2014 NORTH SKY CAPITAL

# IMPACT REPORT



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### About North Sky Capital

Our CleanTech funds improve the world in which we live. North Sky Capital's investments directly reduce humanity's impact on the earth, typically by reducing harmful emissions or by using resources more intelligently. We are a bellwether investor in CleanTech private equity with three CleanTech funds of funds, one CleanTech direct investment fund and one CleanTech infrastructure fund under management. Our CleanTech investments include over 335 companies and infrastructure projects. Our funds are designed to generate both strong financial returns and a positive environmental impact.

### **2014 NORTH SKY CAPITAL**

# IMPACT REPORT

### Introduction

We face tremendous challenges today. The forces of globalization and modern consumerism are straining our planet's resources. As production efficiencies increase through technology and human experience, prices decline thus enabling consumption of more goods by more people worldwide. In developing countries, as people migrate from farms to cities, their demand for food, water, housing, transportation and electricity increases dramatically. As the global population grows and as we consume more of everything worldwide, we produce more waste and pollution.

Examples of man's negative impact on the Earth abound: the nuclear disaster at Fukushima, the life-threatening smog routinely blanketing Beijing, the tens of thousands of landfills filling up worldwide, the millions of gallons of wasted water that leaks daily from the London, Paris and New York municipal water systems, the oil spill in the Gulf of Mexico, the tens of millions of gasoline-powered cars that we drive, the overfishing of our oceans and so on. We must find and implement cost-effective, easy-to-adopt, free-market solutions to these problems.

The good news is that many entrepreneurs are already hard at work, addressing human impact and resource efficiency to better our world. At North Sky Capital, we provide growth capital to these entrepreneurs and project financing for renewable energy infrastructure with the intent of generating favorable investment returns and producing a positive impact on our environment. "Impact investing has the potential to unlock significant sums of private investment capital to complement public resources and philanthropy in addressing pressing global challenges."

# **Executive Summary**

At North Sky Capital, we are committed to finding companies that will change the world. We provide growth capital to companies with the potential to produce strong returns and to reduce mankind's impact on the environment.

Our 2014 Impact Report will highlight the beneficial impact of North Sky Capital's CleanTech investments. Many of the following companies address multiple environmental issues at once, through holistic technologies and products and by taking a fresh look at how we use our resources. There is no question that all of the companies below are having a measureable impact on our environment, whether by reducing emissions or by improving the way we manage resources.

### **Rethinking Emissions**

In the U.S., the use of fossil fuels to generate electricity accounts for the country's largest amount of carbon emissions.<sup>3</sup> Furthermore, the CDC has determined that there are now more than 80,000 harmful chemicals commonly used by humans.<sup>4</sup> As our exposure to toxic chemicals and emissions increases, it is clear that we must rethink emissions and chemical usage. Lowering our dependence on oil is much of the battle; however, we must also find ways to eliminate other pollutants that threaten the health of our planet. The following companies' products, technologies and services are working toward this goal through the reduction and elimination of these harmful substances.





### **TRANSITION AWAY FROM OIL**

**Agility Fuel Systems:** Natural gas fuel systems for heavy-duty trucks, reducing carbon emissions by up to 90%.

**Aurora Algae:** High-tech algae farming for Omega-3 fatty acids and biofuel production. Sustainable, waste-free processing.

**Pure Biofuels:** A leading producer of low-sulfur biodiesel in Latin America.

**Tesla Motors:** Fully electric, high-performance cars.

### **ENERGY EFFICIENCY**

**Bridgelux:** High-volume, solid-state LED lighting. Customers have seen up to 65% reduction in energy consumption.

**iWatt/Dialog:** Power management chips for a wide range of electronics. iWatt's technology reduces the vampire effect of many electronics, saving tremendous amounts of would-be wasted electricity.

**Lighting Science Group:** North America's largest producer of LED light bulbs. To date, LSG has eliminated CO<sub>2</sub> emissions equivalent to that of 22,000 cars, or approximately 14,000 average American homes.

**Orion Energy:** Efficient lighting systems. Customers have saved more than \$2 billion in energy costs and have realized a reduction of 10 million tons of CO<sub>2</sub>.



**Switch:** Produces silicon-cooled LED bulbs that last 25 times longer than incandescents and reduce power usage by 80%.

**TAS Energy:** Modular, high-efficiency cooling and energy systems. Its products have eliminated more than 9 million tons in CO<sub>2</sub> emissions and saved customers over \$2 billion.

### **REDUCING TOXINS**

**EcoSmart:** Natural pesticides that are effective on weeds and pests, but completely benign to humans.

**FRX Polymers:** Non-bromine flame retardants for plastics. Bromine is a toxic component of traditional retardants.

**Ostara:** Extracts phosphorous and nitrogen from wastewater treatment plants for reuse in commercial, eco-friendly fertilizer. Removes 90% of unwanted phosphorous and ammonia from water streams.

**Scodix:** The leading provider of digital print enhancement presses for the graphic arts industry. Its production equipment reduces overall waste, toxicity and energy consumption and uses environmentally friendly, recyclable ink.

**Tony's Farm:** One of China's largest organic farms. Produces up to 45 tons per acre of fresh, locally-sold produce annually.

### **RENEWABLE ENERGY**

**Allegheny Hydro:** 30.4 MW run-of-the-river hydroelectric project located in Pennsylvania.

**Bloom Energy:** Solid oxide fuel cell technology. Servers provide reliable and affordable energy that can eliminate up to 100% of carbon emissions while generating electricity.

**Brightsource Energy:** Large-scale solar thermal power. Its Ivanpah project In the Mojave Desert generates 377 MW of renewable energy, enough to power 140,000 average U.S. homes.

**China Hydro:** Owner and operator of 25 hydroelectric power plants in China. Hydroelectric power is the country's greatest renewable resource and is the main supply of electricity to over 300 million people.

**Ogin:** Formerly known as FloDesign; innovative and streamlined wind turbine design. Produces 2-3 times more energy than conventional turbines.

**Premium Power:** Low-cost, grid-scalable energy storage. Batteries promote grid reliability when using alternative energy sources like wind and solar power.

### RENEWABLE ENERGY SPOTLIGHT: SOLAR

**Clean Energy Collective (CEC):** Community solar developer in the U.S., a model we believe will become more prevalent over the next three years.

**FLS:** Turn-key solar systems for residential, industrial and commercial markets. Makes solar power both affordable and practical.

