

Paul Silver 772-219-7525

March 15, 2010



<i>Updated Report</i>	
Previous Average Target Value (9/22/09)	\$2.21
12-Month Average Target Value Low	\$2.03
12-Month Average Target Value High	\$3.25
<b>12-Month Target Value Average</b>	<b>\$2.45</b>
<b>Rating</b>	<b>BUY</b>

<i>Market Data:</i>	
Symbol	<b>ESPH</b>
Sector	Clean Technology
Industry	Environmental Services
Sub-Industry	Water Remediation
Risk Level	Speculative
Closing Price	\$0.97
Initial Coverage Price	\$0.24 (11/16/07)
52 Week High	\$0.99
52 Week Low	\$0.13
10 Day Average Volume	1,264,110
Market Capitalization	\$114.05M
Enterprise Value	\$119.77M
Shares Outstanding	
-Primary (12/31/09)	117.581M
-Float (approximate)	98.2M



Source: BigCharts.com

<i>Fiscal Year-end</i>	<i>Estimated</i>	<i>Estimated</i>	<i>Estimated</i>	<i>Estimated</i>
<i>December</i>	<i>2009</i>	<i>2010</i>	<i>2011</i>	<i>2012</i>
Revenue	\$1.71M	\$22.37M	\$60.87M	\$119.85M
Net Income	(\$20.17M)	\$0.69M	\$11.18M	\$24.21M
EPS – basic	(\$0.17)	\$0.01	\$0.09	\$0.19
EPS – diluted	(\$0.15)	\$0.00	\$0.07	\$0.15

### **Investment Highlights:**

- Ecosphere is the first company in the world that provides energy exploration companies with an onsite, chemically free method to kill bacteria and reduce scaling during fracturing and flowback operations.
- Natural gas is the critical puzzle piece that will help the United States to keep more of the \$350 to \$450 billion that it spends on imported oil every year. This is also an important component for increasing energy security by reducing our reliance on foreign sources of energy.
- According to industry estimates, in 2010 alone, over 27,000 natural gas wells are expected to be drilled in the United States, with an additional 2,115 to be drilled internationally. Based on our estimates, the total annual market in 2010 for Ecosphere's pre-treatment service, is approximately \$1.7 billion domestically, with an additional \$130 million from international wells. These figures do not include revenues from the treatment of frac flowback or revenues from other industries.
- In 2009, legislators introduced the FRAC ACT, which would require the energy industry to disclose the chemicals it mixes with the water and sand it pumps underground in the fracturing process, information that has largely been protected as trade secrets.
- In our Ecosphere earnings model, we are projecting revenues of \$22.37 million, \$60.87 million, and \$119.85 million in 2010, 2011, and 2012 respectively.

### **Investment Conclusion:**

Ecosphere provides aggressive investors with an opportunity to invest in a clean water and clean energy play with explosive growth potential. It is our opinion that risk is declining and reward is increasing which should lead to a higher valuation in the short-, intermediate- and long-term. Based on our beliefs, we are revising our 12-month average target price on shares of ESPH from \$2.21 per share to \$2.45 per share and reiterate our Buy rating on the stock.

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## I. OVERVIEW

### Company

Ecosphere Technologies, Inc. (“Ecosphere” or “the Company”) is a diversified water engineering and environmental services company dedicated to solving critical water recovery, treatment and recycling challenges through its proprietary and innovative solutions. The Company’s proprietary Ecosphere Ozonix™ technology combines ozone, hydrodynamic cavitation, acoustic cavitation, and electro-chemical decomposition in a reaction vessel to cost-effectively treat contaminated water without adding chemicals. The Company’s initial use of this technology is to create a “closed loop” system providing a chemical-free total water management solution to exploration and production (E&P) companies drilling for natural gas in unconventional plays.

Ecosphere has licensed a “field of use” of its Ozonix technology for the energy industry to Ecosphere Energy Services, LLC (EES), a majority-owned subsidiary that provides onsite water management services to the global energy industry. EES provides mobile units that can clean contaminated water of nearly any quality at very low cost and high flow rates. This innovative technology has been successfully field tested by a number of large public oil and gas operators in the U.S. and EES has signed a multi-year contract with one of these operators to provide two sets of equipment, each capable of processing 120 barrels of water per minute (7,200 barrels per hour).

The Company has also identified numerous other applications for its Ozonix technology in other industries as well as owns a portfolio of additional clean technologies that are in various stages of development. The Company is based in Stuart, Florida and its shares trade on the OTC Bulletin Board under the ticker symbol ESPH.

### How is Ecosphere Unique?

It is critical for investors to understand what Ecosphere does and how it is unique. Ecosphere eliminates chemicals from the water treatment process. Its potential markets include all industries around the world that use chemicals to treat water. **With respect to the energy markets, Ecosphere invented the only process that can provide exploration and production companies with clean, bacteria-free frac fluid at high volume without the use of chemicals at the wellsite.** The technology operates at high commercial flow rates (7,200 barrels per hour per set) with lower operating costs than any other “competitor” we were able to identify.

Why does this matter?

- There are growing concerns about groundwater contamination caused by the use of chemicals in the hydraulic fracturing process. Increased fracturing activity has drawn the attention of environmental activists, politicians and the community at large, who have voiced concerns over water and chemical usage and disposal practices utilized during fracturing, making water management a very controversial issue.
- U.S. lawmakers recently introduced the FRAC ACT -- Fracking Responsibility and Awareness of Chemicals Act, which would repeal the exemption provided for the oil and gas industry and would require them to disclose the chemicals they use in their hydraulic fracturing processes. **The oil and gas industry claims that this bill could prevent development of trillions of cubic feet of natural gas.**
- Using chemicals to eliminate bacteria in frac water is expensive, and causes a number of problems (e.g. scaling) down hole which negatively impacts well productivity.

**Focus**

At present, Ecosphere, through its majority owned subsidiary EES, is leveraging its Ozonix technology to expand its total water resource management solution business in the natural gas industry both domestically and internationally. The Company has focused its initial commercialization efforts on the North American natural gas exploration and production market due to the significant volumes of clean water required and the expected growth in this market. The Company has a master services agreement in place with three natural gas production companies.

- Southwestern Energy has signed a multi-year contract to provide two sets of equipment, each capable of processing 120 barrels of water per minute.
- Newfield Exploration is currently using the technology in production in the Woodford Shale.
- BP has been field testing units on a variety of paid pilot programs.



The Company is also developing strategic partnerships to deploy its Ecosphere Ozonix™ technology in a wide variety of global industrial and municipal wastewater applications. These applications include, but are not limited to:

- Mining/Minerals
- Municipal Wastewater
- Industrial Wastewater
- Agricultural Wastewater

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**Market Drivers**

*So what is driving demand for Ecosphere’s products and services in the domestic and international energy markets?*

- Natural Gas is gaining economic and political popularity as a substitute (energy source) for oil and coal. This opportunity is critical to the movement towards increased energy security by reducing our reliance on foreign sources of energy.
- There is a large “green” movement around the world for identifying, developing and using cleaner and more eco-friendly sources of energy.
- The U.S. (and many other regions around the world) has an abundant, largely untapped supply of natural gas.
- Much of this natural gas is located in unconventional shale plays.
- To drill for natural gas in unconventional shale plays, the wells must be hydraulically fraced.
- Hydraulic fracturing requires 100,000-125,000 barrels of water per well;
- All conventional hydraulic fracturing solutions contain chemicals which are expensive, cause problems down hole, and are creating controversy with respect to groundwater contamination and disposal.

*Ecosphere Technologies has the solution for the aforementioned challenges.*

**Opportunity**

Given the huge demand for better and smarter technologies to reclaim water and protect the environment, the market opportunity within the energy sector is large and quantifiable. According to industry estimates, in 2010 alone, over 27,000 natural gas wells are expected to be drilled in North America, with an additional 2,115 to be drilled internationally. In our earnings model (page 33), we took into account the macro picture of this market and assumed penetration rates based on the shale plays where Ecosphere is currently operating and the shale plays where it expects to be operating in the future. In the chart on the right, we break out the total expected wells drilled and our estimated Ecosphere well count with penetration rates calculated below. We note that the Fayetteville shale has the largest Ecosphere penetration rate based on the Company’s existing contract with Southwestern Energy.

<b>Water Frac Count</b>					
	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>
<b>Shale play</b>					
Barnett	1,813	1,937	2,070	2,212	2,364
Marcellus	1,498	1,573	1,651	1,734	1,821
Woodford	282	305	330	357	386
Fayetteville	1,016	1,089	1,166	1,249	1,338
Haynesville	1,287	1,357	1,430	1,507	1,588
NAM Onshore (other)	21,306	22,759	23,441	24,145	24,869
<b>Total NAM Onshore</b>	<b>27,203</b>	<b>29,019</b>	<b>30,088</b>	<b>31,203</b>	<b>32,365</b>
Intl Onshore	2,115	3,540	4,911	6,463	8,210
<b>Estimated ESPH Frac Count</b>					
Barnett	0	35	310	475	480
Marcellus	0	165	345	475	480
Woodford	24	24	84	84	84
Fayetteville	270	570	600	600	600
Haynesville	0	0	165	295	300
NAM Onshore (other)	0	0	0	210	670
<b>Total NAM Onshore</b>	<b>294</b>	<b>794</b>	<b>1,504</b>	<b>2,139</b>	<b>2,614</b>
Intl Onshore	0	0	0	210	710
<b>Estimated ESPH Penetration Rate</b>					
Barnett	0.0%	1.8%	15.0%	21.5%	20.3%
Marcellus	0.0%	10.5%	20.9%	27.4%	26.4%
Woodford	8.5%	7.9%	25.5%	23.6%	21.8%
Fayetteville	26.6%	52.4%	51.5%	48.0%	44.9%
Haynesville	0.0%	0.0%	11.5%	19.6%	18.9%
NAM Onshore (other)	0.0%	0.0%	0.0%	0.9%	2.7%
<b>Total NAM Onshore</b>	<b>1.1%</b>	<b>2.7%</b>	<b>5.0%</b>	<b>6.9%</b>	<b>8.1%</b>
Intl Onshore	0.0%	0.0%	0.0%	3.2%	8.6%

In aggregate, we estimate Ecosphere's total annual market in 2010 to be approximately \$1.7 billion domestically, with an additional \$130 million from international wells. By 2014, this annual market is estimated to grow to \$2 billion domestically with another \$500 million internationally. If we include frac flowback water, assuming the same dollar rate per barrel, these figures double to over \$4 billion domestically with another one billion dollars internationally by 2014.

These figures only account for Ecosphere's majority owned EES business which is focused on frac fluid for natural gas drilling. In reality, Ecosphere's potential markets include all industries around the world that use chemicals to treat water. If we were to add in all the other commercial applications for the Company's Ozonix technology, this billion dollar market figure becomes a very small component of the total market for treating municipal, commercial and industrial wastewater in the U.S. and around the globe.

In our Ecosphere earnings model, we are projecting revenues of \$22.37 million, \$60.87 million, \$119.85 million, and \$186.09 million in 2010, 2011, 2012, and 2013 respectively. These revenue estimates are based solely on revenue from Ecosphere's majority-owned subsidiary EES, and does not include any other commercial applications for Ozonix. Based on these figures, we are revising our 12-month average target price on shares of ESPH from \$2.21 per share to \$2.45 per share and reiterate our Buy rating on shares of ESPH.

In summary, we believe that even if Ecosphere focused solely on the onshore natural gas business, at present levels, its shares are trading at a deep discount to intrinsic value. This belief is based on Ozonix's market adoption by some of the world's largest oil and gas drillers as evidenced by signed and pending contracts which should drive triple digit revenue growth over the next few years. **We believe that Ecosphere is one of the most attractive Cleantech opportunities in the marketplace today because of the "scalability" of its technology to span all water related industries.** Further, we believe that shares of ESPH represent a compelling speculative investment for investors looking to participate in the natural gas boom as well as from a legislative, political and social movement towards creating a cleaner and "greener" environment.

## II. NATURAL GAS AND HYDRAULIC FRACTURING

### Natural Gas Market

#### Why is natural gas the next big thing?

First of all, it is clean. Natural gas is the cleanest burning fossil fuel--compared to coal, natural gas produces 43% fewer carbon emissions for each unit of energy produced, and 30% less than oil. Because the combustion process for natural gas is almost perfect, very few byproducts are emitted into the atmosphere as pollutants. Also, with the introduction of new technologies, nitrogen oxide, a pollutant targeted by the Clean Air Act can be significantly reduced. The blue flame seen when natural gas is ignited is a sign of perfect combustion. Because natural gas burns cleanly, it doesn't leave behind any unpleasant soot, ash, or odors. Switching to natural gas eliminates the need for an underground storage tank--eliminating the threat of oil spills, soil contamination and costly environmental clean-up. Natural gas is non-toxic. If inhaled in small amounts natural gas is not poisonous or harmful to humans.

With respect to reducing our dependence on foreign oil and improving our energy security, natural gas is also the perfect answer because of the abundant supply of domestic natural gas. Over half of the oil used in this country is imported, much of it from unstable or unsavory regimes in the Middle East, Africa, and Latin America. The price and supply of oil is susceptible to international events which makes our addiction a security hazard. The United States has twice as much natural gas as Saudi Arabia has oil, and enough to fulfill the nation's needs for the next century.

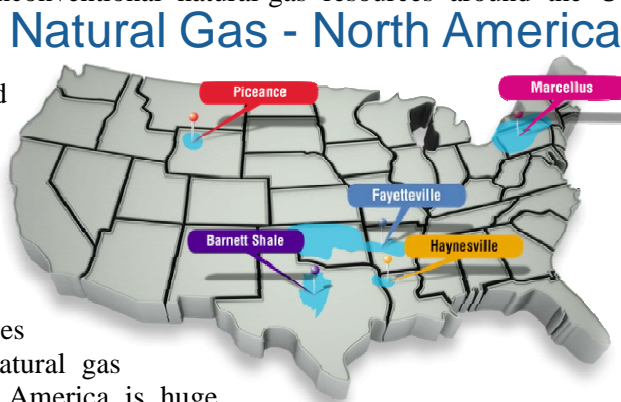
T. Boone Pickens, the legendary energy executive, is currently one of the biggest proponents for natural gas. Pickens notes that natural gas is primarily used to generate electricity. It has the advantage of being cheap and significantly cleaner than coal, but this is not the only use of the United States' natural gas resources. Pickens' plan involves aggressively moving to shift America's car, light duty and heavy truck fleets from imported gasoline and diesel to domestic natural gas in order to reduce the U.S.'s dependence on foreign oil - helping President Obama reach his goal of zero oil imports from the Middle East within ten years. Pickens acknowledges that natural gas is not a permanent or complete solution to imported oil, but rather a bridge fuel to slash the U.S.'s oil dependence while buying time to develop new technologies that will ultimately replace fossil transportation fuels. Natural gas is the critical puzzle piece that will help the United States to keep more of the \$350 to \$450 billion that it spends on imported oil every year at home, where it can power the economy and pay for investments in wind energy, a smart grid and energy efficiency. Pickens plan would also create million of jobs by investing in renewable energy and conservation. In summary, T. Boone Pickens' plan is focused on developing new alternative energies while utilizing natural gas for transportation and energy generation; securing the economy by reducing the United States' dependence on foreign oil, and keeping more money at home to pay for the whole thing.

