# Impact Report 2021



## Introduction

At Evok Innovations (Evok) we challenge ourselves to look beyond the horizon to identify teams and technologies that will make a material impact on the climate crisis. As we prepared our first Impact Report, we identified this as a new opportunity to challenge ourselves, and our portfolio companies, in how we think about ESG within the start-up industry.

In the start-up sector, industry standards for Environmental, Social and Governance (ESG) reporting are still evolving, and a singular framework has not yet been adopted. We believe that in the coming years, there will be a uniform framework that addresses the nuance of ESG reporting for early-stage companies.

In the interim, we have developed our own ESG Survey, tailored to what we envision will be the norm in the years to come. In creating our survey, we studied the industry's leading frameworks and distilled them down into key metrics that are relevant to early-stage companies.

This Impact Report outlines our view on ESG through the lens of venture capital, our ESG outcomes at the fund level, and findings from our ESG Survey at the portfolio company level.

As a leader in the Canadian cleantech venture capital industry, we believe we have a role to play in helping to adopt ESG reporting standards. As Evok's first Impact Report, we expect that this will be the baseline for future improvements, and we are looking forward with optimism to what lies ahead in the industry.



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We acknowledge that indigenous peoples are the traditional guardians of our land and that we work and live on the unceded territories of the Musqueam, Squamish, and Tsleil-Waututh Nations.

We thank them for having cared for these lands and waters since time out of mind. We are committed to learn about our shared past while pursuing an inclusive and respectful path towards a better future.



## A note from our **Founding Partner**

Earlier this year, Evok was pleased to announce the launch of our second fund. When we first considered establishing a second fund, we took time to reflect on the learnings from our first.

It became apparent that we needed to find a way to better quantify the impacts of the companies we invest in, beyond their environmental impacts. We wanted to look beyond the "E" in ESG and take inventory of the Social and Governance aspects of our portfolio companies, with the goal of incorporating these learnings into the investment thesis for our second fund.

future.

We are grateful for the time and effort our portfolio companies put into completing the ESG Survey. We hope they will see the benefit of what we're trying to build here.

Marty Reed

In the coming years, we believe ESG reporting will be pivotal for later-stage financing within the start-up ecosystem, both in the private and public markets. Based on this, we wanted to start the conversation with our portfolio companies to ensure they are prepared for success and are setting the groundwork through policies and procedures to adhere to what we believe will be requirements for ESG reporting in the

Our Story

Evok Innovations is a world-leading venture capital firm with a mission to mitigate climate change by investing in, and supporting, exceptional entrepreneurs with bold visions and innovative technologies. Driven by a global momentum toward a net-zero future, Evok has established itself as a leader in industrial decarbonization, including next-generation sectors such as hydrogen and carbon capture.

Building on our legacy, Evok continues to accelerate the energy transition with our team of technologists, company builders, and investors. Evok currently has two funds under management.

Since our launch in 2016, Evok's \$100M CAD Fund I has invested in 15 companies, often participating in multiple follow-on rounds, with a focus on Seed and Series A investments. Portfolio companies in Fund I are located 50:50 across Canada and the US, and currently employ over 300 people. To date, Evok Fund I has completed five exits from its portfolio and has won multiple awards.

Launched in March 2022, Fund II is a \$300M USD fund focusing on Series A+ investments in North American companies that are addressing industrial decarbonization and the energy transition.

![](_page_4_Figure_6.jpeg)

evōk

## ARIX

Kelvin Quidnet Energy S V Z V G V P L A S M O N I C S

## Our **Investments**

At Evok, our investment thesis is driven by our mission of investing in exceptional entrepreneurs with bold visions and innovative technologies. As a fund, we look for teams and technologies within the six categories we believe will have the greatest impact on addressing climate change.

