ABOUT NORTH SKY CAPITAL

North Sky was founded as a private equity firm in 2000. Since 2005, we have been playing an innovative and leadership role in the impact/ESG investment marketplace. We work arm-in-arm with our clients to identify and invest in companies, private equity funds and infrastructure projects that make the world a better place. We seek to create a positive impact by stimulating social and environmental change while generating strong financial returns.

As many of you know, we launched the first impact fund of funds in North America in 2005 and began investing that fund in 2006. When the recession set in, we identified an opportunity to invest in clean energy infrastructure projects, while also creating high-paying construction jobs for electricians, carpenters, operating engineers, machinists, steelworkers, plumbers & pipefitters and other hard-working Americans and Canadians. With over 400 companies and infrastructure projects through 2017, we and our clients have created one of the most well-diversified and highly-impactful investment platforms, which will enable us to jointly do even greater things tomorrow.

Coincident with this 2018 Impact Report, we are preparing to make the final investments out of our sixth impact fund (a secondaries fund) and beginning to collaborate with clients on what lies ahead.

NORTH SKY IMPACT FUNDS:

- 2006 fund of funds—first in North America
- 2008 fund of funds
- 2010 clean energy infrastructure
- 2013 secondaries fund—first of its kind worldwide
- 2015 clean energy infrastructure
- 2016 secondaries fund
INTRODUCTION

Impact investing uses investment capital to solve social or environmental problems. Such investments often focus on renewable energy, food, water, health or economic development (jobs creation, gender equality and alleviating poverty). While once of interest only to a relative few, impact investing has become part of the mainstream over the last five years; and more so with each passing quarter. Globally 26% of the assets under professional management today are invested with ESG principals, which totals an astonishing $23 trillion.*

Today, investors of all sizes are utilizing their capital to do good while also doing well. Pension plans, endowments, foundations, family offices and individual investors have a multitude of options available to them: ESG-screened ETFs and mutual funds, green bonds, PACE bonds, affordable housing funds, clean energy infrastructure funds (like our series of Alliance Funds), private equity funds and more.

Here at North Sky Capital, we are dedicated to bringing impact investors and innovation together through transformative investment funds. Across six funds to date, we have provided the capital necessary for sustainability-focused companies to reduce and reverse humanity’s negative impacts on our environment, while maintaining the parallel goal of generating attractive investment returns. So far, we have helped to make electric cars and energy storage a reality and LED lighting and solar panels ubiquitous. Through 2017, we also have generated over 1.4 million hours of high-quality construction work to build solar and wind power plants that are generating more than 1.6 GWs (900 MWs from Alliance Fund I and 714 MWs from Alliance Fund II to date, per the investment updates) of clean electricity, brought electricity and light to African and Indian villages, made sewage treatment plants more efficient, rewritten the rules for constructing and retrofitting homes and buildings and promoted sustainable farming, among many other accomplishments.

The next few years hold tremendous opportunity for impact investors. During that time, our goal will be to continue to set the standard by which other private markets investment firms will be measured in terms of investment return, impact and transparency. We hope you enjoy reading this impact report, which highlights a few of our collective achievements over the last 13 years, and we invite you to join us as we embark on the next leg of our journey!

SOLAR

The cost to install solar power has fallen 70% since 2010, accelerating the expansion of solar into new markets. In 2016, a new megawatt of photovoltaic solar capacity came on-line every 36 minutes and more solar generating capacity was installed than any other technology for the first time in history. Through 2017, solar accounted for 30% of all new electric generating capacity added in the U.S. Here are a few of our companies that are contributing to the growth of solar power.

[Graph: CUMULATIVE U.S. INSTALLED SOLAR CAPACITY

U.S. SOLAR INDUSTRY JOBS

U.S. Solar

U.S. Solar builds large solar systems and sells the energy produced through a subscription-based community solar model. Community solar is expected to be a 500 MW market by 2019, a 13% annual growth rate since 2016. The structure eliminates customer construction and maintenance costs as well as the logistical headaches that can come with rooftop solar projects – no additional construction or maintenance costs are charged to subscribers.

1366 Technologies

1366 Technologies makes solar energy more affordable by cutting wafer production costs in half. Since silicon wafers are 40% of the cost of a solar module, lowering wafer costs has a significant impact on prices. The company’s wafers have improved cell efficiency twice as fast as the rest of the industry and recently set a cell efficiency record of 19.9%. In addition to producing affordable solar module components, the company’s manufacturing processes use 60% less energy than competitors’. Japan’s IHI Corporation selected 1366’s wafers for its 500 kW commercial operation that was completed in 2017. This is 1366’s first commercial installation. The array will prevent approximately 9,500 metric tons of CO₂ from entering the atmosphere over the course of its lifetime.

Clean Energy Collective

Clean Energy Collective (CEC) builds, operates and maintains community-based solar facilities that are collectively owned by the customers of participating utilities. The company is the only provider of a fully scalable, end-to-end solution viable for all utility types and market structures. IHS Markit selected CEC from over 500 companies as an Energy Innovation Pioneer for its unique community solar platform. CEC has 130 community solar projects built or under development across 15 states.