Some industry insiders argue that switching from oil to natural gas may simply be trading one foreign-dependent fuel for another. Currently, only 16% of the natural gas America consumes is imported, most of that supply comes from Canada by pipeline. However, an expansion in U.S. demand may result in the U.S. having to rely upon other foreign sources. Where do the largest sources of natural gas exist? Three countries have more than 55% of the world's proven reserves: Russia (25.2%), Iran (15.7%), and Qatar (14.4%). Other countries that have fairly substantial reserves include Saudi Arabia, the United Arab Emirates, Nigeria, and Algeria<sup>1</sup>. This demographic concentration of energy sources may appear familiar. The good news is that the U.S. holds abundant domestic supplies of untapped natural gas within its borders. According to the Energy Information Administration, U.S. dependence on foreign natural gas could drop from 16% to 3% by 2030 if it takes full advantage of these untapped reserves. That would

<sup>1</sup> U.S. News and World Report article titled "Can Natural Gas Break Our Oil Habit?" dated March 5<sup>th</sup>, 2009

include tapping unconventional sources. There are currently three main categories of unconventional gas: tight gas sands, coalbed methane and gas shales.

North American gas shales already contribute over 9 Bcfd (billion cubic feet daily), representing approximately 16% of total dry natural gas annual production in the U.S., and are projected to grow rapidly. Geologists have discovered massive unconventional natural-gas resources around the U.S., multiplying estimates of the nation's future production. For example, the Marcellus deposit that lies under Pennsylvania, Virginia, Ohio and New York is estimated to hold over 500 trillion cubic feet, compared to total conventional natural-gas resource estimates in the U.S. of around 378 trillion cubic feet, according to the U.S. Geological Survey.



In ten years, some experts expect that gas shales will account for a third of North American natural gas production. The gas shale resource of North America is huge, estimated to be 5,146 Tcf, with an estimated 715 Tcf recoverable from the “Magnificent Seven<sup>2</sup>” gas shales. The numerous still to be defined and smaller gas plays in the U.S. and Canada will add to these totals<sup>3</sup>. Low rates of gas production from shallow, fractured shale formations in the Appalachian and Michigan basins of the U.S. have been underway for decades. What “changed the game” was the recognition that one could “create a permeable reservoir” and high rates of gas production by using intensively stimulated horizontal wells<sup>4</sup>. This break-through in knowledge and technology enabled the deep, low permeability gas shale formations to become highly productive, making the Barnett Shale “the largest natural gas field in Texas”. Today’s active pursuit of the high visibility Marcellus, Haynesville and Horn River shales (plus others) could make gas shales the largest undeveloped natural gas resource in the world.

<sup>2</sup> The main gas shale deposits in North America are in the Barnett shale, the Fayetteville, the Woodford, the Haynesville, and the Marcellus while, in Canada, the large fields are in the Horn River and Montney deposits.

<sup>3</sup> Ibid

<sup>4</sup> Advanced Resources International report titled “Worldwide Gas Shales and International Gas: A Status Report”

**Hydraulic Fracturing**

Shale gas plays are unconventional reservoirs because these formations contain oil or gas-bearing rocks which have poor or limited natural permeability relative to the transmission of fluids to a wellbore. In fact, low reservoir permeability represents a key difference between shale and other gas reservoirs. For gas shales to become economically produced, the restrictions of low permeability must be overcome.

Hydraulic fracturing is the formation stimulation practice used to create additional permeability in a producing formation to allow gas to flow more easily toward the wellbore for purposes of production. The current practice for hydraulic fracture treatments of shale gas reservoirs are commonly sequenced events which can require thousands of barrels of water-based fracturing fluids mixed with proppant materials to be pumped in a controlled and monitored manner into the target shale formation.

The fracturing fluids used for fracturing gas shale include a variety of additive components, each with an engineered purpose to facilitate the production of gas. In the Marcellus Shale, the fluids used for fracture treatments are water based or slickwater fracture fluids. Slickwater fracture fluids are water-based fluids mixed with friction reducing additives. Water is the principal component of slickwater based fracturing fluids; however, other additives are included to perform specific actions, such as the addition of friction reducers which allow a fracturing fluid and proppant to be pumped to the target zone at a higher rate and reduced pressure than water alone.

Fracturing Fluid Additives, Main Compounds and Common Uses		
Additive Type	Main Compound	Common Uses of Main Compound
Acid	Hydrochloric acid or muriatic acid	Swimming pool chemical and cleaner
Biocide	Glutaraldehyde	Cold sterilant in health care industry
Breaker	Sodium Chloride	Food preservative
Corrosion inhibitor	N,n-dimethyl formamide	Used as a crystallization medium in pharmaceutical industry
Friction reducer	Petroleum distillate	Cosmetics including hair, make-up, nail and skin products
Gel	Guar gum or hydroxyethyl cellulose	Thickener used in cosmetics, sauces and salad dressings
Iron Control	2-hydroxy-1,2,3-propanetricarboxylic acid	Citric acid it is used to remove lime deposits
Oxygen scavenger	Ammonium bisulfite	Used in cosmetics
Proppant	Silica, quartz sand	Play sand
Scale inhibitor	Ethylene glycol	Automotive antifreeze and de-icing agents

*Source: Hydraulic Fracturing Considerations for Natural Gas wells in the Marcellus Shale by J. Daniel Arthur*

In addition to friction reducers, other additives include biocides to prevent micro-organism growth and reduce bio-fouling of fractures. Oxygen scavengers and other stabilizers which prevent corrosion of metal pipes, and acids which are used to remove drilling mud damage within the area near wellbore are also common either in fracturing fluids or as part of the fracture treatment. The table above provides a summary of the additives, their main compounds and some of the other common uses for the main compounds of the additives in day-to-day life.

In aggregate, these chemical additives range in cost from \$0.50 per barrel to \$3.00 per barrel. Given that one water-based hydraulic fracture requires between 100,000 and 125,000 barrels of water, these additive costs become expensive.

Once the fracture liquid and other produced water resurface, operators are forced to deal with the wastewater. Operators are using a variety of containment tanks and storage trucks to reduce the potential for exposure of fluids to the environment during the transport of chemicals to disposal locations away from the well pad. As the volume of water flowing back to the surface continues to grow, operators are researching various options for dealing with the growing problem, including the use of disposal (injection) wells and municipal and industrial treatment facilities.

**FRAC ACT**

Drilling for natural gas is quickly becoming a hotly debated political issue between legislators and the natural gas drilling industry. Despite the widespread support for the increased use of natural gas in lieu of fossil fuels, there are growing concerns about groundwater contamination caused by the use of chemicals in the hydraulic fracturing process. This injection of unknown and potentially toxic chemicals often occurs near drinking water wells. Troubling incidents have occurred around the country where people became ill after fracking operations began in their communities. Some chemicals that are known to have been used in fracking include diesel fuel, benzene, industrial solvents, and other carcinogens and endocrine disrupters.

Regulators have been pressured by their constituents to implement more stringent guidelines for fracturing activities. In 2009, legislators introduced the Fracturing Responsibility and Awareness of Chemicals Act (a.k.a. FRAC ACT) to amend the Safe Drinking Water Act and give the Environmental Protection Agency authority over the controversial drilling process called hydraulic fracturing. The FRAC ACT would require the energy industry to disclose the chemicals it mixes with the water and sand it pumps underground in the fracturing process, information that has largely been protected as trade secrets. Currently, the oil and gas industry is the only industry granted an exemption from complying with the Safe Drinking Water Act. Hydraulic fracturing has attracted scrutiny in the past year after a series of reports found water contamination in areas across the country where drilling takes place. Critics of the exemption say federal oversight is needed to protect drinking water supplies, but proponents say state regulation is sufficient. Industry officials say the EPA isn't prepared to administer oil and gas permitting and federal regulation could lead to long delays, court cases and possible permit rejections.

According to House member Jared Polis, D-CO, "The problem is not natural gas or even hydraulic fracturing itself. The problem is that dangerous chemicals are being injected into the earth, polluting our water sources, without any oversight whatsoever." The energy industry contends that the FRAC Act, which removes the Safe Drinking Water Act exemption, amounts to an additional layer of regulation that is unneeded and cumbersome. States do an adequate job of regulating hydraulic fracturing already, according to the Independent Petroleum Association of America, and industry research estimates that complying with federal oversight would add approximately \$100,000 to the cost of each new natural gas well in the United States.

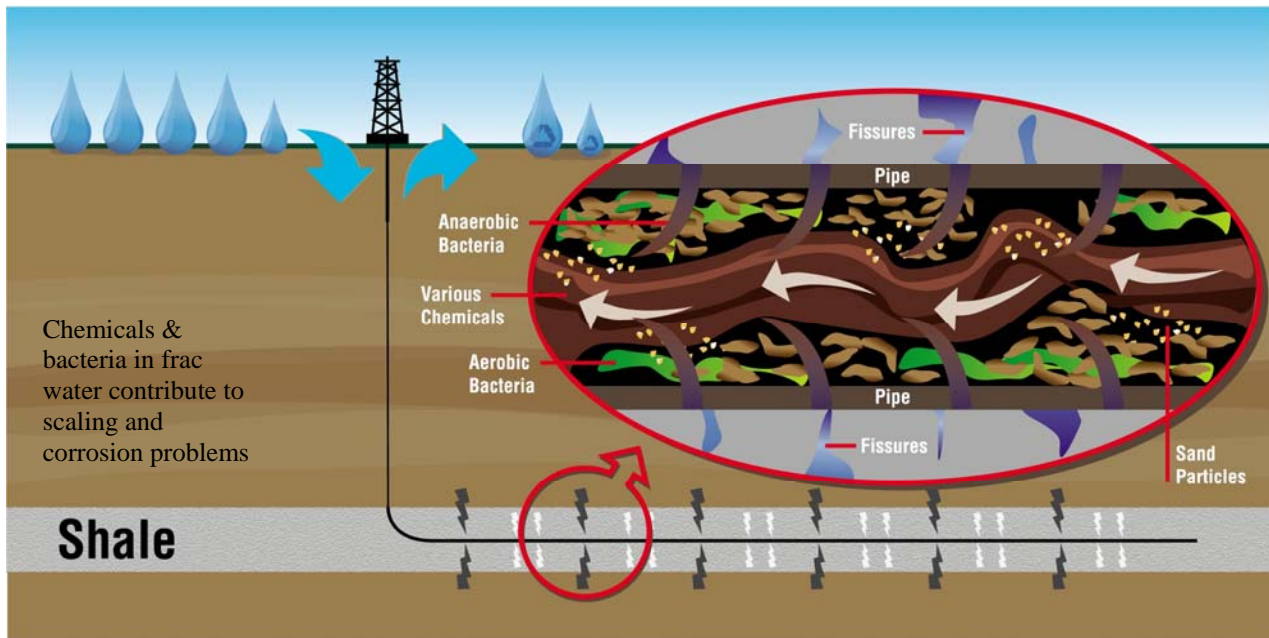
The oil and gas industry claims that this bill could prevent development of trillions of cubic feet of natural gas by putting regulation of a key production technique under federal oversight. The natural-gas industry also says that operators are required by law to report the chemicals they use to the state authorities and wouldn't be granted permits if their operations threatened public health, safety or supplies. It is unclear how much support the proposal could get in Congress or from the White House, but the oil and natural-gas industry has already geared up for a fight to oppose the provision given its potential impact on the sector.

In all, 48 House members have signed on as co-sponsors of the Fracturing Responsibility and Awareness of Chemicals Act of 2009 (FRAC Act), which would require companies to gain approval from the Environmental Protection Agency before using hydraulic fracturing to enhance production of oil and natural gas wells. The bill would also require companies to make public the chemicals they use in fracturing; too often, companies cloak their chemicals in secrecy and are exempt from federal laws that would require disclosure.

**Conventional Method**

As indicated in the previous section, to drill for natural gas in unconventional shale plays, a well must be hydraulically fractured (a.k.a. “fraced”) to stimulate the flow of natural gas from the reservoir. Thousands of barrels (100,000-125,000 barrels) of water-based fracturing fluids mixed with proppant materials down into a wellbore into the targeted formation at extremely high pressures to create fissures or pathways within the reservoir that allows natural gas to more freely flow from the reservoir into the wellbore.

The conventional method of creating frac fluid is to treat pond (source) water with a number of chemicals and additives, including biocides and scale inhibitors. The biocides and scale inhibitors are added to eliminate aerobic and anaerobic bacteria from the pond water. The constituents commonly found in pond water and produced fluid from formation minerals cause scaling. These constituents compound the complexity involved in achieving the desired effect with the chemicals that are normally added during the fracs, like the biocides, friction reducers, guar, scale inhibitors, etc.

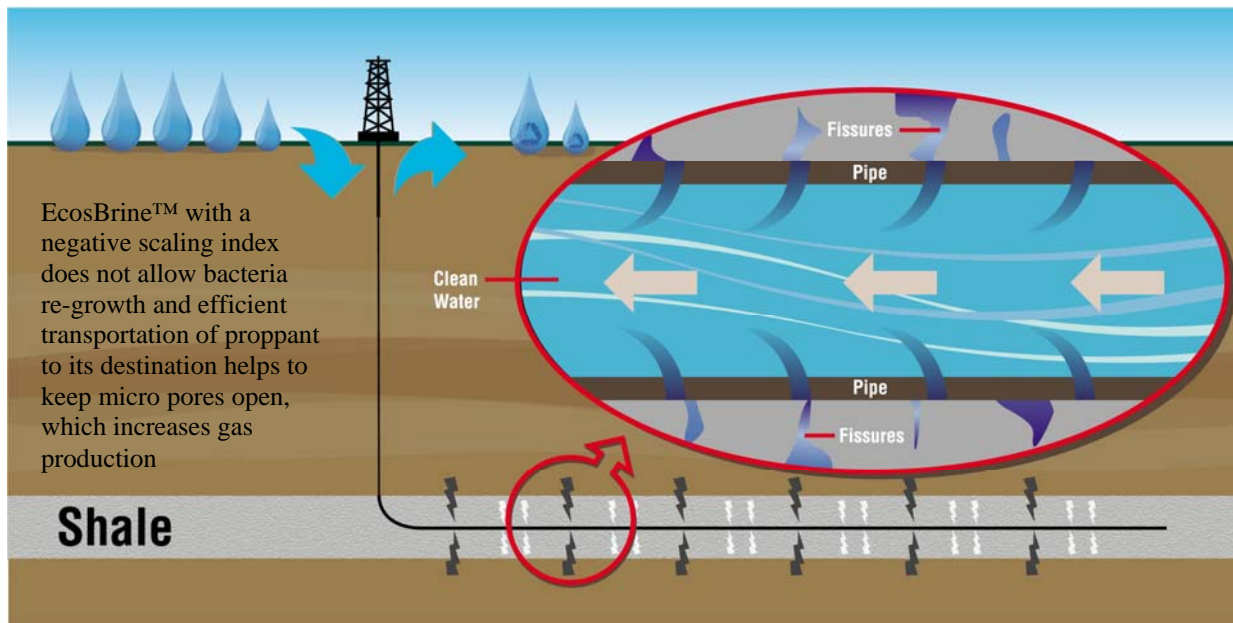


On the back-end (frac flowback or produced water), operators must contend with water that flows up from the well immediately following a frac job and often throughout the life of a well. The water is typically contaminated with salts, heavy metals and hydrocarbons. The conventional methods of handling frac flowback water were to dispose of the water either with deep hole injection or above ground storage pits. These methods require extensive trucking of the water, are expensive and wasteful.

