

# Targeting zero: Cleantech solutions accelerating a sustainable future





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# Targeting zero: Cleantech solutions accelerating a sustainable future

While the COVID-19 pandemic caused massive economic disruption in 2020, 2021 has provided an opportunity to rethink and optimize the way governments and corporates operate globally. As the world grappled with the challenges of restarting economic engines that stalled during the pandemic, there has been growing awareness and acceptance of nature's impact on society and society's impact on nature, as well as the need to prevent future catastrophe. In order to avoid the dire consequences of climate change, the financial and societal response must be even more substantial than that seen to address the pandemic. Accelerating the transition to clean energy alternatives and increased government and corporate investment in clean technology represent a path to mitigate the worst impacts of climate change.

In August 2021, the United Nations Intergovernmental Panel on Climate Change ("IPCC"), an internationally accepted authority on climate change comprised of thousands of scientists across disciplines volunteering to review data and compile key findings for policymakers, released the first installment of its Sixth Assessment Report. The report, released just months ahead of COP26, noted that paths to stay within a warming scenario of 1.5°C by 2050 are narrowing and that the global impacts of climate change are expected to increase in frequency and severity, becoming irreversible if immediate action is not taken to reduce greenhouse gas emissions.

Nearly 70% of the world economy is currently within jurisdictions that have set 2050 net-zero targets,<sup>1</sup> but concrete action to achieve these goals is falling short.

Developed countries have fallen short on financing goals to support clean energy projects and climate disaster prevention in the developing world. COP26 represents the first time all parties are expected to commit to enhance the Nationally Determined Contributions ("NDCs") they originally set in Paris for COP21 in 2015.

Countries have been asked to announce interim plans for decarbonization by 2030 that align with their 2050 net-zero ambitions. To deliver on these targets, countries need to accelerate phasing-out fossil fuels, deploying renewable energy, curtailing deforestation, and investing in low-carbon transit infrastructure.

**Accounting for half of the global economy, all G7 countries have updated their 2030 targets to align with a net-zero pathway by 2050.**

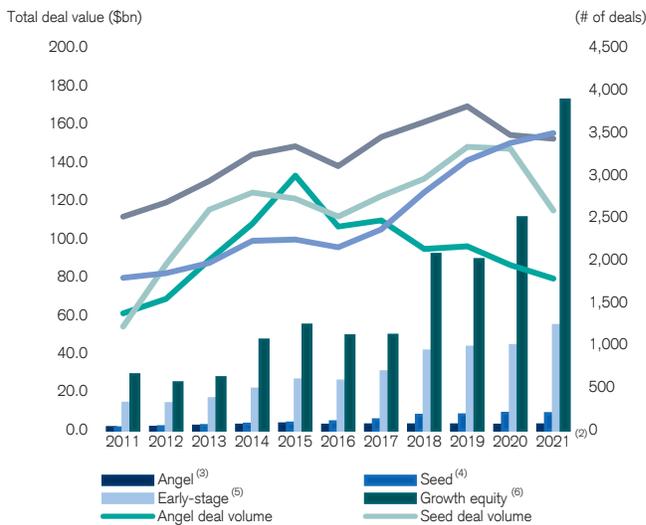
Many countries that have historically relied on fossil fuels for energy have embraced the energy transition. The UK is a prime example, reducing its share of electricity supplied by coal from 40% in 2012 to less than 2% today.<sup>2</sup> Due to strong investment and infrastructure buildout, solar and wind are now cheaper than new coal and gas power plants in two-thirds of the world,<sup>3</sup> alleviating historical financial constraints in accessing clean energy. As governments begin to mandate emissions reductions through carbon taxes, emissions targets, and other methods, cleantech companies are presented with the opportunity to fill gaps in existing technology to support sustainability and energy efficiency.

In its October 2021 *World Energy Outlook*, the International Energy Agency ("IEA") highlighted the increase in investment in clean energy technology across all three of its potential outlook scenarios as well as the eventual decline in oil demand for the first time. The most ambitious scenario of net-zero in 2050 includes the assumption of oil demand shrinking to a quarter of today's levels.<sup>4</sup> The report also confirmed that the energy transition requires tremendous investment and highlighted how clean technology holds the key to building economies back stronger and greener in the wake of the pandemic. Trillions of dollars are projected to be invested in the energy transition over the next few decades.

In order to reach the IEA's *Net-Zero 2050 Roadmap*, it is critical to mobilize finance. This is a primary focus of COP26, including the \$500bn in financing from developed countries committed to fund infrastructure and cleantech projects in the developing world by 2025. International financial institutions are expected to support in the reallocation of trillions of dollars in public and private sector finance. A focus on clean electrification, energy efficiency, reduced methane emissions from fossil fuel operations, and clean energy innovation are all highlighted by the IEA as paths forward to reach the goals that will be discussed at COP26.

Governments across Asia, Europe, and the Americas are turning to clean technologies to power economic rebounds, while working to meet climate commitments. In the EU, the European Green Deal requires a 40% emissions reduction goal by 2030, creating a demand for companies to invest in cleantech to meet. In the U.S., the Infrastructure Investment and Jobs Act, once approved, will provide substantial government financial commitments to green infrastructure and clean energy. These policy initiatives punctuate the targets of some of the world's largest economies.

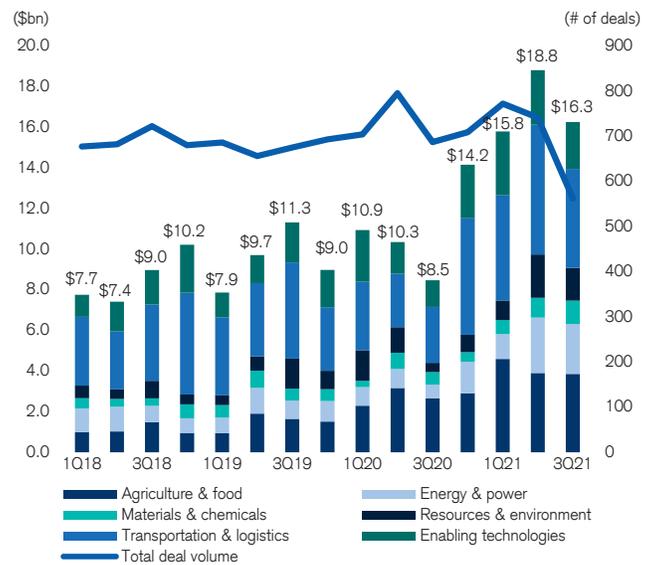
### Venture funding breakdown by funding stage<sup>(1)</sup>



Source: Q3 2021 Pitchbook NVCA Venture Monitor.  
 (1) All numbers are estimates based on underlying data. Dollars and volume represent global cleantech venture capital deal activity  
 (2) 2021 numbers as of September 30, 2021.  
 (3) Angel rounds defined as no PE or VC firms involved in the company to date.  
 (4) Seed rounds defined as stated as a seed financing, or less than \$500,000 and is the first round of funding.  
 (5) Early-stage VC defined as Series A or B.  
 (6) Late-stage VC defined as Series C or D.