- Operational capacity: 26 MW
- Power generated: 33 GWh
- Greenhouse gas abatement: 25,000 metric tons

Cypress Creek

Cypress Creek Renewables is a solar developer with projects in 15 states. Their business model is focused on utility-scale ground mount projects with 2-20 MW capacities. The company has over 6 GW of solar farms deployed or in development. Cypress recently announced a collaboration with United Renewable Energy to co-develop a series of solar-plus-storage projects in North Carolina. The projects will store excess power in batteries to be used during times of elevated power needs, providing reliable solar energy and reducing the utility’s peak power requirements.
(1) 1366 Technologies manufactures wafers for solar panels at a lower cost
(2) Horizon Solar Power panel installation in Palm Springs, CA.
(3) CEC community solar array in Jackson County, CO.
(4) Cypress Creek solar array
ENERGY STORAGE

Energy storage systems allow us to harness intermittent renewable energy, which is essential for grid stability and widespread clean energy adoption. On the heels of record breaking energy storage growth in 2016, analysts predicted global storage market growth above 45% for 2017 with an annual growth rate of 60% through 2020. This growth will continue to accelerate, from 1 GWh installed today to 81 GWh by 2024. Through our portfolio, we support energy storage companies that are changing the way we electrify our homes and buildings, charge our batteries and power our cars.

**JLM Energy**

JLM provides integrated power systems that bundle generation, storage and monitoring through a suite of hardware and software products. The company’s Phazr microstorage systems install on preexisting solar racking and reduce design, installation and maintenance costs by up to 90%. The system couples with individual solar panels and enables partial, full or custom configurations to match a customer’s demand needs.

In addition to providing low-cost, customizable storage solutions, JLM’s Symmetric DC Regulation (SDCR) technology eliminates unnecessary system components and reclaims over half of the 40% energy loss associated with traditional systems. SDCR is the only technology available that allows a solar panel to simultaneously charge a battery and channel power to a building, boosting system efficiency by up to 50%. To compensate for varying energy needs, the system prioritizes energy flow between the building and the battery and allows power to flow to multiple sources at multiple intensities.

**Qnovo**

Qnovo uses software algorithms to diagnose a lithium-ion battery’s health. The company’s software modifies charging parameters to ensure the optimal amount of current is applied to the battery. High charge rates (“fast charging”) wear down a battery, which is why conventional charging methods have intentionally low current flow. Qnovo’s adaptive charging technology shortens charge times by increasing the current applied to the battery when possible and keeps batteries running twice as long.

**Stem**

Stem provides a low-cost energy storage device and proprietary cloud-based predictive data analytics to optimize energy usage for commercial businesses. The same systems can also be used to deliver grid-level energy storage capability to utilities. Stem had more than 200 MWh of behind-the-meter energy storage capacity under management as of January 2018. The company recently won a 2018 Greentech Media Grid Edge Innovation award and made its first move into Asian markets with a Tokyo Electric Power partnership. Stem will initially deploy more than 750 kWh of battery capacity across three commercial-industrial building sites in Tokyo.

…”a next-generation smart grid without energy storage is like a computer without a hard drive: severely limited.”

— Katie Fehrenbacher, GigaOm
(1) JLM offers both rack-mounted and panel-mounted energy storage systems
(2) Qnovo software improves battery life spans
(3) Stem’s 18 kWh energy storage system
Battery prices are the main reason why electric vehicles are more expensive than vehicles with traditional internal combustion engines. As battery pack prices decline, the cost differential between fully-electric vehicles and those with traditional engines compresses. Battery prices fell 73% since 2010 and may drop another 73% by 2030, further boosting electric vehicle sales – estimates suggest electric vehicles will cost less than traditional vehicles by 2025. Emissions from transportation activities account for over 28% of U.S. greenhouse gas emissions, the highest of all economic sectors, and electric vehicles could help lower that substantially.

SPOTLIGHT
ENERGY STORAGE’S IMPACT ON TRANSPORTATION

Tesla Powerwall and Model S
TESLA’S ENERGY ECOSYSTEM

Until recently, there were no fully-electric vehicles in mass production and solar roofs were more pipedream than reality. Today, both electric vehicles and personal off-grid electricity are readily available. On top of the positive environmental impact, recent studies from the National Renewable Energy Laboratory show customers can save money by combining renewable energy generation and storage systems.²³

Tesla, the most recognized fully-electric vehicle producer, is one of the first companies to offer a holistic energy ecosystem that uses solar energy to power a home and charge its electric vehicles with excess energy stored in its Powerwall battery.

Tesla’s residential solar options are both economically viable and an appealing alternative to traditional roofs. The company offers both traditional solar panels and solar roof tiles that come in a variety of styles. Their solar tiles use invisible solar cells, have a lifetime warranty and are more than three times stronger than standard roofing materials.²⁴ The company recently started installing its solar products on their Nevada-based Gigafactory 1, where battery cells and energy storage products are manufactured. Once complete, Gigafactory 1 will be fully powered by clean energy and have the world’s largest rooftop solar array, a 70 MW system that is ~7x larger than the largest rooftop system installed today. Tesla manufactures solar products in its New York-based Gigafactory 2, which is powered by hydro-electricity.²⁵

Early solar solutions were inefficient standalone energy generating systems – most households do not use much energy during times of peak production (midday), so a substantial amount of the generated power went unused. Tesla’s Powerwall battery allows a customer to store this excess energy and use it at times when the home requires more power than the tiles are generating. The Powerwall is child-friendly, quiet and requires no additional hardware for energy conversion.²⁶ Tesla notes that home battery storage can achieve an 8-15% return on investment.²⁷

The company introduced the Model 3, its first affordable fully-electric vehicle, in early 2017 (base price of $35,000 and a 220-mile range) and recently announced production plans for a semi-truck (expected in 2019) and a 200+ mph super car (expected in 2020)²⁸. Tesla vehicles, including the luxury Model S sedan and the Model X sport utility vehicle, can take advantage of the existing solar-powered Tesla Supercharger network of over 1,100 stations with 8,500 chargers.²⁹

Tesla’s Solar Roof tiles use invisible solar cells
WATER

70% of the Earth’s surface is covered by water, but only about 3% is available freshwater.\(^{45}\) Water scarcity will be an issue for 1.8 billion people by 2025 and supply imbalance will create a 40% global shortfall in available freshwater by 2030. Despite the limited water supply, less than 20% of wastewater is recycled, leaving substantial room for improvement.\(^{46}\) The following companies are working to alleviate water scarcity or otherwise improve resource efficiency in the water sector.