**Nu Energy:** Leading solar installer in Australia. Its solar hot water units reduce  $CO_2$  emissions by 5.3 tons per year per household.

**SolarCity:** Nation's leading solar power company that installs and maintains solar panels for homeowners, businesses and government organizations.

**SolarVision:** A 5 MW photovoltaic solar project in Celina, Ohio that creates enough energy to power approximately 5,000 homes in the surrounding area.

**Southwest Solar:** Four utility scale solar projects in Southern California totaling 154 MW of combined capacity.





### **BrightSourceEnergy**



### Intelligent Resource Management

With so many of our resources in such high demand, it is time to rethink how we use them. Our investments in the companies below have taken on this challenge through improving efficiency, reducing resource use and repurposing, recycling or even eliminating waste.

# DIRTT





### **INDUSTRIAL EFFICIENCY**

**Aqwise:** Wastewater treatment solutions that increase treatment capacity by up to 50%, reducing the need to build new plants.

**Aspen Aerogels:** Aerogel-based, energyefficient insulation. Up to eight times more effective than traditional materials.

**GeoDigital:** Digital mapping and inspection technology that prevents utility line damage. More than 120,000 miles of transmission lines have been mapped on behalf of utility clients for vegetation management.

**Molycorp:** Mines and produces rare earths and other minerals essential to clean technology development. Supports the manufacturing of wind turbines, fuel cells, electric vehicle motors and more.



**Synapsense:** Data center energy management. Saves up to 50% in cooling energy.

**TPI Composites:** Manufactures composite building materials for wind turbine blades and other structures. Light-weight, durable and affordable

### BUILDING EFFICIENCY

### Climatec Building Technologies:

Comprehensive technology solutions and services that improve energy efficiency in commercial and residential buildings.

**Coolerado:** Super-energy-efficient air conditioning. Modules use up to 95% less energy than mainstream air conditioners.

**DIRTT:** Extremely customizable and sustainable interior structures for virtually any indoor application. Greatly reduces construction waste in building and remodeling.

**Fiberon:** Environmentally-friendly composite decking, railing and fencing manufacturer. Stronger, more durable materials reduce the need to replace decking in the future, as well as lighten the consumer's burden on our valuable forests.

**Icynene:** North America's largest manufacturer of environmentally-friendly spray foam insulation. Increases home energy efficiency, cutting energy costs in half.

### WATER: PURIFYING AND PRESERVING

**Miox:** Provides on-site water treatment systems that use environmentally benign disinfectants combined with electricity to produce clean water.

**Pure Technologies:** Critical water infrastructure management. Acoustic Leak Detection sensors find leaks in water pipelines to identify areas for maintenance, thus eliminating wasteful damage to infrastructure and supply.

**Seven Seas Water:** Municipal water desalination with emergency response capability. Delivers millions of gallons of potable water to clients every day with zero up-front cost to customers.

**TaKaDu:** Water system monitoring software that takes a comprehensive and proactive approach to costly water loss for municipalities.

### WASTE: REDUCING, REUSING AND RECYCLING

**ECORE:** Recycles and reuses over 40,000 tons of tire rubber per year, the equivalent of removing over 2,000 trailer loads of discarded tires from landfills.

**eCullet:** Extracts and sorts valuable recyclable glass from waste stream sources. Every six tons of recycled glass reduces CO<sub>2</sub> emissions by one ton.

**Gazelle:** America's leading consumer electronics recycler. Buys and trades used cell phones, tablets and other devices for resale at a discounted price. Has diverted over 1 million devices from landfills since 2007. Living Earth: Recycles organic materials. Tree limbs, brush, leaves, grass clippings are turned into compost, mulch, top soil and even green roof material.

**Point Loma Project:** Waste-to-energy. Fuel cell reuses methane gas from a nearby wastewater treatment plant to generate electricity.

**Quench:** Filtered water for offices and homes. Eliminates the need for as many as 2,100 fivegallon plastic jugs per year for every traditional water cooler replaced.

**ReCommunity:** Repositions waste as a strategic community resource, instead of a growing liability. Reduces carbon emissions by 5.3 million tons, and saves 2.6 million cubic yards of landfill per year.







# **Rethinking Emissions**

At North Sky Capital, we are committed to finding great companies that will generate strong returns and have a positive impact on our planet. Reducing harmful emissions is not just critical to human life, but also to the global economy. Our companies are taking action by addressing our transition away from oil, as well as developing technology for renewable energy, energy efficiency and reducing toxins.

### **TRANSITION AWAY FROM OIL**

By 2016, the U.S. Energy Information Administration estimates that crude oil production will reach a historical high of 9.6 million barrels per day-the highest since 1970. Furthermore, based on current demand, the consumption of natural gas in the U.S. will increase by 56% by the year 2040, soaring to about 38 trillion cubic feet.<sup>5</sup> It is clear that our dependence on oil will not change unless there are feasible alternatives, including natural gas as a transition fuel to bridge us to widespread usage of renewables. The companies described below are crucial stepping stones towards cleaner energy for our fossil fuel-dependent economy.

### **Agility Fuel Systems**

Agility manufactures on-vehicle natural gas fuel systems for heavy-duty trucks, buses and specialty vehicles. The company has delivered over 7,500 natural gas fuel systems to fleet customers, dealers and major OEMs helping them to transition away from traditional gasoline and diesel vehicles.<sup>6</sup> Natural gas systems offer substantial energy and cost savings when compared to gasoline or diesel powered vehicles; specifically, natural gas powered **Agility Fuel units reduce carbon emissions by up to 90% and fuel costs by approximately 50%.**<sup>7</sup>



Agility side frame rail mount natural gas fuel system

#### Aurora Algae

Aurora Algae is a high-tech farming company that produces an optimized, non-GMO, saltwater algae strain to manufacture eco-friendly biofuel, Omega-3 fatty acids, valuable proteins and animal feed. Since algae is one of the oldest forms of plant life on earth, the growth process is simple and inexpensive. In addition, their patented technologies have transformed the simple crop into a "super crop" that is full of nutrients and essential fatty acids for use in pharmaceuticals, supplements, fish feed and renewable fuels. One hundred percent of the algae produced is used in the process-what isn't made into high-quality product is recycled into plant nutrients. Currently, up to 70% of the energy required for growing and supplying food comes from fossil fuels. With its natural airpurifying properties, algae counteracts pollution, and its by-products (biofuels, supplements, animal feed) significantly reduce dependence on fossil fuels to serve the population. Their efforts also address our growing water scarcity problem: Aurora Algae grows algae in salt water, ensuring that their processes are truly sustainable.