With government policy creating demand for currently nascent technology,<sup>3</sup> venture capital is stepping up to fund the cleantech solutions of tomorrow. Investment by venture funds in cleantech has risen sharply for the past five quarters, reaching a new all-time high in 3Q21. The average dollar amount for early-stage venture capital in cleantech has also risen each quarter and set a new record in 3Q21. Cleantech venture funding is well on its way to doubling the amount invested in 2020.<sup>5</sup>

### Cleantech investments breakdown by sector



Source: Q3 2021 Cleantech Group, Investment Monitor  
 Note: Excludes outlier deals above \$350mm. Dollars and volume represent global cleantech venture capital deal activity

The past year has seen massive growth in the transportation and logistics sector, and continued strong inflow of capital into agriculture and food. Energy and power cleantech, such as hydrogen and carbon capture, have had the highest early-stage investment through October of 2021. Transportation and logistics had the highest late-stage average deal amount, with electric vehicles leading the way.<sup>6</sup> These leading industries represent the growing capital available in the market to cleantech.

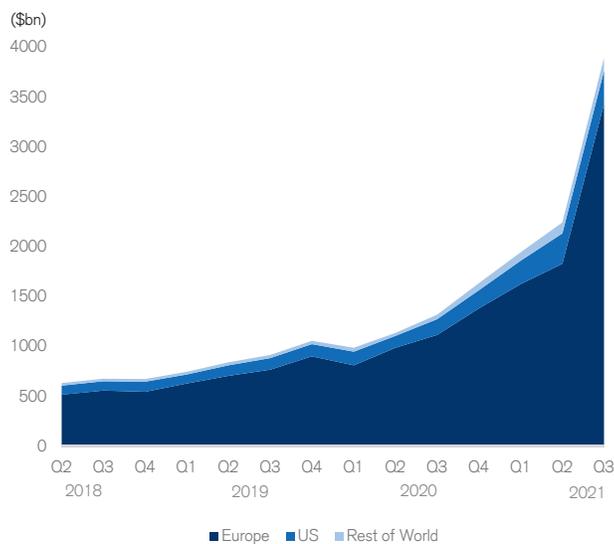
Last year saw a surge in companies entering the public markets via Special Purpose Acquisition Companies ("SPACs") with momentum continuing through the third quarter of 2021. SPACs have been a particularly popular

# Introduction

approach for many cleantech and electric mobility startups. The influx of capital for clean technology highlights the financing opportunities available for cleantech startups, especially for those with capital-intensive business models. Inflows into ESG and sustainable funds has also seen a strong increase, reaching \$3.9tn as of the end of September,<sup>5</sup> doubling in the past six months and reinforcing the strong interest in ESG investment opportunities amongst public investors.

## Global sustainable fund assets

(Total AUM)<sup>(1)</sup>



Source: Morningstar, Global Sustainable Fund Flows: Q3 2021 in Review  
(1) Morningstar data reflects quarterly data as reported by Morningstar in that quarter. Q3 2021 AUM reflects additional identified funds by Morningstar.

Technologies such as hydrogen and other alternative fuels have the ability to replace carbon emitting fossil fuels as an energy input in transportation and industrial processes. Remaining emissions can be trapped and stored underground through carbon capture and storage (“CCS”). Enhanced use of Virtual Power Plant (“VPP”) software to monitor energy usage and smart city platforms will create a more nimble and energy efficient economy, while innovative and reliable new ways to account for carbon footprints will allow companies and governments to more effectively set

**In order to reach the goals of COP26, cleantech companies must be front and center across the technological and financial spectrum.**

targets and monitor goals. These are a few of the various innovative technologies highlighted in this paper that will help us meet our net-zero ambitions.

For the second year, Credit Suisse and Dynamo Energy Hub have interviewed cleantech companies that are contributing to the post-pandemic recovery and building a sustainable future. These interviews focused on the landscape of the cleantech industry, including changes in private sector investing, innovation, and the significance of COP26 to each company’s ambitions in the coming years.

**While renewable energy and electrified transport represent the largest cleantech investment themes and are fundamental to achieving climate goals, there is substantial opportunity in energy efficiency and technological innovation that will contribute to reduced emissions across sectors.**

This paper, published to coincide with COP26, serves to highlight a range of companies, technologies, and funds within the clean energy and sustainable finance spaces, and also explore the actions needed to support the energy transition and spur clean energy investment. Key themes from our interviews include:

- The current cleantech landscape, and how it has been shaped by collaboration between corporates and governments
- The significance of COP26 and the impact of renewed national commitments on the cleantech industry
- The changes in access to finance for cleantech
- The variety of approaches needed to meet climate goals

### Sources:

- 1 Science-Based Net-Zero Targets: ‘Less Net, more Zero’, 2021 Science-Based Net-ZeroTargets: ‘Less Net, more Zero’ - Science Based Targets
- 2 COP26 Explained, Foreword, 2021, COP26-Explained.pdf (ukcop26.org)
- 3 IEA Net Zero by 2050, 2021, Net Zero by 2050 – Analysis - IEA
- 4 IEA World Energy Outlook, 2021 World Energy Outlook – Topics - IEA
- 5 “The Number of New Sustainable Funds Hits an All Time Record”; 2021; Morningstar
- 6 Cleantech Group Investment Insights, Quarterly Investment monitor, Q3 2021



# New York City's hub for smart cities, smart grid and clean energy

## URBAN FUTURE LAB

NYU TANDON

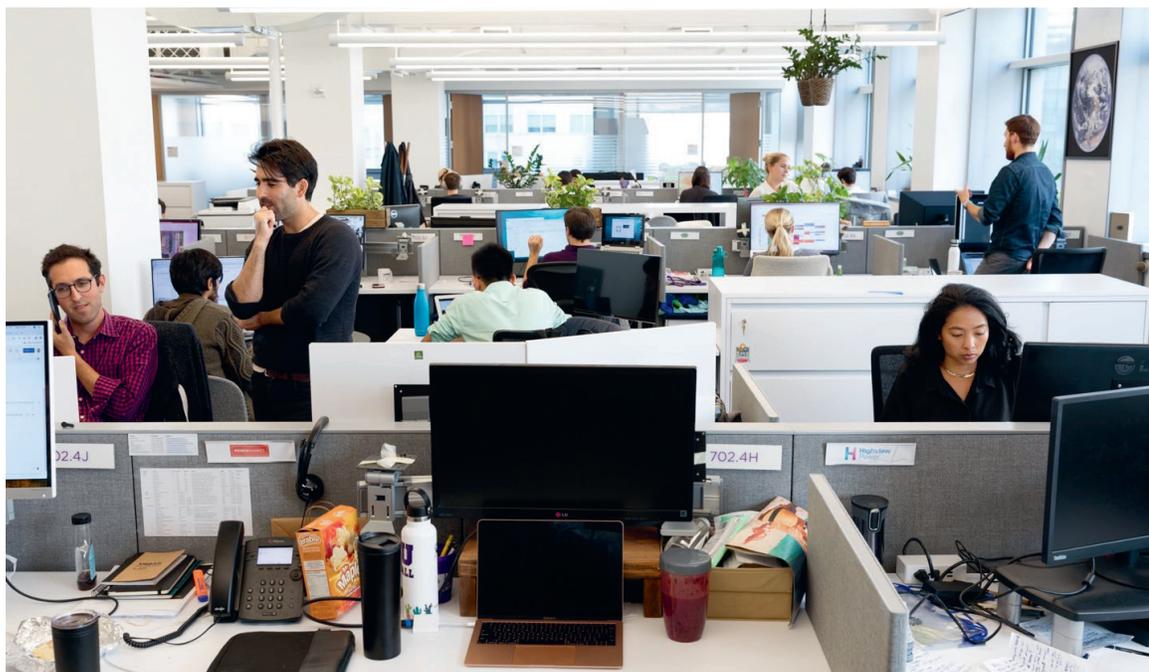


Photo by Carey Kirkella Photography

**Funded by NYSERDA and part of New York University ("NYU") Tandon School of Engineering, the Urban Future Lab ("UFL") is at the center of cleantech innovation in New York. UFL is home to the ACRE incubator which has supported the city's clean-energy and cleantech entrepreneurs since 2009, as well as a number of other programs and initiatives. UFL is leading the way to a more sustainable world by connecting people, capital, and purpose to advance market-ready solutions to address climate change.**

### **Accelerating the cleantech innovation ecosystem**

UFL is the longest running and most successful incubator in New York State. UFL's mission is to help companies with market-ready solutions to climate change scale up and to deploy those solutions widely. UFL works with companies throughout the climate value

chain – from mobility and business model innovation to distribution and community solar, fuel cells and storage.