### AquaVenture Holdings
AquaVenture Holdings provides municipal, industrial and commercial customers with low-cost “Water-as-a-Service”. Through its Seven Seas and Quench subsidiaries, the company provides customers with reliable sources of clean drinking water.

Seven Seas operates ten desalination plants and delivers seven billion gallons of clean water to clients annually.\(^{30}\) Seven Seas is the primary water supplier to the U.S. Virgin Islands, the British Virgin Islands and Dutch St. Maarten and has significant operations in Trinidad and Curacao. The company continues to expand its operations, most recently with the acquisition of a desalination plant in Accra, Ghana. The plant delivers 18.5 million gallons of potable water each day to 500,000 residents.\(^{31}\)

Quench, the company’s water filtration business, prevented more than 22 million five-gallon plastic jugs from entering the waste stream in 2016 alone.\(^{32}\) Each year, the production and delivery of these jugs consumes 140 million kWh of electricity, burns 6 million gallons of fuel, adds over 70 million pounds of waste to landfills and wastes a gallon of water for every gallon bottled.\(^{33}\)

### Natural Systems Utilities
Natural Systems Utilities (NSU) operates over 200 water reclamation and reuse systems across the U.S.\(^{34}\) The company’s water reuse projects treat water from all sources, such as toilet flushing, laundry and irrigation systems. NSU’s water projects not only fulfill day-to-day treatment needs, but also conserve water, an important feature given the U.S.’ increasingly strained water supplies.\(^{35}\)

NSU recently installed an innovative wastewater treatment system in New York that removes groundwater contaminants before they reach nearby bays. These contaminants are a major cause of algal blooms that can destroy an area’s aquatic ecosystem. The community’s cooking, laundry and restroom water is treated by recirculation through a subsurface wetland. Subsurface wetlands, designed specifically for wastewater treatment, have a water surface below ground to prevent mosquitoes, odors and the risk of public contact with partially treated wastewater.\(^{36, 37}\)

### Ostara
Ostara is working to change the way cities manage fertilizer runoff in streams. The company’s nutrient removal solution removes otherwise polluting nutrients and transforms them into eco-friendly fertilizer. At capacity, the company’s systems produce a total of 17,000 tons of fertilizer annually. Ostara has served nearly 11 million people, recovered over 6.9 million pounds of harmful phosphate and reduced polluting biosolids by 10-20%.\(^{40, 41, 42}\)

### TaKaDu
TaKaDu’s automated cloud-based software enables water utilities to detect and manage network events such as pipe leaks and bursts. With TaKaDu, utilities reduce water loss by up to 30% per year and improve repair cycles by up to 60%.\(^{43}\) The company was included in Cleantech Group’s 2017 Global Cleantech 100, a list of private companies with the highest potential to have near-term market impacts.\(^{44}\)

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“Quite simply, water is a matter of life and death. Our bodies, our cities, our industries and our agriculture all depend on it.”

— UN Secretary-General António Guterres

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(1) Water utilities use TakaDu’s cloud-based software to detect and repair pipe leaks

(2) Ostara transforms polluting nutrients into eco-friendly fertilizer

(3) Natural Systems Utilities water pollution control plant

(4) Aqwise pellets designed for wastewater treatment

(5) AquaVenture desalination plant
WIND AND OTHER ALTERNATIVE ENERGIES

Renewable energy remains the fastest growing source of electricity generation as we deplete fossil fuels and look for alternative power sources. By 2021, generation from renewables is expected to rise by almost 40% and account for 28% of total electricity generation worldwide.\(^57\) The following companies are all contributing to alternative energy generation growth.

**Carolina Hydro**

Carolina Hydro is a portfolio of four hydroelectric generating facilities located in North and South Carolina with an operating capacity of 11.2 MW. The facilities use a river’s natural flow rate to generate electricity. These systems are much easier on a river’s ecosystem than dams and other hydroelectric facilities.

**Building Energy**

Building Energy is an Italy-based renewable energy developer and asset owner. The company owns 144 MW of renewable energy power systems across Africa, the Americas and Europe with several hundred megawatts under construction and a global pipeline of over 2,600 MW.\(^49\)

Building Energy recently announced the inauguration of its first wind farm in Iowa, which will add up to 30 MW of distribution capacity and generate approximately 110 GWh per year. Ten 3 MW turbines will satisfy the needs of 11,000 U.S. households while avoiding annual CO\(_2\) emissions of approximately 70,000 tons, the equivalent to taking 15,000 cars off the road each year.\(^50\)

**Emergya Wind Technologies**

Emergya Wind Technologies manufactures gearless wind turbines. The company is a leading provider in the sub-megawatt segment and has deployed its technology in over 600 turbines across North America, Europe and Asia.\(^31\) Emergya recently installed a 900 kW turbine in Istanbul, Turkey, the company’s first turbine installation in the country.\(^52\)

United Utilities, the U.K.’s largest listed water company, uses an Emergya turbine for energy generation at its Fleetwood, Lancashire wastewater treatment worksite. This facility supplies three million households and 200,000 businesses with clean water and waste removal. The turbine generates approximately 1,970 MWh per annum, and displaces 700 tons of CO\(_2\) per year.\(^53\) In addition to reducing the site’s reliance on fossil fuels, the turbine provides a buffer against fluctuating energy prices and interruptions in supply.

