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INNOVATING IMPACT

Holistic Investing for Climate, Social and Economic Justice



the **22** fund

Los Angeles, CA, USA

**“Want to drive inclusive economic growth?
Start with manufacturing.”¹**

– Asutosh Padhi, McKinsey & Company

**“Today, 29% of all (GHG) emissions
come from how we make things.”¹¹**

– Breakthrough Energy

Note from Our Founder

A well-known venture capitalist once said, “Software will eat the world.”

That may be true.

But hardware will **SAVE** the world.

Hardware is the center of The 22's holistic investing strategy, specifically climate-tech/sustainable manufacturing.

We call what we do “Holistic Investing” because of our strategy – a strategy that can impact whole communities in multiple ways at the same time, not in just one industry sector or with one issue.

Holistic investing means investing with a climate, racial, gender, social and economic justice lens.

This is ***Innovating Impact***.

Innovating impact not only means impacting whole communities but also using a whole of government and whole of the private sector approach. It means creating a multiplier effect for everyone.

We can no longer afford to continue with impact version 1.0 where investing is siloed and has an impact on only one issue or with Industry 4.0 where it is only about technology.

Women and people of color, especially, do not have the luxury of focusing on impacts that address just one negative. We are hit with multiple negative impacts all at once. Therefore, it doesn't make sense that an approach to impact investing is targeting only one area.

And we can't do this only with software.

We need to **make** things.

We need what Mila Capital called “tech you can touch.”

Three years ago, at the beginning of the pandemic, our country finally realized how important domestic manufacturing was to our economy, our well-being and our security.

This is why the current administration has made available an unprecedented amount of capital for under-resourced communities around the country, targeting infrastructure, manufacturing, climate change, climate justice, trade and economic development. This is why one consultant, who works with us, said the U.S. Department of Energy is now no longer just about energy. DOE knows we need to make stuff.

Manufacturing results in 1/5th of carbon emissions globally. On the flip side, growing manufacturing could grow 1.5 million middle class jobs.

At the same time, we are seeing that the climate disaster is hitting EVERYONE in unexpected ways in the U.S. – fires and droughts in the south, hurricanes and perpetual heat in the west and houses sliding in wealthy communities. Pulling out to the rest of the world, Australia, Greece and Canada experiencing fire storms, heat waves in Europe and Asia, unexpected hurricanes in Mexico, floods in Kenya and mass migrations due to climate catastrophes caused homelessness, food shortages and poverty.

This year isn't just the hottest on record. It is probably the coolest year we will ever have again.

Tech could have helped solved this problem years ago. Unfortunately, the venture capitalists at the time thought they could invest and exit cleantech the same way they invested in and exited software.

You couldn't and you still can't.

Cleantech, now called climate tech, (rebranding by the same VCs who were quick to blame this sector versus themselves for not understanding hardware), needs more patient capital and additional strategies, like exporting, to have venture-type returns.

Focusing only on software didn't work then and it won't work now.

We at The 22 Fund have a strategy of increasing international sales for companies that results in achieving venture-like growth in hardware and manufacturing. Exporting companies grow faster, have higher revenues, are more resilient and create jobs faster.

Diverse founders also lead to more success and growth for our companies. Investing in diverse founders and communities closest to the problems will accelerate solutions to the problems.

In addition to our holistic investing strategy, we have holistic skillsets – we provide wrap around support for our portfolio companies.

We are not “dumb money.”

The partners at The 22 have extensive experience in manufacturing, operating, climate tech, M&A, technology, international trade, policy, economic development and government. Companies we founded and operated have generated hundreds of millions of dollars and created tens of thousands of jobs.

Our portfolio companies demonstrate that climate tech is industry agnostic – agtech, materials, transportation/electrification, CPG and health and beauty – and that all future jobs will be climate jobs.

Investing in these founders and these communities with this strategy will create the clean, quality jobs of the future for the people who need them the most, in the communities that need them most.

All investors can do all of this AND achieve first quartile returns.

We just need to innovate impact.



Tracy

Tracy Gray

Founder and Managing Partner
The 22 Fund

Preface

Innovating Impact is a blueprint that suggests how the impact “industry” can re-think and make a lasting difference to the climate and in communities. The following aspects examine how this can be accomplished in an inclusive, holistic and innovative way.