Tesla Model S

### **Pure Biofuels**

Pure Biofuels is a Peru-based company that produces biodiesel and provides ancillary marketing and storage services to the liquid fuels marketplace. **They currently produce 67.5 million gallons of biodiesel per year,** making them one of the production leaders in Latin America. Pure's biodiesel meets local government mandates for low sulfur content.<sup>8</sup>

### **Tesla Motors**

Tesla Motors manufactures fully-electric, highperformance cars with zero tailpipe emissions. The 2010 Tesla Roadster was the first ever mass-produced electric sports car,<sup>9</sup> and Tesla now offers a premium sedan called the Model S, which was named 2013 Motor Trend Car of the Year. On average, Tesla owners spend 83% less on transportation than gas-powered vehicle owners per year. Additionally, the Roadster boasts 88% fuel-to-mileage efficiency, as compared with only 20-25% efficiency for traditional gas-powered vehicles (most of the energy in combustion energy creates waste heat rather than propulsion).<sup>10</sup> While much of the electricity that powers Tesla vehicles is generated using fossil fuels, Tesla vehicles themselves are 100% emission free; even so, Tesla drivers would reduce the amount of CO<sub>2</sub> emissions by 50%. In an effort to completely liberate their customers from fossil fuels, Tesla also has undertaken the construction of solarpowered recharging stations across the U.S.

Today there are 86 Tesla Supercharger Stations strategically placed across the United States to allow drivers to travel coast-to-coast with comfort of rapid charging availability. By the end of 2015, Tesla expects that 98% of the United States will be accessible using these stations.<sup>11</sup>

### **ENERGY EFFICIENCY**

When energy costs account for as much as 30% of most utilities' operating budgets<sup>12</sup> and when the average United States home consumes more than 12,000 kilowatt-hours of electricity – equal to about 7.3 metric tons of CO2 per home – a transition to an energy efficient lifestyle is becoming crucial. The following companies are helping consumers do just that.<sup>13</sup>

### Bridgelux

BridgeLux is a leading supplier of LED technology for high-volume, solid-state lighting markets. The company's proprietary epitaxial technology and innovative chip designs have enabled it to develop advanced LED products that offer superior quality at market-leading cost. Bridgelux LED light engines are being used by lighting manufacturers around the world as customers move away from incandescent and compact-fluorescent light sources. Their large-scale service replaces traditional bulb technologies with solid-state products that provide a powerful and energy efficient source of blue, green or white light, making the transition to better bulbs both attractive and affordable. One Bridgelux customer, an upscale hotel in Korea, recently retrofitted 1,000 lighting fixtures and reduced their energy consumption by \$18,000 per year in lighting costs. Other customers are seeing up to 65% savings in energy consumption as the financial incentives to switch to green lighting continue to arow.14



iWatt chip solution for LCD panels

### iWatt/Dialog

iWatt manufactures power management chips for computer, communications and consumer applications, delivering improvements in size, cost and efficiency in electronics. Recently acquired by Dialog, the company now offers a broad range of solutions for power management, including chips that reduce the "vampire" effect of many electronics such as TVs and other remote controlled devices that require a small, continuous supply of power even when turned off. Currently, standby or "vampire" power accounts for up to 10% of energy usage in the U.S., costing the average homeowner \$100 per year.<sup>15</sup> Breakthroughs also include their patented BroadLED<sup>™</sup> technology, which solves LCD panel efficiency issues by improving brightness consistency across LCD screens while reducing wasted power by 60%.<sup>16</sup>

### **Lighting Science Group**

Lighting Science Group is North America's largest producer of LED light bulbs. Lighting accounts for an estimated 20% of worldwide electricity usage.<sup>17</sup> Fortunately, LEDs use dramatically less power than incandescent and compact-fluorescent lamp bulbs (CFLs). Lighting Science Group's bulbs, in contrast to traditional CFLs, are mercury-free and 100% recyclable.<sup>18</sup> Many of their LEDs also use PixelView<sup>™</sup>, their proprietary lighting control technology that produces beautiful light while reducing energy usage by more than 60%.<sup>19</sup>

### **Orion Energy Systems**

Orion Energy offers energy efficient lighting systems, controls and services. Customers have reported a 60% reduction in energy usage with lights that are 30% brighter and that burn 20% longer than their previous, traditional lighting systems. Orion's InteLite system helps customers reduce energy consumption through demand-response peak energy use and cost control management, utilization of supplemental ambient lighting, motion-controlled lighting and time-of-day lighting. Among its other products is the Apollo® Solar Light Pipe, an innovative approach to skylights, where the solar pipe captures both early morning and late evening sun for maximum lighting. The fixtures are easily installed into virtually any roof, and the domecapped unit captures enough daylight (even with overcast skies) to replace most traditional, commercial light fixtures, giving interior spaces natural, electricity-free lighting. In total, Orion customers have permanently displaced 823 MW of electricity from the grid, and have avoided emitting over 18 million tons of CO<sub>2</sub> into the atmosphere.20

### Switch

Switch manufactures innovative and aesthetic LED bulbs for commercial and residential use. Switch bulbs' warm, incandescent-like glow differentiates them from their competitors, and they conveniently screw into any traditional bulb socket. Additionally, the silicon-based cooling system offers 40% improved thermal performance as compared to other air-cooled LED bulbs. **Switch bulbs last 25 times longer than incandescent bulbs and reduce energy consumption by 80%.** The company promises its customers that the bulbs will pay for themselves in as fast as six months.<sup>21</sup>

### **TAS Energy**

TAS Energy manufactures energy efficient and renewable energy systems for utilities, hospitals, commercial building owners and large industrial users, among others. Its energy efficiency solutions include inlet chillers for natural gas turbines (up to 30% efficiency gains), turnkey data centers with integrated power and cooling systems and modular cooling systems for buildings. Its renewable energy systems include geothermal, waste heat and solar thermal systems.



TAS Energy system in Texas based energy facility

TAS estimates that our planet contains over 42 million megawatts of potential geothermal energy – essentially an inexhaustible supply of energy. Geothermal systems operate 24/7/365, making them one of the most efficient and reliable sources of energy available. TAS's Geothermal-to-Power plants are environmentally benign and 100% fossil fuel-free.<sup>22</sup> TAS' solutions have saved customers \$2.2 billion in energy costs and 9.3 million tons of  $CO_2$ as of October 2013.