**AltAir**

AltAir produces fuel using environmentally-sustainable feedstocks. The company operates the world’s first renewable fuels refinery with integrated jet fuel production capability. AltAir’s jet and diesel fuel products meet the same certification as petroleum-based fuels while reducing greenhouse gas emissions by over 70%.\(^54\) The aviation industry accounts for 11% of all transportation-related emissions in the United States. Using sustainable feedstocks can drastically reduce the sector’s environmental impact.\(^55\) AltAir has partnered with industry leaders in aviation, engineering and refining, including the Department of Defense, United Airlines, World Fuel Services and the Los Angeles International Airport.

**AltAir’s renewable jet and diesel fuels reduce greenhouse gas emissions by over 70%.**
Pure Biofuels
Pure Biofuels owns and operates the largest fuel import terminal in Peru, which is used for storage, fuel distribution and biodiesel production. The company’s blended fuel products contain very low amounts of sulfur and reduce emissions dramatically.

To date, the renewable fuel industry has:
- Produced 450 million gallons of biomass-based diesel
- Reduced 56 billion pounds of greenhouse gas emissions
- Employed 8 million people worldwide

(1) Emergya Wind Technologies 900 kW Wind Turbine model
(2) Jet powered by AltAir’s renewable fuel
(3) Building Energy wind turbine located on a farm in Iowa
(4) Carolina Hydro hydroelectric generating facility
The property assessed clean energy (PACE) model is a mechanism for financing energy efficiency and renewable energy improvements. The program allows governments or other jurisdictional authorities to fund the up-front cost of energy improvements, which are paid back over time by the property owners. This allows homeowners to make improvements they otherwise may not be able to afford. A wide variety of projects are included under the PACE model, including the installation of solar panels, high-efficiency HVAC systems and water-saving equipment. In addition to energy efficiency improvements, PACE financing is available for disaster mitigation upgrades, such as seismic retrofits for areas affected by earthquakes and a variety of hurricane resilience upgrades. As of 2017, over 150,000 homeowners have made $4 billion in home improvements through PACE financing.58

THE PROPERTY ASSESSED CLEAN ENERGY MODEL

| City or county authorizes PACE financing in their district | Property owners voluntarily sign up for financing and install energy projects | A lender provides funds to pay for energy project | Property owner repays the loan through property tax bill over several years |
Renovate America
Renovate America administers California’s largest residential PACE program and has provided financing in 650 communities across the country. The 100,000+ homeowners using Renovate’s Home Energy Renovation Opportunity (HERO) program to finance clean energy improvements have saved 17.6 billion kWh of energy and 11.4 billion gallons of water. This is enough energy to power over a million homes for a year and enough drinking water for every person on Earth for a day, with enough left over to fill 4,000 Olympic-size swimming pools.59

Renovate recently launched its HERO program in Florida, the company’s third state behind California and Missouri. Local contractors should see greater demand for home energy and resiliency projects, which will boost small businesses and create new jobs in the construction and installation sector. The expansion into Florida adds an additional 1.3 million housing units to Renovate’s HERO coverage that can now benefit from PACE financing.60

Ygrene Energy Fund
Ygrene is an administrator of PACE energy financing programs. Ygrene is the second largest residential PACE program administrator in California, the largest in Florida and the largest commercial and multi-family residence PACE provider nationwide. In 2016, Ygrene was recognized for the issuance of the first-ever AAA-rated, Green Bond-certified PACE security.61 Since 2010, the company has created and sustained 18,000 new jobs, invested over $1 billion in over 500+ communities and has reduced greenhouse gas by 1.4 million metric tons.62

Renew Financial
Renew Financial is a leading PACE financing provider that allows customers to install energy efficiency, water-saving and renewable energy systems that are repaid over the course of 5-30 years and have no upfront costs. Under the company’s structure, interest rates are fixed and the balance is transferable to a new property owner in the event of a sale. Renew has funded over 83,600 projects totaling over $1.0 billion. The company has created over 15,000 jobs, conserved 877 million gallons of water, cut greenhouse gases by 2.3 million metric tons and realized over $1.5 billion in energy savings.63
EFFICIENCY

Energy consumption is projected to grow by nearly 30% in 20 years. It is more important than ever for manufacturers and service providers to find solutions that optimize efficiency. The following companies illustrate how the goal of increasing efficiency is benefitting a wide range of industries.

TPI Composites

TPI Composites provides composite materials for wind turbine manufacturers (such as Vestas, GE and Siemens) and the transportation industry with global operations spanning North America, Europe and Asia. The company uses advanced composite technology and produces lightweight, durable wind blades with near-aerospace precision at an industrial cost. TPI has produced over 20,000 blades since 2001; each blade is 50 to 60 meters long, roughly the size of a Boeing 787’s wingspan. The company recently signed a long-term agreement with Gamesa to supply wind blades from TPI’s new Turkey facility.

On the transportation front, TPI was chosen to supply bus bodies for Proterra, a leader in zero-emission buses. Lightweight composites can save hundreds or even thousands of pounds when compared to steel or aluminum vehicle structures, greatly reducing weight while protecting against corrosion and improving fuel efficiency. With TPI’s structures, buses are 40% lighter and use less energy.