This was written during [COP28](#) (28th United Nations Climate Change Conference, or Conference of the Parties) where there was much controversy (hosted by the United Arab Emirates, an oil state with [high air pollution](#) and continued [gender inequality](#)) and some positive developments (for the first time the [agenda](#) included healthcare and a [fund](#) created for the poorest and most vulnerable countries).

The issues at COP28 seem so big and decisions out of reach for your average investor. However, investing for real change doesn't have to be complicated. It just takes a little more education. One of our potential investors stated: “You haven't been fundraising. You've been educating.”

Innovating Impact is from the partners of **The 22 Fund** to inform investors on additional ways to achieve lasting and holistic, real impact in social, economic and climate justice, and high returns.

Propelling The Virtuous Cycle



“Exports must form an integral part of the growth model because higher savings preclude domestic consumption as the driver of final demand. Similarly, job creation is driven by this virtuous cycle. While the claim is often made that investment displaces jobs, this remains true only when viewed within the silo of a specific activity. When examined across the entire value chain, capital investment fosters job creation as the production of capital goods, research & development and supply chains generate jobs.”¹¹¹

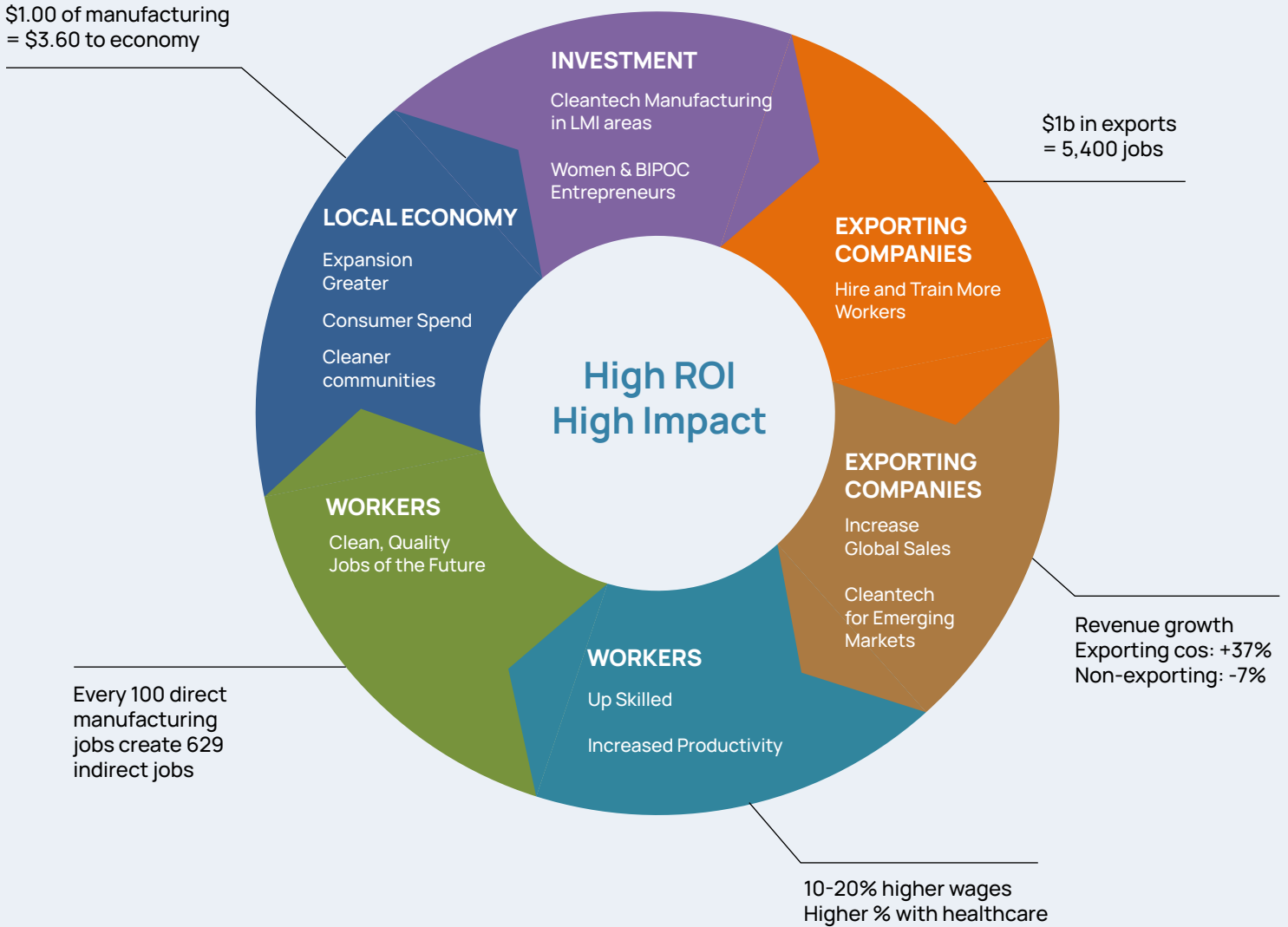
- *Government of India, Ministry of Finance, Economic Survey*