### **REDUCING TOXINS**

While the extent of pollution's impact may vary, it is clear that pollution negatively affects quality of life and in extreme cases is a contributor to disease and death, especially in developing countries. The following companies are working to keep our air, water and food clean, and make the environment we live in safer for future generations.

### EcoSmart

"We have the opportunity to

transform a water challenge

common throughout North

America into a sustainable

from where they shouldn't

solution. Removing nutrients

be - in our waterways - and

using them to create a new

generation of eco-friendly,

is the smart thing to do

agriculturally and the right

thing to do environmentally."

PRESIDENT AND CEO OF OSTARA

-PHILLIP ABRARY

enhanced efficiency fertilizer

EcoSmart develops natural pesticides derived from botanical oils. Their products, which are 100% safe for humans, include wasp & hornet killer, insect repellent, bed bug killer, garden fungicide, mosquito fogger, home pest control and mosquito & tick control. EcoSmart offers the only complete line of EPA exempt pesticides sold in the U.S.<sup>23</sup> Their patented technology is based on the natural defenses that plants and trees use for self-protection against insects and pathogens; the result is a product that is deadly to insects but completely benign to humans and animals. For example, peppermint oil repels mosquitos, yet is commonly ingested (and enjoyed) by humans.

Over 90% of calls to poison control centers are concerning poisonings that occur in the home, (and more than 50% involving children under six years old).<sup>24</sup> Even minimal exposure to harsh household chemicals is known to cause chronic headaches, dizziness and bad eyesight;<sup>25</sup> EcoSmart's products completely eliminate this hazard, making households safer and cleaner.

### **FRX Polymers**

FRX Polymers produces a family of novel non-halogenated, transparent, flame-retardant plastics additives. Plastic and household furnishings commonly contain bromine as a flame-retardant; however, bromine is believed to be toxic and poses a danger to humans and the environment. Some European countries have banned brominated chemicals as a result.<sup>26</sup> The environmentally friendly additive FRX manufactures is largely comprised of phosphorus, which is naturally flame resistant – enabling more manufacturers and consumers to replace the toxic, bromine-based products that currently dominate the market. FRX is rapidly scaling up its production capability to meet demand from customers globally.<sup>27</sup>

### Ostara

Ostara is a clean water company that recovers what would be polluting nutrients, phosphorus and nitrogen, from municipal and industrial water streams and repurposes them to manufacture slow-release, eco-friendly fertilizer pellets called Crystal Green<sup>®</sup>. Using a proprietary method called the Pearl<sup>®</sup> Process, Ostara's technology decontaminates water supplies while creating a sustainable fertilizer that can be sold by municipalities. Ostara's creative approach to the growing liability of our polluted water streams is multi-pronged: water streams are cleaner (up to 90% of phosphorus and 40% of ammonia is removed from industrial waste water), a more environmentally responsible



Ostara recovery system is an economic and environmental solution

fertilizer for large-scale use is created (timedrelease pellets ensure maximum efficiency while reducing leaching and runoff), and the process provides additional revenue streams for cities that wouldn't otherwise have the incentive to "go green."<sup>28</sup>

### Scodix

Scodix is the leading provider of digital print enhancement presses for the graphic arts industry. The company's products offer unmatched, high-quality enhancement capabilities in terms of texture, color and depth. Unlike traditional printing processes, Scodix printers also eliminate the need to use (and waste) plates and molds. The printers are energy efficient as well, an effort made to minimize environmental impact. Moreover, the Scodix SENSE<sup>™</sup> printing process emits zero volatile organic compounds (VOCs), and eliminates the need for harmful chemicals and solvents. According to the CDC. VOC emissions. especially indoors, are the culprit for countless health issues, ranging from chronic headaches to clinical asthma. Scodix printers are 100% nontoxic and eco-friendly, eliminating the health risks associated with commercial printing. This decreased chemical usage combines with

a super materials – and energy-efficient printing system to make one of the greenest printing solutions on the market.<sup>29</sup>

### Tony's Farm

Tony's Farm is a 350-acre organic farm based in Shanghai, China – the city's largest – that produces 35-45 tons per acre of fresh produce every year and serves over 10,000 customers.<sup>30</sup> Recently, the company also began operations in Beijing. The company works to improve the soil for the long-term, while also reducing water usage. To this end, they effectively remove the need for chemical fertilizer and hormones or additives of any kind. Produce from Tony's Farm is 100% organic, uses no chemicals or pesticides and grows sustainably in an urban, space-efficient setting. Furthering their environmentally sound efforts, Tony's Farm supplies its produce exclusively to the local community, reducing transportation costs and pollution associated with global food importation and exportation.



Scodix printing sample



Tony's Farm uses eco-friendly packaging

Rows of crops at Tony's Farm

### **RENEWABLE ENERGY**

Renewable energy provides vast amounts of energy that is low-cost, environmentally benign and virtually carbon-free. For example, the sun alone delivers more energy to earth in one hour than humanity uses in one year.<sup>31</sup> So, we don't have an energy problem – we have a collection, storage and distribution problem. The following companies are working to solve that.



Bloom's modular energy servers, also known as a Bloom "Boxes"

### Allegheny Hydro

Allegheny Hydro consists of two run-of-theriver hydroelectric plants on the Allegheny River in Pennsylvania. The projects, which began commercial operations in 1990, **total 30.4 MW– enough to power nearly 5,000 homes.**<sup>32</sup>

### **Bloom Energy**

Bloom Energy uses breakthrough solid oxide fuel cell technology to manufacture products that generate clean, reliable and affordable electricity from natural gas or biogas. Each of their "energy servers" produces 200kW of power, which is enough to meet the baseload needs of 160 average homes in the U.S., or a typical office building 24/7.<sup>33</sup> Customers can also **reduce their CO<sub>2</sub> emissions by 40%-100% compared to the U.S. grid** (depending on their fuel choice)

and virtually eliminate all SOx, NOx, and other harmful smog-forming particulate emissions.<sup>34</sup> Each server's physical footprint is approximately that of a parking space. Google recently added Bloom Boxes to their building headquarters to increase efficiency. During the first 18 months of operation, the servers sustainably generated 3.8 million kWh of energy.<sup>35</sup>

