



2022 Annual Impact Report

Pangaea Ventures is a leader in hard tech venture capital and impact investing.

www.pangaeaventures.com



We invest in entrepreneurs to make an impact on the world

“There is an immediate and urgent need to deploy hard technology solutions that address some of the world’s biggest problems. Our climate is changing which can jeopardize food security and human health & well-being. Pangaea’s portfolio continues to work tirelessly to help mitigate these problems and we have bold ambitions for our collective impact by 2030.”

Chris Erickson

Founder & General Partner



Chris Erickson



Janelle Goulard



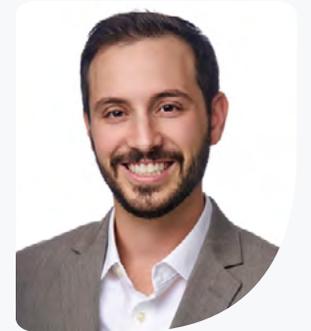
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A Message From Pangaea Ventures

In the first year of near-normalcy post-pandemic, global attention shifted away from COVID-19 and back to longstanding challenges and crises. Climate change, inflation, the war in Ukraine and a polarized political environment were among the top global concerns.

This year also saw an additional cause re-emerge—world hunger. According to the United Nations, 811 million people are now suffering from chronic hunger worldwide and more than 50 million people are facing emergency levels of hunger across 45 countries.

Food insecurity is further exacerbated by climate change, as extreme weather events such as floods and droughts impede agricultural production and displace millions of people. Similarly, the war in Ukraine continues to disrupt grain exports, disproportionately affecting developing countries.

It's glaringly clear that no one of these challenges exists in isolation—they are linked at the hip.

Innovative technologies are out there, however, helping to reduce hunger and build resilience against climate change. Ag-tech solutions, alternative proteins and renewable energy are just a few examples found in Pangaea's portfolio.

As one example, Calysta, a cellular agriculture firm, commissioned a 20-ton per-year microbial protein production facility to support the production of over 15,000 tons of sustainable seafood. These investments are not only good for the planet and humankind, but have proven their ability to generate real returns. We recognize that Environmental, Social and Governance (ESG) investing has been a central topic of debate, especially in 2022. Many formal ESG programs can be disconnected from the actual impact created.

To ensure Pangaea is accurately evaluating the impact of our investments, we continued to improve our impact analysis process by adding two new measurement systems: Quality Adjusted Life Years (QALY) and the Impact Money Multiplier (IMM). We also engaged Steward Redqueen, an independent third-party specializing in impact analysis, to conduct a comprehensive review of our Impact Methodology and its outputs.

Steward Redqueen found that our approach was “ahead of the market standards” in certain areas and concluded: “We would encourage Pangaea to see the potential ability it has in being a market leader - not just among North American VCs but also the global financial sector - in measuring, managing, and supporting future impacts of innovative hard-tech companies.”

Moving forward, we are committed to refining this model and ensuring that it is applied consistently as we grow our portfolio.

We'll leave you with this quote from Larry Fink's 2022 Letter to CEOs: “Every company and every industry will be transformed by the transition to a net zero world. The question is, will you lead, or will you be led?”

We hope that you, like us, choose to lead.

Sincerely,

The Pangaea Team



About Pangaea Ventures:

Pangaea Ventures is an unparalleled hard-tech investor that invests in firms utilizing the latest breakthroughs in materials science, chemistry and biology to solve many of society's most pressing issues.

Established in 2000, our team has spent decades standing shoulder-to-shoulder with our entrepreneurs, rolling up our sleeves to help them solve problems. We invest with impact.

We strive to maximize returns by quantifying the impact generated by our portfolio companies. Our due diligence process takes into account the size of the problem and the scalability and sustainability of the solution.

By 2030, our portfolio companies will contribute:



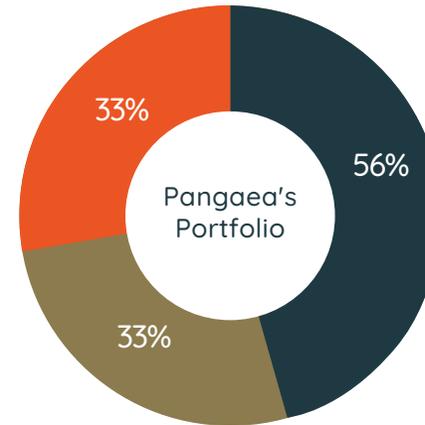
WE BELIEVE

Advanced materials have the ability to solve the world's most fundamental challenges.

