditions. The economic situation could have a material negative impact on its ability to attract new customers willing to try its alternative fuel products or purchase its technology.

Mergers or other strategic transactions involving the Company's competitors could weaken its competitive position, which could harm MagneGas' operating results.

There is significant competition among existing alternative fuel producers. Some of the Company's competitors may enter into new alliances with each other or may establish or strengthen cooperative relationships with systems integrators, third-party consulting firms, or other parties. Any such consolidation, acquisition, alliance, or cooperative relationship could lead to pricing pressure and a loss of market share and could result in a competitor with greater financial, technical, marketing, service, and other resources—all of which could have a material adverse effect on the Company's business, operating results, and financial condition.

Failure to respond to rapid change in the market for alternative fuel products could have an adverse effect on MagneGas' results of operations.

The Company's future success will depend significantly on its ability to keep pace with technological developments and evolving industry standards. Delays or failures to develop or acquire technological improvements, adapt the products MagneGas develops to technological changes, or provide technology that appeals to its customers may result in the Company not being able to successfully compete in the marketplace or the loss of customers, which could ultimately cause the Company to cease operations.

Because its long-term plan depends, in part, on the Company's ability to expand the sales of its solutions to customers located outside of the U.S, MagneGas will be susceptible to risks associated with international operations.

The Company has limited experience operating in foreign jurisdictions. It continues to explore opportunities for joint ventures internationally. The inexperience in operating the Company's business outside of North America increases the risk that its current and any potential future international expansion efforts will not be successful. Conducting international operations subjects MagneGas to new risks that, generally, the Company has not faced in the U.S., including:

- fluctuations in currency exchange rates;
- unexpected changes in foreign regulatory requirements;
- longer account receivable payment cycles and difficulties in collecting accounts receivable;
- difficulties in managing and staffing international operations;
- potentially adverse tax consequences, including the complexities of foreign value added tax systems and restrictions on the repatriation of earnings;
- localization of the Company's solutions, including translation into foreign languages and associated expenses;

- the burdens of complying with a wide variety of foreign laws and different legal standards, including laws and regulations related to privacy;
- increased financial accounting and reporting burdens and complexities;
- political, social, and economic instability abroad, terrorist attacks, and security concerns in general; and
- reduced or varied protection for intellectual property rights in some countries.

Risks Related to Intellectual Property

The success of the Company's business depends, in part, upon proprietary technologies and information that may be difficult to protect and may be perceived to infringe on the intellectual property rights of third parties.

MagneGas believes that the identification, acquisition, and development of proprietary technologies are key drivers of its business. The Company's success depends, in part, on its ability to obtain patents, maintain the secrecy of its proprietary technology and information, and operate without infringing on the proprietary rights of third parties. The Company cannot assure potential investors that the patents of others will not have an adverse effect on its ability to conduct business, that the patents that provide the Company with competitive advantages will not be challenged by third parties, that MagneGas will develop additional proprietary technology that is patentable or that any patents issued to it will provide the Company with competitive advantages. Further, MagneGas cannot assure potential investors that others will not independently develop similar or superior technologies, duplicate elements of its biomass technology, or design around it.

To successfully commercialize the Company's proprietary technologies, MagneGas may need to acquire licenses to use, or to contest the validity of, issued or pending patents. The Company cannot assure potential investors that any license acquired under such patents would be made available to it on acceptable terms, if at all, or that MagneGas would prevail in any such contest. In addition, the Company could incur substantial costs in defending itself in suits brought against the Company for alleged infringement of another party's patents or in defending the validity or enforceability of its patents, or in bringing patent infringement suits against other parties based on MagneGas' patents.

In addition to the protection afforded by patents, MagneGas also relies on trade secrets, proprietary know-how, and technology that it seeks to protect, in part, by confidentiality agreements with the Company's prospective joint venture partners, employees, and consultants. MagneGas cannot assure potential investors that these agreements will not be breached, that the Company will have adequate remedies for any such breach, or that its trade secrets and proprietary know-how will not otherwise become known or be independently discovered by others.

MagneGas cannot assure potential investors that it will obtain any patent protection that it seeks, that any protection the Company does obtain will be found valid and enforceable if challenged, or that it will confer any significant commercial advantage. U.S. patents and patent applications may be subject to interference proceedings, U.S. patents may be subject to re-examination proceedings in the U.S. Patent and Trademark Office, and foreign patents may be subject to opposition or comparable proceedings in the corresponding foreign patent offices, which proceedings could result in either loss of the patent or denial of the patent application, or loss or reduction in the scope of one or more of the claims of, the patent or patent application.