For far too long the manufacturing sector in the U.S. has not received the attention it deserves, especially given the important part it plays in low- and moderate -income (LMI) communities. As a consequence, the damage to the wellbeing of large sections of the population has been glaringly obvious and avoidable. On the other hand, manufacturing plays a positive and important role in lifting the quality of life in LMI communities.

Investing in exporting manufacturers creates a multiplier effect and underscores the overweighted impact these firms have. This can be done effectively with the right investments in companies that:

- | | |
|---|--|
| <p>1
innovate in climate tech with global impacts</p> | <p>2
create the clean, well-paid jobs of the future with benefits for the employees</p> |
| <p>3
create secondary jobs in the supply chains, user industries and the local communities</p> | <p>4
provide high returns with risk mitigation for the founders and investors</p> |

The Virtuous Cycle



**Exporting companies have 25% higher survival rate.
During the recession, BIPOC owned businesses added
72.3% of the total jobs created.**

A Virtuous Cycle is created by investing much needed capital into the hands of people with the potential to create high paying jobs in state-of-the art climate tech manufacturing in LMI communities. Once communities begin to have well-paying jobs, then more people spend more money in their communities which then creates even more jobs – triggering a multiplier effect in the community at-large. Tech-enabled and tech-based manufacturing needs people with a minimum of eighth grade analytical skills and will upskill the workers throughout their careers. When manufacturing is coupled with exporting, these companies eliminate market fluctuation risks through broad geographic market diversity, thereby creating stable jobs of the future, with good pay and are more likely to have health care benefits. ^{IV}

More investment in these businesses that create high paying jobs creates a multiplier effect with more capital circulating in their communities and thus, creating more supporting and service businesses and jobs locally. Additionally, they create jobs in their supply chains which again are likely to be in LMI communities.

This is how innovation in impact investing – with a holistic lens – propels a sustained virtuous cycle.

THE 22 FUND PORTFOLIO CASE STUDY #1

**100% Bio-based, Carbon-Negative
Black Pigment
Nature Coatings, Inc.**

Nature Coatings (NCI), a portfolio company of The 22, is an example of this multiplier effect. Founded by Jane Palmer, a white woman, NCI is headquartered in Nevada, with manufacturing facilities in a community with a median income of approximately \$32,000, in southeast USA. Along with The 22 Fund, investors include actor and environmentalist Leonardo DiCaprio.

NCI manufactures a high performing black pigment from sustainably sourced wood waste, replacing traditional petroleum-based carbon black that is used in all products that require a black pigment like printing ink, paints, clothing, and beauty products. Their flagship product, BioBlack TX, is a 100% bio-based, zero carcinogenic, and [carbon-negative black pigment](#).

Nature Coatings' product, compared with conventional carbon black pigment, has 64% lower carbon footprint, with 0.83 kg CO₂e/kg vs 2.32 kg CO₂e/kg, resulting in a saving of 1.49 kg CO₂e for every kg of fossil fuel-based carbon black pigment replaced.

**NATURE
COATINGS**



NCI's industry segments include textiles, inks, paints, and coatings, sold throughout the world including Portugal, Pakistan, India, and Europe.