**Ecosphere’s Game Changing Ozonix Technology**

As explained in the previous section, the conventional way of fracing involves using a fracture solution that consists of expensive chemicals to eliminate bacteria from the water. **Ecosphere invented the only process that can provide exploration and production companies with clean, bacteria-free frac fluid at high volume without the use of chemicals at the wellsite.**

While others are contemplating disposal options, Ecosphere is taking the frac flowback wastewater and transforming it into EcosBrine™, a high chloride water (HCW). The EcosBrine can be reused on the front end of the frac site (mixed with the chemical free frac liquid and friction reducers) to create completions fluid going down hole. Ecosphere has turned a waste product into a valuable asset, it has drastically cut the disposal trucking costs, and it has cut the carbon emissions from all of the eliminated transportation.



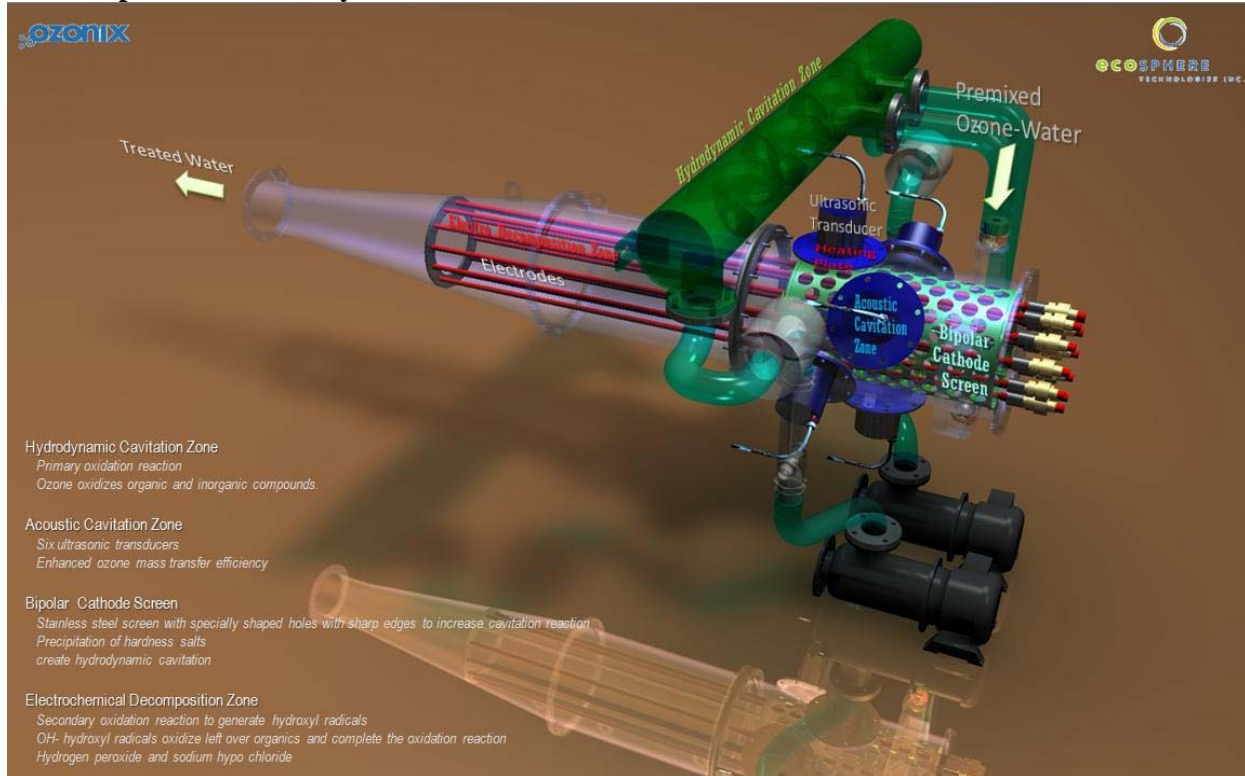
On the front end, the Ecosphere process can take dirty water from a pond, add friction reducer and its EcosBrine™ product, and produce a nearly chemical free fracture solution that saves exploration and development companies hundreds of thousands of dollars on chemicals per hydraulic fracture. In addition to the cost savings, tests reveal that using this fracture solution significantly enhances well productivity.

### III. ECOSPHERE'S OZONIX TECHNOLOGY

#### Overview

The patent pending Ecosphere Ozonix™ process combines ozone, ultrasound, and electro-precipitation in a reaction vessel, resulting in a cost effective, rapid method of killing bacteria, oxidizing heavy metals, oil sheens and organic materials, and neutralizing scale-inducing water qualities. The Ozone Reactor allows for large volumes of water to be processed fast (in-line with the process stream as compared to traditional batch processes), with low energy requirements and with a small footprint.

#### The Ecosphere Ozonix™ System:



#### How the Ecosphere Ozonix™ Reactor Works

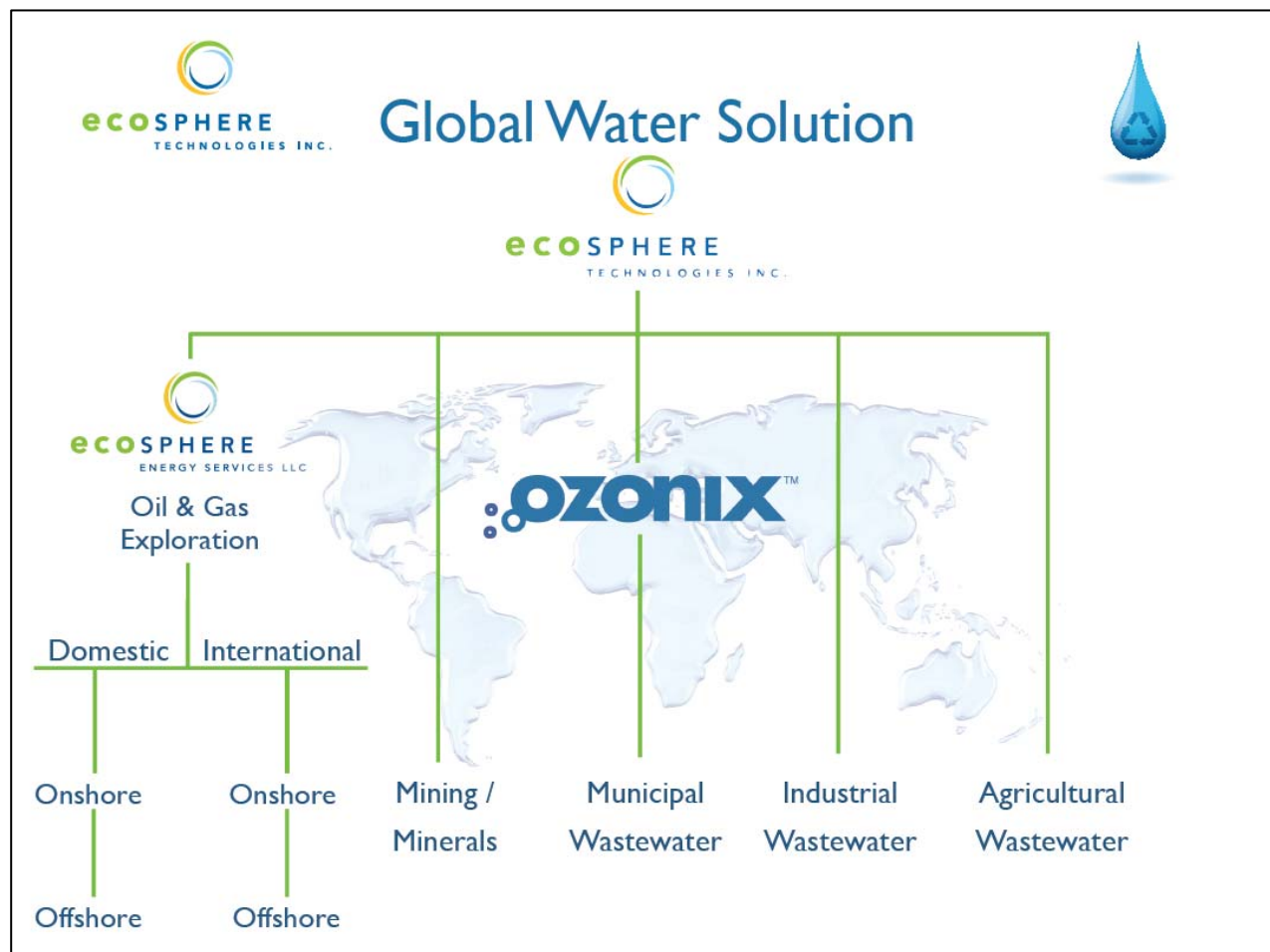
- Ozonated water is mixed with the contaminated water and injected into the Ecosphere Ozonix™ Reactor.
- Cavitation is induced hydrodynamically (due to fluid flow dynamics in the vessel) and acoustically (by ultrasonic energy waves generated by ultrasonic transducers).
- Cavitation is the creation and subsequent rapid collapse of nano-sized vapor bubbles. The collapse of these bubbles releases significant energy in the form of heat and light (a process referred to as sonoluminescence).
- Sonoluminescence aids in the conversion of ozone into hydroxyl radicals.
- Hydroxyl radicals instantly oxidize organic compounds.
- DC electrodes also help to precipitate hardness salts and generate an effluent with a negative scaling index.

*Please refer to important disclosures at the end of this report.  
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## IV. OZONIX APPLICATIONS

### Overview

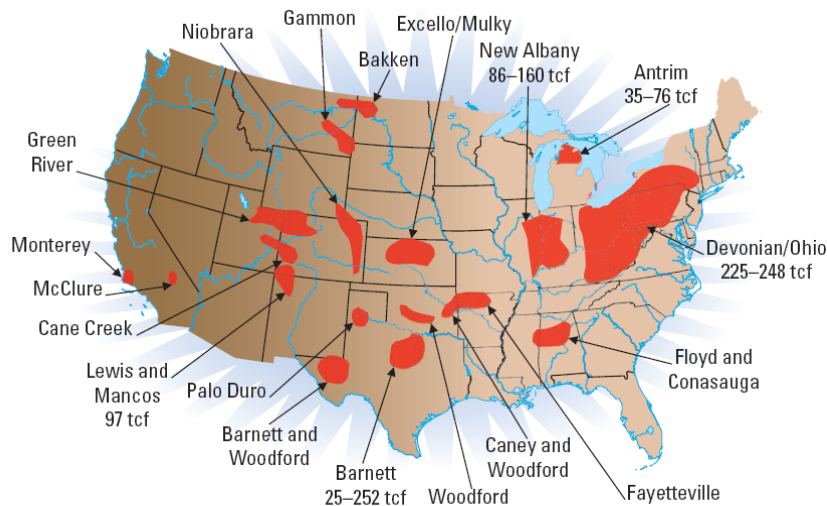
To date, Ecosphere is focused on hydraulic fracturing as part of the onshore natural gas drilling process. However, the Company has identified numerous other commercial applications for its technology, including but not limited to mining/minerals, municipal wastewater, industrial wastewater, and agricultural wastewater. The following is a discussion of the many different applications for the Ozonix technology.



**Natural Gas in Domestic Shale Plays**

Unconventional development of energy resource plays, including coal beds, tight sands and shale has been a growing source of natural gas development in the U.S. Due to advances in horizontal drilling and fracturing techniques, operators now have the ability to target hydrocarbon extraction from formations which were previously uneconomic, particularly unconventional natural gas plays. Since 1998, unconventional natural gas production has increased nearly 65%. This increase has resulted in unconventional production becoming an increasingly larger portion of total natural gas production, increasing from 38% in 1997 to 58% in 2007 of lower 48 onshore production.

One type of unconventional development that has gained attention and contributed to this increase is natural gas from shale formations. Shale gas resources extend across the continental U.S., offering abundant and available access to clean burning natural gas. Estimates of total natural gas resource potential for gas shales range from 500 to 1,000 trillion cubic feet or Tcf (one Tcf of natural gas equates to 180 million barrels of oil equivalent). Development of shale gas resources includes the shales in a variety of basins, including the Devonian shales in the Appalachian Basin; the Mowry shale in the Powder River Basin; the Mancos shale in the Uinta Basin; the Woodford Shale in the Ardmore Basin; the Floyd/Neal shale play in the Black Warrior Basin; the Barnett shale in the Permian Basin; the New Albany shale in the Illinois Basin; the Pearsall shale in the Maverick Basin; the Chattanooga shale in the Arkansas and Tennessee; the Hovenweep shale in the Paradox Basin; the Bend shale in the Palo Duro Basin; and the Barnett/Woodford Shale plays in the Delaware and Marfa Basins.

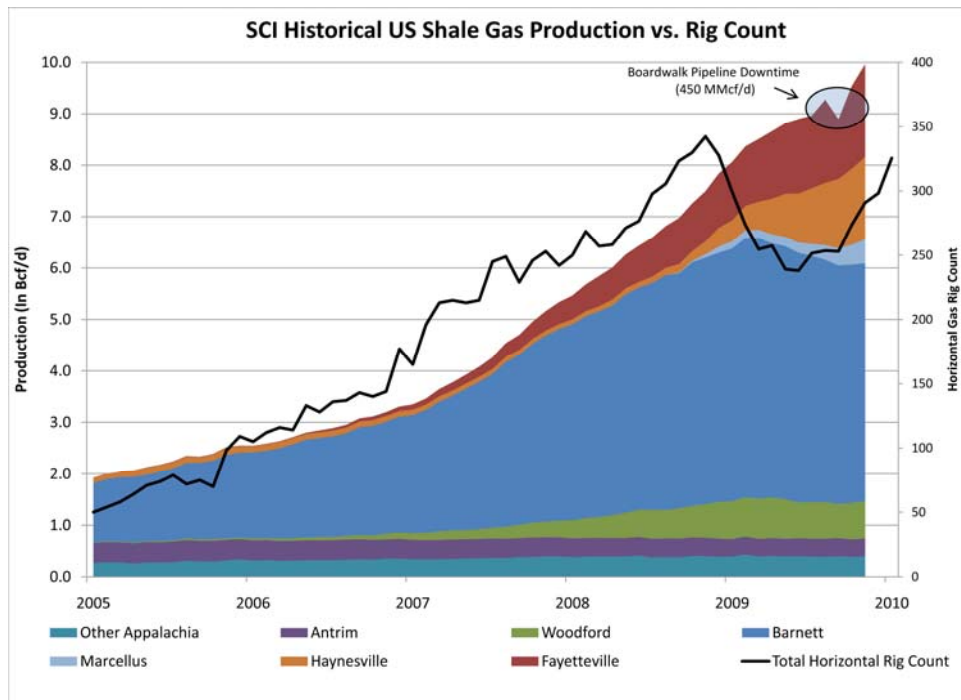


*Major shale gas basins in the United States with total resource potential of 500 to 1,000 tcf.*

The Barnett Shale has set the standard for gas shale development with production ramping up since the mid 90's, when horizontal drilling and hydraulic fracturing technologies enabled the play to become economically viable. The Barnett Shale play has experienced more than a 3,000% growth rate between 1998 and 2007, and it has been estimated that the Fayetteville, Haynesville, Woodford, and Marcellus are expected to show similar growth as these plays move forward.

Ecosphere's market encapsulates all major shale plays in the U.S. According to industry estimates, the number of wells being drilled and subsequently fraced using a water-based fracturing process range is estimated to grow from approximately 27,000 (29,000 including international) in 2010 to approximately 32,000 (40,000 including international) in 2014.