![](_page_5_Figure_3.jpeg)

## **Carbon Capture Utilization and Storage**

- Point source & direct air capture
- Carbon storage & sequestration
- Carbon utilization & end-market

![](_page_5_Picture_8.jpeg)

## Mobility

- Electrification & supporting infrastructure
- Enablement & optimization of fleets
- Vehicle, infrastructure, & grid connectivity

![](_page_5_Picture_13.jpeg)

## **Clean Fuels**

- Low carbon hydrogen (blue & green)
- Bio- and synthetic liquid fuels (aviation & marine)
- Ammonia & electrolyzer applications

![](_page_5_Picture_18.jpeg)

### Industrial Innovation

- Digital & process optimization technology
- Natural resource & mineral optimization
- Low carbon cement & steel technologies

![](_page_5_Picture_23.jpeg)

## **Clean Energy & Grid**

![](_page_5_Picture_28.jpeg)

## **Materials & Circularity**

• Clean, dispatchable, low-impact baseload • Long & ultra-long duration storage • Grid modernization & efficiency solutions

• Advanced manufacturing (3D, bio-, nano-) • Low-impact plastics & end-of-life solutions • Circular solutions: efficiency & processes

# Our Methodology

Based on an analysis of the ESG landscape, and consultation with industry leaders, we outlined the key verticals that we believe will have a foundational role in the ESG space, regardless of the future standards adopted. We asked our active portfolio companies to report on these key verticles, which we believe will be the baseline in the coming years.

Since we are now holding our portfolio companies to a high standard, it is also imperative that we lead by example. As part of our commitment to accountability and transparency, we have also included Evok's ESG results for 2021 at the fund level. We believe transparency is essential in the ESG space and for shaping the standards moving forward.

![](_page_6_Picture_4.jpeg)

## Environmental

Environmental reporting frameworks, whether as a result of operations or as a positive outcome of business focus, are still evolving in the venture capital sector. We wanted to ensure that we included how the industry currently measures impact, as well as what we believe will be the baseline moving forward.

We adopted the United Nations Sustainable Development Goals for current practices, and then looked to established frameworks' in other sectors and distilled down the key metrics and themes relative to the start-up sector.

![](_page_6_Picture_8.jpeg)

## Diversity, Equity, and Inclusion (DEI)

To measure DEI we utilized the Institutional Limited Partners Association's (ILPA) Diversity Metric template<sup>2,3</sup>. Within the coming years, we expect this framework to be widely accepted in our sector and become a staple of reporting standards.

## Governance

In the startup sector, good governance is essential, not only for success but for ensuring a healthy business culture as well. To ensure our portfolio companies have a solid foundation, we surveyed what policies are currently in place relating to DEI, code of ethics, HR practices, employee engagement, etc. Furthermore, we surveyed the ventures' oversight practices on ESG and climate-related programs and policies.

![](_page_6_Picture_16.jpeg)

<sup>1</sup> Carbon Disclosure Project, Task Force on Climate-Related Financial Disclosures, Global Reporting Initiative, Sustainability Accounting Standards Board 2 ILPA Diversity Metrics Template ilpa.org

<sup>3</sup> While collecting data from our portfolio companies ILPA and Business Development Bank of Canada (BDC) released a Canadian focused DEI framework. We have since reclassified our results to align with the Canadian framework.

## Our Footprint

Even though Evok has a small headcount, and a small environmental footprint in relation to its size, we wanted to be accountable and transparent about our environmental impact. We aim to lead by example, holding ourselves accountable to the same standards we require of our portfolio companies.

### **CO2** Emissions

As an organization, Evok is committed to tracking the CO2 that is generated from our own business operations (flights, transportation, etc.). Our business travel last year was significantly reduced due to the global pandemic. To better baseline CO2 emissions moving forward, we have included emissions for both 2021 and 2020 in this report.

## Traveling to the office

- On average, employees work from the office 60%, and 40% from home
- Two employees take the bus &/or walk
- One employee cycles
- One employee buys yearly offsets for his vehicle

## **Offset Policy**

To offset emissions from our business operations we've utilized Patch.io to source high quality, permanent and verified credits. This year we purchased 7 tonnes of credits from CarbonCure Technologies who inject captured CO2 into concrete for permanent sequestration.

## CO<sub>2</sub> Emissions

	2021	2020
Flights	6	26
Miles Flown	7,173	23,195
Tonnes of CO <sub>2</sub>	1.15	3.59
Ground Transportation		
Miles Driven	4,020	2,781
Tonnes of CO <sub>2</sub>	1.31	0.80
Total	2.46	4.39

Flight emission calculated via ICAO flight emissions tool.