NCI's products are used by well-known brands in order to reduce their carbon footprint. The company pays more than 2X the average wage in the community, and most of their products are exported. This creates the multiplier effect in the community, supply chains and supporting businesses.

The Critical Importance of Manufacturing



Manufacturing jobs ARE tech jobs.”^v

- *U.S. Congressman Ro Khanna*

Manufacturing has an outsized contribution on the U.S. economy. The sector represents 10 percent of US GDP and jobs but drives 20 percent of the nation's capital investment, 35 percent of productivity growth and 60 percent of exports.^{vi}

Research from the McKinsey Global Institute found that restoring growth and competitiveness in 16 key manufacturing industries could boost annual GDP by more than 15 percent.^{vii} The COVID-19 pandemic was a wakeup call that brought into focus the perils of overdependence on offshore manufacturing and supply chains. The panic, the shortages and the economic setbacks were entirely unanticipated. Strengthening the domestic manufacturing sector addresses the pervasive supply chain issues that wreaked havoc all over the world and eases disruptions while improving global competitiveness in the mid to long term.

The pandemic also brought to fore the inadequacies of U.S. manufacturing. The nation struggled to produce items of critical importance. If this was a national defense emergency, the consequences could have been much worse. Focusing on strengthening existing manufacturing, and proactively encouraging expansion and new manufacturing, is essential from the national security point of view as well. Supply chain issues created due to uncertain geopolitical developments can disrupt not only the national economy, but also defense preparedness. The U.S. needs a strong, competitive and up-to-date manufacturing sector to continue to be a strong nation.

Industry 4.0 is here. Industry 5.0 is next.

Successive industrial “revolutions” since the 19th century have each substantially shifted the centers of manufacturing, demographics of workforces and the economic situation of sections of society.

The first industrial revolution moved industries from relying entirely on manual labor to using steam and waterpower in the late 18th and early 19th centuries.

The second industrial revolution in the late 19th and early 20th centuries was heralded by the widespread use of electricity. This was a game changer for manufacturing in a very big way and created huge employment opportunities.

The third was the advent of digital technologies, computer controls and automation in manufacturing in the last quarter of the 20th century. Factory workers also had to be knowledge workers. Reliance on manual labor and skills was further reduced.

We are now going through what is popularly referred to as “Industry 4.0” or “Manufacturing 4.0”. This current phase is marked by the adoption of even newer technologies in manufacturing processes and systems. Technologies like automation, CNC machining, internet of Things (IoT), artificial intelligence (AI), 3D printing and additive manufacturing. Newer software on powerful computers is eliminating several labor-intensive steps in design, simulation, tooling and manufacturing.

While Industry 4.0 is eliminating traditional labor-intensive jobs, it is also creating new and more opportunities for the same workforce. It is helping them upgrade their skills and moving them into higher paying jobs of the future. Automation is not a job killer; it is a job changer. It can create more jobs and bring back the manufacturing advantage to the U.S. economy.

Industry 4.0 is also leveling the playing field for U.S. manufacturing. Foreign labor costs are no longer a major consideration. A case in point is the automobile industry. It does not cost more to manufacture a car in the U.S. compared to any “low labor cost” country. The U.S. automobile industry maintains a competitive advantage precisely because it has adopted all the advanced technologies that competitors across the globe have, including low labor cost economies.

If the automobile and additional industries like aerospace can thrive in the U.S., so can others. Outsourcing of manufacturing jobs to countries with lower labor costs is no longer an advantage. The added costs of transportation and logistics also nullify the low labor costs.

Adoption of Industry 4.0 technologies and systems raises the productivity, efficiencies and economics of manufacturing in the U.S. This is no longer a “nice to have.” It is a necessity to make sure that we maintain global competitiveness. Consequently, many existing manufacturing businesses need financial resources to meet the challenges of the 21st century.

Moving on to Industry 5.0...

As is true with every other sector, technological change in the 20th century was exponential and it is accelerating even faster in the 21st.

Even as the adoption of Industry 4.0 is still on, Industry 5.0 is not only being talked about, but also being implemented.

With Industry 5.0, for the first time ever, issues that have never been addressed before are being given importance. While businesses will continue to provide more and improved products to customers, societal impacts like social stability and planetary impacts like sustainability are being included.