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Source: Simmons & Company International

Overview of the Five Prominent U.S. Natural Gas Shale Plays			
Play	Estimated Basin Area (Square Miles)	Technically Recoverable Resources (TcF)	Summary Description
Barnett	5,000	44	The Barnett Shale is the most prominent, well-developed shale play in the U.S., utilizing horizontal drilling and fracturing techniques to economically produce natural gas since the late 1990s. The Barnett has served as a model for other emerging shale plays, with operators in other regions examining the drilling and completion practices and well responses of the Barnett and applying their knowledge across the U.S. Over 10,000 wells have been drilled in the Barnett.
Marcellus	95,000	262	The Marcellus Shale is the most expansive shale play in the U.S., spanning six states in the Northeast U.S. In 2003, Range Resources drilled the first economically producing wells in Pennsylvania using horizontal drilling and fracturing techniques. The optimism surrounding the Marcellus is driven by its sheer size, strong initial production rates and low costs associated with its proximity to large urban locations.
Woodford	11,000	11	Recent natural gas production in the Woodford Shale, located in southern Oklahoma, began in 2003 and 2004 with vertical completions. Operators in the Woodford more recently applied successful horizontal drilling and fracturing techniques perfected in the Barnett resulting in increased production. The finding and development costs of the Woodford are the highest of all the shale plays, but utilization of seismic, geo-steering and multi-lateral drilling technologies continue to improve economics.
Fayetteville	9,000	42	Production in the Fayetteville Shale, located in Arkansas, began in the early 2000s as operators in the Barnett identified parallels between the plays in terms of age and geologic character. Between 2004 and 2007 the number of gas wells drilled annually in the Fayetteville went from 13 to more than 600, and gas production for the shale increased from just over 100 MMcf annually to approximately 89 Bcf annually.
Haynesville	9,000	251	The Haynesville Shale, located in northern Louisiana and east Texas, is the most recently discovered of the primary shale plays. Initial production rates on many wells have surpassed 20 MMcf per day, and some operators believe that the Haynesville is the most prospective of all shale plays. Haynesville wells are very expensive to drill and complete given very high pressure conditions and the depth (10,500 ft. to 13,500 ft.) of the formation. Low finding and development costs improve the economics of the play.

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**International Gas Shales**

Within the continent of North America, there is an estimated 3,842 trillion cubic feet of natural gas reserves, representing only 24% of the 16,112 trillion cubic feet of estimated global gas reserves. Outside of the U.S., with a few exceptions, unconventional gas resources have largely been overlooked and understudied. In most of the world, the natural gas industry is focusing on producing gas from conventional reservoirs and has yet to turn its attention to unconventional gas reservoirs. These unconventional gas reservoirs represent a vast, long-term, global source of natural gas and have not been appraised in any systematic way.

Unconventional gas resources—including tight sands, coalbed methane, and gas shales—constitute some of the largest components of remaining natural gas resources in the United States. Research and development concerning the geologic controls and production technologies required to evaluate and produce these unconventional gas resources has provided many new technologies during the past several decades. These new technologies have enabled operators in the U.S. to unlock the vast potential of these challenging resources, boosting production levels to an estimated 30% of the natural gas production in the United States. Around the world, unconventional gas resources are widespread (e.g. Russia/Ukraine, China, Poland, Turkey, France, Germany, Canada, Austria/Slovakia, Sweden, etc.), but with several exceptions, they have not received close attention from natural gas operators.

<b>Distribution Worldwide of Unconventional Gas Reserves</b>				
<b>Region</b>	<b>Coalbed Methane (TcF)</b>	<b>Shale Gas (TcF)</b>	<b>Tight-Sand Gas (TcF)</b>	<b>Total (TcF)</b>
North America	3,017	3,842	1,371	8,230
Latin America	39	2,117	1,293	3,449
Western Europe	157	510	353	1,020
Central and Eastern Europe	118	39	78	235
Former Soviet Union	3,957	627	901	5,485
Middle East and North Africa	0	2,548	823	3,371
Sub-Saharan Africa	39	274	784	1,097
Centrally planned Asia and China	1,215	3,528	353	5,096
Pacific (Organization for Economic Cooperation and Development)	470	2,313	705	3,488
Other Asia Pacific	0	314	549	863
South Asia	39	0	196	235
World	9,051	16,112	7,406	32,569

Source: National Petroleum Council (NPC) Global Oil and Gas Study

This is due in part because geologic and engineering information on unconventional resources is scarce, and natural gas policies and market conditions have been unfavorable for development in many countries. In addition, there is a chronic shortage of expertise in the specific technologies needed to develop these resources successfully. As a result, only limited development has taken place to date outside of North America. Interest is growing, however, and during the last decade development of unconventional gas reservoirs has occurred in Canada, Australia, Mexico, Venezuela, Argentina, Indonesia, China, Russia, Egypt, and Saudi Arabia.

Many of those who have estimated the volumes of gas in place within unconventional gas reservoirs agree on one aspect: that it is a large resource. Using the United States as an analogy, there is good reason to expect that unconventional gas production will increase significantly around the world in the coming decades for the following reasons:

- A significant number of geologic basins around the world contain unconventional gas reservoirs.
- Experts estimate that there are 9,000 TcF of gas in place in coalbed methane, 16,000 of gas in place in shale gas, and 7,400 TcF of gas in place in tight gas sands (*see table on page 19*).
- Any reasonable recovery efficiency leads to the conclusion that there is an ample opportunity in the future to develop unconventional gas worldwide.
- The technology developed in the U.S. over the past 3 to 4 decades will be available for application around the world.
- New technology is rapidly becoming a worldwide commodity through efforts of major service companies.
- The global need for energy, particularly natural gas, will continue to be an incentive for worldwide unconventional gas resource development.

### **European Gas Shale Resources**

While gas shale exploration is underway in many of the European basins, three areas stand out - - the Alum Shale of Sweden, the Silurian Shales of Poland and the Mikulov Shale of Austria. The preliminary gas shale resource assessment for these three gas shale basins is 1,000+ Tcf (~30 Tcm), with a potential recoverable resource of 140 Tcf (4 Tcm)<sup>5</sup>.

### **China and India**

China and India have numerous gas shale basins that are only now starting to be evaluated. Recently, Shell and PetroChina announced plans to jointly evaluate and develop the gas shales in Sichuan Province.

### **Other Countries**

Gas shale exploration is underway in many other parts of the world, including Australia, New Zealand and Southern Africa where Statoil, Chesapeake and Sasol recently announced joint plans. At present, a number of major and leading independent oil and gas companies are circling the globe looking for high quality gas shales. Based on the experience to date in North America and Europe, it is likely that Rogner's resource endowment estimate for gas shales of 16,110 Tcf (456 Tcm) will prove to be conservative.

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<sup>5</sup> Advanced Resources International report titled "Worldwide Gas Shales and International Gas: A Status Report"

## Offshore Oil and Gas Drilling

Historically, petroleum companies explored and developed oil and gas accumulations only in inland waters or shallow seas bordering onshore producing areas. Deep water exploration and production from the continental shelves beyond territorial limits did not begin in earnest until the world's increasing demand for petroleum energy sources, coupled with a lessening return from land drilling. These two factors combined to provide the incentives for the huge investments needed for drilling in the open sea.

Today offshore oil exploration and production is a worldwide industry. By the early 1990s, offshore sources accounted for 30% of worldwide crude oil production and 14% of worldwide natural gas. Until recently, most offshore production came from reservoirs located under the continental shelf, in water depths up to 600 ft (180 m). Spurred by technology and a need to find additional secure sources of energy, exploration and production are now moving even farther from shore and into the deeper waters of the continental slopes. Exploration wells have been drilled in water deeper than 9,000 ft (2,750 m), and hydrocarbons are being produced from offshore fields in waters deeper than 5,000 ft (1,500 m).

The continental margins, the geographic region contiguous to and lying seaward of a coastline, have become increasingly important to the natural gas and oil industry over the past century. The continental margins consist of three portions: (1) the continental shelf which has shallow water depths rarely deeper than 200 meters (656 feet) and extends seaward from the shoreline to distances ranging from 20 kilometers (12.3 statute miles) to 400 kilometers (249 statute miles), (2) the continental slope where the bottom drops off to depths of up to 5 kilometers (3.1 statute miles), and (3) the continental rise which dips very shallowly seaward from the base of the continental slope and is in part composed of down-washed sediments deposited at the base of the slope.

The continental margins are of great importance for many reasons, not least of which is that they are presently the source of increasing amounts of the world's, and the U.S.'s natural gas and oil supplies. The emergence of free-standing and floating platforms in the 1940s allowed drilling rigs to be moved ever-farther away from shore into deeper water. Today<sup>6</sup>, there are approximately 4,000 platforms producing in Federal waters up to roughly 7,500 feet deep and up to 200 miles from shore. Furthermore, technological advances in recent years have offered the opportunity for greater exploration, higher production levels, and lower costs. Thus, the percentage of oil and dry natural gas production from water depths greater than 200 meters has steadily increased in the Federal Gulf of Mexico over the past decade.

### U.S. Offshore

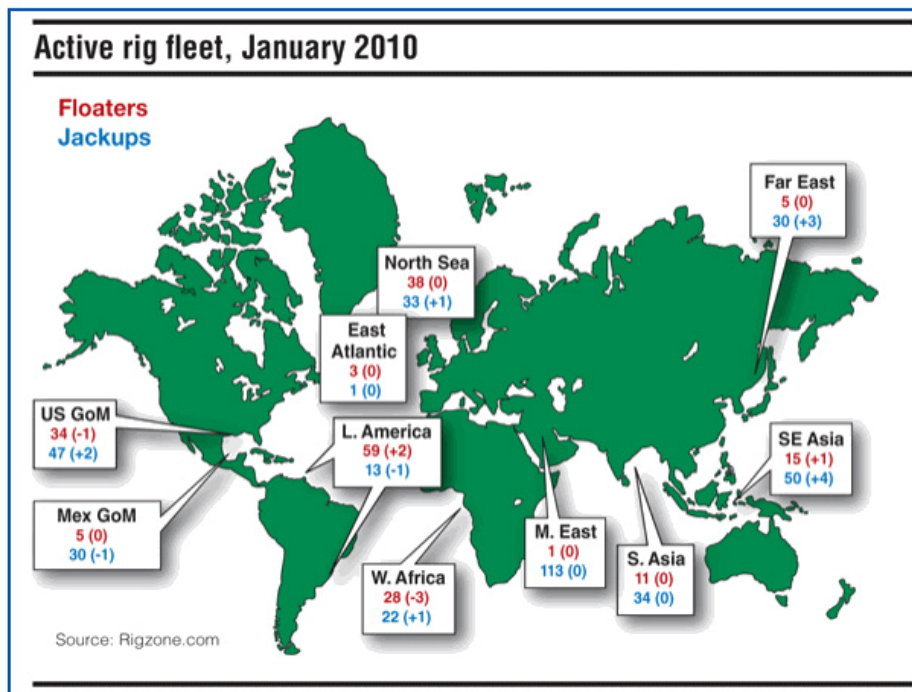
The offshore has accounted for approximately one-quarter of total U.S. natural gas production over the past two decades and almost 30% of total U.S. oil production in recent years. Although production has declined slightly in the past few years, the Mineral Management Service (MMS) reported that natural gas production in Federal offshore waters was 4.042 trillion cubic feet (Tcf) in 2004. This was approximately 21% of the total natural gas produced in the U.S. that year. MMS reported that Federal offshore oil production also slightly declined in recent years with 565 million barrels produced in 2004, which is 29% of the total oil produced in the U.S. that year. Furthermore, in 2003, MMS estimated that there was 406.1 Tcf of remaining undiscovered technically recoverable natural gas and 76 billion barrels of oil in U.S. offshore regions. These estimates represent the potential hydrocarbons of an area that can be produced using current technology, without any consideration to economic feasibility. Of these amounts, an estimated 232.5 Tcf of natural gas and 36.9 billion barrels of oil are located in the Gulf of Mexico.

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<sup>6</sup> Energy Information Administration report titled "Overview of U.S. Legislation and Regulations Affecting Offshore Natural Gas and Oil Activity" dated September 2005

**International Offshore**

Notable offshore fields today are found in the North Sea, the Gulf of Mexico, the Campos and Santos Basins off the coasts of Brazil, Newfoundland and Nova Scotia, several fields off West Africa most notably west of Nigeria and Angola, as well as offshore fields in South East Asia and Sakhalin, Russia.



According to a 2009 industry report<sup>7</sup>, the global offshore oil and gas industry is expected to continue to increase in the coming years. Global offshore crude oil production was 9,349 million barrels while global offshore natural gas production was 26,807 bcf in 2008. With a positive outlook and the continuing trend for the offshore industry, the global offshore crude oil production is expected to increase to 9,852 million barrels by 2015. The global offshore natural gas production is expected to increase to 27,045 bcf by 2011. According to estimates, the global offshore crude oil production is expected to be 9,481 million barrels while global offshore natural gas production is expected to be 26,544 bcf by 2020.

World offshore drilling spending has increased in recent years, particularly during the period of 2004 to 2008. According to estimates, approximately \$350 billion was spent on offshore drilling from 2000 to 2008. Regions accounting for the major share of the spending were the US Gulf of Mexico (USGOM), West Africa, Brazil and Asia Pacific. The offshore drilling spend had peaked in the period 2007 to 2008.

Various factors such as the global economic slowdown, decrease in demand for oil and gas, and a drop in the prices of crude oil and natural gas is expected to have a negative effect on the offshore drilling activity in 2009. Nonetheless, with the global economy expected to recover by 2010, the global exploration and development activity is expected to increase. According to these estimates, more than \$490 billion is expected to be spent on offshore oil and gas drilling during 2009-2015.

In the recent years, there has been a growing trend in investments in the offshore oil and gas industry. Offshore areas in the USGOM and the North Sea in Europe were traditionally the hotspots for

<sup>7</sup> Global Markets Direct report titled “The Future of the Offshore Oil and Gas Industry to 2020” dated November 2009.

investments in the last decade. However, recent discoveries of offshore fields with huge reserves in various other regions of the world have started a shift in investments from mature regions such as North Sea to offshore areas in Brazil, West Africa and Asian countries such as China and Vietnam.

### **Water issues and costs<sup>8</sup>**

In the process of drilling for oil and gas offshore, there are waste streams including synthetic-based drilling muds (SBMs), water-based muds (WBM), and oil-based muds (OBMs). Nearly all water-based muds (WBM) and cuttings are discharged. The WBM and cuttings that do not meet the permit limits are brought back to shore for disposal. Most oil-based muds (OBMs) are recycled and most OBM cuttings are disposed of onshore. Most SBMs are recycled, and most SBM cuttings are discharged. There are two types of disposals methods: Onshore and Onsite Slurry Injection. The following is a summary of the respective disposal costs for two companies within each category. With respect to the onshore disposal costs estimates, the figures don't include the significant cost of hauling the wastewater from the rigs to the facilities onshore.

#### *Onshore Disposal*

Newpark Resources operates oil field waste disposal facilities in Louisiana and Texas and also operates several marine transfer facilities, at which operators can unload drilling wastes from work boats to barges. Because it has these transfer facilities, Newpark receives the majority of offshore wastes. Newpark charges \$7.50/bbl for disposing of WBM cuttings and from \$8.50/bbl to \$11/bbl for disposal of OBMs and OBM cuttings. If wastes are delivered to the transfer stations, there is an additional offloading fee of \$3/bbl - \$3.50/bbl. Typically the operators' drilling waste containers must be washed out and the resulting washwater must be disposed of too. This step adds several dollars per barrel to the total cost.