### **NYC accomplishments**

Since 2009, UFL companies have raised nearly \$1bn. In addition, the ACRE incubator program alone has generated \$200 in private investment for every initial dollar of NYSERDA funding. The initiatives coming out of UFL's programs have an 88% survival rate since 2009. Through focusing attention and investment on companies with market-ready solutions, UFL has not only helped scale these companies, but allowed them to succeed in an increasingly competitive market.

### **UFL Programs**

UFL's space hosts several programs focused on educational, policy and market solutions to the issues of sustainability. UFL's programs include a variety of services, such as providing resources to startups focused on alternative energy and clean technology, as well as educating career changers who wish to enter the green economy.

### UFL's programs include:

- **ACRE:** a business incubation program for pre-seed to series A startups
- **Clean Start:** an advanced diploma from NYU for people seeking a transition into the cleantech sector
- **H2 Refuel Accelerator:** a partnership with Greentown Labs, Fraunhofer USA, and industry leaders to scale up innovation companies in the green hydrogen space
- **The Carbon to Value Initiative:** a partnership with Greentown Labs, Fraunhofer USA, and industry leaders to scale up innovation companies in carbon capture, utilization and storage
- **Innovate UK Global Incubator Programme:** supporting market entry in the U.S. for U.K. based cleantech startups that can effectively scale and support the clean growth goals of New York

## Urban Future Lab featured companies

UFL works with the brightest and most innovative companies that are actively finding solutions to both community and climate problems. The companies UFL works with not only have the tenacity, grit, and dedication that are vital to running a successful business and mitigating climate change, but also have a proven track record of their product's success.



Amperon builds real-time electricity demand forecasts for energy suppliers and utilities using smart meter data and AI. By building accurate, dynamic forecasting models with smart meter data, Amperon is a powerful solution for electricity providers adapting to a new, volatile grid paradigm.



Dollaride is a ride-sharing service connecting drivers to people living in transit deserts. The company provides a digital platform and private mass-transit operating framework to communities with low access to public transit.



The Zinc-Air Flow Battery System from Zinc8 Energy Solutions is a disruptive energy storage technology designed to serve a wide range of long-duration applications for microgrids and utilities. By storing zinc separately as fuel, the technology's decoupling of energy and power allows for operation flexibility, scalability, modularity and extension in duration at minimal incremental cost.



Diverso Energy is a geothermal utility company providing developers and building owners the benefits of geothermal while eliminating the entire capital cost and the risk associated with the technology. Diverso Energy designs, builds, owns, and operates closed-loop geothermal systems in multi-family, office, and institutional buildings in New York.

# Leveraging policy to enable the deployment of innovative clean energy solutions

**Addressing climate change and America's energy resiliency requires smart, technology-inclusive solutions to reduce global emissions. Cutting-edge policy solutions that advance the next generation of innovative energy technologies is essential to quickly and affordably reducing CO<sub>2</sub> emissions across sectors of the global economy.**

ClearPath was founded by Jay Faison as an entrepreneurial, strategic nonprofit to accelerate conservative, market-based clean energy and industrial innovation. ClearPath's mission is to develop and advance policies that accelerate breakthrough innovations that reduce emissions in the energy and industrial sectors. ClearPath strives to determine how to make the energy sector cleaner and more reliable, all while making the economy and country stronger.

Critical programmatic direction and eagle-eyed investments in clean energy technologies research, development, and, demonstrations ("RD&D") is leading to a renaissance of clean energy innovation. Early stage RD&D is necessary to develop the next generation of technology that will help us lower global carbon dioxide emissions, but policymakers are also focusing on next-generation policies that will bring cutting-edge clean technologies to scale.

The best way to do that is emboldening the private sector with a true market signal. Getting beyond the energy tax incentives of yesterday,<sup>1</sup> we need to bring a range of novel clean energy technologies to their commercial scale-up and deployment. This is an essential piece of the climate action puzzle, particularly given that the International Energy Agency<sup>2</sup> recently warned that nearly half of emissions reductions needed to hit net-zero goals will likely come from technologies currently at the demonstration or prototype phase.

Major U.S. companies are making net-zero commitments by 2050, yet most do not know exactly how they will get there. Achieving targets will require scaling and deploying numerous clean energy technologies. A new energy tax incentive will be needed to create an environment in which breakthrough technologies can enter the market and compete with incumbent technologies.



ClearPath focuses on clean energy innovation policies that scale up technologies and drive down costs.

Tax incentives in the U.S. have historically been key drivers for emissions reductions. Concurrently, they have strong bipartisan support throughout the halls of Congress. For instance, the recently reformed 45Q carbon capture credit is driving unprecedented private sector investment into carbon capture and direct air capture technologies, and has the potential to double or triple<sup>3</sup> the amount of carbon captured annually as new projects are deployed.

One-off incentives could soon be replaced with a one incentive system that rewards technology able to prove success in the market. Incentives should be most robust when a new technology needs it the most, but automatically ramp down as the individual technology becomes market mature.

Policymakers should look at opportunities to establish the next generation of clean energy incentives and equip our energy industry with the tools needed to meet their ambitious climate goals.

1 Noah Kaufman and Varun Sivaram, 'The Next Generation of Federal Clean Electricity Tax Credits', *Columbia Center on Global Energy Policy*, 2019 <https://www.energypolicy.columbia.edu/research/commentary/next-generation-federal-clean-electricity-tax-credits>.

2 'IEA Net Zero by 2050', 2021, Net Zero by 2050 – Analysis - IEA.

3 Shannon Angielski, IMPACT OF 45Q TAX CREDITS, 2019.

# Investing in the intersection between infrastructure and clean energy

**Achieving net-zero requires taking risks to scale products, technology, and prototypes at unprecedented rates; this entails large sums of upfront cost and new money to back clean energy projects. While investors, industry, and the markets know the large scale of capital required to meet net-zero goals, few companies are leading the charge like Generate Capital.**

Generate is a leading sustainable infrastructure platform delivering affordable, reliable resource solutions to companies, communities, and cities. In July of 2021, Generate closed a \$2bn capital raise, one of the largest private investments in sustainability to date, proving Generate's model can be profitable both for the bottom line and the planet.

## What is your role in the clean energy transition?

Generate's mission is to build a more sustainable world by partnering with leading cleantech companies, systems integrators and project developers. Because of Generate's unique model, customers no longer need to make large capital commitments to meet their sustainability goals in decarbonizing sectors from energy efficiency and solar battery storage, clean mobility and circular economy solutions. Companies can rely on Generate to manage those infrastructure assets rather than taking that financial and operational risk.

## How will Generate invest its \$2bn capital raise?

Generate raises permanent capital to support its balance sheet in a unique evergreen holding company model, giving the company flexibility to take the long-term infrastructure assets across their operating lives and explore a variety of decarbonizing sectors. Generate primarily invests across the power, mobility, waste, and water sectors. The new funding will help the company expand to new asset classes and regions. Generate is increasingly interested in infrastructure that will enable technology and renewables development for adaptation and resiliency.