In addition, such interference, re-examination and opposition proceedings may be costly. Moreover, the U. S. patent laws may change, possibly making it easier to challenge patents. Some of MagneGas' technology was, and continues to be, developed in conjunction with third parties, and there is a risk that such third parties may claim rights to its intellectual property. Thus, any patents that MagneGas owns or licenses from others may provide limited or no protection against competitors. The Company's pending patent applications, those it may file in the future, or those MagneGas may license from third parties, may not result in patents being issued. If issued, they

may not provide the Company with proprietary protection or competitive advantages against competitors with similar technology.

Many of the Company's competitors have significant resources and incentives to apply for and obtain intellectual property rights that could limit or prevent Magenegas' ability to commercialize its current or future products in the U.S. or abroad.

Many of the Company's potential competitors who have significant resources and have made substantial investments in competing technologies and may seek to apply for and obtain patents that will prevent, limit, or interfere with MagneGas' ability to make, use, or sell its products either in the U.S. or in international markets. The current or future U.S. or foreign patents may be challenged, circumvented by competitors, or others or may be found to be invalid, unenforceable, or insufficient. Since patent applications are confidential until patents are issued in the U.S., or in most cases, until after 18 months from filing of the application, or corresponding applications are published in other countries, and since publication of discoveries in the scientific or patent literature often lags behind actual discoveries, MagneGas cannot be certain that it was the first to make the inventions covered by each of its pending patent applications, or that it was the first to file patent applications for such inventions.

If the Company is unable to protect the confidentiality of its proprietary information and know-how, the value of its technology and products could be adversely affected.

In addition to patented technology, MagneGas relies on its unpatented proprietary technology, trade secrets, processes, and know-how. The Company generally seeks to protect this information by confidentiality agreements with its employees, consultants, scientific advisors, and third parties. These agreements may be breached, and MagneGas may not have adequate remedies for any such breach. In addition, the Company's trade secrets may otherwise become known or be independently developed by competitors. To the extent that its employees, consultants, or contractors use intellectual property owned by others in their work for MagneGas, disputes may arise as to the rights in related or resulting know-how and inventions.

Risks Related to MagneGas' Securities

The market price for the Company's common stock is particularly volatile given its status as a relatively unknown company with a small and thinly traded public float and lack of profits, which could lead to wide fluctuations in share price. Potential investors may be unable to sell their common stock at or above the purchase price, which may result in substantial losses.

The market for the Company's common stock is characterized by significant price volatility when compared to the shares of larger, more established companies that trade on a national securities exchange and have large public floats. MagneGas expects that its share price will continue to be more volatile than the shares of such larger, more established companies for the indefinite future. Volatility in the Company's share price is attributable to a number of factors. First, shares of the Company's common stock, compared to the shares of such larger more established companies, are sporadically and thinly traded. The price for MagneGas shares could, for example, decline quickly in the event that a large number of shares of common stock are sold on the market without commensurate demand. Secondly, the Company is a speculative or "risky" investment due lack of profits to date and uncertainty of future market acceptance for potential products. Because of this enhanced risk, more risk-adverse investors may be more inclined to sell their shares on the market more quickly and at greater discounts than would be the case with the stock of a larger, more established company that trades on a national securities exchange and has a large public float. Stock markets in general have experienced extreme volatility recently that has at times been unrelated to the operating performance of particular companies. Many of these factors are beyond the Company's control and may decrease the market price of its common stock, regardless of the Company's operating performance.

Future sales of MagneGas' common stock in the public market by management or the Company's large stockholders could lower its stock price.

The members of the Company's Board, its executive officers, and Dr. Santilli collectively beneficially own approximately 12.5% of outstanding common stock (without the inclusion of outstanding options). If the members of MagneGas' Board and officers sell, or indicate intent to sell, substantial amounts of the Company's common stock in the public market, the trading price of the common stock may decline significantly.

Operating results may fluctuate significantly, where these fluctuations may cause the price of the Company's securities to fall.