Dolan/European Carbon Fiber

Dolan and European Carbon Fiber (ECF) manufacture fibers for the outdoor and industrial sectors and the carbon fiber market, respectively. Dolan’s durable acrylic fibers for awnings and car tops last longer and reduce waste. ECF supplies the carbon fiber precursors that are used in automobiles, reducing weight, emissions and fuel consumption.

In 2016, the combined companies saved:
- 178,000 metric tons of CO₂ – the emissions from 25,100 people
- 11,500 metric tons of landfill waste – the annual waste of 43,600 people
- 4,020 terajoules of energy – the energy consumption of 221,000 people

Choose Energy

Choose Energy is an online platform that helps customers select clean energy providers. 60 million U.S. households have the option to purchase electricity or natural gas from retailers other than their utility, but less than a third do so. Choose reduces energy costs by up to 34% by providing a marketplace where energy companies can compete for business. The company currently operates in 13 states and the District of Columbia and has relationships with all major energy retailers.

Nlyte

Nlyte is a leading provider of Data Center Infrastructure Management (DCIM) software. The company reduces computing costs through energy optimization and simplifies new application support. Nlyte has a 98% retention rate and serves some of the largest companies in the world and over 30 U.S. government agencies. The company added a record number of new customers in 2017 and established a new sales office in India to fulfill the Asia-Pacific data center demand for DCIM solutions. This was the fourth year in a row that Nlyte added a record number of new customers.

GeoDigital

GeoDigital provides light detection and ranging, digital mapping and inspection technology services for the power utilities and transportation industries. The company’s flagship utilities software allows clients to proactively inspect and monitor power lines to pre-empt power outages. To date, GeoDigital has mapped roughly 430,000 miles of transmission lines, covering nearly two million assets. The company has also used drones for data collection, which reduces safety risks associated with human-operated helicopters.

Each TPI Composites wind blade is the size of a Boeing 787’s wingspan.
(1) Nlyte optimizes data center energy use
(2) TPI Composite wind blades
(3) European Carbon Fiber used for auto production, aircraft interiors and sporting and leisure goods
(4) GeoDigital’s helicopter-born LIDAR mapping systems
WASTE

The waste humans produce is growing at an alarming rate. Annual waste generation is on pace to increase by 70% to more than six million tons by 2025. By 2100, we will produce three times as much waste as we do today.83 Here are six of our portfolio companies that are analyzing and reducing waste.

**Waste Resource Management**
Waste Resource Management (WRM) collects, processes and recycles liquid grease waste. If not disposed of properly, liquid grease can cause severe damage to local water and sewer infrastructure. WRM’s multi-step treatment and disposal process keeps harmful elements from entering public water systems and separates waste for reuse in biofuels and other products.

**WeissBeerger**
The average U.S. beverage tap wastes 20% of every keg.77 WeissBeerger, a real-time beverage analytics company, helps reduce this waste and increase profitability. The company’s software platform allows customers to monitor inventory, quality, waste and consumption with easy-to-install sensors. WeissBeerger’s platform of hardware, software and data analysis reduces waste by 50%, increases customer sales by up to 32% per tap and maximizes promotion effectiveness.78

**DIRTT**
DIRTT manufacturers and designs prefabricated custom and sustainable architectural interiors for virtually any indoor application. Using its interactive ICE® 3D software, the company manufactures walls to precise specifications, thereby minimizing wasted material (“offcuts”). DIRTT produces 30-50% less aluminum offcuts than other manufacturers, and all manufacturing waste is recycled. The company recycles about 375,000 kg of medium density fiberboard and 1,200 kg of fabric annually, equal to the weight of 25 mature red oak trees and one shipping container, respectively.79

DIRTT’s commitment to sustainability extends beyond the manufacturing process. Through its organic food waste composting program, DIRTT collects 28,000 kg of organic waste each year, the weight of two and a half garbage trucks, and removes nearly 49,000 kg of CO₂ from the atmosphere. Employees are also encouraged to drive hybrid and electric vehicles. In a single year, the company saves approximately 91,000 liters of gas and offsets 416,000 kg of CO₂, the same as taking 88 cars off the road.79

Over the course of one year, DIRTT’s wind and solar systems offset the cost of electricity at factories and saves:
- 120,000 kWh of electricity
- 93,000 kg of CO₂
- 216 barrels of oil

**Ecore**
Ecore transforms reclaimed waste into performance surfaces for the healthcare, athletic and industrial industries. The company’s recycled rubber floors reduce noise, provide ergonomic support and reduce the risk of injury from a fall. Ecore is the largest user of scrap tire rubber in the U.S. and converts more than 80 million pounds of tires into flooring each year. It is the only full-line U.S. manufacturer of cork products, which use rapidly renewable cork trees.80 Ecore tests their rubber surfaces for volatile organic compounds, lead and other harmful substances to ensure products are fully compliant with all regulatory organizations.

Ecore has developed energy-efficient manufacturing processes that use minimal water and do not include smokestacks. The company’s closed-loop water system conserves water through recirculation rather than releasing wastewater into the sewer system. Over 17 million gallons of water is conserved each year. Ecore’s energy efficient manufacturing uses 40% less energy than standard industry procedures and conserves enough natural gas each year to serve 120 American homes. Energy-efficient lighting reduces carbon footprint by 835 tons per year and saves 100,000 gallons of gasoline, the equivalent of taking 160 cars off the road.81

“Ecore invented recycled rubber surfacing. A product that can be seen in virtually every country in the world.”