### BrightSource Energy

BrightSource Energy takes a fresh look at solar power, using proprietary software to capture and concentrate the sun's heat to generate thermal energy. The concept is much like traditional power plants with one significant difference: no fossil fuels are burned to create energy. Instead, using thousands of software-controlled tracking mirrors, called heliostats, BrightSource systems reflect and concentrate the sun's heat on an elevated boiler, creating high-temperature steam that turns a standard turbine. The company's biggest project to date is the Ivanpah Solar Thermal power system, a nearly 400MW project located in the Mojave Desert in California, which is expected to power approximately 140,000 homes and offset 400,000 million tons of CO<sub>2</sub> emissions each year. The company's projects will also displace hundreds of tons of other emissions each year, including carbon monoxide, nitrogen oxides and volatile organic compounds. Additionally, their power plants are extremely low-impact in terms of water usage and onsite biodiversity compared to other power projects.36



The Coalinga Project, a Brightsource Energy solar-to-steam facility in California

### China Hydro

China Hydro acquires, finances and operates a diverse portfolio of hydroelectric generation projects in China. The company focuses on smaller projects (under 50 MW) in hydro-rich regions of China, namely the Yunnan, Zhejian, Fujian and Sichuan provinces. Its projects include run-of-the-river diversion dams, impoundment dam reservoirs and low head run-of-the-river dams. In total, China Hydro's 25 projects generate 518 MW of clean energy, with a platform to easily support up to 1,000 MW.<sup>37</sup>

### **Premium Power**

Premium Power provides bulk energy storage for renewable energy generation assets, such as wind and solar power. Their product is a low-cost, grid-scalable flow battery based on the company's proprietary energy storage technology, Zinc-Flow<sup>®</sup>. These systems generate energy from the reaction between zinc and bromide solutions. This process does not degrade any components of the reaction; therefore **Premium Power products have an extremely long lifespan, up to 30 years.** Their solutions also address utility infrastructure management needs such as peak energy demand, voltage support for long radial circuits, and energy arbitrage.



Wuliting, a China Hydro run-of-the-river facility

# "Innovation on the Horizon: Ogin"

Ogin is developing a revolutionary new "shrouded" wind turbine that produces two to three times more energy versus conventional turbines for an equivalent land area. The turbine is based on advanced aerodynamics and jet engine technology. It captures energy from wind, using a novel mixer/ ejector design. In addition, the Ogin turbine has fewer moving parts than traditional turbines, which lowers operational and maintenance costs and contributes to an overall lower cost of energy.<sup>38</sup>



Ogin's Mixer Ejector Wind Turbine being tested at Deer Island facility

# **SOLAR** The solar power industry continues to climb at an unprecedented rate, increasing by 76% since 2011. In

The solar power industry continues to climb at an unprecedented rate, increasing by 76% since 2011. In total, the U.S. currently generates enough solar energy to power 1.3 million homes.<sup>39</sup> Here is a sampling of our solar investments, which are all making great progress and growing in stride with the current industry and demand.

### **Clean Energy Collective (CEC)**

CEC is a developer of community solar projects throughout the U.S. These projects typically allow anyone to buy one or more panels and receive an offsetting credit from the utility company for the electricity created by the panel(s). It allows participants to buy at volume discounts and both home and apartment renters are able to participate as the panels are centrally located at a third-party site. CEC's initial projects are located in Colorado and Minnesota, and their average project will eliminate over 100,000 pounds of CO<sub>2</sub> in its lifespan – the equivalent of planting 200 trees, or eliminating 157,000 miles driven by a gas-powered vehicle. CEC currently has 18 solar projects completed and under construction; their largest will produce enough electricity to power over 8,500 homes.<sup>40</sup>



SolarCity panel installation

### FLS

FLS Energy supplies turn-key solar hot water and solar photovoltaic systems either through ten-year solar energy purchase agreements or through direct sales of systems. Their business model strives to bring solar power to the mainstream by making it both practical and affordable. Since the company's inception in 2006, they have developed nearly 100 solar energy projects across the United States. Some of their solar projects include military bases and housing in North Carolina, solar farms, hotels, farms, businesses, and nonprofit/community organizations. In particular, one North Carolina solar farm offsets over 3,800 tons of CO<sub>2</sub> emissions every year.

### Nu Energy

Nu Energy is a leading solar installer in Australia. The company provides solar power and solar hot water systems. Nu Energy has installed more than 18,000 solar systems throughout Australia in households, large industrial sites and government applications. Nu Energy's integrated solar electricity and solar hot water unit delivers up to 3kW of installed capacity, and offsets 50% of a household's total energy use. This is the equivalent of reducing emissions by 5.3 tons per year per household.<sup>41</sup>

### SolarCity

SolarCity is a solar power integrator (installer) that helps residential and commercial customers transition to solar power. Their product and service packages include customized system design, installation and continuous monitoring. They also offer electric vehicle charging services to enable customers who desire an even more emission-free lifestyle. One customer, the Los Angeles Unified School District, expects to save \$776,000 per year by adding solar panels to 16 of its school buildings. Each project will offset at least 25% (and up to 100%) of a school's electrical usage, significantly shrinking their carbon footprint. Solar systems already are operational at seven L.A. school buildings.<sup>42</sup>

### Soltage

Soltage is a 15 MW portfolio of seven solar projects located throughout Connecticut and Massachusetts. **Over 50,000 union labor hours have been created** by Soltage projects so far. Additionally, the entire project will annually offset  $CO_2$  emissions equivalent to that of 1,300 passenger vehicles – that is, over 7,000 tons of  $CO_2$ .<sup>43</sup>

### **Southwest Solar**

Southwest Solar is a collection of four utility scale solar projects in Southern California. The projects are scheduled to commence commercial operations between Q4 2013 and Q4 2014. Once completed, the projects will generate 154 MW in clean energy –



Soltage's Palmer project in Massachusetts generates 1.2 MW of solar power

### enough to power over 25,000 homes.44

Additionally, the Southwest Solar projects have the potential to create nearly 600,000 hours of quality union labor and are already in the process of doing so.<sup>45</sup>

# Camp Lejeune military housing powered by solar

Approximately 2,300 solar panels generate enough thermal energy to meet 75% of the hot water demand of the housing community at Camp Lejeune in North Carolina, and are now each year saving over 23.5 billion BTUs, nearly 1,400 tons of  $CO_2$  and over \$100,000 in energy costs.<sup>46</sup>

FLS Energy owns the solar energy systems and provides the energy Camp Lejeune needs to heat water.