The Company's quarterly operating results may fluctuate significantly due to a variety of factors that could affect its revenues or expenses in any particular quarter. Potential investors should not rely on quarter-to-quarter comparisons of the Company's results of operations as an indication of future performance. Factors that may affect the Company's quarterly results include:

- market acceptance of its products and those of its competitors;
- the sales and fulfillment cycle associated with the Company's products, which is typically lengthy and subject to a number of significant risks over which MagneGas has little or no control, and the corresponding delay in the receipt of the associated revenue;
- the Company's ability to complete the technical milestone tests associated with its commercial agreements;
- the Company's ability to attract and retain key personnel;
- development of new designs and technologies; and
- the Company's ability to manage its anticipated growth and expansion.

MagneGas has a significant number of warrants outstanding, and while these warrants are outstanding, it may be more difficult to raise additional equity capital. Additionally, certain of these warrants contain price-protection provisions that may result in the reduction of their exercise prices if certain transactions occur in the future.

As of June 28, 2016, the Company had outstanding warrants to purchase 7,702,819 shares of common stock. The holders of these warrants are given the opportunity to profit from a rise in the market price of MagneGas' common stock. The Company may find it more difficult to raise additional equity capital while these warrants are outstanding. At any time during which these warrants are likely to be exercised, MagneGas may be unable to obtain additional equity capital on more favorable terms from other sources. Furthermore, the majority of these warrants contain price-protection provisions under which, if the Company were to issue securities in conjunction with a merger, tender offer, sale of assets or reclassification of its common stock at a price lower than the exercise price of such warrants, the exercise price of the warrants would be reduced (with certain exceptions) to the lower price. As well, the exercise of these warrants will cause the increase of outstanding shares of MagneGas' common stock, which could have the effect of substantially diluting the interests of current stockholders.

MagneGas is an emerging growth company within the meaning of the Securities Act, and if it decides to take advantage of certain exemptions from various reporting requirements applicable to emerging growth companies, its common stock could be less attractive to potential investors.

The Company is an "emerging growth company," as defined in the Jumpstart Our Business Startups Act, or the JOBS Act. For as long as it continues to be an emerging growth company, it may take advantage of exemptions from various reporting requirements that are applicable to other public companies that are not emerging growth companies, including not being required to comply with the auditor attestation requirements of Section 404 of the Sarbanes-Oxley Act, reduced disclosure obligations regarding executive compensation in the Company's periodic

reports and proxy statements and exemptions from the requirements of holding a nonbinding advisory vote on executive compensation and shareholder approval of any golden parachute payments not previously approved.

MagneGas could be an emerging growth company through December 31, 2017, although it could lose that status sooner if revenues exceed $1 billion, if the Company issues more than $1 billion in non-convertible debt in a three-year period, or if the market value of the common stock held by non-affiliates exceeds $700 million as of the last business day of the most recently completed second fiscal quarter, in which case, it would no longer be an emerging growth company as of the following December 31. MagneGas cannot predict if investors will find the Company's common stock less attractive because it may rely on these exemptions. If some investors find the Company's common stock less attractive as a result, there may be a less active trading market for its common stock and its stock price may be more volatile.

Under the JOBS Act, emerging growth companies may also delay adopting new or revised accounting standards until such time as those standards apply to private companies. MagneGas has irrevocably elected not to avail itself of this exemption from new or revised accounting standards and, therefore, will be subject to the same new or revised accounting standards as other public companies that are not emerging growth companies.

The price of shares of MagneGas' common stock may not reflect its value and there can be no assurance that there will be an active market for its shares of common stock now or in the future.

The price of the Company's common stock, when traded, may not reflect its value. There can be no assurance that there will be an active market for MagneGas' shares of common stock either now or in the future. Market liquidity will depend on the perception of its operating business and any steps that the Company's management might take to bring awareness of investors. There can be no assurance given that there will be any awareness generated. Consequently, investors may not be able to liquidate their investment or liquidate it at a price that reflects the value of the business. As a result, holders of MagneGas securities may have difficulty finding purchasers for its shares should they attempt to sell shares held by them. Even if a more active market should develop, the price of the Company's shares of common stock may be highly volatile. Shares should be purchased only by investors having no need for liquidity in their investment and who can hold the Company's shares for an indefinite period of time.

On June 16, 2016, the Company received notification from the Listing Qualifications Department of The Nasdaq Stock Market LLC (Nasdaq) indicating that the Company's common stock was subject to potential delisting from the Nasdaq because for a period of thirty (30) consecutive business days as the bid price of the Company's common stock had closed below the minimum $1.00 per share requirement for continued inclusion under Nasdaq Marketplace Rule 5550(a)(2). The notification had no immediate effect on the listing or trading of the common stock on the Nasdaq Capital Market.