U.S. Liquids also operates a series of oil field wastes disposal facilities in Louisiana and Texas. U.S. Liquids used to own the marine transfer stations now operated by Newpark. Because it no longer operates marine transfer stations, U.S. Liquids receives a smaller fraction of the offshore wastes brought to shore than it used to. U.S. Liquids charges similar prices to Newpark at its Louisiana facilities. WBM and WBM cuttings cost \$7.50/bbl to \$8.75/bbl for disposal, and OBMs and OBM cuttings cost \$9.50/bbl to \$10.75/bbl.

#### *Onsite Slurry Injection*

Apollo Services offers two methods of drilling waste disposal for its customers. Most customers opt for slurry injection. In the past year, Apollo estimates that it has injected cuttings at 38 wells in the Gulf of Mexico Outer Continental Shelf ("OCS"). Apollo charges a daily rate for rental of its equipment. An estimated total cost for slurry injection is about \$20/bbl. If a customer prefers, Apollo also will box up drilling wastes and haul them to shore and take them to Newpark for disposal. Apollo estimated that presently about 20% of all OBM cuttings from the Gulf of Mexico are injected and 80% are disposed of onshore.

National Injection Services provides slurry injection service to its customers. Last year, National Injection Services worked on 18 wells in the Gulf of Mexico OCS. Total cost figures provided for three recent injection jobs ranged from \$3.30/bbl to \$11.30/bbl. National Injection Services expressed the opinion that historically about 10-15% of Gulf of Mexico wells used slurry injection, but the percentage is now beginning to increase.

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<sup>8</sup> Argonne National Laboratory Report prepared for the US DOE and the US EPA titled "Data Summary of Offshore Drilling Waste Disposal Practices."

## Applications - Other

It is critical to understand that Ecosphere's potential markets include all industries around the world that use chemicals to treat water. As such, the Company is developing strategic partnerships to deploy its technology in a wide variety of global industrial and municipal wastewater applications. The Ozonix treatment system is a very disruptive technology that has a broad spectrum of applications to a multitude of industry segments. There is an inherent "uniqueness" the technology provides when compared to traditional technologies that it either replaces or is combined with to offer improved operational efficiencies and cost savings. Ecosphere's Ozonix has combined a small footprint, scalability, a portable nature and stand alone treatment capabilities. The uniqueness presents itself as compact cost efficient when compared to alternative traditional technologies. The following offers a very broad overview of some segments of industries where thousands of potential clients exist. These primary applications include, but are not limited to:

- Mining Minerals
- Municipal Wastewater
- Commercial Wastewater
- Agricultural Wastewater

### Mining/Minerals Industry Summary

In 2008, the global mining industry reported gross revenues of \$349 billion, representing an increase of 23% over 2007 revenues<sup>9</sup>. Despite this impressive year-over-year revenue growth, 2008 saw the market capitalizations of the top 40 industry participants decrease by 62% from 2007. This is primarily attributed to the fall in commodity prices and the impact of the global economic crisis on shareholder confidence, which saw the industry experience sharp falls in market value in the last quarter of the year. This represents a spectacular and rapid decline for the industry – but one which is mirrored in many sectors.



<sup>9</sup> PricewaterhouseCoopers reported titled "Mine, When the going gets tough, review of global trends in the mining industry – 2009"

*Water issues*

Mineral resources were developed in the United States for nearly two centuries with few environmental controls. This is largely attributed to the fact that environmental impact was not understood or appreciated as it is today. In addition, the technology available during this period was not always able to prevent or control environmental damage.

Water-pollution problems caused by mining include acid mine drainage, metal contamination, and increased sediment levels in streams. Sources can include active or abandoned surface and underground mines, processing plants, waste-disposal areas, haulage roads, or tailings ponds. Sediments, typically from increased soil erosion, cause siltation or the smothering of streambeds. This siltation affects fisheries, swimming, domestic water supply, irrigation, and other uses of streams.

Acid mine drainage (AMD) is a potentially severe pollution hazard that can contaminate surrounding soil, groundwater, and surface water. The formation of acid mine drainage is a function of the geology, hydrology, and mining technology employed at a mine site. The primary sources for acid generation are sulfide minerals, such as pyrite (iron sulfide), which decompose in air and water. Many of these sulfide minerals originate from waste rock removed from the mine or from tailings. If water infiltrates pyrite-laden rock in the presence of air, it can become acidified, often at a pH level of two or three. This increased acidity in the water can destroy living organisms, and corrode culverts, piers, boat hulls, pumps, and other metal equipment in contact with the acid waters and render the water unacceptable for drinking or recreational use<sup>10</sup>.

Mining of metallic ores, phosphate, uranium, and oil shale in the United States produces between one and two billion tons of mine waste annually. As a result, more than 600,000 mines, most of which are abandoned, have polluted 180,000 acres of reservoirs and lakes, and 12,000 miles of streams. Since many of the mines involve sulfide minerals, mineral mine drainage is a common problem from abandoned mine sites as well. The combinations of acidity, heavy metals, and contaminated sediment have severe detrimental environmental impacts on delicate ecosystems<sup>11</sup>.



Aerial view of shoreline, showing a stream polluted with waste water runoff from strip mining flowing into the Ohio River.

Abandoned hardrock mines are a major source of pollution and a public safety issue. Although no comprehensive inventory exists, it is estimated that there may be half a million abandoned hardrock mines, including as many as 35,000 on Forest Service lands and 2,500 within the National Park System. **Cost estimates for cleanup run to \$50 billion or more in the U.S. alone.** Cleanup at the current rate of spending will address no more than 8% to 20% of problem over the next 30 years, according to EPA<sup>12</sup>.

<sup>10</sup> Pollutionissues.com

<sup>11</sup> EPA.gov article titled "Mine Waste Technology Provides Cleanup Solutions"

<sup>12</sup> Pewminingreform.org article titled "S. 796, The Hardrock Mining and Reclamation Act Protecting Taxpayers and the Environment"

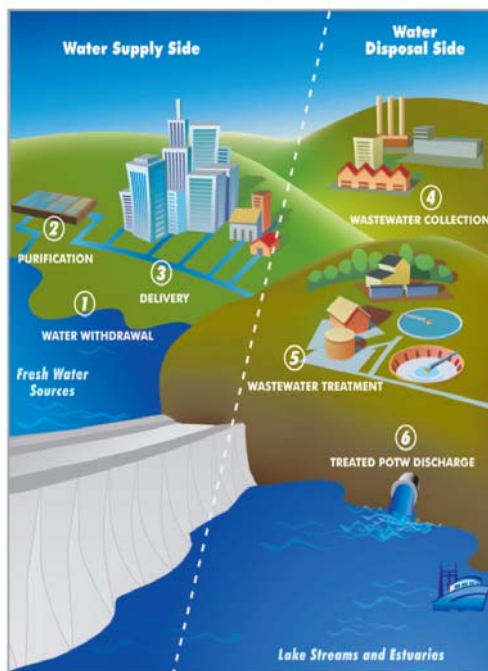
## Wastewater

Wastewater is any water that has been adversely affected in quality by anthropogenic influence. It comprises liquid waste discharged by domestic residences, commercial properties, industry, and/or agriculture and can encompass a wide range of potential contaminants and concentrations. In the most common usage, it refers to the municipal wastewater that contains a broad spectrum of contaminants resulting from the mixing of wastewaters from different sources.

In earlier years, the natural treatment process in streams and lakes was adequate to perform basic wastewater treatment. As the U.S. population and industry grew to their present size, increased levels of treatment prior to discharging domestic wastewater became necessary. The most common form of pollution control in the U.S. consists of a system of sewers and wastewater treatment plants.

### *Municipal Wastewater*

Municipal wastewater systems, sometimes called city sewers or sanitary sewers, connect homes, businesses, and industry directly to the local wastewater treatment plant. Wastewater discharged into municipal wastewater systems travels to the plant where it is treated before being discharged into the environment. Over 75% of the nation's population is served by centralized wastewater collection and treatment systems. According to the U.S. Census, in 2000, there were 15,591 wastewater treatment facilities in the U.S. with a total capacity of 42.225 billion gallons (1 billion barrels) per day, or 15.2 trillion gallons (360 billion barrels) per year. If we were to assume that it costs \$0.25 per barrel.



**Pollutants**

*Oxygen-Demanding Substances*

Dissolved oxygen is a key element in water quality that is necessary to support aquatic life. A demand is placed on the natural supply of dissolved oxygen by many pollutants in wastewater. This is called biochemical oxygen demand, or BOD, and is used to measure how well a sewage treatment plant is working. If the effluent, the treated wastewater produced by a treatment plant, has a high content of organic pollutants or ammonia, it will demand more oxygen from the water and leave the water with less oxygen to support fish and other aquatic life.

Organic matter and ammonia are “oxygen-demanding” substances. Oxygen-demanding substances are contributed by domestic sewage and agricultural and industrial wastes of both plant and animal origin, such as those from food processing, paper mills, tanning, and other manufacturing processes. These substances are usually destroyed or converted to other compounds by bacteria if there is sufficient oxygen present in the water, but the dissolved oxygen needed to sustain fish life is used up in this break down process.

*Pathogens*

Disinfection of wastewater and chlorination of drinking water supplies has reduced the occurrence of waterborne diseases such as typhoid fever, cholera, and dysentery, which remain problems in underdeveloped countries while they have been virtually eliminated in the U.S. Infectious micro-organisms, or pathogens, may be carried into surface and groundwater by sewage from cities and institutions, by certain kinds of industrial wastes, such as tanning and meat packing plants, and by the contamination of storm runoff with animal wastes from pets, livestock and wild animals, such as geese or deer. Humans may come in contact with these pathogens either by drinking contaminated water or through swimming, fishing, or other contact activities. Modern disinfection techniques have greatly reduced the danger of waterborne disease.

*Nutrients*

Carbon, nitrogen, and phosphorus are essential to living organisms and are the chief nutrients present in natural water. Large amounts of these nutrients are also present in sewage, certain industrial wastes, and drainage from fertilized land. Conventional secondary biological treatment processes do not remove the phosphorus and nitrogen to any substantial extent -- in fact, they may convert the organic forms of these substances into mineral form, making them more usable by plant life. When an excess of these nutrients overstimulates the growth of water plants, the result causes unsightly conditions, interferes with drinking water treatment processes, and causes unpleasant and disagreeable tastes and odors in drinking water. The release of large amounts of nutrients, primarily phosphorus but occasionally nitrogen, causes nutrient enrichment which results in excessive growth of algae. Uncontrolled algae growth blocks out sunlight and chokes aquatic plants and animals by depleting dissolved oxygen in the water at night. The release of nutrients in quantities that exceed the affected waterbody’s ability to assimilate them results in a condition called eutrophication or cultural enrichment.

*Inorganic and Synthetic Organic Chemicals*

A vast array of chemicals are included in this category. Examples include detergents, household cleaning aids, heavy metals, pharmaceuticals, synthetic organic pesticides and herbicides, industrial chemicals, and the wastes from their manufacture. Many of these substances are toxic to fish and aquatic life and many are harmful to humans. Some are known to be highly poisonous at very low concentrations. Others can cause taste and odor problems, and many are not effectively removed by conventional wastewater treatment.

### *Commercial Wastewater*

Industrial wastewater treatment covers the mechanisms and processes used to treat waters that have been contaminated in some way by industrial or commercial activities prior to its release into the environment or its re-use. It consists of liquid discharges generated by raw material extraction or transformation processes with a view to manufacturing industrial products or consumer goods. This type of water is extremely heterogeneous. Its quantity and quality vary depending on the process implemented and industrial domain. It often contains a broad range of chemical pollutants: solid or dissolved compounds, organic and mineral materials, metals, hydrocarbons, solvents, polymers, oil, grease, salts etc., with various toxicity levels. This large diversity requires a specific approach for each type of wastewater.

Some sources of industrial wastewater include:

- Forest products
- Iron and steel
- Petroleum
- Chemicals
- Food processing

Diminishing quality water supplies, increasing water purchase costs, and strict environmental effluent standards are forcing industries to target increased water-efficiency and reuse. These factors, in combination with an estimated fivefold increase in worldwide manufacturing water use by 2030, will contribute to growing industrial water-related expenses in the near future. In 1995, the estimated water use for all domestic industries (including mining) was 30,870 million gallons per day, and currently the **global annual cost to purify industrial-use water and wastewater exceeds \$350 billion**<sup>13</sup>.

Each industrial sector (e.g., chemicals, food processing, petroleum, etc.) depends on water for unique reasons. This demand is primarily divided among the three major industrial uses for water—process water, cooling, and heating—with a shifting emphasis for each industry. Although there is certainly an overall trend towards a greater volume of water being reused and recycled, there is still a substantial amount of waste water being generated from each industry.

#### *Forest products*

The forest products (pulp and paper) industry is the largest industrial process water user in the United States. Surveys from 1975 found an average water use of 26,700 gal/ton-product for the pulp and paper industry. By 1988, this amount fell to approximately 17,500 gal/ton-product. Currently, approximately 16,000 gallons of water are consumed per ton of product.

#### *Iron and steel*

According to the American Iron and Steel Institute (AISI), “Next to iron and energy, water is the industry’s most important commodity”. In general, water is used in steelmaking as a: coolant for equipment, furnaces, and intermediate steel shapes; cleansing agent to remove scale from steel products; source of steam; medium for lubricating oils and cleaning solutions; and wet scrubber fluid for air pollution control. Currently, 75,000 gallons of water is required to produce one ton of steel. However, this figure includes recycled and reused process and cooling water. With high-rate recycling, typical steelmaking “fresh” water requirements range between 13,000 and 23,000 gallons per ton of product through all stages of production.

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<sup>13</sup> U.S. DOE Energy Efficiency and Renewable Energy report titled “Industrial Water Use and its Energy Implications”

### *Petroleum*

The petroleum industry has achieved more than a 95% decrease in water use per barrel of crude oil processed from the 2,000 gallon industry average present in 1975, yet it is still one of the four most water-intensive domestic manufacturing sectors. Petroleum refineries have the highest rate of water recycling of any major industry. The recycling ratio in the petroleum industry is about 7.5 to 1. In other words, a given quantity of raw water is typically reused an average of 7.5 times prior to being discharged. Most recycled water is routed to cooling applications, which are the most water-intensive processes in petroleum refining. As a result, the petroleum industry uses nearly ten times as much cooling water as it does process water. Water use and wastewater discharge per barrel of crude oil processed range between 65 to 90 gallons and 20 to 40 gallons, respectively.

### *Chemicals*

The chemicals industry is so large and diverse that generalizations about its water use efficiency cannot easily be made. However, data does show that the chemicals industry has historically been one of the largest industrial consumers of water. The most prevalent use of water in the chemicals industry is for cooling. Even though the U.S. chemicals industry's production is still growing, its water use per unit of production has shown a steadily decreasing trend over the last four decades. Increased production efficiency and water recycling, and the substitution of air in place of water during certain cooling processes, have all been cited as explanations for the decrease in per unit water use. Over 90% of the industry's recirculated water is used for cooling. Industrial organic chemicals manufacture is the most water-intensive chemicals sector, whereas agricultural chemicals is the least water-intensive. The chemicals industry uses approximately 26,400 million gallons per day of combined fresh intake and recirculated water. The synthesis of different chemicals may require orders of magnitude differences in water, and ranges are even quite large for producing the same chemical. For example, the production of sulfur requires approximately 1,920 to 2,400 gallons of water per ton of product while lactose production requires between 144,000 and 192,000 gallons of water per ton, clearly demonstrating the complexity of the chemicals industry's water needs.

### *Food Processing*

Some of the most common uses for water in the food processing industry are washing/cleaning food and equipment, pasteurization, cooking, and sterilization. It can also be used as an additive in canned fruits and vegetables. How water is used among various food processing sectors can differ substantially.