## How do cleantechs benefit your investment model?

Generate's novel structure and evergreen investment model position the company to be the capital partner of choice for pioneers of the infrastructure revolution. Generate is the only



Generate Capital's Hudson portfolio in New York City is supporting rooftop solar deployment to meet NYC's goal of 100 MW of solar project deployment across the five boroughs. Source: Generate Capital.

one-stop-shop for the money and help for cleantech companies to meet all their needs – from construction loans and project finance to growth equity and senior debt.

## What has accelerated innovation in your sector?

Over the last seven years, Generate has built a portfolio of more than \$2bn in sustainable infrastructure assets across the energy, waste, water, and transport markets. Over the course of their operating lives, Generate's assets are anticipated to prevent over 43 million metric tons of CO<sub>2</sub> from entering the atmosphere and divert over 11 million tons of organic waste from landfills. By proving sustainable technology is financeable and economical, Generate hopes it will inspire others to expand markets for sustainable infrastructure.

## What significance does COP26 have to your goals?

COP26 has put climate change at the top of the global policy agenda. The science is clear: we have approximately ten years to completely reverse the current trajectory of carbon pollution to avoid humanitarian and environmental disasters. Generate aims to inspire decision makers in government, technology, finance, and business to adopt systemic approaches to solving climate change.



# Featured cleantech partners



## **BlocPower**

Technology startup focused on smart heating and cooling systems to reduce fossil fuel dependency

## **GRIDPOINT GridPoint**

Smart building technology provider supporting grid resiliency and decarbonization



## **CarbonCure Technologies**

Manufacturer of technology specializing in the storage of carbon dioxide in cement



## **HEVO**

Pioneer in electric vehicle wireless charging, software, and services



## **ClearTrace**

Climate accounting software helping manage energy supply and carbon energy footprinting



## **Nexamp**

Community solar company offering solar and energy storage solutions



## **C-Zero**

Unlocking renewable and distributed energy financing



## **tentree**

Tree planting company that happens to sell sustainable clothing



## **Energetic Insurance**

Solar insurance provider allowing more organizations to access solar projects



## **WexEnergy**

Building efficiency specialist providing accessible energy efficiency through WindowSkin



## **GoodLeap**

Finance technology company providing financing options for the residential solar community

# Turning American cities greener, block by block

Donnel Baird, Co-Founder and CEO  
**BlocPower**

BlocPower turns aging urban buildings into ‘Teslas’ – making them greener, smarter, healthier and all-electric. By eliminating fossil fuel dependency, BlocPower helps reduce energy costs and fight climate change while creating thousands of green economy construction jobs.



Source: BlocPower.

### What has accelerated innovation in your sector?

First, COVID-19 forced people to think about the air quality in their homes. This awareness extended into larger environmental social justice issues. Many low-income neighborhoods are located near power plants whose airborne toxins exacerbate asthma and other chronic lung issues. Installing clean, all-electric heat pumps reduces our reliance on fossil fuels, and their UV filters kill airborne viruses. Second, cleantech companies are experiencing a major influx of capital thanks to high-profile events like Hurricane Ida and the collapse of the Texas energy grid. But that does not help low-income families who cannot afford the latest eco-friendly technology. BlocPower developed an innovative financing solution that allows building owners to upgrade to cutting-edge electrification equipment with zero money down, using their energy savings to pay for it over time.

### How can collaboration accelerate innovation?

BlocPower recently partnered with Aclima to train people to operate Aclima’s mobile air quality-sensing vehicles and map the air quality of NYC’s neighborhoods block by block. Using the data from Aclima, BlocPower’s machine learning technology will be able to identify areas that would benefit the most from green building retrofits and share the intel with NYC to implement other eco-friendly projects. Through these partnerships, we have addressed numerous issues including unemployment, skilled labor shortages, gun violence, environmental improvements and other related social justice issues.

### What factors have contributed to your growth?

Strong federal leadership coupled with climate-related disasters around the U.S. have made cities and states realize they can and must do more to fight climate change. We are starting to see more requests from cities interested in decarbonizing all their buildings and eliminating fossil fuel dependency. Similarly, the pandemic has brought environmental social justice to the forefront, spotlighting how these events devastate low-and-

moderate income and communities of color. The good news is that these events have stimulated investment opportunities among venture capital, banks, corporations and other investors, on top of what the federal government has promised.

### How has finance access changed in your industry?

Several years ago, more than 200 VCs turned BlocPower down for funding, not believing that a minority-owned company in the clean energy space was a good investment. A few forward-looking investors took a chance, giving us the capital we needed to bring new solutions to market. Once we demonstrated initial success and how BlocPower could deliver positive ROI, this led to further investment from banks, major corporations, accelerators and others. Investors are finally recognizing there is no greater threat to the planet and no bigger opportunity for growth than climate change. Investments from the public and private sectors mean that we can make cleantech solutions affordable for all and scale our operations to reverse the effects of climate change - city by city, block by block.

### Describe 2021 in one sentence.

The post-pandemic world requires a new approach and a renewed commitment to learn from the economic, social, environmental and health crises of 2020 and 2021 to make the rest of the decade better.

“Investors are finally recognizing there is no greater threat to the planet and no bigger opportunity for growth than climate change.”

# Reducing carbon, one truck at a time

Robert Niven, Chair and CEO  
CarbonCure Technologies

CarbonCure manufactures a technology for the concrete industry that introduces recycled CO<sub>2</sub> into fresh concrete to reduce its carbon footprint without compromising performance. Once injected, the CO<sub>2</sub> undergoes a mineralization process and becomes permanently embedded – truly a win-win.



Source: CarbonCure Technologies.

## What should we know about your business?

CarbonCure is a fast-growing climate tech company developing and deploying a suite of complementary carbon dioxide removal technologies. Our latest technology mineralizes CO<sub>2</sub> in concrete production waste water slurry which is then reused in new concrete production, resulting in permanent carbon removal while enabling production of concrete with new cost efficiencies, less solid and water waste, less fresh water, and less virgin cement. All of our easy-to-adopt retrofit technologies allow concrete producers to use captured carbon dioxide to produce reliable, low carbon concrete mixes and achieve sales differentiation in the construction materials market. In the past year, we launched our high-quality carbon removal credit program with a verified methodology, full traceability down to the project. We are proud to offer our carbon credit buyers a carbon removal solution that is permanent, additional and scaling. While we are very proud of this rapid progress, we are focused on meeting our mission to annually reduce 500 million metric tons of CO<sub>2</sub> from the built environment starting in 2030—equivalent to taking 100 million cars off the road each year—and our end goal is to support the complete decarbonization of the concrete manufacturing process.

## What has accelerated innovation in your sector?

Private and public low carbon concrete procurement rules have had the greatest impact on scaling up existing as well as accelerating new cleantech innovation in the concrete industry. The increased focus by regulators, policy makers, investors and especially consumers on climate change is accelerating climate innovation in every industry. Cement is one of the largest emitters of CO<sub>2</sub> in the built environment due to cement's inherent calcination process and enormous scale. CarbonCure's technology enables concrete producers to reduce the cement content of their mix designs, without compromising strength. Innovation is occurring far faster when the construction materials market signals a procurement preference for low carbon concrete on upcoming public infrastructure or private projects.