WE INVEST IN

- Entrepreneurs who figure out how to go farther and faster with the same resources.
- Entrepreneurs who solve the world's most fundamental problems with advanced materials.
- Entrepreneurs who are making a meaningful impact.

Our Investment Themes:



- Climate Change
- Food & Water Security
- Healthcare

Total does not sum to 100 as Pangaea portfolio companies often contribute towards more than one theme.

CLIMATE CHANGE

We recognize the severity of climate change and the need for urgent action. We invest in decarbonization, energy transition, circular economy, green chemistry, resource & industrial efficiency and more.

FOOD AND WATER SECURITY

As the world's population continues to grow, we will need to produce 70% more food to meet our needs. We invest in sustainable agriculture, water treatment, supply chains, alternative & plant-based proteins and more.

POOR HEALTH OUTCOMES

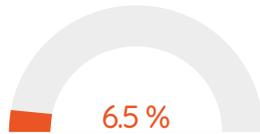
Poor health outcomes can have a significant economic and social burden. We invest in medical devices, point-of-care diagnostic tools, biomaterials, personalized health and more to improve health outcomes.



Our Progress On CO₂ Emissions:



PORTFOLIO GOAL
55M tons of CO₂ reduced by 2030



PROGRESS TO DATE
3.7M tons of CO₂ reduced

Threats to the planet posed by global warming and climate change are becoming increasingly urgent. The 2022 IPCC report states that global greenhouse gas emissions must peak by 2025 and be reduced sharply over the coming decade if warming is to be capped at 1.5°C.

There will not be one magic solution that solves this problem, but a symphony of complimentary hard tech innovations that can permanently capture and sequester atmospheric carbon, reduce point source emissions and reduce the carbon intensity of essential industries like agriculture.

Pangaea continues to actively invest in companies and technologies whose activities move the needle on these issues.



Our Progress On Food Production:



PORTFOLIO GOAL
50M tons of food produced by 2050



PROGRESS TO DATE
1.5M tons of food produced

World hunger and food insecurity continue to be issues of critical importance in 2022. If we're to feed 10 billion people by 2025, as data suggests, we need to realize a 70% increase in food production. Coupled with regulatory changes around pesticides and fertilizer use, along with increasing pesticide resistant insects, the world requires innovative crop and animal health solutions.

Pangaea Ventures is investing in companies and technologies that will help to transform the entire food production ecosystem. We're focused not only on how we grow our food more efficiently and sustainably, but continue to invest in food supply chains, as well as bolstering alternative protein products.



Our Progress On Fresh Water:



PORTFOLIO GOAL
153B m³ of fresh water saved by 2030



PROGRESS TO DATE
7.4M m³ of fresh water saved

Access to clean and fresh water is essential for health and well-being. With changing weather patterns, unprecedented droughts, and concerns around persistent pollutants, hard tech innovations are urgently required to clean, preserve and protect this essential non-renewable resource.

Water is considered a multi-impact investment by the UNPRI due to its interconnection with climate change, the agri-food value chain, industrial productivity, healthcare, renewable energy, ecosystem services and biodiversity. Therefore, it's no surprise that water touches almost every one of Pangaea Ventures' investments.



Our Progress On Lives Impacted:



PORTFOLIO GOAL
18M lives impacted by 2030



PROGRESS TO DATE
1.1M lives impacted

The US spends 2x as much on healthcare (as a share of GDP) than the average OECD country. The US also has one of the highest hospitalization rates from preventable causes. Our metric of lives impacted means patient health outcomes are being improved through driving factors like increasing access, affordability and quality.

The intersection between individuals' health and CO₂ emissions, malnutrition and clean water means that all of Pangaea's portfolio companies contribute in some way to impacting lives. Our measurement focus is on portfolio companies whose specific mission is to improve the quality of human life through direct health-related impacts.