For sugar production, roughly half of the intake water is used for cooling and 20% or less is used for actual processing. Beverage manufacturers also use large quantities of water for cooling, although they require slightly more process water than cooling water. On the contrary, for meat processing and fruit preservation, approximately 60% of the intake water is used as process water. Food processing techniques have not changed much over the last several decades. Despite this technological inertia, the food processing industry has shown a trend of decreasing water use since the mid-1950s. Water use peaked in 1968 at 2,100 Mgal/day but dropped to 1,500 Mgal/day by 1983. Over the same time period, per unit water use declined from 13.1 gallons to 8.6 gallons. Most of the decrease in water use has been a direct result of effluent regulation compliance.

The food processing industry has maintained similar recycling ratios over the past several decades while most other industries have doubled their respective rates. The food processing industry's recycling ratio has stabilized at 2.0:1. Water use requirements differ depending on both food processing sector and end-product.

The following table shows estimated water demands for the processing of various foods.

Product	Water Use (gal/ton-product)
Beer	2,400-3,840
Milk products	2,400-4,800
Meat packing	3,600-4,800
Bread	480-960
Whisky	14,400-19,200
Green beans (canned)	12,000-17,000
Peaches and pears (canned)	3,600-4,800
Other fruits and vegetables (canned)	960-8,400
Industry-wide average	8.6 gal/unit output

Summary of Commercial/Industrial Wastewater use per ton	
Industry	Gallons of water used per unit of product
Forrest products	16,000 per ton
Iron and Steel	13,000-23,000 per ton
Petroleum (water use)	65-90 gallons per barrel
Petroleum (wastewater discharge)	20-40 gallons per barrel
Chemicals	1,900-192,000 per ton
Food processing	8.6 gallons per unit

**Agricultural Wastewater**

Agricultural wastewater treatment relates to the treatment of wastewaters produced in the course of agricultural activities. Agriculture is a highly intensified industry in many parts of the world, producing a range of wastewaters requiring a variety of treatment technologies and management practices. It is well known that agriculture is the single largest user of freshwater resources, using a global average of 70% of all surface water supplies. Except for water lost through evapotranspiration, agricultural water is recycled back to surface water and/or groundwater. However, agriculture is both cause and victim of water pollution. It is a cause through its discharge of pollutants and sediment to surface and/or groundwater, through net loss of soil by poor agricultural practices, and through salinization and waterlogging of irrigated land. It is a victim through use of wastewater and polluted surface and groundwater which contaminate crops and transmit disease to consumers and farm workers.

Some sources of agricultural wastewater include:

- Sediment runoff
- Nutrient runoff
- Pesticides
- Animal wastes

Animal wastes washed directly into surface streams, sinkholes, and drawn down through the soil by rainwater introduce nitrates into the groundwater-the same water which eventually runs from our taps and

flows from our springs. To put this in perspective, a typical full grown dairy cow produces 148 lbs (18 gallons of manure) per day, of which 65%-70% is water, which translates into 54,020 lbs (6,460 gallons) per year. In the U.S. there are approximately 97 million cows, representing just under 10% of the global cattle population. Based on these estimates, cows in the U.S. produce 5.2 trillion lbs of manure each year, or 627 billion gallons. If even just one percent of the total produced cow manure invaded the groundwater, that would represent a serious environmental problem.

According to the United Nations' Food and Agricultural Organization (FAO), there are about 1.3 billion cattle worldwide (one for every five people), slightly more than 1 billion sheep, around 1 billion pigs, 800 million goats and 17 billion chickens. Among them, they produce a lot of fecal matter -- approximately 13 billion tons (26 trillion pounds) of it a year globally.

<b>Applications-Other Wastewater market summary</b>	
<b>Industry - U.S.</b>	<b>Estimated Market Size for Water Treatment/Disposal (\$ mil)</b>
Mining Minerals	\$50,000
Municipal Wastewater	\$90,000
Commercial Wastewater (a)	\$350,000
Agricultural Wastewater	N/A
a. figure includes mining	

Some other commercial applications that were not quantified above include but are not limited to:

- Refinery Operation
- Landfill Leachate Controls
- Marine Industry
- Hydro Electric Power Plants
- Aerospace and Aircraft Rework Facilities
- Airport De-icing Operation
- Rendering Plants – Chicken, Pork, Beef
- Desalination Plants

**Summary**

In summary, the current focus of the Company is onshore natural gas drilling. However, in the future, we believe that the Company will likely leverage its Ozonix technology in other industries where wastewater is an issue. While it is impossible to quantify these opportunities from Ecosphere’s perspective, we believe it is important to acknowledge the size of the markets and point out that there are many different applications of this technology that are not in our pro forma income statement or valuation.

## V. CORPORATE STRATEGY

### Overview

At present, the Company is focused on developing its relationships and expanding the number of contracts with its three existing E&P customers: Southwestern Energy, Newfield Exploration, and BP America. The Company's short term plan is to expand its geographic reach from its existing operations in the Fayetteville shale, and begin major commercial operations in the other four major shale plays via expanded contracts with its existing customers and new contracts with new customers. Simultaneously, the Company is investigating international shale market opportunities.

Ecosphere's current activities and strategies are focused on leveraging its "Ozonix" technology for the oil & gas industry. In the future, Ecosphere may pursue introducing its technology in the following industries:

- Offshore Oil and Gas
- Onshore Oil
- Mining Minerals
- Municipals Wastewater
- Commercial Wastewater
- Agricultural Wastewater

### Competition

Ecosphere has two primary services: front end treatment and back-end treatment.

#### Front-end (Completions or Frac fluid)

We have been unable to identify any other company in the world that can provide exploration and production companies with clean, bacteria-free frac fluid at high volume without the use of chemicals at the well site. Due to the fact that most drilling companies are using chemicals in their completions solutions, Ecosphere's primary competitors/substitutes (on the front end) are the major chemical companies that manufacture and sell the chemicals to the drillers going down hole, such as Nalco (a division of Dow Chemical) and Champion.

#### Back-End (Frac Flowback)

Being able to convert frac flowback water (contaminated with heavy metals) at high volumes into a valuable byproduct (EcosBrine) that can be reused for hydraulic fracturing not only provides the completions team with chemical-free frac fluid but also eliminates waste and is therefore considered a closed loop system. The energy companies use a myriad of different approaches to dealing with frac flowback waters. The primary method of dealing with these waters throughout the U.S. is hauling them to a permitted underground injection site. In some cases vapor distillation technology is being used to treat frac flowback and produced waters at a disposal facility. Ecosphere's business model is completely different from any other wastewater recycling/treatment company. Ecosphere is using its technology is to create a high volume "closed loop" system providing a total water management solution, without the use of chemicals, to E&P companies drilling for natural gas in unconventional plays.

Below is a chart listing other companies that are participating in the market for water recycling technology in the energy industry. These companies have substantive drawbacks when compared to Ecosphere's Ozonix technology, including high energy costs, immobility or the need for chemicals.

Water Recycling Technology Companies			
Technology	Key Features	Drawbacks	WSR Estimate of Processing Cost per barrel
Ecosphere's Ozonix	<ul style="list-style-type: none"> <li>- Combines ozone, ultrasound, and electro-precipitation in a reaction vessel, resulting in a cost effective, rapid method of killing bacteria, oxidizing heavy metals, oil sheens and organic materials, and neutralizing scale inducing water qualities</li> <li>- <b>HOURLY</b> capacity of 6,000 Bbls per set of 10 units</li> <li>- Daily capacity is only limited by the number of sets</li> </ul>		\$0.75-\$2.50
Hydration Technologies Innovations and Bear Creek Services "Green Machine"	<ul style="list-style-type: none"> <li>- HTI's Forward Osmosis Membrane</li> <li>- Can filter 1,000 barrels per unit per day</li> </ul>	<ul style="list-style-type: none"> <li>- Works most effectively on low TDS wastewater</li> <li>- Limited capacity</li> </ul>	\$4.00-\$5.00
Heckmann Corporation	<ul style="list-style-type: none"> <li>- 50 mile water disposal pipeline in the Hayneville shale</li> <li>- Can treat and dispose up to 100,000 barrels per day</li> </ul>	<ul style="list-style-type: none"> <li>- Not intended for well site use</li> <li>- Limited capacity</li> </ul>	\$1.00-\$5.00
Fountain Quail's NOMAD 2000	<ul style="list-style-type: none"> <li>- Uses thermal distillation and evaporation</li> <li>- Condenses 80% of wastewater into distilled water, reusable for fracking but not potable</li> <li>- Daily capacity of 2,500 Bbls</li> </ul>	<ul style="list-style-type: none"> <li>- 20-foot by 60-foot footprint</li> <li>- Limited capacity</li> <li>- Requires three tractor trailers and several days of takedown/setup</li> <li>- Requires chemicals</li> <li>- Energy intensive</li> </ul>	\$4.00-\$6.50
212 Resources' "POD"	<ul style="list-style-type: none"> <li>- Uses thermal distillation and evaporation</li> <li>- Recycles 90-95% of wastewater into distilled, potable water</li> <li>- Daily capacity of 3,000 Bbls</li> </ul>	<ul style="list-style-type: none"> <li>- 40-foot by 60-foot footprint</li> <li>- "Not intended to move more than once or twice a year." - 212 Resources Executive Vice President</li> <li>- Limited capacity</li> <li>- Not intended for well site use</li> <li>- Requires chemicals</li> <li>- Energy intensive</li> </ul>	\$4.00-\$6.50
STW Resources	<ul style="list-style-type: none"> <li>- Thermal Evaporation Technology developed by GE Water Process and Technologies</li> <li>- Recycles 70% of produced fluids into potable water</li> <li>- Daily capacity of 3,000 to 17,000 Bbls, depending on size of the unit</li> </ul>	<ul style="list-style-type: none"> <li>- 30 year old technology</li> <li>- Mobile units have limited capacity</li> <li>- Large capacity units are immobile</li> <li>- Energy intensive</li> </ul>	\$5.00-\$7.00
INTEVRAS Technologies "EVRAS"	<ul style="list-style-type: none"> <li>- Uses thermal distillation and evaporation</li> <li>- Uses waste heats from compressor stations to lower energy costs</li> </ul>	<ul style="list-style-type: none"> <li>- Purified water evaporated and cannot be recycled for reuse</li> <li>- Not intended for well site use</li> <li>- Relatively large footprint</li> </ul>	\$2.50-\$3.00
WATERTECTONICS' "WAVEIONICS"	<ul style="list-style-type: none"> <li>- Electro-coagulation technology removes contaminants using strong electrical field</li> <li>- Process is automated and non-chemical</li> </ul>		\$1.50-\$2.00
Sionix's "Elixir" System	<ul style="list-style-type: none"> <li>- Uses air under pressure and microscopic bubbles to remove waste</li> <li>- Capable of removing more than 99.5% of particulate matter at measurements down to 1 micron</li> <li>- Requires minimal chemical filter acids, reducing disinfection byproducts</li> </ul>	<ul style="list-style-type: none"> <li>- Cannot remove dissolved solids</li> <li>- 80 year-old technology</li> <li>- Limited capacity</li> <li>- Require chemicals</li> </ul>	\$3.50-\$5.00

## Intellectual Property

Ecosphere Technologies' intellectual property portfolio includes registered and pending patents, trade secrets, trademarks, and copyrights relating to the Company's clean energy, air and water technologies. This extensive IP estate addresses pressing global environmental and humanitarian issues. The Company's extensive portfolio of clean air and water technologies includes patents and patents pending in 36 countries. All of the Company's material intellectual property was invented or co-invented by the Company's founder and Chief Executive Officer, Mr. Dennis McGuire, and has been assigned to the Company.

The following is a partial list of the Company's existing intellectual property estate:

- U.S. Non-Provisional Patent Application entitled "Enhanced Water Treatment for Reclamation of Waste Fluids and Increased Efficiency Treatment of Potable Waters"; filed 03/06/2009, claims priority date of 08/02/2007; U.S. Serial No. 12/399,481 and is a Continuation of U.S. Serial No. 12/184,716.
- U.S. Provisional Patent Application entitled "Real Time Processing of Water for Hydraulic Fracture Treatments using a Transportable Frac Tank"; filed 03/06/2009; U.S. Serial No. 61/158,098.
- U.S. Non-Provisional Patent Application entitled "Enhanced Water Treatment for Reclamation of Waste Fluids and Increased Efficiency Treatment of Potable Waters"; filed 8/1/2008, claims priority date of 08/02/2007; U.S. Serial No. 12/184,716; Related PCT No. PCT/US2008/071950 – WO2009/032455.
- U.S. Patent 7,100,844 – High Impact Waterjet Nozzle is constructed to infuse fluid into a high velocity stream of liquid passing through a nozzle to create a bubble rich waterjet that causes the bubbles to implode when the waterjet strikes the surface amplifying the impact of the water – dated September 5, 2006.
- U.S. Patent 6,745,108 - Expansion of 3D robotic auto paint stripping patent to include any object – dated June 1, 2004.
- U.S. Patent 6,287,389 - Method of robotic automobile paint stripping – dated September 11, 2001.
- U.S. Patent Pending - Mobile Emergency Water Filtration System for Homeland Security and other applications.
- U.S. Patent Pending - Business Model to provide response and training to public and private suppliers of water resources in the event of an act of terrorism or a natural disaster that contaminates a water supply.