Camp Lejeune military housing powered by solar



# Intelligent Resource Management

Man has become dependent on finite natural resources, and it is becoming clear that we must take action to better utilize them. We are finding smart ways to make industrial processes more efficient, decrease the amount of precious resources used in our everyday lives and reduce, eliminate or recycle waste. The following companies are making great strides toward better resource management by addressing industrial and building efficiency, as well as water and waste management.

### **INDUSTRIAL EFFICIENCY**

Finding ways to reduce the amount of electricity, fuel and raw materials used to produce goods or services is essential if we are to be good stewards of our planet. The following companies are improving industrial efficiency.

### Aqwise

Aqwise provides low cost wastewater treatment solutions for the industrial, municipal and drinking water markets. Aqwise's proprietary technology is based around small plastic pellets that are engineered to have very large surface area. The pellets are coated with a biofilm that helps to remove organic compounds from the wastewater. This solution can be implemented in existing wastewater treatment plants at a fraction of the cost of building additional plant capacity by traditional means. The pellets used in this process have shown to **increase treatment capacity and output by up to 50%.**<sup>47</sup> For clients, this means an increased output of clean water for critical drought areas by 50%. Aqwise is solving two worldwide problems: (1) rapid urbanization and growing populations often cause unforeseen growth in the quantities of wastewater to be treated by existing municipal facilities<sup>48</sup> and (2) increasingly stringent effluent standards require industrial, aquaculture and municipal plants to remove pollutants which were not necessarily considered in the original plant design.<sup>49</sup>

### **Aspen Aerogels**

Aspen Aerogels is an energy efficiency company that manufactures nanotechnology materials for thermal management and energy conservation. With nano-sized air pockets that block cold and heat, Aspen's proprietary aerogel insulation boasts higher thermal performance than any other widely used insulation material (up to eight times more effective), at a fraction of the thickness and weight. Aerogels are the world's lowest density solids and consist of 3% silica and 97% air, creating efficient, thin and flexible insulation products that are easy to install.<sup>50</sup> Primary uses are pipe insulation and building insulation; its newest application in outdoor apparel and gear has been extremely successful as well.

A recent installation of aerogel insulation at the Pentagon in Washington, D.C. improved the R-value of insulation by 23%, saving 419 MMBtu per year in energy costs – and offsetting over 24 tons of  $CO_2$  emissions.<sup>51</sup>

Aqwise wastewater pellets



Simulation of the water treatment process featuring Aqwise pellets

### GeoDigital

GeoDigital is a world leader in LiDAR and imaging technology for engineering surveys and right of way mapping for the electric utility, pipeline, telecommunication, highway, railway and other industries. The company combines high-quality mapping and imaging solutions with visualization and task management software. For electric utility customers, this translates to precise vegetation management along power lines and transmission corridors, ensuring that trees and vegetation are not unnecessarily trimmed or removed. Their enhanced approach to maintenance efficiency and plant preservation has helped to sustain the continent's forests and plant life, thus offsetting thousands of tons of carbon emissions. To date, GeoDigital has inspected more than 120,000 miles of power lines, and serves (and improves the efficiency of) approximately 70% of North America's electric utility market.52

### **Molycorp Minerals**

Molycorp produces rare earth and other minerals for industrial and consumer applications. The company is focused on the mining of rare earth elements that are vital to many areas of renewable energy, including wind turbines, fuel cells and electric vehicle motors. The production of hybrid electric vehicle (HEV) motors, such as those in the Toyota Prius, depends heavily on rare earths, and the environmental return is significant: for every 1,000 HEVs that replace traditional gas-powered vehicles on the road, over 1 million pounds of CO<sub>2</sub> emissions and nearly 5 million gallons of fuel are saved every year.<sup>53</sup>

### SynapSense

SynapSense provides energy management sensors and tools to computer data centers. Data centers currently account for 2% of all electricity used in the U.S. and 1.3% used worldwide.<sup>54</sup> SynapSense's tools enable realtime collection of precise temperature data and the direction of the optimal amounts of cooling power to zones within each data center. Their Data Center Optimization Platform **saves up to 50% cooling energy**, or approximately 10-15% of overall energy usage.<sup>55</sup> Data center operators can now identify hot spots and areas of



Electrical line inspection using GeoDigital LiDAR technology

overcooling, and take actions to improve airflow management by continuously aligning cooling capacity with changes in IT load throughout a data center. One client of Synapse saves over 3.5 million kWh of energy annually – putting nearly \$600,000 back into their pockets, and keeping more than 2,700 tons of CO<sub>2</sub> out of the atmosphere each year.<sup>56</sup>

### **TPI Composites**

TPI manufactures composite building materials, primarily blades for wind turbines, but also composite shells for metropolitan transit buses, people movers and other applications. Their light-weight, heavy-duty composite materials enable larger, more efficient wind turbines and also increase fuel efficiency in transportation applications (lighter weight). As a supplier for GE, TPI has helped create nearly **17,000** wind turbines – enough to power over **5 million homes.**<sup>57</sup>



Wind blade manufactured at TPI Composites

### **BUILDING EFFICIENCY**

In 2013, buildings in the U.S. were responsible for 2.1 billion metric tons of carbon emissions, accounting for approximately 40% of the country's total emissions.<sup>59</sup> To us, this means great opportunity for energy savings and smarter resource utilization. The following companies offer solutions for owners of existing buildings that require increased efficiency, as well as for new construction.

### **Climatec Building Technologies**

Climatec is a single-source provider of energy management tools for HVAC and electricity, lighting, security systems, fire monitoring/alarm systems and automated demand response systems. Their solutions **allow the monitoring**, **control and optimization (i.e., reduction) of energy usage** and enhance the safety of the building's occupants. Recent projects include building automation systems at Harrah's Casino in Lake Tahoe, Chase Field in Phoenix and Edward's Air Force Base near Los Angeles.<sup>60</sup>

### Coolerado

Coolerado manufactures a super-energy efficient air conditioning system for light commercial and residential use. Their technology represents the first major innovation to the A/C marketplace in nearly 100 years. While traditional units reach up to an energy efficiency ratio (EER) of 14, Coolerado's units are 40 or higher. Each air conditioning unit can cool 3,000 square feet **to 90%** (or using nearly 1/3 of the power of a hand-held hair dryer).<sup>61</sup> The Coolerado process also creates a healthier environment by bringing in 100% fresh air and flushing out stale indoor air. One customer, after installing Coolerado A/C units, saw an energy reduction of 88%, using only 7.1kW of energy during peak conditions (compared to traditional systems which would use as much as 60kW in the same conditions). Their increased efficiency will offset over 200 tons of  $CO_2$  emissions yearly.<sup>62</sup>

while reducing energy consumption by up

### DIRTT

DIRTT stands for Doing It Right This Time, and it creates made-to-order and sustainable architectural interiors for virtually any indoor application – corporate, hospitals and homes. The extreme configurability of their product allows customers to design and order complete interiors – offices, meeting rooms, waiting rooms, cubicles, kitchens, etc. – by using