Nasdaq stated in its letter that in accordance with the Nasdaq Listing Rules, the Company has been provided an initial period of 180 calendar days, or until December 13, 2016, to regain compliance. The letter states that the Nasdaq Staff will provide written notification that the Company has achieved compliance with the minimum bid price listing requirement if at any time before December 13, 2016, the bid price of the Company's Common Stock closes at $1.00 per share or more for a minimum of ten consecutive business days.

If MagneGas is unable to regain compliance by December 13, 2016, the Company may be eligible for an additional 180 calendar day compliance period to demonstrate compliance with the bid price requirement. To qualify, it will be required to meet the continued listing requirement for market value of publicly held shares set forth in Market Place Rule 5550(a) and all other initial listing standards for the Nasdaq Capital Market set forth in Marketplace Rule 5505, with the exception of the bid price requirement, and will need to provide written notice to Nasdaq of its intention to cure the deficiency during the second compliance period, by effecting a reverse stock split, if necessary. If the Company does not qualify for the second compliance period or fails to regain compliance during the second 180-day period, then Nasdaq will notify the Company of its determination to delist the Company's Common Stock, at which point it would have an opportunity to appeal the delisting determination to a Hearings Panel.

The Company intends to monitor the closing bid price of its Common Stock and may, if appropriate, consider implementing available options to regain compliance with the minimum bid price requirement under the Nasdaq Listing Rules.

No assurances can be made that the Company's common stock will remain listed on Nasdaq Capital Market. If they are not able to comply with the Nasdaq Capital requirements, MagneGas' common stock will be delisted from Nasdaq and its common stock would likely be quoted on the OTCQX or OTCQB markets owned by OTC Markets Group Inc. As a consequence of any such delisting, a potential stockholder could likely find it more difficult to dispose of, or to obtain accurate quotations as to the prices of its common stock. Also, a delisting of the Company's common stock would adversely affect its ability to obtain financing for the continuation of operations and harm its business.

If and when a larger trading market for the Company's common stock develops, the market price of its common stock is still likely to be highly volatile and subject to wide fluctuations, and potential investors may be unable to resell his/her shares at or above the price at which they were acquired.

The market price of the Company's common stock is likely to be highly volatile and could be subject to wide fluctuations in response to a number of factors that are beyond its control, including, but not limited to:

- Variations in revenues and operating expenses;
- Actual or anticipated changes in the estimates of the Company's operating results or changes in analyst recommendations regarding its common stock, other comparable companies, or the industry generally;
- Market conditions in MagneGas' industry, the industries of its customers, and the economy as a whole;
- Actual or expected changes in growth rates or its competitors' growth rates;
- Developments in the financial markets and worldwide or regional economies;
- Announcements of innovations or new products or services by the Company or its competitors;
- Announcements by the government relating to regulations that govern its industry;
- Sales of the Company's common stock or other securities by it or in the open market; and
- Changes in the market valuations of other comparable companies.

The Company currently has shares of preferred stock outstanding that limit the rights of holders of its common stock.

MagneGas' certificate of incorporation authorizes the Company to issue up to 10,000,000 shares of preferred stock. An issuance of shares of preferred stock could:

- adversely affect the voting power of the holders of its common stock;
- make it more difficult for a third party to gain control of the Company;
- discourage bids for the Company's common stock at a premium; and
- limit or eliminate any payments that the holders of MagneGas' common stock could expect to receive upon its liquidation; or otherwise adversely affect the market price or its common stock.

As of December 31, 2015, the Company had 1,000,000 shares of preferred stock outstanding, which entitles the Santilli Family to voting rights in the aggregate of 100,000,000,000 votes. Such preferred stock has liquidation and dividend rights over common stock, which is not in excess of its par value. Further, the preferred stock does not have any conversion rights or mandatory redemption features. The rights, preferences, and privileges granted to or imposed upon these shares of preferred stock significantly limit or impair the voting, dividend, and liquidation rights of holders of the Company's common stock.

Certain members of the Company's Board, their affiliates, and executive officers, as stockholders, control the Company.