The manufacturing sector will truly be a part of the solution, and an important part at that, rather than being the problem.

The European Union (EU) describes Industry 5.0 as, “a vision of industry that aims beyond efficiency and productivity as the sole goals, and reinforces the role and the contribution of industry to society.” The EU continues, “it places the wellbeing of the worker at the centre of the production process and uses new technologies to provide prosperity beyond jobs and growth while respecting the production limits of the planet.”^{viii}

Moving expeditiously to Industry 5.0 is of critical importance as it underlines the focus on multiple impacts.

- 1 Jobs with higher value creation and hence more remunerative for workers**
- 2 More creative freedom for workers, resulting in higher quality and value of products, consequently achieving and maintaining global competitiveness**
- 3 Specific focus on sustainability and resilience to address issues of the planet, its resources and challenges**
- 4 The resulting wider impacts on the society at large**

Industry 4.0 is the first step and a building block towards Industry 5.0. In other words, Industry 5.0 is not disruptive but additive. Nothing built on Industry 4.0 principles needs to be taken down. This is unlike the early industrial revolutions that entailed drastic changes and disruption.

Other countries and regions are quickly catching up and increasingly, even exceeding the manufacturing competencies of the U.S.

It is now an imperative for the U.S. manufacturing sector to move on as quickly as possible to not only stay competitive in the global marketplace, but also avoid being overwhelmed by international competition globally and in the U.S.

To get there, investments are needed – and needed now.

Investing in Manufacturing for Impact

When investing in manufacturing for impact is mentioned, the question that often comes up is "Manufacturing? Why?".

The importance of manufacturing is illustrated by the movement of the sector from the urban core to the suburbs when white men refused to work with BIPOC and women on the factory floor. The country saw a 12% increase in the wealth gap between white and black men just from this movement.^x

The manufacturing sector in the U.S. has been long neglected, its importance and impact have been vastly underestimated and until the pandemic and recent historic allocations of federal funding, there had been no meaningful conversations. The venture capital community has been extremely short sighted with its total lack of focus on and even active discouragement of manufacturing companies.

While manufacturing in the US has grown in absolute terms, its relative global share has dropped to 17 percent, from 25 percent, in the past two decades.^x This neglect has led to serious setbacks for LMI communities. Over the decades, with reduced attention on manufacturing in the U.S., LMI communities have

suffered. This has been largely unnoticed as the "tech" sector received all the attention and investments. The fact that manufacturing is also high-tech has been missed and lost in translation.

In recent years, the manufacturing workforce has not enjoyed the same prosperity as other sectors. As manufacturing has declined, inequality has increased. Today, the United States bears the title of the most unequal economy in the G-7. This is an unfortunate state of affairs in a country that once led the world in manufacturing and exports of manufactured goods. "Made in America" was and still is a much sought after label.

The social and economic impact of manufacturing cannot be understated. Manufacturing makes the national economy more resilient. Manufacturing has lifted up economies around the world. However, the U.S. has slid dramatically in this aspect among developed nations. Investment and focus on manufacturing will contribute to inclusivity and sustainability and revitalize LMI communities. Manufacturing can be a "backdoor" into the tech sector for women, BIPOC and former "blue collar" workers. Key data from Manufacturer's Edge indicates that \$1.00 invested in manufacturing creates \$3.60 to the economy. And for every 100 manufacturing jobs that are created, another 629 indirect jobs are born through the recirculation of money in those neighborhoods.^x



EV Infrastructure Manufacturing OpConnect, Inc.



OpConnect is creating the technology bridge to electric transportation with the manufacturing of electric vehicle (EV) charging systems and a software platform combining systems integration and energy management solutions for fleets and affordable/multi-family housing. As more fleets adopt EVs and demand for EV charging services increases in apartments and condos, fleet operators and property managers are discovering that they need EV charging equipment along with an integrated managed charging solution.

Founded by Dexter Turner, an African American male and veteran, the company is achieving holistic impact through implementation of Industry 4.0 and transitioning into Industry 5.0.

OpConnect's turnkey solutions include a cloud-based software platform that provides payment processing, scheduling and maintenance ticketing for the fueling infrastructure and support services for users.