2022 Impact Methodology Update

While we are always proud of the positive feedback from our impact reporting, we continually strive to raise the bar. This year we are proud to share three important updates to our impact methodology: the addition of the Quality Adjusted Life Years (QALY) measurement, the use of the Impact Money Multiplier (IMM) and an expert third-party review, conducted by Steward Redqueen.

“As a hard-tech VC fund, Pangaea must anticipate future returns, and future impacts, making measurement and management a challenge: the question for Pangaea is not, “What has the investee’s impact been, and how can we improve it?”, but rather “What could the investee’s impact be one day in the future, and how could we know today?” - Steward Redqueen, 2022

- Quality Adjusted Life Years (QALY)
- Impact Money Multiplier
- Third-Party Review

Quality Adjusted Life Years (QALY)

QALY is a measure used to quantify the value of a particular health intervention. It combines the quality of life gained over a certain period with the number of years that improvement will last.

In the past, we measured health impact based on the number of patients touched by a portfolio company technology, regardless of how long those impacts endured. While this provided us with an indicator of technology reach, it did not show us the magnitude of impact.

By adopting QALY as our metric for assessing health impact, we can now accurately quantify the value of a technology's contribution to improving patient health long-term. This gives us a far more precise way to calculate the lasting value of the technology we fund. We will begin reporting this metric in 2023.

Impact Money Multiplier

We are now using the Impact Money Multiplier (IMM) as an internal tool to estimate the projected dollar value of impact created by our portfolio companies out to 2025 and beyond. The IMM attempts to quantify the social value that would otherwise not be created without a company's technology.

Through the Impact Money Multiplier (IMM) we assign a social value to carbon savings, water savings, incremental food production and improved health. The IMM accounts for both amount invested and ownership stakes in order to calculate a final ratio.

“Pangaea does a very impressive job estimating defensible figures on the expected impacts of its portfolio companies across several dimensions for each of its investees then captures these in the impact money multiplier (IMM).”
- Steward Redqueen, 2022

Third-Party Review

To ensure the integrity of our impact methodology and results, we engaged Steward Redqueen to conduct a third-party review. We are proud to say that their findings not only confirmed the integrity of our analysis but also highlighted several areas for improvement, such as providing greater clarity on the sustainability aspects and longer-term results of our portfolio companies.

Pangaea is committed to implementing this feedback over the coming years.

“Pangaea’s ability to measure impact within a clear strategy framework, integrate it into its due diligence process and apply a comprehensive set of policies puts Pangaea on a strong footing in terms of impact measurement and management.”
- Steward Requeen, 2022



Sowing Long-Term Impact with Early-Stage Venture Capital

The impact investment market is currently valued at \$1 trillion, but questions remain as to how much of that is actually achieving real global effect. In general, it is agreed that an impact investment should be:

Intentional:

If a particular investment is made, it should be done with full knowledge of the potential positive and negative impacts that can come as a result.

Measurable:

It should also be possible to measure and value the impact created through the investment.

Additional:

The investment should generate positive outcomes that would not otherwise exist without the engagement or capital.

While most impact investments are intentional and can be measured, it is much harder to prove additionality. This is especially true for public market investments and project finance for renewable energy projects, as most would be funded regardless.

Today, capital for early stage and growth equity is abundant. But less capital exists in the early growth stage, where we invest.

Thinking back to our 2015 investment in ESS Inc., made at a time when the investor community had all but abandoned grid-scale energy storage, our investment alone unlocked a wave of capital and created positive outcomes that would not otherwise exist. Our conviction in the team, and the market opportunity, together with our commitment to bridging capital until they achieved technical and commercialization milestones, has now paid off with the company's successful public listing.

Success stories like this show our investments go beyond capital, offering up expertise, context and an impact lens that sets our portfolio steps ahead.

From a network of more than two dozen large multi-national companies in the chemical and industrial space, to proactively measuring and monitoring impact, we offer tangible assistance at every stage of a company's growth. This feeds into more than scaling and expansion but offers employee retention, further access to capital, funding opportunities and more.

Ultimately, our investments are about taking the long view and making sure we drive greater value to society over time. We provide our portfolio companies with the tools, resources and connections they need to achieve their maximum potential, to push them beyond capital, into true and lasting impact.