Water Usage Due to their industrial nature, some of our portfolio companies track their water usage, however at Evok it is a negligible amount.

**Energy Usage** The energy mix in British Columbia is 87% Hydroelectric, 2.6% wind, 0.1% Solar, 5% biomass, 4% Natural Gas and 0.5% Petroleum<sup>5</sup>. Evok had a Vancouver office space of 1,700 square feet in 2021, which translated into little energy use and substantially less CO2 emissions based on the energy mix used.

![](_page_7_Figure_21.jpeg)

<sup>4</sup> ICAO flight emissions tool used to calculate emissions icao.int

<sup>5</sup> Canadian Energy Regulator, Provincial and Territorial Energy Profiles cer-rec.gc.ca/en

## Our **People**

#### Diversity, Equity and Inclusion

At Evok, we believe that to advance innovation, it takes diverse teams that can pull from a variety of experiences. To ensure diversity, equity, and inclusion are incorporated into the investment thesis, it must start at the fund level.

As part of the creation of our new fund, we wanted to build a team that better reflected the types of companies we want to invest in.

![](_page_8_Figure_5.jpeg)

3 White, 1 Racialized, Black or Person of Colour

7 White, 2 Racialized, Black or Person of Colour

![](_page_8_Picture_8.jpeg)

tone for what we expect from our team members, we look for in the companies we invest in, and what we expect from our current portfolio.

practices, Evok employed an external human current policies and procedures as well as a culture pulse check.

business ethics, bully and harassment, and DEI education pre-approval and reimbursement, ESG,

#### **Compensation Structure**

we pride ourselves in having industry-leading compensation packages:

## Our Governance

#### Human Resources

• Highly competitive salaries • Bonus pool open to all employees • Carry pool open to all employees Unlimited vacation days

![](_page_9_Picture_1.jpeg)

ARIX Technologies is an integrated robotics and data analytics company that delivers inspection services through innovative robotics platforms. ARIX develops, deploys and operates robots for pipe corrosion detection and management for the petrochemicals industry, and has a wide potential range of use cases across markets.

ARIX aims to lower costs, improve data quality, and improve customer safety. ARIX is dedicated to deploying their current fleet of robots to add immediate value while continuing to innovate to meet customer needs. Semi-autonomous robotic inspection technology that can notify industrial operators of GHG leakages.

## Technology Impact

Currently, energy infrastructure and pipelines are installed, inspected, maintained, and repaired through manual labour, which can result in costly and avoidable failures and leakages.

ARIX provides semi-autonomous robotic inspections, data presentation, and supporting analytics to improve the productivity and safety of pipes. ARIX's inspection technology provides the opportunity to detect and notify operators of GHG leakages, including methane, and hydrogen sulfide (H2S).

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![](_page_9_Picture_9.jpeg)

![](_page_9_Picture_10.jpeg)

![](_page_9_Picture_11.jpeg)

![](_page_9_Picture_12.jpeg)

#### Goal 3: Good Health and Well-Being

ARIX reduces petrochemical contamination in soil and water through preventative robotic inspections and corrosion analytics of pipes.

#### Goal 6: Clean Water and Sanitation

ARIX helps ensure reliable, quality drinking water for communities, through the inspection of water lines for corrosion and the prevention of leaks and outages.

![](_page_9_Picture_18.jpeg)

#### Goal 9: Industry, Innovation, & Infrastructure

In energy and utilities, ARIX ensures conduits and pipes are operating within the regulatory scope, with increased uptime and the least impact on the surrounding environment.

![](_page_9_Picture_21.jpeg)

#### Goal 15: Life on Land

ARIX is taking urgent and significant action to prevent petrochemical leaks in sensitive ecosystems by inspecting pipelines using robotics.

![](_page_10_Picture_1.jpeg)

Existing approaches to producing hydrogen are either emissions-intensive, in the case of steam methane reforming, or expensive in the case of electrolysis with renewable energy.