## V. FINANCIALS

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- **Income Statement**
- **Balance Sheet**
- **Statement of Cash Flows**
- **Pro forma Income Statement and Valuation Metrics**

### Income Statement

Ecosphere Technologies Inc. Earnings Model							
*ALL FIGURES EXCLUDE INTERCOMPANY TRANSACTIONS	2007 (A)	2008 (A)	2009 (E)	2010 (E)	2011 (E)	2012 (E)	2013 (E)
<b>Revenues</b>							
EES Revenues			\$1,705,385	\$22,365,000	\$60,870,000	\$119,850,000	\$186,090,000
Revenues from other operations	\$750,007	\$247,202					
<b>Total Revenues</b>	\$750,007	\$247,202	\$1,705,385	\$22,365,000	\$60,870,000	\$119,850,000	\$186,090,000
<b>Cost of Revenues</b>							
COGS EES				\$9,616,950	\$26,174,100	\$51,535,500	\$80,018,700
<b>Cost of Revenues</b>	\$888,302	\$163,169	\$1,066,006	\$9,616,950	\$26,174,100	\$51,535,500	\$80,018,700
<b>Gross Profit</b>	(\$138,295)	\$84,033	\$639,379	\$12,748,050	\$34,695,900	\$68,314,500	\$106,071,300
<b>Operating Expenses</b>							
SG&A	\$5,849,673	\$6,082,656	\$10,793,422	\$7,014,000	\$7,364,700	\$7,732,935	\$8,119,582
Depreciation				\$2,070,000	\$7,935,000	\$16,215,000	\$25,875,000
Impairment of assets	\$15,000	\$6,601					
Restructuring charge							
Impairment of investment	\$5,000	\$0					
Non-cash compensation		\$0					
<b>Total Operating Expenses</b>	\$5,869,673	\$6,089,257	\$11,341,512	\$9,084,000	\$15,299,700	\$23,947,935	\$33,994,582
<b>Income/(Loss) from Operations</b>	(\$6,007,968)	(\$6,005,224)	(\$10,702,133)	\$3,664,050	\$19,396,200	\$44,366,565	\$72,076,718
				16.4%	31.9%	\$0	\$0
<b>Other Income</b>							
Other income	\$11,664	(\$12,599)					
Other expense							
Loss on conversion	(\$74,189)	(\$256,271)					
Loss on extinguishment of debt	(\$2,757,534)	\$0					
Interest expense	(\$2,992,663)	(\$5,419,562)	(\$5,186,787)	(\$823,650)	(\$1,647,300)	(\$1,647,300)	(\$1,647,300)
Change in fair value of derivative instruments							
<b>Total other income (expense)</b>	(\$5,812,722)	(\$5,688,432)	(\$9,467,763)	(\$823,650)	(\$1,647,300)	(\$1,647,300)	(\$1,647,300)
<b>Net Income/(Loss) before income taxes</b>	(\$11,820,690)	(\$11,693,656)	(\$20,169,896)	\$2,840,400	\$17,748,900	\$42,719,265	\$70,429,418
less: Minority Interest			\$500,000	(\$2,030,067)	(\$6,450,766)	(\$13,817,558)	(\$21,988,887)
<b>Income Tax Expense</b>				\$0	\$0	(\$4,573,312)	(\$27,467,473)
<b>Preferred Stock Dividends</b>	(\$141,802)	(\$138,250)	(\$120,000)	(\$120,000)	(\$120,000)	(\$120,000)	(\$120,000)
<b>Net Income (Loss) applicable to common stock</b>	(\$11,962,492)	(\$11,831,906)	(\$19,789,896)	\$690,333	\$11,178,134	\$24,208,395	\$20,853,059
<b>Net Income (loss) applicable to noncontrolling int. in sub</b>							
Net Income (loss) applicable to ETI Common Stock	(\$11,962,492)	(\$11,831,906)	(\$19,789,896)	\$690,333	\$11,178,134	\$24,208,395	\$20,853,059
<b>Net Income/(Loss) per share basic</b>		(\$0.16)	(\$0.17)	\$0.01	\$0.09	\$0.19	\$0.15
<b>Net Income/(Loss) per share est diluted</b>			(\$0.15)	\$0.00	\$0.07	\$0.15	\$0.12
Basic common stock outstanding	60,596,054	73,158,831	117,088,814	120,045,453	124,919,780	129,992,024	135,270,221
Diluted based on expected share price (treasury method)			133,076,238	152,237,332	158,418,778	164,851,216	171,544,836

We note that in our earnings model above, 2013 net income and EPS decreased year-over-year while revenue and gross margin continue to grow. The reason for this bottom line decrease was that the NOL carryforward is forecast to expire during the fourth quarter of 2012, resulting in an income tax liability of \$27.5 million for 2013. Also, while we are highly confident in the demand, the precise financial metrics may vary from company to company and deal to deal. We will update the model as deals are announced.

**Balance Sheet**

<b>Ecosphere Technologies Balance Sheet</b>		
	<u>September 30,</u>	<u>December 31,</u>
	2009	2008
<b>Current Assets</b>		
Cash	51,620	461,514
Accounts receivable		123,728
Inventories		32,426
Prepaid Expenses and other current assets	492,587	72,101
<b>Total Current assets</b>	<b>544,207</b>	<b>689,769</b>
Property and equipment, net	1,826,230	1,875,891
Construction in progress	3,318,713	319,975
Patents, net	38,709	41,165
Debt issue costs, net	10,000	276,055
Deposits	14,650	55,998
<b>Total assets</b>	<b>5,752,509</b>	<b>3,258,853</b>
<b>Liabilities and Stockholders Equity</b>		
<b>Current Liabilities</b>		
Accounts payable	3,536,766	1,009,467
Accounts payable - related parties		5,485
Accrued liabilities	968,326	1,457,497
Insurance premium finance contract	6,189	42,270
Capital lease obligations	23,684	38,249
Due to affiliate	2,000	2,000
Deferred revenue	200,000	
Notes payable - related parties - current portion	755,600	1,370,141
Notes payable - third parties - current portion	3,003,334	5,994,435
Fair value of liability for warrant derivative instruments	7,813,639	
Fair value of liability for embedded conversion option derivative instruments	1,275,574	
<b>Total current liabilities</b>	<b>17,585,112</b>	<b>9,919,544</b>
Capital lease obligations - less current portion		13,721
Deferred revenue		4,126
Restructuring reserve	185,671	
Notes payable - related parties - less current portion		115,818
Notes payable - third parties - less current portion	2,009,010	25,400
<b>Total liabilities</b>	<b>19,779,793</b>	<b>10,078,609</b>
Redeemable convertible cumulative preferred stock series A	1,130,994	1,111,306
Redeemable convertible cumulative preferred stock series B	2,770,052	2,822,239
<b>Stockholders' Deficit</b>		
Common stock	1,116,538	837,914
Common stock issuable	7,500	2,860
Additional paid-in capital	63,498,891	53,399,704
Accumulated Deficit	(85,782,728)	(64,993,779)
Noncontrolling interest in consolidated entity	3,231,469	
<b>Total stockholders' deficit</b>	<b>(17,928,330)</b>	<b>(10,753,301)</b>
<b>Total liabilities and stockholders' deficit</b>	<b>5,752,509</b>	<b>3,258,853</b>

Note: Approximately \$9 million of the Company's \$17.6 million current liabilities consist of non-cash liabilities related to warrants and options. From an operating cash flow perspective, the Company lost only \$1.1 million during the nine months ended September 30<sup>th</sup>, 2009. The following is an explanation of the accounting. In January 2009, the Company adopted the provisions of FASB Accounting Standards Codification (ASC) 815-40 which was ratified by the Financial Accounting Standards Board on June 25, 2008 and became effective for financial statements issued after December 15, 2008. Under the provisions of ASC 815-40, convertible instruments and warrants, which contain terms that protect holders from declines in the stock price ("reset provisions"), may no longer be exempt from derivative accounting treatment under ASC 815-10

Derivatives and Hedging. As a result, warrants and embedded conversion features of convertible notes may no longer be recorded in equity, but will rather be recorded as a liability which will be revalued at fair value at each reporting date. Further, under derivative accounting, the warrants will be valued at their fair value, rather than their relative fair value. For further explanation, please read the Company's 10-Q.

**Statement of Cash Flows**

	<b>For the Nine Months Ended</b>	
	<b>September 30,</b>	
	2009	2008
<b>Ecosphere Technologies Statement of Cash Flows</b>		
<b>OPERATING ACTIVITIES</b>		
Net (loss) before preferred dividends and after noncontrolling interest	(16,196,366)	(8,530,891)
Adjustments to reconcile net income (loss) to net cash used in operating activities		
Depreciation and amortization	438,549	143,725
Amortization of debt issue costs	268,792	327,508
Amortization of prepaid expenses	43,345	128,146
Accretion of discount on notes payable	2,305,093	3,308,099
Loss on conversion of accrued interest to stock	701,343	292,338
Non-cash compensation expense	3,589,619	1,097,462
Interest expense for warrant derivative liability related to new warrants	684,381	
Interest expense for embedded conversion option derivative liability of new convertible debt	983,871	
Warrants issued for services		7,161
Impairment of inventory		6,601
Common stock issued for settlement		12,500
Options issued for services		10,808
Option/warrant exchange program expense		15,679
<b>Changes in operating assets and liabilities</b>		
Decrease (increase) in accounts receivable	123,728	(119,674)
(Increase) in inventories		(32,426)
(Increase) decrease in prepaid expenses and other current assets	(463,243)	2,678
(Increase) in debt issue costs and other non-current assets	(2,737)	(147,501)
Increase (decrease) in accounts payable	2,527,299	86,476
Increase (decrease) in accounts payable - related parties	(5,485)	
Increase in restructuring reserve	261,147	
Increase in deferred rent	3,094	1,031
Increase in deposit		250,000
Increase in deferred revenue	200,000	
Increase in accrued expenses	178,449	216,245
Increase in fair value of warrant derivative liability	1,804,869	
Increase in fair value of embedded conversion option derivative liability	1,760,733	
Noncontrolling interest in consolidated subsidiary	(268,531)	
<b>Net cash used in operating activities</b>	<b>(1,062,050)</b>	<b>(2,924,035)</b>
<b>INVESTING ACTIVITIES</b>		
Proceeds from sale of investment		250,000
Construction in process purchases	(3,292,989)	(426,416)
Purchase of property and equipment	(60,343)	(885,544)
<b>Net cash (used in) investing activities</b>	<b>(3,353,332)</b>	<b>(1,061,960)</b>
<b>FINANCING ACTIVITIES</b>		
Proceeds from noncontrolling interest investment	3,500,000	
Proceeds from issuance of notes payable and warrants	575,000	3,294,790
Proceeds from issuance of notes payable	45,500	
Proceeds from issuance of notes payable and warrants to related parties	80,000	980,000
Proceeds from issuance of notes payable to related parties		41,856
Proceeds from warrant exercises	75,938	166,800
Repayment of notes payable and insurance and insurance financing	(212,664)	(173,618)
Repayment of notes payable to related parties	(30,000)	(241,080)
Principal payments on capital leases	(28,286)	(25,671)
<b>Net cash provided by financing activities</b>	<b>4,005,488</b>	<b>4,043,077</b>
<b>Net (decrease) increase in cash</b>	<b>(409,894)</b>	<b>57,082</b>
<b>Cash, beginning of period</b>	<b>461,514</b>	<b>329,848</b>
<b>Cash, end of period</b>	<b>51,620</b>	<b>386,930</b>

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**Valuation Metrics**

**Comparison Table:**

Name	Ticker	Specialty	Price	Share Count	Market Cap	LTM Revenue	Average Volume	P/E
Water			2/12/2010	(M)	(\$MM)	(\$MM)	(3 months)	Forward
Aqua America	WTR	Investor-Owned Utilities	\$16.69	136.27	\$2,274	\$662	1,152,590	18.1
Ameron International	AMN	Distribution Infrastructure/Water Handling	\$67.08	9.22	\$618	\$598	133,998	15.6
American States Water	AWR	Investor-Owned Utilities	\$31.89	18.51	\$590	\$359	77,470	16.1
American Water Works, Inc.	AWK	Investor-Owned Utilities	\$21.82	174.60	\$3,810	\$2,410	1,995,300	15.2
Calgon Carbon	CCC	Filtration/Treatment	\$13.00	55.97	\$728	\$404	697,765	16.8
California Water Service, Inc.	CWT	Investor-Owned Utilities	\$35.86	20.74	\$744	\$443	94,968	16.8
Cascal NV	HOO	Construction/Engineering Services	\$5.78	30.58	\$177	\$161	55,616	N/A
Clarcor, Inc.	CLC	Filtration/Treatment	\$31.35	50.42	\$1,581	\$908	217,113	16.3
Consolidated Water	CWCO	Specialties	\$12.90	14.54	\$188	\$61	103,822	15.0
<b>Ecosphere Technologies, Inc.</b>	<b>ESPH</b>	<b>Filtration/Treatment</b>	<b>\$0.65</b>	<b>114.00</b>	<b>\$74</b>	<b>\$1</b>	<b>368,060</b>	<b>N/A</b>
Energy Recovery, Inc.	ERII	Specialties	\$5.94	50.17	\$298	\$53	391,944	36.3
Flowserve Corp.	FLS	Distribution Infrastructure/Water Handling	\$94.26	55.85	\$5,264	\$4,340	794,586	13.1
Gorman-Rupp Company	GRC	Distribution Infrastructure/Water Handling	\$24.10	16.71	\$403	\$285	50,225	19.0
Heckmann Corporation	HEK	Distribution Infrastructure/Water Handling	\$5.98	108.75	\$650	\$38	557,641	N/A
Met-Pro, Corp.	MPR	Filtration/Treatment	\$9.52	14.60	\$139	\$85	42,635	18.6
Middlesex Water Company	MSEX	Investor-Owned Utilities	\$16.50	13.50	\$223	\$91	36,868	20.4
Millipore Corp.	MIL	Filtration/Treatment	\$68.91	56.34	\$3,882	\$1,650	364,032	14.0
Mueller Water Products	MWA	Distribution Infrastructure/Water Handling	\$5.18	154.29	\$799	\$1,370	1,756,850	19.4
Nalco Holdings Co.	NLC	Filtration/Treatment	\$22.10	138.20	\$3,054	\$3,750	1,041,940	13.4
Pall Corp.	PLL	Filtration/Treatment	\$34.35	117.36	\$4,031	\$2,300	839,402	14.3
Robbins & Myers, Inc.	RBN	Distribution Infrastructure/Water Handling	\$23.44	32.92	\$772	\$592	201,721	16.5
SJW Corp.	SJW	Investor-Owned Utilities	\$22.28	18.50	\$412	\$217	35,097	20.6
SouthWest Water Co.	SWWC	Investor-Owned Utilities	\$6.84	24.88	\$170	\$223	91,971	19.4
The York Water Company	YORW	Investor-Owned Utilities	\$13.58	12.53	\$170	\$37	23,613	19.5
Watts Water Company	WTS	Distribution Infrastructure/Water Handling	\$28.46	36.68	\$1,044	\$1,270	179,071	18.1
<i>Average</i>					<i>\$1,284</i>	<i>\$892</i>	<i>452,172</i>	<i>17.8</i>

Source: WSR and Yahoo Finance

**Valuation Table**

Year	Price to Earnings		Discount Rate	12-Month Target Value
	Earnings Estimate	Multiple (X)		
2011	\$0.07	35	30%	\$2.03
2012	\$0.15	35	30%	\$3.25
2013	\$0.12	35	30%	\$2.07
<b>Average</b>				<b>\$2.45</b>

We calculate a 12-month target average value of \$2.45 per share for ESPH shares. We are using a 35x P/E multiple due to the above average revenue growth rate (2010-2014 four-year CAGR of 85% and 2009-2014 five-year CAGR of 227%) and a 30% discount rate. We caution investors that our pro forma estimates are based on a number of assumptions and scenarios which may vary materially from actual results. As indicated earlier, while we are highly confident in the demand, the precise financial metrics may vary from company to company and deal to deal. We will update the 12-month target valuation as deals are announced.

## VII. RISKS

### Index

- **Competition Risk**
- **Execution Risk**
- **Financial Risk**
- **Key Management Risk**
- **Micro-capital Investment Risk**
- **Non-Specific Market Risks (Liquidity, trading rules & BD restrictions)**
- **Risk Categories**

### Competition Risk

Based on information we were able to obtain, Ecosphere Technologies' patent pending "Ozonix" technology and its systems incorporating this technology are the first economically viable process that creates a fracturing fluid, from treated "frac flowback water" and "produced water" without the use of chemicals. As such, it faces no direct competition. However, it does face indirect competition from other companies and performing substitute services such as injection disposal and the use of chemicals as a pre-treatment.

### Execution Risk

As with any growing company implementing an accelerated growth plan, Ecosphere Technologies' ultimate success or failure will depend on management's ability to execute their business plan in an efficient and timely manner. The experience and solid reputation of the Company's management team, Board of Directors, and Board of Advisors helps mitigate this risk; however, the future value of the company is heavily weighted on the successful launch of the Company's new water treatment technologies that have not yet been significantly commercialized.

### Financial Risk

Ecosphere Technologies is dependent on continued financing from outside investors due to recurring operating losses. Ecosphere's majority-owned subsidiary EES recently signed a funding agreement with Fidelity National Financial (FNF) to provide operating capital. However, there can be no assurance that this funding will be adequate to bring to the Company to positive cash flows from operations. As a result, the Company may need to seek additional capital and investors must be financially capable of losing their entire investment.