## How can collaboration accelerate innovation?

Corporations and governments can meet their carbon neutral goals by working with, investing in, or buying credits created by cleantech companies. For example, companies such as Amazon, Microsoft, Shopify and Stripe have all set ambitious goals committing to and investing in negative emissions technology projects like CarbonCure's. When it comes to government action and support, two things are required: policy change and leading by example through changes in government procurement. Presently, many jurisdictions use prescriptive concrete standards which unnecessarily stifle cleantech innovation from entering the market. Beyond regulatory power, governments and their agencies have enormous buying power and the ability to influence their local markets. CarbonCure encourages policymakers to review existing codes and standards and to revise public procurement policies to promote low carbon products.

## What will help mitigate climate change by 2050?

Firstly, there will need to be quick government action around the world to remove barriers to innovation and creation of procurement policies to encourage adoption of clean energy. Second, there will be standardized environmental product declarations to measure the lifecycle environmental impact of a product, so designers and builders can make more informed decisions. Lastly, net-zero concrete will become commonplace in the built environment, contributing to decarbonization by carbon utilization.

**“There will need to be quick government action around the world to remove barriers to innovation and creation of procurement policies to encourage adoption of clean energy.”**

# Decarbonizing through accountability

Lincoln Payton, CEO  
ClearTrace

ClearTrace is a climate accounting software helping businesses and energy suppliers track and manage their energy supply and carbon footprint. By allowing companies to prove their claims of carbon reductions, ClearTrace helps prevent greenwashing and provides standardization in carbon accounting.

## How does your technology support decarbonization?

We are the only precise, real-time database that can report a company's energy footprint. We do this by collecting data from revenue-grade smart meters from source to use. For all points of a company's energy load, we read data hour-by-hour to provide a full picture of power generation, movement, and consumption. We use a form of blockchain, which is extremely well-suited for carbon accounting. It handles high volumes, and it is self-auditing and immutable, so that the problems with greenwashing and vague targets are eliminated.

## How can collaboration accelerate innovation?

Big corporations are making ambitious commitments around climate and decarbonization, but these statements are often vague and there is no viable tracing. We need metrics that hold folks accountable. ClearTrace is convening a group of financial institutions to standardize decarbonization metrics and we are working with academia to come up with a rating system based on high-quality data to apply as part of an ESG investment screen. We call this rating the ClearTrace Score. We would love for people to see their monthly carbon footprint, today, and be able to track their progress over time, working towards some form of standardized green designation.

## How has access to finance changed in your industry?

There is a lot of capital and liquidity out there for cleantech companies. Regarding climate change, the finance sector will be held to a higher standard more quickly than other sectors because it is highly visible and well-capitalized. Going forward, we hope that companies will be asked for their ClearTrace Score, along with credit ratings. If they are falling behind, financial institutions may not give them funding. We want to link financing and an individual company's cost of capital to its accountability in decarbonizing.



## What significance does COP26 have to your goals and ambitions this next year?

We hope COP26 will truly be global because this is a global equation. From my world, we would want clearer recognition of accurate real-time metrics. This real-time data and reporting is recognized as something that is actually needed. Companies cannot make good decisions on raising debt and equity if they do not know accounting metrics. How can you solve a problem if you have no idea what is going on? You need to know what you are doing with carbon accounting and need quality of data to do so.

## What will help mitigate climate change by 2050?

First, there will be transparency around the energy and carbon space. For example, 25 years ago when you looked on the side of a milk carton, it only said "milk." Today, there is information regarding calories, fat, vitamins, etc. This level of transparency is increasingly expected from companies on their energy and emissions, and rightly so. Second, major entities and public companies will be required to report detailed metrics regarding their carbon footprint. We are experiencing a global awakening to the fact that we will not be able to make a substantial impact on climate change without carbon tracking. Finally, we need precise technology to help us increase the resolution and comprehensiveness of carbon footprints. In the end, the three key areas of transparency, metrics-based regulation, and technological rigor, will help us achieve the critical progress we need to decarbonize our world.

**“Big corporations are making ambitious commitments around climate and decarbonization, but the statements are often vague with no viable tracing. We need metrics that hold folks accountable.”**

# Turquoise hydrogen: helping drive the energy transition

Fadl Saadi, Director of Business Development  
**C-Zero**

C-Zero has created a technology that converts natural gas into hydrogen and solid carbon, providing a clean, low-cost energy on demand, while the solid carbon can be permanently sequestered. The technology works with existing natural gas infrastructure.

## Can you tell us a bit about your technology?

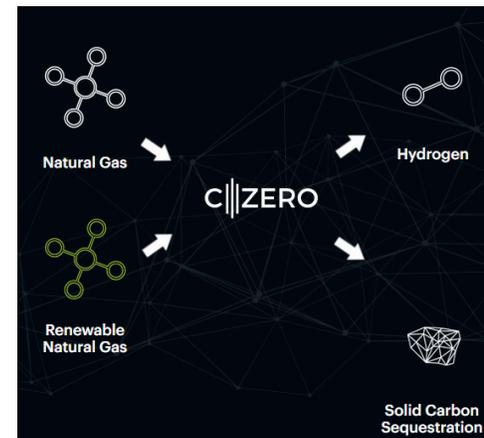
Our technology is considered “turquoise hydrogen” as it combines the best of blue and green hydrogen. It is a process called methane pyrolysis, or methane splitting, in which you take methane, which is a primary constituent of natural gas, and split it into solid carbon and hydrogen. Once we strip out the carbon from the methane we are left with hydrogen, which can be used as a clean energy source and solid carbon which can be used in a variety of applications or sequestered. C-Zero was founded in 2018 and has investors including Breakthrough Energy Ventures, Eni, Mitsubishi Heavy Industries and AP Ventures. We are working on building our first pilot plant, expected to be online at the end of 2022. We are targeting approximately 250 kilograms of hydrogen produced per day at the pilot site.

## What opportunities do you see in the next year?

One thing that we are really excited about is the increased realization by entities that more innovation is needed to deeply decarbonize the entire energy sector. There is a lot we can do today with existing energy technologies, but a lot more innovation is needed to further reduce our CO<sub>2</sub> emissions. Technologies that can meet seasonal demands will be critically important for our energy and electricity security in the future.

## What is needed to accelerate cleantech innovation?

Large companies are quickly coming to the realization that they need to reduce their CO<sub>2</sub> emissions and find solutions to their net zero commitments. Even though there are no carbon taxes in many regions, Fortune 500 companies are making serious efforts to reduce their CO<sub>2</sub> footprint. We have received increasing demand for our technology, including utilities and large companies that already use significant amounts of hydrogen. We have also seen an increase in cleantech investments over the past two years, which has led to significant growth in the sector. We are optimistic about the regulatory momentum in the U.S. For example, there was a recent announcement by the Department of Energy (“DOE”) about their Hydrogen Earthshot initiative, which



Source: C-Zero.

could significantly reduce the cost of clean hydrogen. At C-Zero, we are trying to raise awareness about our technology, turquoise hydrogen, and the fact that many different types of carbon sequestration, including solid carbon sequestration, can play a role in decarbonization.

## What other technologies do you see playing a central role in decarbonization?

I am a big supporter of an “all of the above” strategy and I think we are going to need every tool we can possibly get to tackle the climate challenge. Investment in a multitude of technologies and clean energy sources such as geothermal energy, nuclear fusion and renewable sources, to name a few, will be critically important as we march along this decarbonization path. It will also be important to leverage the infrastructure that is already in place. In countries like the U.S. and many others across the world, we have extensive natural gas transmission, pipelines and generation capabilities. Finding ways to decarbonize existing natural gas infrastructure to rapidly accelerate the energy transition is central to our mission here at C-Zero.