Ekona Power is creating a new solution to producing industrial scale hydrogen, that is both inexpensive and clean, by converting natural gas into hydrogen, clean power, and solid carbon that can be easily stored or used.

## 90% reduction in CO2 intensity compared to current methane to hydrogen production methods.

![](_page_10_Picture_5.jpeg)

Over 95% of the world's hydrogen is produced through 10 kg of CO2 per 1 kg of hydrogen in process emissions.

Ekona leverages their novel pulse methane pyrolysis (PMP) process to produce hydrogen with 1/10<sup>th</sup> the GHG emissions (i.e., <1 kg of CO2 per 1 kg of hydrogen).

Currently, Ekona is demonstrating their technology on a pilot scale (200 kg/day) but plan to scale to a 1 tonne per day (TPD) deployment to displace the production and associated process emissions of SMR.

large industrial sectors.

![](_page_10_Picture_9.jpeg)

![](_page_10_Picture_10.jpeg)

![](_page_10_Picture_11.jpeg)

![](_page_10_Picture_13.jpeg)

## Technology Impact

Goal 7: Affordable and Clean Energy Ekona's methane pyrolysis platform will generate clean, low-cost hydrogen for decarbonizing

![](_page_10_Picture_17.jpeg)

Goal 8: Decent Work and Economic Growth Diversifying and innovating towards a hydrogen economy to help preserve Canada's role in energy export markets, build economic value, and create jobs for Canadians.

![](_page_10_Picture_19.jpeg)

Goal 9: Industry, Innovation, and Infrastructure The use of existing natural gas assets to deliver low-cost, decarbonized energy is key to a resilient industry and infrastructure.

![](_page_11_Picture_1.jpeg)

Expeto Wireless is maximizing control of Industrial Internet of Things (IIoT) devices with transformative connectivity solutions for enterprises.

Inspired to make IIoT connectivity simple, agile and secure, Expeto has an experienced team of wireless, telecom and cloud technology leaders who are creating a new IIoT customer experience with a patent-pending technology platform.

## Connectivity solutions used by industrial customers to achieve climate goals.

expeto

## Technology Impact

Expeto's technology is a IIoT platform which large industrials, such as utilities, automotive manufactures, and wildfire response teams are building upon to assist with climate targets.

In the utilities space, Expeto's solutions are being utilized by Portland General Electric for its operations connectivity, and is integral to their planned increase in despatching clean energy to hit their GHG reduction targets of at least 80% by 2030, 90% by 2035 and zero emissions by 2040.

In the automotive sector, Expeto is enabling the connected car platform for the third largest automotive company in the world, enabling smarter EV routing and smarter charging to use less energy.

![](_page_11_Picture_9.jpeg)

![](_page_11_Picture_10.jpeg)

3

**Goal 9: Industry, Innovation, and Infrastructure** For industries and organizations moving towards IIoT applications, Expeto provides platform technologies that optimize performance and reliability.

**Goal 12: Responsible Consumption & Production** Expeto's solutions enable smarter manufacturing,

which leads to greater efficiency and less impact.

![](_page_12_Picture_1.jpeg)

Kelvin provides an integrated software platform for deploying powerful new application-based automation workflows across existing control systems.

Kelvin's Intelligent Control Software (KICS) provides an endto-end workflow for teams to connect, create and manage supervisory control applications at scale.

## Annual CO2e reduction of 0.08-0.10 tonnes per well.

## Technology Impact

The two most significant benefits of Kelvin's technology are increased monitoring capabilities to identify and prevent accidents, leaks and spills and increased operational efficiencies which drive down resource consumption and emissions.

Currently Kelvin can reduce 0.08 -0.10 tonnes of CO2e per well per year it's deployed at. At large-scale deployment Kelvin anticipates it can save clients millions, while simultaneously driving emissions down 20-30%.

![](_page_12_Picture_8.jpeg)

![](_page_12_Picture_10.jpeg)

**Goal 9: Industry, Innovation, and Infrastructure** With Kelvin, companies can better ingest data from industrial assets, enabling a new level of intelligent control that is key to building sustainable and resilient operations.