– Arthur Dodge III, Ecore CEO
Living Earth
Living Earth is the largest recycler of organic materials in Texas. Each year, the company’s 22 facilities process and distribute approximately 1.7 million cubic yards of organic material. If the 46 million tons of organic waste produced annually in the U.S. were composted instead of sent to a landfill, the resulting reduction in methane gas emissions would be the equivalent of taking more than four million cars off the road.82 Recycling compostable materials not only lowers greenhouse gas emissions, but also saves valuable landfill space, promotes water conservation and returns organic matter back to the earth for beneficial use. The natural mulches and composts that Living Earth produces are used by both professional landscapers and general consumers.

Scodix
Scodix, a provider of digital print enhancement solutions, received a 2017 Printing Industries of America InterTech Technology Award for its excellence in the commercial printing industry. Scodix delivers a broad set of printing solutions while minimizing the negative environmental impacts commonly associated with specialty printing. The company’s process does not emit any volatile organic compounds and output is nontoxic and recyclable. The company is particularly noticed for its ability to produce unique, customized prints such as braille text and 3-D. In fact, the cover of this report was printed with a Scodix printer!

(1) DIRTT modular office space
(2) Living Earth recycled mulch
(3) Ecore recycled rubber flooring
(4) Weissbeerger’s beverage analytics reduce waste by 50%
# AGRICULTURE

We will need to double food production by 2050 to meet a growing global population. Unfortunately, we cannot expand geographically since much of the land suitable for farming is already in use. These companies are working to increase yields to meet the world’s growing demand.

<table>
<thead>
<tr>
<th>Company</th>
<th>Description</th>
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<tbody>
<tr>
<td><strong>Groundwork BioAg</strong></td>
<td>Groundwork BioAg develops and manufactures natural agricultural products that use mycorrhizae, the fungi found on plant roots that assist in the absorption of nutrients. Over 90% of the Earth’s vascular plants form symbiotic relationships with mycorrhizae, and farmers benefit from the increased yield, savings on fertilizer and plant resilience. The company’s Rootella product has a 90% absorption rate, significantly higher than the 15% associated with traditional fertilizer. In large scale trials, Rootella provided a 19% increase in soybean yield, 30% increase in corn yield and 33% increase in lentil yield while using less water and fertilizer.</td>
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<td><strong>BrightFarms</strong></td>
<td>BrightFarms builds and operates hydroponic greenhouse farms for supermarkets in urban areas. The systems recirculate water and use significantly less water than traditional farming with no harmful agricultural runoff. Because these smaller-footprint operations are near urban areas, customers receive produce that is a week fresher. BrightFarms’ greenhouses occupy up to 90% less land, use 80% less water and use 95% less shipping fuel than conventional field agriculture.</td>
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<td><strong>NewLeaf Symbiotics</strong></td>
<td>NewLeaf Symbiotics is developing agricultural products with natural, beneficial plant bacteria. The specific family of bacteria, “PFPMs”, use plant waste to produce nutrients for the plant to absorb. This process significantly increases yields and allows crops to thrive with fewer unnatural fertilizers and pesticides. The company launched its first two Terrasym products in 2018, designed to maximize soybean and peanut yields. The products work all season long augmenting plant performance and enhancing plant nutrient acquisition during critical stages of development. The products came to market at scale earlier than originally planned after three years of field data showed significant yield increases.</td>
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<td><strong>New Forests</strong></td>
<td>New Forests is a sustainable real-asset manager with a focus on forestry, land management and conservation. The company has operations in six countries and manages a range of plantations as well as semi-natural forestry and carbon offset projects in the U.S. New Forests established the first U.S. institutional fund investing in both forest carbon and mitigation banking. Since the last report, New Forests has continued to increase the amount of forest assets under management. The company manages more than 843,000 hectares of land and forests with 39% of all investments dedicated to protection and conservation. New Forests’ 15 Forest Carbon Partners reforestation and conservation projects have delivered two million carbon offsets and saved 20 million tons of CO2, the same as removing nearly six coal plants from service or taking four million vehicles off the road for an entire year.</td>
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“Because we’re growing locally and delivering to customers within 24 hours of harvest, we can grow more tender varieties that taste better.”

– Paul Lightfoot, BrightFarms CEO
(1) Groundwork BioAg natural agricultural products
(2) BrightFarms hydroponic greenhouse
(3) Yurok Tribe forest in Northern California managed by New Forests
RESOURCES FOR THE DEVELOPING WORLD AND EDUCATION

Less than five years ago, 500 million households still used inefficient generators that emitted one billion tons of greenhouse gas annually and caused 3.5 million premature deaths from smoke exposure. Hundreds of millions more lacked access to clean water and used kerosene for their main light source.\(^{106}\) Not only are these light sources dangerous, but unreliable light drastically reduces the amount of time available to study. We have invested in companies that deliver efficient, reliable sources of energy and provide quality education resources.