With additional capital, OpConnect is adopting the latest manufacturing techniques, using the best-in-class IT infrastructure, software tools like AI and digital twins. The company is also implementing best-in-class manufacturing infrastructure. This in

turn, means more future-proof, quality jobs and an empowered workforce.

By combining EV charging with renewable energy and storage systems, OpConnect reduces greenhouse gas emissions and contributes to the shift from fossil fuels. This is a critical component to solving the climate crisis. With OpConnect's current base of charge ports, over 261 metric tons of GHG (CO₂) have been eliminated.

Socially responsible without compromising growth and profitability, 45% of OpConnect's charge ports have been deployed in underserved communities. OpConnect is creating high-tech, clean, quality manufacturing jobs of the future in LMI communities, contributing to a multiplier effect and mitigating inequalities.



Climate tech manufacturing addresses not only the climate crisis, but can also address race, gender and economic inequality. The negative effects of global warming are affecting people in our most vulnerable communities, women and BIPOC, the most. People in these communities who are closest to the problems should receive investments to create the solutions.

Climate-tech intersects with traditional manufacturing. And this doesn't necessarily imply just solar energy, electric vehicles and the like. Going forward all manufacturing needs to be "clean," in other words, sustainable and environmentally friendly.

Now is the time, the right time and perhaps the last chance. Countries around the world have either already built up or are in the process of building and expanding manufacturing capabilities. Technologies that were once owned by the U.S. are now available to every nation. It is now time for the U.S. to regain dominance in manufacturing – for economic growth, social justice and national security.

The Climate Tech Imperative



“Tackling the escalating climate crisis will be near-impossible without advances in climate tech, a diverse family of technologies that are explicitly focused on targeting climate change. Not only will the adoption of climate tech be critical to overcome and adapt to a changing climate; the scaling of climate technologies also has the potential to create new jobs, support economic growth and accelerate broader technological advancement.”^{xii}

- Economist Impact

Climate tech manufacturing is important not only to addressing the climate crisis, but also to confronting race, gender and economic inequality. Our most vulnerable communities are disproportionately affected by global warming. The largest proportion of manufacturing sites are located in LMI neighborhoods. Many of those sites are generating high levels of toxic emissions impacting those who are powerless to solve the problem.

According to [NOAA](#), more than 2,000 high temperature records in the U.S. were broken in just the month of July in 2023.^{xiii} We are experiencing far more wildfires, floods and hurricanes across the globe due to these rising temperatures. The planet is running out of time. Unfortunately, given current investment trends, things do not look promising. According to CTVC, venture funding is down 40% in H1 2023 for climate tech companies.^{xiv}

We cannot software ourselves out of the climate emergency. The companies that will have the greatest impact on the climate mitigation challenges are climate tech manufacturing companies that are innovating and creating groundbreaking hardware products and processes that re-engineer and upgrade the way we make things. These innovators need access to the equity capital that has been missing in the past. Climate tech encompasses all aspects of our daily lives. All raw materials, finished products, their transportation, use and disposal, all involve new technologies, new ways of thinking, a purposeful departure from the past when conserving natural resources was not a priority. This requires capital investment to innovate and execute on a global scale.

Resources are needed today with encouragement and promotion of entrepreneurs blazing new trails in climate tech. However, companies in this sector are struggling to raise capital, capital that comes easily to the “tech” sector. Investors need to consider climate tech as “high tech.” Nothing short of the best available technologies and ones that are yet to be developed, are needed. The smoke-stack manufacturing of yesteryear needs to be replaced with the sustainable, clean manufacturing of tomorrow.

Those that invest in companies that are solving real problems with far reaching effects – companies that are innovating in new and sustainable materials, technologies that mitigate climate change effects and processes that are sustainable – will realize the long-term returns. With more investment in climate tech manufacturing, venture capital can have a long-lasting impact on the planet. It is not just following a trend. It is the only way forward.

THE 22 FUND PORTFOLIO CASE STUDY #3

Plants Over Plastics Repurpose, Inc

Repurpose, with CEO Lauren Gropper, a white woman, makes compostable, single use products out of plant waste for everyday life. These include toilet paper, trash bags, tableware, straws, plates/bowls, and paper towels. They are non-toxic, durable, price competitive, mass distributed (over 15,000 stores and growing) and 100% compostable. Repurposes products, once composted, can be used to help fertilize crops for growing plants.