5 Investment Ideas for the Next 5 Years

The following investment opportunities reflect deep shifts happening in the regulatory landscape. The Inflation Reduction Act, corporate awakenings and innovations in emerging technologies are ushering in an era of unprecedented potential.

The time is right to invest.

- Hydrogen
- Carbon Capture Utilization and Storage
- Metals and Mining
- Nature-based CDR
- Cooling

Hydrogen



Hydrogen has finally arrived in the energy transition, and this time, it looks like it's here to stay. Momentum is building for hydrogen in industry and government policy, with an estimated 680 large-scale projects representing over \$240 billion in investments.

While China currently leads in electrolyzer technology, Bloomberg reports their electrolyzers aren't as efficient as those made in the US and Europe. With the US and other countries increasingly focused on renewable energy sources, there is potential for new technologies that pair with intermittent renewables to catch up.

In the next five years, we can expect hydrogen to become a major player in the clean energy sector. Governments will continue to support the commercialization of early-stage technology and businesses will need to adjust their strategies to capitalize on the new market opportunities. There is potential for specialized components, such as fuel cells and turbines, as well as services related to hydrogen production and storage.

Carbon Capture Utilization and Storage



Carbon capture utilization and storage (CCUS) technologies enable the capture and utilization or storage of carbon dioxide from various sources. This technology has gained significant attention in recent years due to its potential for reducing emissions from industrial emitters. CCUS also provides a way to reduce greenhouse gas emissions while allowing companies to continue operating their existing facilities.

The development of CCUS projects has the potential to create significant economic opportunities for investors and companies alike. With global governments and major corporations increasingly committing to net zero emissions goals, investment in CCUS technologies is expected to grow substantially over the next decade.

Metals and Mining



The size of the metals and mining industries are expected to approach \$2 trillion over the coming years, with market growth in part due to the energy transition. Companies are investing in a range of technologies, from improved extraction processes to more efficient recycling efforts, which can aid in decarbonizing production processes.

As the energy transition continues, there will be a shift from fossil fuels to metals as key inputs for various energy-related applications. This could include the use of steel in wind turbines, copper in electric vehicles and rare earth elements in electric motors.

While some parts of the metals and mining industry have been relatively untouched by technology for the last 50 years, with resource quality deteriorating rapidly, technological advancements in mining and recycling are essential to meet future demand.

Nature-based CDR



Soil contains over 3,000 gigatons of carbon in the form of soil organic carbon (SOC) or mineralized materials. This translates to over 200 years of manmade CO₂ equivalent emissions at the current rate. If we include the amount of carbon stored on the ocean floor, we're looking at nearly 15x more.