Coolerado air conditioning system

Axcess, Climatec's software platform, gives end-users detailed insight into building operations and allows them to maximize efficiency and conserve resources. Clients such as schools, hospitals, government, manufacturers, hotels and data centers can achieve up to 30% in annual operational cost savings.<sup>58</sup>



Screenshot examples of Climatec's user-friendly, comprehensive SAAS



DIRTT custom office interior

CAD systems that allows precise placement of lights, cabinets, electrical outlets, sinks, hospital equipment and monitors throughout the interior. Walls are manufactured to be reconfigured as the customers' needs change (e.g., reconfigure a conference room later into two or more offices). Since 2010, **DIRTT Environmental Solutions has offset almost 100,000 tons of CO**<sub>2</sub> **emissions.** Additionally, the company itself is diligent in its green initiatives such as using alternative energy to power buildings, minimizing factory waste and composting food waste.<sup>63</sup>

### Fiberon

Fiberon manufactures nontoxic composite decking, railing and fencing for home and light commercial applications. Their products are made from locally sourced, recycled materials. Fiberon's composite building materials are made with High Density Polyethylene (including material from various recycled plastics), making them stronger, stiffer and more durable than typical plastic products intended for the same applications, resulting in even less waste in the long-run. Because of this, Fiberon's customers divert over 40,000 tons of wood and plastics from landfills and incinerators each year.<sup>64</sup>

### Icynene

Icynene is North America's largest manufacturer of spray foam insulation, a green building product. The Icynene Insulation System<sup>®</sup> is a water-blown, spray-in-place, light-density expanding insulating foam that is healthier, quieter and significantly more energy efficient than traditional insulation products. Icynene's products qualify as part of the U.S. Green Building Council's LEED certification program.<sup>65</sup>

Homeowners with **Icynene insulation save up to 50% in heating and cooling costs,** thus using significantly less energy. While most spray foam insulation products require large amounts of pollutants for application, Icynene's products reduce this output significantly, instead using water to apply most of their products.<sup>66</sup>

"An environmentally sustainable space should not cost more. A truly sustainable solution saves money typically lost on wasted extra real estate, materials, energy, disposal and time. The first two R's of sustainability, Reduce and Reuse, are the same two R's in a healthy bottom-line. If we change from being a disposable society, the environment and economy will follow."

-DIRTT<sup>67</sup>



Fiberon nontoxic composite decking and railing

### WATER: PURIFYING AND PRESERVING

Water loss through inefficient networks accounts for up to 30% of the world's clean water production.<sup>68</sup> Additionally, by the year 2025, the UN estimates that 1.8 billion people will live in regions with "absolute water scarcity"<sup>69</sup> – that is, if nothing changes. North Sky Capital's investments in water-related companies touch a number of important subsectors, and are making visible impacts in water re-use and savings across the globe.

### Miox

Miox is an industry leader in on-site water treatment systems, combining electricity with high-performing yet environmentally benign disinfectants to generate clean, usable water. They service a variety of industries, including municipalities, industrials, aquatics, consumer and military. With over 20 years of experience in the water disinfection market and thousands of MIOX installations in over 40 countries. MIOX chemistries are cleaning over 7 billion gallons of water per day with their safer, more economical and significantly more effective processes. These on-site generators also eliminate the need for transportation, thus reducing the related transportation and carbon footprint by 80%.70

Following Super Typhoon Haiyan in the Philippines, Miox partnered with Operation Blessing International (OBI) to deploy seven portable clean water treatment units to the area. These units have the combined capacity to treat approximately 500,000 gallons of water each day, providing safe drinking water in life-threatening conditions. Lack of safe drinking water is one of the biggest problems facing the relief efforts. With raw sewage overflowing as a result of the typhoon, water supplies are contaminated. "One of the most pressing challenges in a major disaster such as this is providing clean water," says OBI President, Bill Horan. "These state-of-the-art MIOX units will be of immeasurable help in our efforts to provide clean drinking water for tens of thousands of people each day."71

### **Pure Technologies**

With billions of gallons of transported water lost each day in the U.S., water utilities need to proactively address leakage and the risk of pipeline ruptures. Pure Technologies provides leak detection solutions for municipal water pipelines and related infrastructure, and their services include inspection, leak detection and condition assessment. The company has inspected thousands of miles of pipeline to date, and pipeline leak detection systems have found an average of 2.2 leaks per mile in large diameter water pipelines in North America.72 This confirms the critical need for increased accountability in water networks everywhere. Fortunately, customers are seeing significant results: the leak detection program implemented throughout over 100 miles of pipeline in the city of Dallas is saving the city more than seven million gallons of treated water per day.73



Pure Technologies leak detection services are being used to clean, inspect, assess and rehabilitate the wastewater system in Abu Dhabi

"One of the most pressing challenges in a major disaster such as [Super Typhoon Haiyan in the Philippines] is providing clean water."

> ---BILL HORAN, PRESIDENT OPERATION BLESSING INTERNATIONAL



Seven Seas Water seawater reverse osmosis (SWRO) desalination plant in St. Thomas

### Seven Seas Water

Seven Seas designs, builds and operates water and wastewater treatment plants in the Caribbean and the Americas. The company provides potable water from seawater to large volume customers, addressing the challenge of water resource management by providing alternative water supplies and solving water inefficiency problems for municipal, industrial and commercial clients. Solutions are low-cost, environmentally friendly and sustainable. **Each day, Seven Seas Water delivers over 25** million gallons of treated, potable water to its clients, with zero up-front equipment cost to the client and fast and simple deployment.<sup>75</sup>

### TaKaDu

TaKaDu was started in Israel and operates worldwide – from the U.K. to Australia to Chile – and is a leader in water network monitoring with its Software-as-a-Service solution for monitoring water distribution networks. **Inefficient systems can lose 25-30% of transported water** through leaks, theft, damage and other anomalies. It is estimated that the amount of drinking water lost in pipe leaks in Asia alone could serve 150 million people.<sup>76</sup> TaKaDu addresses this problem by detecting and providing real-time data and alerts on leaks, bursts, zone breaches and other network inefficiencies.<sup>77</sup>