Members of MagneGas' Board, its executive officers, and Dr. Santilli collectively beneficially own approximately 12.5% of the Company's outstanding common stock (without the inclusion of outstanding options). As a result of this ownership, they have the ability to significantly influence all matters requiring approval by stockholders of the Company, including the election of directors. In particular, Dr. Santilli, the former Chairman of the Board together with his spouse, Carla Santilli (a member of the Company's Board), beneficially own 6.25% of the outstanding common stock (without the inclusion of outstanding options). In addition to ownership of its common stock, Dr. Santilli and his spouse Carla Santilli, together with their children, Ermanno Santilli, MagneGas' chief executive officer, and Luisa Ingargiola, its chief financial officer, beneficially maintain voting control over 100% of the Company's outstanding 1,000,000 shares of preferred stock, which entitles the Santilli Family to voting rights in the aggregate of 100,000,000,000 votes. As a result, the Santilli Family has the ability to significantly influence all matters requiring approval by stockholders of the Company. This concentration of ownership also may have the effect of delaying or preventing a change in control of the Company that may be favored by other stockholders. This could prevent transactions in which stockholders might otherwise receive a premium for their shares over current market prices.

Future issuance of the Company's common stock could dilute the interests of existing stockholders.

MagneGas may issue additional shares of its common stock in the future. The issuance of a substantial amount of common stock could have the effect of substantially diluting the interests of the Company's current stockholders. In addition, the sale of a substantial amount of common stock in the public market, either in the initial issuance or in a subsequent resale by the target company in an acquisition which received such common stock as consideration or by investors who acquired such common stock in a private placement, could have an adverse effect on the market price of the Company's common stock.

The application of the Securities and Exchange Commission's (SECs) "penny stock" rules to the Company's common stock could limit trading activity in the market, and MagneGas' stockholders may find it more difficult to sell their stock.

The Company's common stock trades at less than $5.00 per share and is thus subject to the SEC's penny stock rules. Penny stocks generally are equity securities with a price of less than $5.00. Penny stock rules require a broker-dealer, prior to a transaction in a penny stock not otherwise exempt from the rules, to deliver a standardized risk disclosure document that provides information about penny stocks and the risks in the penny stock market. The broker-dealer also must provide the customer with current bid and offer quotations for the penny stock, the compensation of the broker-dealer and its salesperson in the transaction, and monthly account statements showing the market value of each penny stock held in the customer's account. The broker-dealer must also make a special written determination that the penny stock is a suitable investment for the purchaser and receive the purchaser's written agreement to the transaction. These requirements may have the effect of reducing the level of trading activity, if any, in the secondary market for a security that becomes subject to the penny stock rules. The additional burdens imposed upon broker-dealers by such requirements may discourage broker-dealers from effecting transactions in the Company's securities, which could severely limit their market price and liquidity. These requirements may restrict the ability of broker-dealers to sell MagneGas' common stock and may affect a potential investors ability to resell their common stock.

FINRA sales practice requirements may also limit a stockholder's ability to buy and sell the Company's securities.

In addition to the "penny stock" rules, the Financial Industry Regulatory Authority (FINRA) has adopted rules that require that in recommending an investment to a customer, a broker-dealer must have reasonable grounds for believing that the investment is suitable for that customer. Prior to recommending speculative low priced securities to their non-institutional customers, broker-dealers must make reasonable efforts to obtain information about the customer's financial status, tax status, investment objectives, and other information. Under interpretations of these rules, FINRA believes that there is a high probability that speculative low priced securities will not be suitable for at least some customers. The FINRA requirements may make it more difficult for broker-dealers to recommend that their customers buy the Company's securities, which may limit a stockholder's ability to buy and sell its securities and have an adverse effect on the market for MagneGas' securities.

The Company does not intend to pay dividends for the foreseeable future, and a potential investor must rely on increases in the market price of its common stock for returns on their equity investment.

For the foreseeable future, the Company intends to retain any earnings to finance the development and expansion of its business, and does not anticipate paying any cash dividends on its common stock. Accordingly, investors must be prepared to rely on sales of their common stock after price appreciation to earn an investment return, which may never occur. Any determination to pay dividends in the future will be made at the discretion of MagneGas' Board and will depend on its results of operations, financial condition, contractual restrictions, restrictions imposed by applicable law, and other factors the Board deems relevant.

Glossary

Acetylene—Acetylene (C_2H_2) is a colorless hydrocarbon gas, widely used as a fuel and a chemical building block. It is unstable in its pure form and thus is usually handled as a solution.