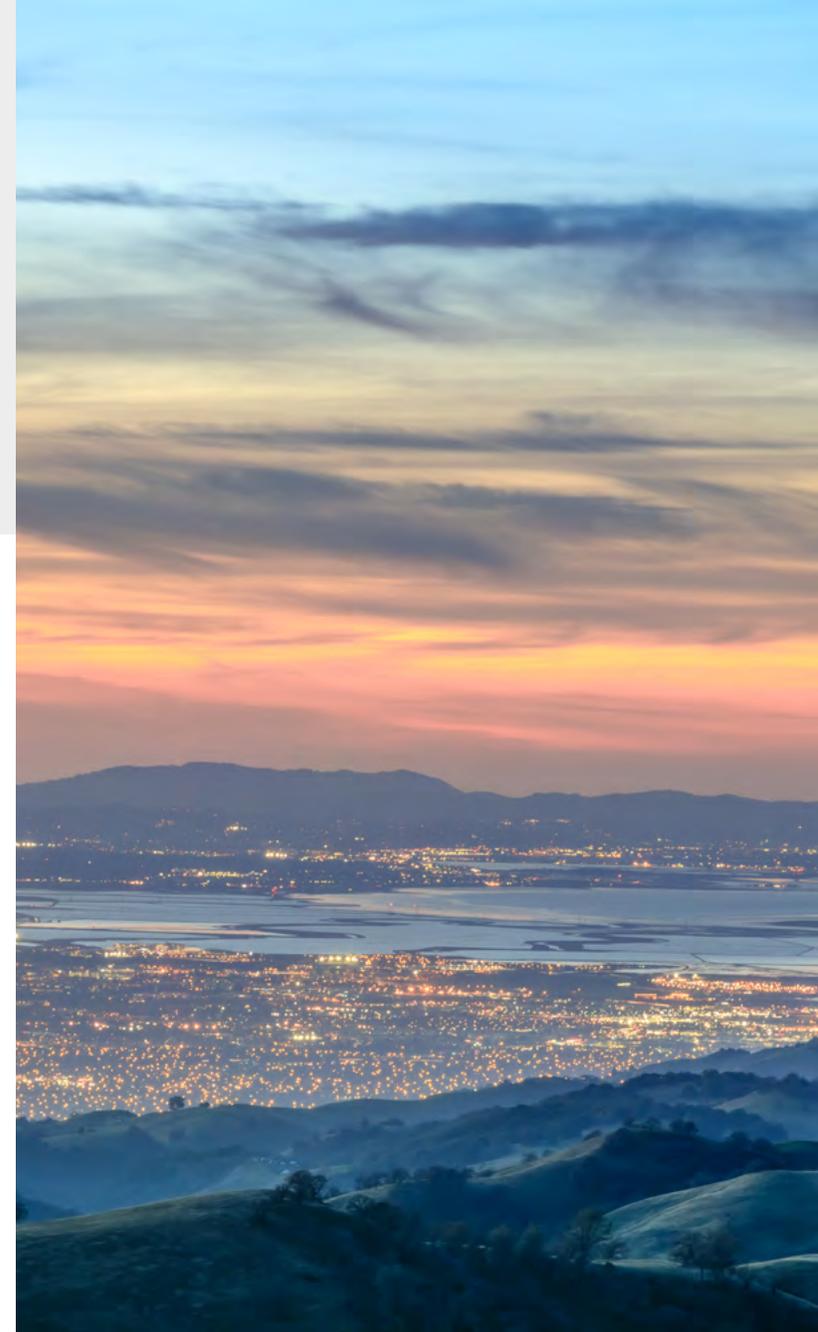
Nature-based Carbon Dioxide Removal (CDR) strategies, such as sequestering carbon in soils or the ocean floor, are being explored as options to permanently store carbon and reduce atmospheric PPM levels of CO₂. Nature-based CDR may be the only option we have to move the needle on reducing atmospheric CO₂ in the coming decade.

Cooling



According to the IEA, air conditioners and cooling systems account for 10% of all global electricity consumption today. As cooling becomes a growing necessity for many parts of the world, especially in the face of climate change, this figure is projected to rise exponentially.

The next generation of cooling and refrigeration systems can play an integral role in reducing global energy consumption. In addition to providing energy savings, advanced cooling solutions can offer a multipronged value proposition that prioritizes resiliency, sustainability, indoor air quality and overall cost of ownership (including maintenance and labor costs). This valued approach can result in more immediate customer returns and is likely to accelerate the adoption curve.



Lifecycle Analysis Confirms Scaling Potential at Prime Roots

A recent life cycle analysis (LCA) confirmed the scaling potential at Prime Roots. The LCA, conducted by independent third-party researchers at Boundless Impact Research & Analysis, found that Prime Roots' products have a lower environmental impact than traditional meat production and other plant-based products. In turn, this lower impact directly relates to a cost structure that can enable rapid and capital-efficient scaling.

Highlights of the LCA found that:

- The water required to produce Prime Roots' bacon is 17 times lower per kilogram than the water used to produce traditional bacon.
- Prime Roots' bacon has an estimated GHG Footprint up to 93% lower than animal meat.
- The estimated Land Footprint of Prime Roots bacon is significantly lower than all industry competitors – between 85% and 98% lower than animal meat products and 49% lower than other meat analogs.
- For each kilogram of Prime Roots' bacon replacing a kilogram of traditional bacon, 9 kilograms of CO₂e emissions are avoided, equivalent to driving 22 miles in a passenger car.

While these findings have clear environmental and social impacts, they also point to distinct economic advantages. Land, water and CO₂ also represent costs that can be compared to those of traditional meat and other alternative proteins.