![](_page_12_Picture_12.jpeg)

Goal 12: Responsible Consumption & Production

Kelvin allows for more efficient and sustainable operation of industrial sites, reducing spills and leaks to benefit human health and the environment.

![](_page_13_Picture_1.jpeg)

Mosaic Materials is dedicated to reducing the costs and environmental impact of fossil fuels. Mosaic utilizes proprietary metal-organic frameworks, first developed at the University of California, Berkeley, to selectively remove impurities, such as CO2, from gas mixtures.

Mosaic has developed a highly tunable platform, which via a novel adsorption mechanism, can be optimized to significantly improve the performance and cost of CO2 removal for a range of applications and scales, from life support systems on submarines, to the emissions of power plants.

## 35% reduction in energy and 60% less heat loss per unit of CO2 captured.

Relative to leading technologies in the space, Mosaic's sorbent technology was developed to operate at lower temperatures and pressures resulting in a process with 35% lower energy requirements and 60% less heat loss per unit of CO2 captured.

The resulting reduction in cost for CO2 capture provides a pathway from the current one-tonne-per-year scale to future large-scale deployments with an ambitious goal of capturing 10% of global CO2 emissions.

![](_page_13_Picture_8.jpeg)

## Technology Impact

![](_page_13_Picture_11.jpeg)

#### Goal 7: Affordable and Clean Energy

Mosaic's sorbent will dramatically reduce the cost of direct air capture for regions where low carbon energy production is not possible.

![](_page_13_Picture_14.jpeg)

#### Goal 9: Industry, Innovation, and Infrastructure Using their CO2 sorbent in industrial chemical separations and biogas upgrading, Mosaic develops quality, reliable, sustainable, and resilient infrastructure globally.

![](_page_13_Picture_16.jpeg)

#### Goal 14: Life below Water

Capturing CO2 from the atmosphere minimizes ocean acidification, protecting marine and coastal ecosystems.

![](_page_14_Picture_1.jpeg)

Osperity helps industrial companies mitigate operational cost and risks through intelligent visual monitoring.

With Osperity's platform, clients are able to increase productivity through virtual asset inspections, improve health, safety and environmental (HSE) outcomes with safety monitoring and leak detection, while strengthen security through proactive activity detection and alerting.

## Target a minimum of 50% reduction of truck rolls to industrial sites.

## Technology Impact

Osperity's AI visual monitoring system focuses on decreasing environmental impact from operations by decreasing truck rolls to remote sites, as well as being a platform technology for solutions that detect, alert and quantify methane and fugitive emissions.

![](_page_14_Picture_8.jpeg)

## **OSPERITY**

Intelligent Visual Monitoring FOR INDUSTRIAL APPLICATONS

At scale, Osperity is targeting a reduction in trucks rolls to sites by a minimum of 50%, which in industrial settings can translate to significant annual CO2 reductions.

> Goal 9: Industry, Innovation and Infrastructure Osperity's platform increases operational efficiency, safety, and security of remote sites. Their continuous monitoring services can extend asset lifetimes, increasing the sustainability of industrial sites.

Goal 12: Responsible Consumption & Production Continuous monitoring can decrease the likelihood of critical failures and leaks such as methane, while also reducing in person visits to industrial sites decreasing the impact from operations.

![](_page_15_Picture_1.jpeg)

Quidnet Energy operates at the nexus of energy and water to provide ultra low-cost, grid-scale electricity storage. The company leverages mature oil and gas technology to develop wells into energy storage facilities for largescale renewables integration and grid management.

These facilities are terrain-independent and deployable across a broad geographical range in 5 MW to 30 MW modules. Geomechanical Pumped Storage (GPS) technology is reliably built on well-established industries and more cost-effective per MW than even gas peaking plants.

## Current deployment targeting avoidance of 150,000 tonnes of CO2.

## Technology Impact

Quidnet's Geomechanical Pump Storage facilitates increased wind and solar penetration to replace fossil fueled peaking generation, allowing for significant reduction in greenhouse gas emissions.