Repurpose is the first of its kind to eliminate PFAS (forever chemicals) which are toxic and widely used in all single use products. Actress and influencer, Chrissy Teigen, is a customer and associate through a collaboration with Cravings by Chrissy Teigen.

Repurpose is an example of the industrial move towards “circularity,” a concept grounded in the “closed loop” model of “reduce, reuse, recycle and recover,” replacing the linear model of “take, make, waste” and reducing waste, pollution and carbon emissions.



Repurpose is helping solve one of the most pressing problems - that of uncontrolled plastic pollution and the incalculable damage it is doing to ecosystems on land and oceans. In addition, the company is also reducing the effects of plastic production and use. Over the past three years alone, Repurpose has avoided 1,161 metric tons of GHG, 890 metric tons of waste and saved 128 metric tons of water.

The Value of Exports



“Since 1998, the widening U.S. trade deficit has cost the country 5 million well-paying manufacturing jobs and led to the closure of nearly 70,000 factories. Society has grown more unequal as wealth has been concentrated in major coastal cities and former industrial regions have been abandoned.”^{xv}

– U.S. Congressman Ro Khanna

Small businesses are the main engine of our economy, but only 1 percent of small businesses (under 500 employees) currently are exporting. According to DOC ITA, export-focused manufacturing companies are more successful and thus, investments in such companies carry less risk.^{xvi} The same is true of BIPOC- and women-owned firms. These businesses have the potential to accelerate their growth via international sales, ensuring diverse founders have a level playing field to grow their businesses. Getting needed capital to these businesses is also critical to driving meaningful, long-term improvements to the American economy and help the Global South leapfrog their current technology limitations.

Exports cause venture-like growth for hardware manufacturers. Major research institutions have confirmed that exporting manufacturing companies are recession proof, enjoy higher survival rates and greater resiliency. Exporting companies have 37% higher revenues than non-exporting businesses.^{xvii}

Investing in companies to expand their export capacity fills what the Small Business Administration and Export-Import Bank of the United States call the “equity gap” – the lack of equity capital – for manufacturing and diverse businesses.^{xviii} The majority of businesses that export are BIPOC- and women-owned. BIPOC-owned businesses are 2x as likely to export and are more than 3x as likely to have businesses generating 100% of all their sales in exports. During the last recession, BIPOC-owned businesses added 72.3% of the total jobs created.^{xix}

Data indicates that \$1 billion in exports creates 5400 jobs and that exporting companies have a 25% higher survival rate than those who don't.^{xx} We need to export more tech-based, manufacturing products to create more U.S. jobs.

The 22 is the first venture capital firm to have a Memorandum of Agreement (MOA) with the U.S. DOC ITA. This gives The 22's companies concierge services and a leg up in their export initiatives. 95 percent of the world's consumers are outside of the U.S. and most of our U.S. companies' competitors are selling here.^{xxi} We need more of our companies to go sell "there."

"Made in USA" is a much sought after label globally. Innovations by U.S. companies are as good or better than anywhere else. What these companies need is the right kind of investment, support with resources, to enter and expand into international markets and the strategies to navigate through those efforts.

THE 22 FUND PORTFOLIO CASE STUDY #4

First Dermatologist Approved, Clean Haircare Sienna Naturals, Inc.



SIENNA NATURALS

Sienna Naturals was founded by two African American women, Hannah Diop and actress, Issa Rae.

The company produces clean natural products for textured hair care. Their Rooted Technology™ is specifically formulated for all textured hair, catering to a global market that is underserved. 80 percent of black women experience hair and scalp issues due to endocrine disruption. Additionally, Black women are experiencing ovarian cancer at a higher rate due to the chemicals to straighten texture hair. Sienna isn't just a beauty care product, it's a HEALTHCARE product.

Black and brown women buy over 9X more hair products than non-brown and -black women.

Sienna takes ancestral rituals and clean ingredients to create the first dermatologist-tested, approved and responsibly sourced suite of products resulting in superior hydration, long lasting moisture retention, improvements to scalp health, hair growth and reduced shedding.