The Life Cycle Analysis found that the costs associated with Prime Roots' bacon are at or lower than traditional pork bacon.

The great potential for this technology lies not only in its environmental impact but in its economic scalability as well.

The LCA results demonstrate that Prime Roots produced at scale could provide an accessible and economically viable alternative to traditional meat. This analysis is especially important in light of the fact that cost has been one of the key barriers to alternative proteins entering the market.





Tidal Vision 2022: From Local Water Treatment to Multi-Billion Dollar Markets

Most venture-backed companies are acquired with the goal of providing their investors with a return on their investment. But what if the opportunity created by a company is large enough that the script gets reversed? Is the potential whole greater than the sum of its parts?

This is the mindset that guided Tidal Vision through a very busy 2022.

Tidal Vision is a circular economy company that has invented a process to extract a biopolymer, called chitosan, from waste crustacean shells. While chitosan has traditionally been expensive and wasteful to extract, Tidal Vision's proprietary Chitofining™ biomanufacturing process offers the world's first zero-waste low-cost process.

Unlocking New Market Potential

When Pangaea invested in Tidal Vision 2020, the company had revenue almost entirely in the water treatment market—mostly from relatively local customers in the Pacific Northwest. They were selling a handful of relatively simple formulations with limited market potential. However, Tidal Vision and Pangaea recognized the potential of chitosan to create a much broader portfolio of products. Water, textiles and agriculture showed tremendous promise. To realize this potential and accelerate the growth trajectory, expanding the technology stack was paramount.



Investment Meets Acquisition

In late 2021 Tidal Vision embarked on an ambitious acquisition and licensing program. This included:

- Acquiring VC-funded ViaeX Technologies which brought IP and experience in chitosan coating and membrane chemistry. This acquisition was critical for realizing the potential in the textiles industry, including the urgent drive to replace PFAS materials.
- Licensing IP that helped concentrate formulas by 5X—a critical variable in reducing shipping costs.
- Acquiring a chitosan-based seed treatment company that accelerated market penetration in the agriculture market.
- Acquisition of a company using a complementary approach to use seafood waste as a fertilizer and crop enhancer—a key factor in securing high-quality feedstock as the company scales.
- Last but not least, acquiring the IP and team behind a technology that has been proven to reduce nitrogen usage in agriculture. This technology has been successfully scaled commercially and was shown to help increase nutrient uptake in wheat, leading to 50% savings on nitrogen used for cultivation.

Accelerating Growth in Major Markets

This combination of investment and acquisition has allowed Tidal Vision to quickly become a major player in several multi-billion dollar markets. By continuing to invest in further nutrient management technologies, Tidal Vision is well-positioned to continue its rapid expansion and capitalize on the vast potential of these markets. In 2023, the company plans to further demonstrate its effectiveness by reducing nitrogen use in US corn while also increasing yields. Tidal Vision's technology has also shown to be effective with other nutrients and crop protection chemistries as well.



Transforming Landfill Waste Into Precious Metals:

An Interview With pH7 Technologies' CEO Mohammad Doostmohammadi



Mohammad Doostmohammadi

pH7 Technologies CEO and founder Mohammad Doost has developed an advanced process to extract precious metals from landfills. In this exclusive interview, he tells us the story of pH7's cutting-edge technology, what inspired him to create it, and his plans for its future.

Pangaea: Tell us about pH7 – what does your company do?

Mohammad: pH7 Technologies specializes in the development of closed-loop processes that are both economically and environmentally sustainable for the extraction of critical metals. We focus on primary and secondary resources for the transition to renewable energy sources, such as platinum group metals, copper, tin, and other metals that are essential to support the green transition.

Materials that can't be recycled with current methodologies, or have low-grade deposits, are not necessarily economical to extract through traditional methods. Our goal is to extract and recover critical metals from these materials and prevent them from going to landfills, which can save millions of tons of metals from waste management.

Our green solvent extraction-based method combines biodegradable materials to create a system where more than 98-99% of the chemistry can be reused and recycled. Currently, our plant is operating at 2 tons per month for platinum group metals extraction and will scale up to 10 tons per month by the end of 2023.