Carbon Dioxide (CO_2)—A colorless, odorless gas produced by burning carbon and organic compounds and by respiration. It is produced by all aerobic organisms when they metabolize carbohydrate and lipids to produce energy by respiration, and is absorbed by plants in photosynthesis. Carbon dioxide is a significant greenhouse gas. Since the Industrial Revolution, anthropogenic emissions, including the burning of carbon-based fossil fuels and land use changes (primarily deforestation), have rapidly increased its concentration in the atmosphere, leading to global warming.

Carbon Monoxide (CO)—A colorless, odorless toxic flammable gas formed by incomplete combustion of carbon. Carbon monoxide is a temporary atmospheric pollutant in some urban areas, chiefly from the exhaust of internal combustion engines and incomplete combustion of various other fuels, and is toxic to humans when encountered in concentrations above about 35 ppm.

Class A—A designation for treated sewage sludge that meets U.S. Environmental Protection Agency (EPA) guidelines for land application as fertilizer with no restrictions. Class A biosolids can be legally used as fertilizer on farms, vegetable gardens, and can be sold to home gardeners as compost or fertilizer.

Class B—A designation for treated sewage sludge that meets U.S. EPA guidelines for land application as fertilizer with restrictions. Compared to Class A, Class B biosolids are allowed to have detectable pathogens, cannot be applied to home lawn and gardens, and results in restrictions for the harvesting of crops and turf following application.

Co-combustion—The combustion of two different fuels in the same combustion system or chamber.

Coal Flue—Flue gas is the gas exiting to the atmosphere via a flue, which is a pipe or channel for conveying exhaust gases from a fireplace, oven, furnace, boiler, or steam generator. Coal flue refers to the combustion exhaust gas produced at power plants from coal processing.

Feedstock—Raw material to supply or fuel a machine or industrial process.

Greenhouse Gases—A gas that contributes to the greenhouse effect by absorbing infrared radiation, warming the Earth. The primary greenhouse gases in Earth's atmosphere are water vapor, carbon dioxide, methane, nitrous oxide, and ozone.

Greenshoe—A Greenshoe option, legally referred to as an over-allotment option, is a special provision in an IPO prospectus, which allows underwriters to sell investors more shares than originally planned by the issuer. This would normally be done if the demand for a security issue proves higher than expected. A greenshoe option allows underwriters to short sell shares in a registered securities offering at the offering price. The greenshoe can vary in size and is customarily not more than 15% of the original number of shares offered.

Hydrocarbon Emissions—Hydrocarbons are organic compounds made of two elements, carbon and hydrogen, and found in coal, crude oil, natural gas, and plant life. Hydrocarbons are used as fuels, solvents, and as raw materials. Emission of gases resulting from combustion of hydrocarbons (in auto engines and industrial plants) is a major cause of air pollution and global warming.

Hydrocarbon Fuels—Fuels derived from hydrocarbons, such coal, crude oil, and natural gas, among others.

Ions—An atom or molecule with a net electric charge due to the loss or gain of one or more electrons.

Leachates—The liquid that drains or "leaches" from a landfill. It varies widely in composition regarding the age of the landfill and the type of waste that it contains. It usually contains both dissolved and suspended material.

Molecular Disassociation—Dissociation in chemistry and biochemistry is a general process in which molecules separate or split into smaller particles such as atoms, ions, or radicals.

Nitrous Oxide (N_2O)—Nitrous oxide, N_2O, is a greenhouse gas that contributes to climate change.

Plasma Arc—A plasma arc is where an electrical arc is struck between two electrodes, ionizing the gas as it passes through the plasma created by the arc and converting electrical energy into intense thermal (heat) energy.

Propane—A flammable hydrocarbon gas of the alkane series, present in natural gas and used as bottled fuel.

Pyrolysis—Decomposition brought about by high temperatures.

Rollover—Also referred to as rollover burr, is a thin ridge, raised sharp edge, or roughness left on metal by cutting operations.

Rule 503.32—The U.S. Environmental Protection Agency's (EPA) Part 503 rule provides comprehensive requirements for the management of biosolids generated during the process of treating municipal wastewater. Part 503.32 deals with the requirements for Class A classification.

Slag—Fused waste matter separated from metals during the smelting or refining of ore.

Sludge—A solid, semi-solid, or liquid waste generated from a municipal, commercial, or industrial wastewater treatment plant, exclusive of the treated liquid discharge.

Soot—A black powdery or flaky substance consisting largely of amorphous carbon, produced by the incomplete burning of organic matter.

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