**Husk Power Systems**

Husk Power Systems designs, builds, owns and operates low-cost mid-grid power plants and distribution networks in India and Africa. The company pioneered a hybrid system that generates 24-hour power by synchronizing solar and biomass gasification power plants and is the only company with 100% renewable powered mini-grids in its regions of operation. This energy is 30% cheaper than alternative sources. Husk offers flexible pay-as-you-go energy services using a mobile-enabled smart metering system. Even the waste products from the gasification process are used – women in villages with Husk power plants are hired to convert the rice husk byproducts into incense. More than 50 local women are hired for each manufacturing unit.\(^{93}\) Over the next four years, Husk plans to add over 300 mini-grids in India and Tanzania and deploy 15 MW of power plants that would eliminate 150,000 tons of CO\(_2\) per year. These grids will serve over 100,000 customers.\(^{94}\) In addition to its power plants, Husk is certified by the Government of India to offer comprehensive biomass, mechanical and solar training. The company trains over 100 technicians and electricians each quarter.\(^{35}\)

**Nova Lumos**

Nova Lumos, operating in Nigeria, offers clean, safe and affordable pay-as-you-go solar power as an alternative to diesel generators. The company’s kit includes an 80 W solar panel, a USB mobile phone adapter, two LED bulbs and a self-installation mounting kit. Solar power is not only cost-effective for the developing world, but also safer. Between 2008 and 2014, at least 10,000 Nigerians died from poisonous fumes emitted from generators and the World Health Organization estimates that 4.3 million people die each year from household air pollution emitted through burning solid fuels.\(^{96,97}\) At least 600 million Africans have no access to energy and as many as one billion are limited to partial or costly service.\(^{98}\) Nova Lumos has provided power to over 250,000 Nigerians and recently expanded operations to the Ivory Coast. The company will help provide power to the 60% of the country that is not connected to the national power grid.\(^{99}\)

**d.light**

d.light delivers affordable solar-powered solutions for the two billion people in the developing world currently without access to reliable energy. The company has sold nearly 20 million solar light and power products in 62 countries and expects to reach 100 million people by 2020.\(^{100}\) d.light offers a variety of products, from single-function solar lanterns to a grid-like system that includes solar panels, mobile charging battery packs, solar lights and radios. d.light has generated 148 GWh of renewable energy, provided power to 75 million people (including 20 million school-aged children) and offset 26 million tons of CO\(_2\).\(^{101}\)

**Sonans**

Sonans provides education services in Norway, where 3 out of 10 students drop out of high school.\(^{102}\) The company provides a wide range of courses and programs, mainly to 18-28 year-olds who want to complete high school, improve grades or pass admission examinations.\(^{103}\) Sonans Education supports over 7,000 students annually in achieving educational goals and accessing tertiary education of their choice. The company’s first school grew from 375 students to over 600 in just three years and a second private school was recently added in Haugesund.\(^{104}\) Additionally, Sonans has a career-focused division that provides counselling to over 6,000 individuals each year to help them enter or reenter the labor market.
MasterClass
MasterClass is an online education platform that offers video classes taught by world-class instructors. Courses are taught by top practitioners such as actor and director Ron Howard, comedian Steve Martin and tennis player Serena Williams. The flexible class structure has encouraged thousands of hobbyists, professionals and lifelong learners to refine their craft at their own pace while receiving feedback from other students and even the professional instructors.

Carson-Dellosa Publishing
Carson-Dellosa Publishing publishes supplementary educational products for educators and teachers worldwide. Carson-Dellosa products are used in over 1,000 schools and are sold in over 10,000 retail locations. The company’s pre-K through grade eight materials bridge the gap between school and home through a holistic view of education needs spanning back to school, test prep and summer learning, while emphasizing student engagement.

(1) d.Light solar light and power products for the developing world
(2) Nova Lumos power source
(3) Sonans educational classes based in Norway
(4) Husk Power Systems mini-grid
(5) Jane Goodall teaching conservation class through MasterClass
(6) Carson-Dellosa Publishing creates educational products used internationally
HEALTHCARE AND HEALTHY LIVING

Though we have made significant progress in reducing mortality related to sickness, more than six million children still die before their fifth birthday each year worldwide. Exercise is important, but so is consuming the correct nutrients – poor diets, even for people at a healthy weight, can result in conditions such as diabetes, heart disease and certain types of cancer. Promoting well-being is crucial to the development of society. Companies in our portfolio are working to find solutions for a variety of health conditions and provide crucial supplements and nutritional products for all ages.

Prolacta Bioscience

Prolacta Bioscience develops specialty formulations of milk to meet the nutritional needs of premature infants. 55,000 babies born prematurely each year do not receive important nutrients that are delivered late in a pregnancy. A human-milk diet is important to boost their immune system and prevent infections, but these infants have special dietary needs that breast milk alone cannot satisfy. Prolacta’s products are the first and only caloric fortifiers made with 100% human milk that provide extra calories, protein and minerals to help meet specific nutritional needs.

Outset Medical

Though more than $42 billion is spent annually on 78 million kidney dialysis treatments in the U.S., little innovation has been introduced in the last several decades. Outset Medical is commercializing a novel therapy for patients suffering from kidney failure. The company’s Tablo device is an all-in-one dialysis solution that allows patients to perform dialysis in the comfort of their home. Tablo connects directly to regular tap water to generate streaming dialysis fluid. In addition to increased flexibility, the solution reduces costs for hospitals and extended care facilities.

OncoMed Pharmaceuticals

OncoMed Pharmaceuticals is a clinical-stage biopharmaceutical company developing antibodies that destroy cancer cells in their earliest stages. The company has enrolled more than 1,300 test subjects, initiated 27 clinical studies and advanced 9 novel anti-cancer product candidates into more than 14 investigational new drugs. OncoMed has six therapeutic candidates currently in clinical development.

Enzymedica

Enzymedica designs enzyme-based food supplements to improve digestive health and nutrient uptake, helping people live healthier, more comfortable lives. Cooked and processed foods make up most of a typical diet, but foods lose enzyme activity during these processes. Supplementing a diet with metabolic enzymes may provide extra support for cardiovascular and immune systems. Every Enzymedica product is 100% vegetarian and vegan or kosher ingredients are chosen whenever possible.