Pangaea: You emigrated from Iran to British Columbia a few years ago and shortly thereafter started pH7. What made the region an attractive region for you to start this company?

Mohammad: The situation in Iran was getting complicated, both politically and economically, and I felt I couldn't stay there. I wanted to find a place that would bring peace to my life. I had never been to Canada before, but I had this beautiful image of Canada in mind and I love nature. That was the main reason I started to apply for immigration. The process took me six years. I chose BC specifically because of the nature, first of all, but then when I got here I realized there is a lot of opportunity for clean tech. I'd say Vancouver is going to be the Silicon Valley of clean tech soon. That's why I decided to stay here and build something that would combine my knowledge of mineral processing with the green technologies of BC.

Pangaea: What challenges have you faced as a new Canadian entrepreneur navigating a business environment and culture that is new to you?

Mohammad: To be honest, it wasn't easy. First of all, you need money. Especially in this industry. Cleantech and research and development (R&D) are not like software, where you just need a computer and can work from home. You have to have hands-on experience and an R&D lab. So the two main challenges I faced were raising money for my venture and finding a place for an R&D lab.

Fundraising was difficult, but I am very grateful to the government of Canada, which helped us a lot. We started out with the Industrial Research Assistance Program (IRAP) program, which covered 80% of our technician's salaries for the first year. From there, seed round investors were attracted to our program and provided us with the funds we needed to get off the ground.

Finding an R&D lab was also challenging, especially during COVID when we started, but we finally found one through Mitacs and Simon Fraser University (SFU). We hired a few postdocs and Ph.D. students from SFU, and they helped us out, too. We were also able to access a chemical lab, analytical equipment and other resources from the university that were useful for our R&D efforts. As well, we embraced a lean approach, which meant everyone on our team had to wear multiple hats and do tasks like cleaning the laboratory, washing dishes and vacuuming. This helped us stay cost-effective while we scaled up our process and raised money.

Pangaea: How did you approach relationship building with investors in an environment that was new to you?

Mohammad: Mentorship was a big part of the process. We were part of a number of programs, such as Creative Destruction Lab (CDL) and New Ventures BC, which helped us access mentors who could provide guidance and advice on how best to navigate the investment landscape.

Pangaea's Andrew Haughian was one such mentor who, over the course of four or five sessions, provided advice and guidance on our business and revenue models and helped to facilitate our introduction to TDK for a Series A investment.

In terms of relationship building, my secret is that I don't ask for money first. Instead, I begin by asking for trust. To gain someone's trust, it is essential to have a shared vision; to ensure our values are aligned and they understand the importance of what we are doing in terms of our impact on the environment.

This initial groundwork must be established before any investment conversations take place. After trust has been established and our vision is aligned, then we can discuss money.

Pangaea: Are there any specific decisions that you credit towards the success you have had so far with pH7?

Mohammad: Being fast. As fast as possible with our growth. I took a lot of risks in the early days. Big risks. There was one night when I had \$5,000 in my account and a \$50,000 payroll due the next day. Entrepreneurs know what that's like. I think my background in the Middle East prepared me for this. There's a lot of instability there and you never know what's going to happen. Even with all the risk-taking, I still always planned ahead. Sometimes I had to change my business model overnight, but I always had a plan. This was key to our success. Taking the time to think through decisions carefully allowed me to make the bold changes that led pH7 to where it is today. I also credit my success to building strong relationships with investors based on trust, shared values, and common goals. Money can be a great tool to help build businesses, but it should never be the only thing that drives you. Investors should also be partners in success and vision.

Pangaea: What's on the horizon for pH7 in 2023 and beyond?

Mohammad: Our main focus for 2023 is on commercializing our process, attracting more partners, and developing our copper process so that we can penetrate the copper mining industry as soon as possible. We also want to brand pH7 as a trusted partner for recyclers and mining companies around the world, who offer the best return of materials while preserving the environment.

Beyond 2023, we plan to hire as many talented professionals as possible, in order to create a sustainable business that is, hopefully, cash flow positive soon. We also have plans to expand internationally further and spread our brand message around the world.