“There is a lot we can do today with existing energy technologies, but a lot more innovation is needed to further reduce our CO<sub>2</sub> emissions.”

# Unlocking renewable and distributed energy financing

James Bowen, Co-Founder and CEO  
**Energetic Insurance**

Energetic Insurance helps lenders put more capital to work, developers build and fund more renewable and distributed energy projects, and ultimately helps those traditionally locked out of the market access clean energy solutions.

### What has accelerated innovation in your sector?

The biggest companies in the world are pushing 100% renewable energy targets. These targets are filtering into the “middle market” of supply chains and medium sized businesses. As demand for renewable and energy efficiency installations proliferates, financial appetite grows. The investment community is increasingly seeking impact-oriented equity and debt opportunities, especially given growing concerns about climate and resiliency. Further, state and local governments are stepping up renewable energy targets and technology costs are falling across solar, battery, wind and other Distributed Energy Resources (“DER”).

### How can collaboration accelerate energy innovation?

We are building a new class of financial vehicle we call *Impact Insurance*. This is a way for private sector insurance to amplify the essential efforts of philanthropic, government, and Development Finance Institution capital to achieve broader clean energy goals. We work collaboratively with project financiers and impact organizations to focus capital on the risks holding back deployment. We can more rapidly expand and scale our insurance policy to cover new or hard-to-finance risks if an impact investor can share in the risk. We are piloting this approach with electrification of low-income housing where credit risk has been a barrier to project finance at scale. The result is more renewable energy deployed, especially in communities where it is sorely needed and could have outsized impact.

### What significance does COP26 have for your goals?

Energetic was founded with global ambitions to accelerate the reindustrialization of the power sector around renewable and distributed energy. Worldwide alignment around addressing climate change can drive consistency in deployment and financing of clean energy. COP26 can accelerate cooperation under Article 6, in turn, accelerating investments in climate solutions as countries endeavor to meet their targets domestically and via international transactions. Distributed energy solutions will be a core focus of these investments. Renewable energy technologies



Source: Energetic Insurance.

are effective, and their long-term viability and reliability are increasingly de-risked. Now it is about accelerating deployment and availability, especially for those facing access and equity issues. We enable increased energy investments, mitigate the risk of those investments, and make financing available to those locked out of the market. Successful international negotiations can attract more public and private-sector capital to energy projects, which we are eager to help get financed more affordably.

### What factors have contributed to your growth?

The pandemic illustrated the need for EneRate Credit Cover to cover up to ten years of corporate payment default risk on long term renewable and energy efficiency project financings. To offer affordable pricing, financiers must have predictability that they will be repaid. Macro shocks like a pandemic or catastrophic climate change-induced weather events can cause stress and insolvencies among entire industries or geographic areas. EneRate Credit Cover allows financiers to invest and lend with confidence, helping increase energy project deployment. We have seen a dramatic uptick in demand for our product due to the pandemic and the need to mitigate the impacts of climate change.

**“COP26 can accelerate cooperation, and in turn accelerate investments in climate solutions as countries endeavor to meet their targets domestically and via international transactions.”**

# Connecting the world's sustainability marketplaces

Tanguy Serra, President, CFO, and Chief Investment Officer  
**GoodLeap**

GoodLeap is a sustainable home solutions marketplace providing simple, fast, and frictionless point-of-sale technology serving millions of people who want to upgrade their homes and save money.



## What should we know about your business?

GoodLeap is a financial technology company that connects businesses and financial institutions with people who want to make their homes more comfortable, resilient, and energy efficient. Our software and expertise in financing enable billions of dollars to flow seamlessly across the value chain, helping contractors, manufacturers, and retailers grow their businesses. Earlier this year we expanded from solar and battery storage into the \$430bn annual market for sustainable home improvement, bringing digital-first financing to the industry. More than 40% of energy-related emissions come from decisions made in and around the home. By unlocking access to a wide variety of sustainable products, we are transforming the home improvement industry and protecting our only planet. In addition, with every transaction on the GoodLeap platform, we donate to our non-profit partner GivePower, which deploys clean power and clean water systems in areas of need around the world.

## What has accelerated innovation in your sector?

Recent extreme weather events have rapidly increased customer interest in solar and battery storage. Heightened demand for home resilience has expanded solar markets in states such as Texas. It has also led to the creation of new, innovative products, such as hyper efficient micro-inverters that can form mini grids that run on solar power alone. GoodLeap's fintech solutions are helping to meet this growing demand across the country. Increased investor demand and familiarity with the sustainability asset class has also accelerated innovation, enabling us to drive down the cost of capital. In 2021, S&P Global and Fitch issued the first-ever major rating agency ratings of residential solar securitizations, with loans originated by GoodLeap. These ratings will drive aggressive growth in residential solar by further expanding access to capital from major financial services companies.

## How can collaboration accelerate energy innovation?

GoodLeap collaborates with hundreds of businesses every day. Our technology platform enables our business partners to deploy sustainable solutions at scale and to meet their own ESG goals. Through the GivePower GivePartners program, GoodLeap business partners can participate in treks to deploy solar and clean water systems in developing nations around the globe. These corporate partner treks build on our collective mission to rapidly decarbonize and democratize clean energy access. This year, GoodLeap also supported a coalition of more than 350 environmental justice organizations and clean energy companies in expanding access to solar and battery storage among middle- and low-income homeowners.

## What factors have contributed to your growth?

2020 and 2021 proved how resilient our business and industry are to disruption. The pandemic was the first real test for our asset class, and residential solar went on to see record levels of adoption. Homeowners are spending record amounts on home improvement, with high value placed on efficient, resilient, and affordable technologies that enhance quality of life. Consumers are becoming more conscious of their purchasing decisions as the devastating impacts of climate change have become impossible to ignore. For GoodLeap, this has translated to exponential growth in the number of homeowners we help adopt low-carbon home upgrades. The task before us is to act swiftly and at even greater scale to fend off the worst impacts of a warming world.

**“The pandemic was the first real test for our asset class, and residential solar went on to see record levels of adoption.”**

# Accelerating the global transition to a sustainable energy future

Mark Dazenbaker, CEO  
GridPoint

GridPoint's innovative technology platform delivers energy efficiency and resiliency to businesses and the grid at the same time, helping to accelerate the world's transition to a sustainable energy future.



## What are GridPoint's main goals for 2022?

GridPoint's mission is to accelerate the world's transition to a sustainable future by creating what we call the intelligent energy network of grid-interactive buildings. Networked together, GridPoint intelligent buildings provide reliable, precise, and instantaneous capacity for utilities and grid operators. Our goals for next year are entirely about growing our network of commercial buildings and subscribed across Fortune 500 enterprises, utilities, government organizations, and small businesses.

## Tell us what is new with your business?

GridPoint's technology platform helps accelerate the energy transition through a subscription-based model that directly delivers energy savings and resiliency to a range of commercial businesses and building types. The new aspect is what we have seen firsthand that global energy grids are facing unprecedented disruption due to the transition to renewables, vehicle electrification, and impacts of climate change. The power curve has fundamentally changed, including the resultant impacts on reliability. Buildings are key to decarbonization because you cannot make changes to supply and demand without tackling the downstream impacts at the edge of the grid. We see the future as a two-way, networked relationship between the producers and consumers of energy. Buildings are part of the problem but also must be part of the solution.

## What has accelerated innovation in your sector?

Climate change, the transition to renewables, and electrification trends are causing major disruptions, demonstrating that the problem is evident and urgent. Energy transition mandates, increasing extreme weather, DER's and increased electrification demand continue to increase demand for virtual capacity.