Enzymedica is also committed to sustainability at the corporate level – the company offsets 100% of its CO₂ emissions and has been carbon neutral since 2009. 113 solar panels generate thousands of kilowatts of energy each month and Enzymedica uses virtual IT servers to minimize electric and cooling costs each year. Additionally, its facilities were constructed with recycled steel and volatile organic chemical-free paints, drywall and carpet.

Bare Foods

Bare Foods was founded in 2001 on a family farm in Washington and produces baked fruit and vegetable chips from whole fruits and vegetables with no artificial preservatives. The company is a certified B Corporation and meets strict social, environmental and transparency requirements. Bare Foods is also dedicated to minimizing its environmental impact and has been carbon neutral since 2012.

“[Prolacta] was incredibly effective in helping Ava catch up on her weight and heal after recovering from her [intestinal] infection. Thankfully, she recovered with no long-term problems…”

—mother of a premature infant
(1) Prolacta Bioscience develops dietary products to meet the needs of premature infants

(2) Outset Medical’s in-home dialysis solution

(3) Bare Foods natural snacks

(4) Enzyedica digestive health supplements
SUSTAINABLE DEVELOPMENT GOALS

When we first began publishing our Impact Reports in 2012, there were no standardized metrics to quantify the impact of investment capital. Lack of universal measurements meant our early Impact Reports focused on highlighting the positive improvements made by individual companies across our portfolios. While highlighting these positive developments is valuable, we believe quantifying their impacts is equally important. With the introduction of the United Nations Sustainable Development Goals (SDGs) in 2016, we now have a framework on which to begin quantifying the impact of our investment activity.

We are pleased to expand our reporting efforts by mapping the companies showcased in this Impact Report with the SDGs. Please take a moment to see how these companies are addressing the goals.
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ESG AT NORTH SKY CAPITAL

We are committed to incorporating ESG principles throughout our investment analysis and monitoring processes. Our approach is founded on the principal that ESG investing should achieve both market-rate financial returns and positive environmental and social impact. We draw upon our 13 years of impact investing experience to develop and execute attractive strategies across private equity and infrastructure.

Our private equity investments are diversified across a multitude of industries such as energy generation & storage, transportation, the built environment, water, sustainable agriculture and healthy living. We support sustainability-focused companies by providing the capital necessary to achieve a reduction or reversal of humanity’s negative impacts on our environment. Our clean energy infrastructure investments focus on multiple components of energy generation, including solar, wind, waste-to-energy, hydro-power, energy storage, efficiency financing and water reclamation. Focusing on mid-sized energy projects has allowed us to work in direct partnerships with developers and contractors to support the use of high-quality, well-paying construction jobs.

Our ESG investing criteria is deeply-rooted into our investment due diligence process to ensure that companies in our portfolios meet or exceed expectations. Following is an overview of factors we include.

Environmental concerns: By definition, our impact investments seek to promote sustainability. These strategies seek to directly reduce the impact of humanity on the earth and the environment by reducing harmful emissions, pollution and water usage and by increasing the use of renewable resources.

Social concerns: Our impact strategy avoids the tobacco, alcohol, gambling, pornography, weapon manufacturing and other morally challengeable sectors. Our investment process screens for practices that we believe are detrimental to societal well-being. We advocate our counterparties adhere to labor laws (e.g. minimum wage requirements, non-discriminatory hiring practices), maintain basic human rights standards (e.g. no child labor, operations in conflict-free zones) and promote diverse, healthy and safe working conditions.

Governance concerns: Through our diligence and capital investment, we seek to highlight the importance of a corporate governance framework that promotes transparent and efficient practices. Proper compliance with applicable laws (particularly related to anti-bribery, political contributions and remuneration), transparent and accurate disclosure on corporate matters, and board member accountability are three central tenets.

CONCLUSION

Our goal these last 13 years has been to invest to do good, while earning a good return. Nature’s resources are finite. The human condition varies dramatically from region to region and even from person to person within the same region. For those of us having the presence of mind to recognize this, and the means to do something about it, the time to act is now. Together, we can make the world a better place. We can make our air and water cleaner, our food healthier, our industries less harmful to the environment, our communities safer and right the wrongs of abuse, neglect and inequality. We can use our investment capital to effectively drive much needed social and environmental change—and we have shown you can do so while earning a good return. Talk about a win-win.

We are blessed to have the support of ESG-minded investors seeking to align their values with their investment portfolios. It has been our distinct pleasure to have assembled such a terrific portfolio of impact companies and clean energy projects over our last six funds. We look forward to the next chapter and hope you will join us in writing it. For more information, please contact us or visit www.northskycapital.com.
Together, we can make the world a better place. We can make our air and water cleaner, our food healthier, our industries less harmful to the environment, our communities safer and right the wrongs of abuse, neglect and inequality.
Office Location:
33 South Sixth Street
Suite 4646
Minneapolis, MN 55402
Main 612 435 7150
northskycapital.com

Acknowledgements

Authors & Editors:
Scott Barrington, CEO
Gretchen Postula, Head of Investor Relations
Matthew Petterson, Analyst
Sarah Nelson, Marketing Coordinator

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North Sky
CAPITAL

33 South Sixth Street
Suite 4646
Minneapolis, Minnesota 55402
Main  612 435 7150
Fax    612 435 7151
northskycapital.com