Exports are an important part of Sienna Naturals' business strategy. Initial sales are in the USA,



followed by Africa, Latin America and Europe. With the help of U.S. DOC ITA, and Issa Rae's global reach, they are well positioned to make inroads into global markets.

With manufacturing in the USA, Sienna creates high paying jobs.

Sienna Naturals also partners with several non-profit organizations to support education, healthcare and economic development in West Africa. The company has partnered with the Kavli Foundation to support STEM education for girls in Senegal, and with the African Wildlife Foundation to promote conservation and environmental education in Kenya.

The Diversity Advantage



“Diversity makes your company – and your teams – more creative and innovative. In fact, it makes your teams so much better that you can see the results (in green) on your bottom line. ‘Ethnically diverse companies are 35% more likely to have financial returns above their industry medians,’ explains Ashley Kelly, co-founder and CEO of CultureAlly, a D&I consulting and training organization.”^{xxii}

– *CIO magazine*

There has been enough research that proves investing in diverse founders and teams leads to higher returns. No more research needs to be done. No research has proven that investing in only white men leads to the same results.

There is also ample research that demonstrates entrepreneurship and small businesses are the main drivers to grow generational wealth. 99.9 percent of the businesses in the country are small businesses that employ almost 50 percent of workers and create two-thirds of new jobs.^{xxiii}

However, the tech and climate tech industries have not and continue to not reflect the diversity of the U.S., even though BIPOC are starting businesses at a faster rate than non-BIPOC. BIPOC businesses make up more than 50 percent of the new businesses started in the U.S. over the last 10 years, creating almost 5 million jobs.^{xxiv}

The manufacturing sector has over two million positions unfilled due to a lack of minimal analytical skills. Adding these skills to the manufacturing workforce is a “backdoor” into the tech sector for the former “blue collar” women and BIPOC workers.

Studies have shown that companies with women in leadership positions will outperform those with less diverse leadership. In a study done by the Boston Consulting Group in 2018, “businesses founded by women ultimately deliver higher revenue—more than twice as much per dollar invested—than those founded by men, making women-owned companies’ better investments for financial backers.”^{xxv} African American women are creating businesses faster than all other women.

Capital needs to be deployed to those who are closest to the negative impacts of climate change. The majority of the people experiencing the urgency of climate change globally are people of color.

THE 22 FUND PORTFOLIO CASE STUDY #5

From Food Waste to Plant Food Re-Nuble, Inc



Re-Nuble was founded by an African American, LGBTQA+ female entrepreneur, Tinia Pina. Based in New York, Re-Nuble takes unrecoverable vegetative waste from food production and turns it into a platform of sustainable technologies – organic hydroponic nutrients and grow media – for indoor farms. This is yet another example of circularity in manufacturing, with a “closed loop” model of “reduce, reuse, recycle and recover”.

The company's products replace inorganic chemical-based plant nutrients. An estimated one-third of all food produced is wasted before it even reaches consumers, making food waste the third largest global GHG emitter. Re-Nuble's manufacturing process uses minimal energy, and the net carbon footprint is negative. One Gallon of Re-Nuble's “Away We Grow Transition” removes 18.75 pounds of CO₂e that would have been released from food waste sent to landfills. Re-Nuble's products are estimated to reduce carbon emission by 1.5 to 6 tons per acre equivalent per year.

Re-Nuble is mitigating climate change while cost competitively meeting the demand for sustainably grown produce. Customers can use their nutrient products without the need for additional equipment, time, water, or labor.

Most of the subsistence farmers around the world are women, specifically women of color. Re-Nuble's products can help women in the Global South to continue growing food and providing for their families when climate change causes their lands to become arid.



The Future

There's no doubt that we live in an interconnected world that needs to solve a multitude of critical problems - the existential climate crisis, the pervasive racial and gender inequalities and the ever-growing economic and social disparities. So, it only makes sense that we address these issues in an interconnected, holistic way. By investing in hardware climate technologies that can scale globally, that can be sustainable and profitable, that are diverse and inclusive, we can then create that Virtuous Cycle that spurs innovation and growth and saves our planet.

Hardware will save the world...


...if we innovate impact.








Our Thanks
to those who believed,
still do,
and always will.

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