### Key Management Risk

Management's skill and experience are key determinant of success. Ecosphere Technologies, like most small companies, is heavily dependent on key management, the loss of any of which could seriously, adversely affect the Company.

## Micro-capital Investment Risk

Micro-capital investing involves inherent risk and investors should carefully research any company considered for investment. Micro-capital companies are usually early in their market cycle and vulnerable to significant price volatility.

## Non-Specific Market Risks (Liquidity, trading rules & BD restrictions)

Ecosphere Technologies' common stock is quoted on the Over-the-Counter Bulletin Board ("OTCBB") as such; there is only a limited trading market for its common stock. Furthermore, the Company's common stock is subject to the penny stock rules by the Securities and Exchange Commission that requires brokers to provide extensive disclosure to its customers prior to executing trades in penny stocks, and as such there may be a reduction in the trading activity of its common stock. Collectively, investors may find it difficult to sell their shares of the Company's common stock.

## Risk Categories

WSR's investment universe revolves around undiscovered emerging growth companies that possess higher risk profiles than established "blue chip" companies. Presently WSR maintains three risk categories including growth, aggressive growth and speculative with the later assigned to higher risk companies.

**Growth** – Lower risk investment relative to small capital company investments with a defined revenue pattern, reasonable earnings predictability and sound balance sheet.

**Aggressive Growth** – Average to higher risk investment relative to small capital company investments in a high growth stage or industry. May have limited history of generating revenue or be operating in a highly competitive or rapidly changing environment. Investor must have the financial capacity to lose a significant portion of his or her investment.

**Speculation** - High risk investment with short or unprofitable operating history and limited revenue or earnings predictability. Companies are typically early stage in the process of commercializing a new and often potentially disruptive technology into a large market. Investor must have the financial capacity to lose his or her entire investment.

## VIII. MANAGEMENT

### Officers, Directors and Key Management

<u>Name</u>	<u>Age</u>	<u>Position</u>
Charles Vinick	63	Chairman
Dennis McGuire	59	President and CEO
Adrian G. Goldfarb	52	Chief Financial Officer
Michael R. Donn, Sr.	62	Chief Operating Officer and Director
Sanjeev Jakhete	41	Sr. VP of Engineering
Jacqueline K. McGuire	47	Sr. VP of Administration
George R. Sterner	69	Lead Director
Joe M. Allbaugh	57	Director
D. Stephen Keating	54	Director – Chairman of Audit Committee
Thomas D. Wolfe	62	Director
Gene H. Davis	56	Director

#### **Charles Vinick, Chairman**

Charles Vinick was elected to serve on the Board of Directors in August 2006. Mr. Vinick currently serves as President of the Alliance to Protect Nantucket Sound and is a consultant to Clipper Windpower and Aquantis ocean energy development. His more than two decades with Cousteau international environmental organizations included several leadership positions: Executive Vice President, Ocean Futures Society; Vice President, Jean-Michel Cousteau Institute; and Vice President of the Cousteau Society. His responsibilities included operations and management, fundraising, financial and business development. His prior experience also includes Chief Executive Officer of the Foundation for Santa Barbara City College and Assistant Dean of the University of Southern California's College of Continuing Education. Mr. Vinick's previous consulting roles include interim positions as President of the Immaculate Heart College Center and Director General of Parc Oceanique Cousteau in Paris, France. He has consulted to King International Group of Los Angeles, the Reid Family Foundation, the Catalina Island Conservancy, and SMR Energy Inc. of New York. Mr. Vinick currently serves on the boards of Ocean Futures Europe and Heal the Ocean.

#### **Dennis McGuire, President and CEO**

Dennis McGuire is an inventor and the founder of Ecosphere Technologies. Mr. McGuire serves as the Company's President and Chief Executive Officer. He guides development of innovative clean water processes and technologies, drawing on his two decades of research and development with the cavitating energy properties of water and using energy in water for environmental coating removal and water treatment applications. Mr. McGuire has earned global recognition for his accomplishments that are now represented by numerous patents and patent pending rights in the major markets the Company's technologies serve globally. Mr. McGuire received a top-ten finalist award from Discover magazine and the Innovation of the Year award from Ship Repair Magazine for his patented environmental coating removal technologies. He also received London's Seatrade Magazine Award for countering marine and atmospheric pollution. Mr. McGuire has been instrumental in forming eco-alliances with Carnival Cruise Lines, the Shaw Group, Pierce Manufacturing, and BAE Systems.

**Adrian G. Goldfarb**, Chief Financial Officer

Mr. Goldfarb joined the Company as CFO in February 2008. Mr. Goldfarb has more than 25 years experience in a number of different technology companies including IBM and a Fujitsu subsidiary. In addition to extensive international experience in a variety of management roles, he served as General Manager for the European affiliate of The Weather Channel and was responsible for turning around its European operations after multiple years of losses under previous management. He has most recently been involved in the private equity space, both as a management consultant and investor and recently concluded the sale of one of those companies to a large European investment group. Mr. Goldfarb specializes in the turnaround and growth of emerging companies with a focus on strategic planning and prudent financial management.

**Michael R. Donn, Sr.**, Chief Operating Officer and Director

Mickey Donn was elected to serve on the Board of Directors in March 2005 and was named Executive Vice President and Chief Operating Officer of Ecosphere Systems in August 2006. Mr. Donn previously served as a consultant, Director of Communications, Managing Director, Senior Vice President of Operations, and Treasurer for Ecosphere Technologies since 2000. Mr. Donn was Project Manager for the Company's Environmental Protection Agency Verification testing. From 1994 to 2000, Mr. Donn served as the President of the 1700-member Miami-Dade County Fire Fighters Association, for which he previously served as Vice President and Treasurer since 1982. Mr. Donn coordinated relief efforts for the Miami-Dade fire fighters following Hurricane Andrew. Additionally, he set up and coordinated the Ecosphere relief effort in Waveland, MS following Hurricane Katrina. From 1978 to 1980, Mr. Donn conducted day-to-day operations of Dade Oil Company as General Manager.

**Sanjeev Jakhete**, Senior Vice-President of Engineering

Mr. Jakhete joined the Company in July 2004 and currently serves as Senior Vice President of Engineering. He previously served on the Ecosphere Board of Advisors from October 2007 until June 2008. Mr. Jakhete served as a project Team Leader for the Mobile Emergency Filtration System (MEFS) project with responsibility for project planning, execution and supervision for verification by the U.S. Environmental Protection Agency through its Environmental Technology Verification Program to test and evaluate the MEFS. Mr. Jakhete led Ecosphere's deployment of the MEFS following Hurricane Katrina to make clean water available to residents of Waveland, MS. He co-invented the Ecosphere Ozonix™ process with company founder Dennis McGuire and has been instrumental in design of custom containerized water treatment systems using the Ecosphere Ozonix process for several applications including the oil and gas exploration industry and to clean up ballast water in the maritime industry. Mr. Jakhete was previously with Wallem Ship Management, an international shipping management company, from January 1992 until March 2003 as a Senior Marine Engineer with responsibility for operation and maintenance of shipboard machinery. Mr. Jakhete is a member of the Institute of Engineers, India, and holds a Bachelor of Mechanical Engineering degree from the University of Poona, India with First Class Engineer's Certificate of Competency. Mr. Jakhete completed Robotic Training for remotely operated robotic vehicles at the National Robotic Engineering Consortium, Pittsburgh, PA.

**Jacqueline K. McGuire**, Senior Vice President of Administration

Jacqueline K. McGuire has been the Senior Vice President of Administration since January 2001 and Secretary since the Company's founding in 1998. She and her husband Dennis, Ecosphere's Chief Executive Officer, were two of Ecosphere Technologies' founders.

**Vice Admiral George R. Sterner, United States Navy (Retired)**, Director

George Sterner has served on the Company's Board of Directors since March of 2002 and served as Chairman of the Board from March 2005 to February of 2008. Admiral Sterner joined Raytheon in 1999 as the company's Naval Mission Area Executive. He retired in 2005 after three years as Vice President for Strategic Pursuits at Raytheon. From 1998 to 1999, he served as Vice President – System Integration for Walt Disney Imagineering and directed the technical aspects and delivery preparations for the MS Disney Wonder cruise ship. Admiral Sterner spent 36 distinguished years with the U.S. Navy including four years as Commander, Naval Sea Systems Command (1994 – 1998), until his retirement in 1998. Admiral Sterner is currently co-owner and managing director of Sea Systems Solutions, Inc., a consulting firm in Vienna, Virginia.

**Joe M. Allbaugh**, Director

Joe Allbaugh was elected to the Board of Directors in October 2005. Mr. Allbaugh was named President of Ecosphere Systems in August 2006 and served until April 2007. Mr. Allbaugh served as the FEMA Director under President George W. Bush until March 2003. Prior to moving to Washington, D.C., he was Chief of Staff to then-Governor Bush of Texas and was the National Campaign Manager for the Bush-Cheney 2000 presidential campaign. Mr. Allbaugh is currently the President and CEO of the Allbaugh Company, LLC, which formulates corporate strategies designed to create new opportunities and expand competitive advantage for private sector clients. He also serves as a Director on the boards of Emergent Biosolutions Inc. and the National Rifle Association.

**D. Stephen Keating**, Director

D. Stephen Keating was appointed a director in August 2008. Mr. Keating served as the Vice President of the Worldwide Taxes division for CA, Inc. from 1998 through June 2008. Mr. Keating was the senior officer responsible for the worldwide tax planning and strategy, tax accounting and day-to-day supervision for the U.S. and international tax departments. At CA, Inc., Mr. Keating was involved with approximately 100 mergers, acquisitions and divestitures. His responsibilities included negotiating with the IRS and various countries tax authorities on audit issues and APA reports.

**Thomas D. Wolfe**, Director

Thomas D. Wolfe was appointed a director in August 2008. Mr. Wolfe was the Chief Technology Officer and Senior Vice President of R&D of Open Energy Corporation from December 2006 through July 14, 2008. In 1998, Mr. Wolfe founded WaterEye Corporation where he served as its President and Chief Executive Officer and until WaterEye was acquired by Open Energy in December 2006. Mr. Wolfe has over 25 years' experience in the chemical process industries, with particular experience in power, water and wastewater treatment technologies. Mr. Wolfe is one of the pioneers in the reverse osmosis field and has made many contributions to the development and advancement of reverse osmosis membrane

technology and wastewater evaporation technology dating back to the early 1970's. Mr. Wolfe has participated at all levels in some of the largest membrane and evaporator installations in the world and has hands on experience with a wide variety of evaporator configurations including vapor recompression, steam driven single and multiple effect systems, as well as direct contact and submerged combustion processes. Mr. Wolfe developed much of the software currently in use today for reverse osmosis membrane performance prediction and computational chemistry for recovery determination and scale control. Mr. Wolfe has authored more than 20 technical articles and papers in his various fields of involvement and is a member of the American Chemical Society and the American Water Works Association.

**Gene H. Davis, Director**

Gene H. Davis was appointed a director in August 2008. Mr. Davis was the Geological and Geophysical Manager for the Western Business Unit of Forest Oil Corp. from December 2004 to March 2008 where he evaluated and implemented drilling programs. From July 2004 until December 2004, Mr. Davis was a Project Geologist for EOG Resources Inc. From September 2000 to July 2004, Mr. Davis was an Exploration Geologist for Chi Energy, Inc. Mr. Davis has over 28 years of executive geoscience and asset management, successful exploratory and development geology and geophysics experience.

**Key Consultant****John Ely**

Mr. Ely started his career with Halliburton Co., in 1965, working as a technician for the Analytical group while completing his college work. He graduated from Oklahoma State University in 1968 with a B.S. in chemistry. On returning to Halliburton, Mr. Ely served as chemist and senior chemist in fracturing research before transferring to International Operations in 1973. While in fracturing research, he was instrumental in the development of several fracturing fluids, including high-temperature systems and nonaqueous energized systems. Ely's first assignment overseas was in south Iran as a district engineer. In 1975, he was promoted to technical adviser, Eastern Hemisphere, and transferred to Baharain. He traveled and worked in eleven Mideast countries in this position. In 1976, John transferred to Dubai, U.A.E. The following year, he was promoted to technical adviser, International Operations, and was based in Duncan, Oklahoma where his primary duty was to coordinate all phases of research with international field operations. Ely joined Nowsco Services in 1980 as Engineering Manager. His responsibilities included overseeing chemical and mechanical research and coordinating training for field engineers.

In 1985, John joined S.A. Holditch and Associates as Vice-President of Stimulation Technology. In addition to designing and supervising hundreds of stimulation treatments, he was involved in research on fracturing fluids under the auspices of the Gas Research Institute. Additionally, he served as an expert witness in areas involving completion and stimulation of oil and gas wells.

In May 1991, John with three partners founded Ely & Associates, Inc. This company is dedicated to providing a blend of practical and technical expertise on well completion, stimulation fluids and equipment, and reservoir analysis. John holds several patents and has numerous publications, including a book titled "Stimulation Treatment Handbook/ An Engineer's Guide to Quality Control". He is also a contributing author to the S.P.E. monograph on hydraulic fracturing, writing the chapter on hydraulic fracturing fluids and fracture fluid selection. He is a member of the American Chemical Society, The Society of Petroleum Engineers, and is a fellow of the American Institute of Chemistry.

**Dr. Kent Moors**

Dr. Kent Moors is an internationally recognized expert in oil/natural gas policy and finance as well as global risk management. He has consulted for numerous governments and large-scale companies on a wide range of issues including the intricacies of the oil markets and risk management. Internationally Recognized Oil and Gas Authority: Dr. Moors has advised the leaders at the highest level of six world governments, as well as corporations and international banks in 23 countries.

## IX. CORPORATE OFFICES & ADVISORS

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### Analyst Certification:

I, Paul Silver, hereby certify that the views expressed in this research report accurately reflect my personal views about the subject securities and issuers.

### About the Analyst:

Mr. Silver joined Wall Street Resources in 2006 as the Director of Research. He has been in the financial services industry since 1995 and began his professional career in auditing with a Big Four accounting firm in New York City. Mr. Silver made the move to Wall Street as a sell-side research analyst for two global investment banks in New York City including Salomon Smith Barney and UBS Paine Webber. At Salomon Smith Barney he was a member of the firm's research team covering REITs that was consistently ranked #1 by Institutional Investor magazine. Most recently, Mr. Silver worked for a private equity firm as its Chief Investment Strategist. Mr. Silver is a graduate of the College of William and Mary in Virginia with a BA in liberal arts and New York University's Stern Business School with an MBA in International Finance and Accounting.

### Rating Disclosures

**Buy** – Rating assigned to companies in the High Growth or Aggressive Growth investment risk categories that, in our opinion, the covered company is undervalued by more than 25% of its 12-month discounted fair value. In other words, the enrolled company, in our opinion, has the opportunity to appreciate 25% or more the next 12-months. Alternatively, a Buy rating would be assigned to companies in the Speculation investment risk categories that, in our opinion, the covered company undervalued by more than 35% of its 12-month discounted fair value. In other words, the enrolled company, in our opinion, has the opportunity to appreciate 35% or more the next 12-months.

**Market Perform** - Rating assigned to companies in any investment risk category that, in our opinion, the covered company is valued between -10% and +10% of its 12-month discounted fair value. In other words, the covered company, in our opinion, has the opportunity to appreciate or depreciate 10% or more the next 12-months.

**Underperform** - Rating assigned to companies in any investment risk category that, in our opinion, the covered company is valued +10% or more of its 12-month discounted fair value. In other words, the covered company, in our opinion, has the opportunity to depreciate 10% or more the next 12-months.

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