Utilities have difficulty sourcing precise and reliable capacity when and where it is needed most, which is a problem and an opportunity for customers. All of this combines to create urgency

for a solution, and technology can play a crucial role in accelerating the transition.

## How can collaboration accelerate innovation?

Going to market with partners is a central strategy for GridPoint. Our partners, including Shell Energy, use our platform to unlock new product and market value and complement existing DER service offerings. We have focused our partnerships to accelerate EV charging integration and engage the small and medium-size business ("SMB") market in utility programs. Public policy efforts also play a crucial role, such as the Main Street Efficiency Act.

## What will help mitigate climate change by 2050?

To reach the goal of net-zero, our vision is that millions of commercial buildings across the globe will be a part of the GridPoint Intelligent Energy Network. Each will respond to price signals and dynamic grid needs cost-effectively and in real-time with precise and decentralized demand flexibility. This system will have significantly helped accelerate the energy transition in every geography by 2050.

## How does GridPoint contribute to decarbonization?

The power of our network is in its scale. GridPoint is on track to deliver 10,000 GWhs of energy efficiency savings, equating to billions of dollars to our customers in the coming years. While doing that, we will create a gigawatt-scale network of grid-interactive buildings that deliver reliable, precise, and instantaneous capacity for utilities and grid operators.

**“We have seen firsthand that global energy grids are facing unprecedented disruption due to the transition to renewables, vehicle electrification, and impacts of climate change.”**

# Enhancing the electric vehicle charging experience

Jeremy McCool, Founder, Chairman and CEO  
HEVO

HEVO is pioneering Electric Vehicle ("EV") wireless charging, software and services to eliminate friction and increase EV adoption.

## What has accelerated innovation in your sector?

The climate tech sector has been resilient and innovative regardless of which party has government control or the macro market sentiment. Despite challenges posed by the pandemic, HEVO continued to thrive; this is evidenced by the advancements HEVO made that met key global automotive and safety standards. Within the Electric Vehicle ("EV") ecosystem specifically, the automotive industry's transition to electrification continues to accelerate. Facing the realities and consequences of a changing climate create an urge for innovators to solve the problem with solutions that are better, more economical, more delightful, and more attractive. On that note, wireless charging and a much better mobile app experience are increasingly in demand because there is recognition that the status quo creates too much friction for drivers. Additionally, governments and hosts want charging everywhere, but are concerned with having wires everywhere.

## How can collaboration accelerate energy innovation?

Climate tech is often a combination of hardware, software, and business model innovation. This increases complexity but it also increases value potential. Effective collaboration between corporates and government helps innovative companies, like HEVO, manage that complexity and extend resources. We have benefited from R&D funding from NYSEERDA, a great organization that has catalyzed a thriving climate tech ecosystem in New York. We also have a partnership with ORNL, supported by the DOE Technology Commercialization Fund, to accelerate product development for fast wireless charging that enables 100kW-300kW, bidirectional, and dynamic charging (charge-while-driving) in one package. On the corporate side, we have implemented pilots with global automotive, energy, and charging companies early in our development cycle.

## What factors have contributed to your growth?

COVID disrupted the world as we knew it; work, culture, and society changed forever. It also increased awareness of the consequences posed by climate change and poor air quality. As the public, press, and businesses further learn about the gravity of these dire effects, they have turned with great urgency towards

solutions like HEVO. We are witnessing companies and governments in healthy competition with one another to accelerate the transition to EV fleets and establish infrastructure like wireless charging embedded within roads. HEVO is ready to meet the growing demand for simple, seamless, safe, and widespread wireless EV charging.



Source: HEVO.

## How will COP26 support your goals?

There is a lot riding on the success of COP especially given the ever increasing need for the world to act aggressively on climate. Particularly, we need leadership that advances electrification, urbanization, and resiliency. Even though the EV market currently requires less direct assistance, technologies such as climate-resistant supply chains are incredibly important to us as they are critical to EV's success. Anyone who is accelerating the energy transition is helping us reach our goals.

## How finance access changed in your industry?

Both the quality and quantity of financing opportunities for climate tech have exploded over the past two years. HEVO, like many others in the sector, is undoubtedly benefiting from this expanded access to capital and advancement of technology. There is a limited pool of investors who are comfortable with hardware. However, HEVO's combination of certifications, software, and customer traction has successfully attracted funding and allowed us to expand our capital formation options.

## Describe 2021 in one sentence.

Despite global supply-chain constraints, this is the beginning of the wireless charging decade led by HEVO.

“There is a lot riding on the success of COP26, especially given the ever increasing need for the world to act aggressively on climate change.”

# Making community solar accessible for all

Zaid Ashai, Chairman and CEO  
Nexamp

Nexamp is a leader in the clean energy space, offering solar and energy storage solutions. Nexamp owns and operates all of its solar and storage projects and manages every stage of the process, from financing and development to construction, operation and customer acquisition.

### How does your solution support decarbonization?

In a completely decarbonized future the energy grid must be far more decentralized than it has ever been. In order to have a functioning decentralized grid, it needs to be intelligent and bi-directional, communicating across multiple nodes, such as large-scale wind, solar, and geothermal. The first decade of the renewables story was focused on building out more generation on the grid. As we think about the next two decades, we need a tech-fluent platform that can drive better decisions at the customer level. Nexamp is playing an important role in this transition not only by providing clean energy resources, but also by building a platform that connects consumers or businesses with a range of sustainable choices in areas such as transportation, energy, efficiency, and even their carbon footprint.

### What has accelerated innovation in your sector?

Rethinking the way we generate and distribute power is the driving force in cleantech today. Since the pandemic, we have seen a heightened awareness of and stronger emphasis on the climate crisis. In addition, corporations are beginning to elevate their ESG priorities, so addressing ESG principles is no longer a nice-to-have, but a must have. The rapid adoption of EVs for individual and large-scale transportation is a game changer because we are adding more distributed batteries to the grid, electrifying a historically fossil fuel driven sector. Nexamp, as a clean energy platform company, is excited by opportunities where we can optimize generation and create a grid that is more resilient and less carbon intensive.

### Can you give an example of a strategic partnership?

We recently partnered with ComEd in Illinois to develop a program that provides solar energy benefits and savings specifically to low and moderate income customers in Rockford, Illinois and the surrounding area for free. We are very proud of that project, which is sited on a former city landfill, and is bringing a range of needed benefits to the community. We also worked closely with the state and city as well as local organizations to educate people on the opportunity to participate and hope to replicate this model with utilities in other states. Ultimately, we want to build a grid that

creates equitable outcomes and does not leave out segments of society. We will continue to look at new business models and new approaches to see how we can improve our outreach to historically disadvantaged parts of society.

### How will COP26 support your goals?

I am hoping with COP26 and other initiatives that there is a mindset change. Part of this mindset change is to realize that the climate crisis is more expensive unaddressed than addressed. The economic cost of climate disasters vastly outstrips the cost of driving towards decarbonization globally. My hope is that COP26 creates an environment between the developed and developing world where there is much tighter coordination between technology transfer, implementation and supply chain. Hopefully, COP26 is a platform to re-energize our policymakers.

### How has access to finance changed in your industry?

The recent decision by Harvard's endowment to completely divest from fossil fuels is a seismic shift in the financial community. Pension funds and insurance companies are some of the largest investors in our infrastructure and innovation ecosystems, and they are starting to view the fossil fuel ecosystem as a reputational risk. Reallocating capital from traditional fossil fuels to clean energy deployment will support additional cleantech innovation. Having endowments and shareholder activism where investors can divest from fossil fuels and reinvest into clean energy is a trend that should be heavily encouraged.