TaKaDu's technology is based on complex algorithms used to analyze existing online data from meters within a network (e.g., flow, pressure) and external data (e.g., weather, holidays). The result is more efficient operations – such as reduced repair and detection costs, burst prevention and damage reduction – and most importantly, reduced water loss. By maximizing network efficiencies (thus saving labor costs and valuable water), TaKaDu customers are seeing up to 400% returns on their investment.<sup>78</sup>

Seven Seas Water constructed a state-of-the-art permanent desalination system in St. Thomas that began producing 3.3 MGD of fresh water in June 2013. This facility will ensure the longterm water needs of the island at a fraction of the cost of the prior system. In late 2011, a water emergency occurred on the island and Seven Seas was asked to respond. They deployed eight containerized desalination units and within 46 days began producing a total of 2 MGD and continued to satisfy the drinking water needs of the island until the permanent structure was on line.74

### WASTE: REDUCING, REUSING AND RECYCLING

In the U.S. alone, 250 million tons of waste is generated annually which equates to 4.4 pounds of garbage per person per day.<sup>80</sup> As landfills fill up quickly and the growing global population creates more waste each year, it is clear that recycling and reuse are becoming increasingly important. Recycling and reuse preserves natural resources and reduces energy demand. The following companies are leaders in improved waste management.

"Stakeholders are demanding higher standards when it comes to sustainability at all stages of the value chain – from the sourcing and production of goods to the end-of-life impacts of these products. This heightened expectation will help drive a new era of U.S. manufacturing and create new opportunities for differentiation in the marketplace, especially through the use of reclaimed waste."<sup>79</sup>

> ---ART DODGE CEO ECORE INTERNATIONAL

### **ECORE International**

ECORE is North America's largest manufacturer of recycled rubber products. The company converts scrap tires and other chemical waste materials into high-quality materials for the construction, consumer, commercial, industrial and sports and leisure markets. ECORE **processes and reuses over 80 million pounds of scrap tire and conserves over one million barrels of oil each year** to convert pliable treads into brand new products such as commercial flooring. ECORE rescues over 2,000 trailer loads of discarded tires from America's landfills every year.<sup>81</sup>

#### eCullet

eCullet has developed an optical sorting process that allows more efficient extraction of recyclable glass from municipal waste. Specifically, eCullet uses its proprietary optical sorting technology to sort glass by color. This recycled single-color cullet glass is then reused for new glass production. Energy costs drop about 15-25% when recycled glass is used in the glassmaking process. Each plant processes approximately 70,000 tons of cullet per year. For every six tons of cullet used, carbon dioxide emissions are reduced by one ton, electricity and natural gas use is reduced by 2.5% and furnace temperature is reduced by 6° C."82 It is estimated that each plant offsets approximately 11,667 tons of carbon emissions each year.



ECORE's ECOsurfaces commercial flooring made from high quality recycled rubber used in a corporate setting

### Gazelle

Gazelle is the nation's leading consumer electronic trade-in web company and has been on the Inc. 500 ranking since 2010. Gazelle allows consumers to sell, trade-in and buy used electronics for a discounted price. As of 2012, **Gazelle has handled over 1 million devices** in an effort to reduce landfill waste, and to "[change] the way we all think about buying, owning, selling and recycling."<sup>83</sup>

### Living Earth

Living earth is the largest recycler of organic materials in Texas. The company sells many products such as compost, mulch, sand, soil and even green roofing material, and it's all 100% reused. When approximately 24 million tons of grass and leaves and nearly 22 million tons of food waste end up in landfills every year (taking up 20-30% of all landfill space), Living Earth's efforts become essential.<sup>84</sup> The company recycles and composts over 500.000 tons of green waste annually - the equivalent impact of taking 60,000 vehicles off the road for a year. If all green waste materials in the U.S. were composted and/or recycled, it would be the equivalent of taking more than four million cars off the road each year. Living Earth's recycling and composting not only preserves landfill space, it also reduces greenhouse gasses through the composting process.85

### Point Loma Integrated Fuel Cell System

The Point Loma Wastewater Treatment Plant treats approximately 175 million gallons of wastewater per day for the 2.2 million residents of nearby San Diego. The integrated fuel cell system captures untreated methane gas from the plant under a long-term feedstock agreement with San Diego. The gas is then cleaned and upgraded into pipeline-quality natural gas and distributed as renewable biogas via a nearby natural gas pipeline to University of California San Diego and the South Bay Municipality. There it is **converted by fuel cells into 4.5 MW of electricity.** Prior to this project, the methane gas from the plant was exhausted into the atmosphere and/or flared onsite.<sup>86</sup>

### Quench

Quench USA is a water technology company that designs, installs, leases and services filtered water coolers (also known as "point-



ReCommunity workers sorting waste

of-use" or "bottleless" water coolers) and ice dispensers. Each year the bottled water cooler business consumes 140 million kilowatt hours of electricity, wastes 2.7 billion gallons of water, burns close to 6 million gallons of fuel in delivery trucks and dumps more than 35,000 tons of plastic waste into landfills. Quench systems purify tap water using state-of-the-art filtration technology, providing a more cost-effective and environmentally-responsible solution than the delivery of bottled water. <sup>87</sup>

### **ReCommunity Recycling**

ReCommunity is the largest pure-play recycling company in the U.S. with 35 facilities. Instead of treating waste as a problem, ReCommunity transforms it into valuable revenue for communities. Among their key initiatives is single-stream recycling, which enables customers to deposit all recyclable materials into just one bin without the need to sort the waste. Towns typically increase recycling tonnage by 25-60% by implementing singlestream initiatives, which diverts volume from landfills and saves an average of \$94 per ton in disposal fees.<sup>88</sup> In 2012, ReCommunity processed 1.8 million tons of material to reduce CO<sub>2</sub> emissions by 5.3 million metric tons (equal to having 1 million less cars on the road). It also saved 2.6 million cubic yards of landfill space from being filled and generated millions of dollars that went directly back to the communities that processed the materials.89



Quench energy efficient onsite filtration coolers

## Conclusion

Mankind's demand for resources is weighing more heavily on our planet every day, and the time has come to act. We believe that the companies in which we have invested and discussed have the potential to lighten man's footprint on the earth and preserve the environment for generations to come – while also generating great returns for our investors.

At North Sky Capital, we are committed to having a positive impact on the world in which we all live.

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