Learn more about pH7's groundbreaking technology at:

ph7technologies.ca/

Notes on Impact methodology

Pangaea’s investment process includes a commitment to quantify and qualify the impact of the business’s activities. As detailed in our previous **Impact Reports**, Pangaea has developed an impact model that enables us to monitor and **measure impact** creation across industries. The United Nations Sustainable Development Goals were used as a framework for Pangaea to select a handful of simple and quantifiable metrics that are relevant to the wide number of technologies and markets within our investment scope.

2030 Impact Goals

Pangaea’s Impact Strategy

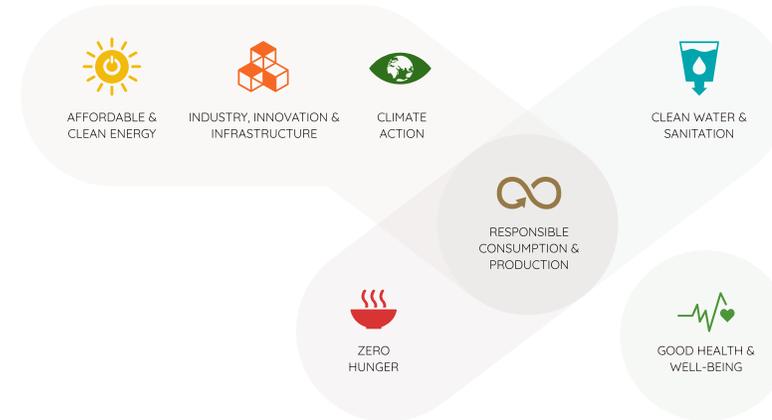


- less **CO₂**

Companies with technologies that reduce carbon-based energy consumption, improving energy efficiency or lowering embodied energy.

+ more **water**

Companies with technologies that reduce fresh water consumption or produce fresh water.



+ more **food**

Companies with technologies that increase food production using existing resources to provide more food to a growing population, while helping to preserve vital ecosystems.

+ more **lives impacted**

Companies with healthcare technologies that can have a significant impact on patient outcomes while also reducing healthcare costs.

From initial screening and through the due diligence process, Pangaea evaluates opportunity through an impact lens in order to gain insights into the magnitude of the problem being solved and the scalability of the solutions being developed. With the 2030 impact goals in mind, Pangaea’s deal analysis includes consideration of impact criteria that the technology must address in order to be approved for investment. The impact considerations are not meant to replace financial returns but to provide us with an holistic view of potential investment candidates.

Current Portfolio Companies

Company	Pangaea's Impact Target	SDGs	Focus
 AEP NYX	CO ₂ Reduction		Optical switching for high broadband, 5G, and data center
 Airborne	CO ₂ Reduction		Automated composite manufacturing
 Aspect	Lives Impacted		3D bioprinting of tissue for drug screening and regenerative medicine
 CALYSTA	Food Production & Water		Protein production using methane feedstock
 CARBON CURE	CO ₂ Reduction		Lower carbon concrete using a CO ₂ mineralization process
 CORRELIA	Lives Impacted		Developing protein measurement tools that are cost-efficient, rapid, and customizable
 ESS INC	CO ₂ Reduction & Water		Low-cost energy storage with iron-based battery
 hazel technologies inc	CO ₂ Reduction, Food Production & Water		Freshness preservation solution for produce and fresh proteins
 modulim	Lives Impacted		Imaging solution for diabetic foot ulcers and wound care
 NewLeaf	Food Production & Water		Microbial crop treatment for plant health and yield enhancement
 polySpectra	CO ₂ Reduction		functional photopolymer resins for advanced additive manufacturing
 PRIME ROOTS	CO ₂ Reduction, Food Production & Water		Plant-based meats based on Koji superfood protein
 pt7	CO ₂ Reduction & Water		Closed loop, low temperature process for critical metal extraction
 sun genomics	Lives Impacted		Microbiome analysis for precision probiotics
 Tidal Vision	CO ₂ Reduction, Food Production & Water		Chitosan based formulation for agriculture, water and textiles
 TruTag	Lives Impacted		Nanoparticles with unique signature for product safety and authentication
 VESTARON	Food Production & Water		Peptide based insecticides with performance equaling synthetics



WE ARE HARD TECH INVESTORS.
WE ARE IMPACT INVESTORS.