Source: Nexamp.

**“I am hoping with COP26 and other initiatives that there is a mindset change. Part of this mindset change is to realize that the climate crisis is more expensive unaddressed than addressed.”**

# Providing accountability of carbon offsets through blockchain

Derrick Emsley, CEO  
tentree

Tentree ("tentree") is a tree planting company that happens to sell sustainable clothing. For every item sold, tentree plants ten trees. With over 65 million trees planted to date, the company has a goal of planting over a billion trees by 2030.

## What should we know about your business?

We have two businesses: tentree, a lifestyle apparel company that has planted over 65 million trees, and veritree, a platform allowing other business to step into a restorative business model through transparency. Internally, we do not use the word sustainability to describe our businesses because a lot of the ideas around sustainability focus on doing less harm rather than doing more good. This is where nature-based solutions are the most important piece of the puzzle. As we get closer to net-zero, the conversation will change from how we stop the bleeding, to what we can do to heal the planet.

## How does your technology support decarbonization?

The role we play is around nature-based solutions, which are a significant part of global decarbonization. However, these solutions are also harder to track than other methods and therefore often underinvested in. For us, the idea for veritree was to create a technology that brings transparency to nature-based solutions from the ground up. Gathering ground-level data is challenging, and we have focused our time and energy there to bring transparency to the work that has been done in the sector.

## How can collaboration accelerate energy innovation?

On the broader organizational side, we have partnerships with groups like the Trillion Tree Pledge, which is an area where veritree can help organizations fit restoration into their business in a way that is traceable, auditable and transparent. We are also in conversations with other organizations like the World Resources Institute and the UN, as well as several others. On the corporate side, we just launched two fairly significant partnerships. The first is with Cardano, the third largest blockchain in the market, who we are working with for what we call an Initial Tree Offering. With this process, we raised almost \$1 mn in under 30 days to support tree planting efforts. We have also launched a tree planting credit card with a company called Mogo in Canada. The credit card will fund the planting of a tree for every transaction made with the credit card.



Source: tentree.

## Tell us a bit more about your blockchain application.

I believe blockchain creates opportunities in the restoration space because it provides clear and transparent ownership. You are buying what is effectively a made-up product; you will never go out and count the trees that are planted, so how can you ensure that this made-up thing was not sold to 50 different people? It is a developing market and many of the systems to measure these carbon offsets are archaic, but blockchain helps solve this issue of ownership. Another technology is remote sensing. It is becoming easier to tap into satellite networks and access the internet in remote areas for imagery of these carbon offsets to provide accountability and guarantee ownership.

## What impact does veritree have on consumers, how does the platform work?

At the end of the day it comes down to the way you make carbon through consumption, whether that is through eating, travel buying, etc. Essentially we are all voting with our wallet. We want to create a sense of habit and accountability through purchases, which we do through our impact wallet. Every tentree purchase comes with a QR code which can be scanned to show where the tree your purchase planted is located. We plan to expand this through partnerships with the impact wallet to allow consumers to look at their individual purchases of day-to-day items and see where their impact is being offset, which we plan to roll out to all users of veritree.



“As we get closer to net-zero, the conversation will change from how we stop the bleeding, to what can we do to heal the planet.”

# Modernizing energy saving window retrofits

Rachel Rosen, Co-Founder and CEO  
**WexEnergy**

WexEnergy delivers affordable, energy efficient window upgrades that reduce energy usage and carbon footprint year-round while improving occupant comfort and maintaining window operability. WindowSkin® is a Class A Rated Product, designed with materials ready for the circular economy.

## Can you tell us a bit more about your business?

WexEnergy delivers affordable, energy efficient window upgrades that reduce energy usage and carbon footprint year-round while improving occupant comfort and maintaining window operability. WindowSkin® is a Class A Rated Product, designed with materials ready for the circular economy.

## What has accelerated innovation in your sector?

The Biden administration's emphasis on climate change threats, combined with utilities and state and local governments incentivizing innovation are spurring widespread adoption of innovative solutions. WexEnergy's solutions affordably improves window insulation, the most porous component of a building's envelope. Incentivizing deep energy efficiency retrofits will drive greater adoption of carbon reduction solutions in the built environment, especially when directed towards disadvantaged communities.

## What collaborations have you seen in your sector?

Cleantechs can significantly shorten time to market when they seek out manufacturing assistance early in the innovation cycle. WexEnergy is working with a multinational company to design a scalable manufacturing process that lowers production costs and facilitates attractive product pricing to accelerate market adoption. WexEnergy is also working with U.S. General Services Administration, U.S. Department of Energy and Pacific Northwest National Lab to add independently validated proof points for WindowSkin's® energy performance through robust field testing.

## How can collaboration accelerate energy innovation?

WindowSkin®, WexEnergy's first product to market, is a first-of-its-kind product in building efficiency. WexEnergy is working with a strategic global partner to create and secure its supply chain of a new manufacturing path for a proprietary design we have developed. Having a strong corporate partner with significant technical and manufacturing resources enables WexEnergy to accelerate commercialization of more nuanced products. The work

to develop and secure WexEnergy's supply chain of this new material is also supported by NYSEERDA.



WexEnergy's WindowSkin, installed.  
Source: Ed Louie, PNNL.

## What significance does COP26 have to your goals?

COP26's success is important to WexEnergy because it sends a strong signal about the need for global cooperation on climate change. Our goals for next year and beyond align well with COP26's finance and resilience goals, as our products are designed to be affordable and easily scaled for deployment across communities most impacted by climate change. COP26's goals are only achievable if everyone, regardless of wealth, participates in the solutions.

## What factors have contributed to your growth?

The pandemic made it easier to schedule quick customer conversations, allowed us to capture the attention of utilities focused on reducing use of fossil fuels and carbon emissions, and accelerate our new products to market. More time is needed for the message of climate change to translate into growth of the energy efficiency market in the U.S., but WexEnergy is ready. Countries with high energy costs are far ahead of the U.S. because high expense is forcing behavioral change, making WexEnergy's strong value proposition even more compelling outside the U.S. today.

**“Incentivizing deep energy efficiency retrofits will drive greater adoption of carbon reduction solutions in the built environment, especially when directed towards disadvantaged communities.”**

# Conclusion

As governments convene for COP26, the prioritization of financing and support for sustainability and cleantech innovation will be center stage. The recovery from the pandemic has provided the global economy an opportunity to build back better and greener, with increased investment in cleantech innovation catalyzing sustainability initiatives and allowing governments and corporates to work together to reach net-zero by 2050. From new energy solutions to improved transparency across the value chain, we continue to believe the future is bright for clean energy solutions and the movement towards net-zero.

"The key to expanding energy innovation is connectivity - connecting brilliant entrepreneurs and energy solutions with customers, markets, and investors to solve the pressing efficiency and environmental issues of today," said Kristin Barbato, President and Co-Founder of Dynamo Energy Hub. "These leaders are testimony to the partnerships created with cleantechs and I'm very enthusiastic about their potential to make a positive impact."

"We have seen record levels of investment in clean technology solutions thus far in 2021, continuing significant momentum from 2020" said Rob Santangelo, Co-Head of Energy and Infrastructure at Credit Suisse. "We are excited to see private investors work in tandem with governments, and hope that COP26 will serve as a catalyst for increased regulation and investment in cleantech innovation in order to reach net-zero."



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