A recently announced project with CPS Energy, of San Antonio, has the potential to avoid at least 150,000 tonnes of CO2 emissions over the life of the project. A recent industry report<sup>7</sup> estimates 1.5 – 2.5 TW of deployment of long-duration technologies like Quidnet's by 2040, resulting in the reduction of 1.5-2.3 gt of CO2 equivalent per year. This translates to approximately 900 – 1,000 kt per GW per year.

![](_page_15_Picture_8.jpeg)

7 McKins

![](_page_15_Picture_11.jpeg)

#### Goal 7: Affordable and Clean Energy

Quidnet's GPS is a long-term energy storage solution that is low-cost, reliable, and sustainable.

![](_page_15_Picture_14.jpeg)

#### Goal 8: Decent Work and Economic Growth

By using Quidnet's technology, the existing oil and gas workforce, supply chain, and infrastructure can be repurposed for low-carbon markets.

![](_page_15_Picture_17.jpeg)

**Goal 9: Industry, Innovation and Infrastructure** By allowing renewable energy storage at times of peak demand, GPS from Quidnet promotes grid infrastructure resiliency, directly promoting sustainability.

ey Report mckinsey.com/business-functions/sustainability

![](_page_16_Picture_1.jpeg)

Rotoliptic Technologies has developed a revolutionary method to move high viscosity fluids with high solids content.

Its patented positive displacement pump design dramatically improves fluid transfer efficiency and pump durability, resulting in increased productivity, reduced downtime and lower total cost of ownership.

## Reduces annual CO2 emissions by 77 tonnes per deployment.

## Technology Impact

Pumps account for 10% of the world's energy consumption, owing to their ubiquitous use in power generation, waste disposal, and manufacturing. Rotoliptic is developing an electronic submersible pump (ESP) with a 25% efficiency improvement, or 77 tonne reduction, in annual CO2 emissions.

Over the next ten years, Rotoliptic projects cumulative GHG reductions of 6,708 kt CO2e, equivalent to removing > 145,000 cars from the roads over that full 10-year period.

![](_page_16_Picture_8.jpeg)

![](_page_16_Picture_9.jpeg)

**Goal 9: Industry, Innovation and Infrastructure** Rotoliptic's pump ensures quality, reliable, sustainable, and resilient infrastructure in the energy sector while increasing efficiency 25% relative to incumbent technology.

![](_page_17_Picture_1.jpeg)

Sanctuary AI is on a mission to create the world's first human-like intelligence in general-purpose robots, which will help us work more safely, efficiently, and sustainably.

And, in the not-too-distant future, help us explore, settle, and prosper in outer space.

**General-purpose** robots reducing human exposure to hazardous industrial tasks.

![](_page_17_Picture_5.jpeg)

Through the use of remotely piloted generalpurpose robots, Sanctuary is aiming to decrease emissions from operations, reduce human exposure to hazardous tasks, and address the growing labour shortages. At scale, Sanctuary will be able to reduce emissions from operations by transitioning to synthetic workforces that remove humans from onsite hazardous tasks.

Additionally, with the ability to pilot their generalpurpose robots remotely, it will open new labour pools to work in numerous fields where geography or physical capabilities would have been constraints previously, helping address the growing labour shortage.

![](_page_17_Picture_8.jpeg)

## Technology Impact

![](_page_17_Picture_11.jpeg)

#### Goal 3: Good Health and Well-being

Using general-purpose robots to assume hazardous tasks, Sanctuary aims to reduce the number of deaths and illnesses caused by hazardous work tasks.

![](_page_17_Picture_14.jpeg)

#### Goal 8: Decent Work and Economic Growth

By developing and deploying their generalpurpose robots to labour intensive, dangerous, and dirty jobs, Sanctuary seeks to achieve higher levels of economic productivity.

![](_page_17_Picture_17.jpeg)

#### Goal 12: Responsible Consumption & Production Implementing a synthetic workforce can significantly reduce energy consumption from Sanctuary's hybrid AI training approach, and GHG emissions caused by a human workforce.

![](_page_18_Picture_1.jpeg)

SensorUp has developed a single location intelligence platform that aggregates infinite sources of data into a common operating picture for complex operations of industries, such as oil and gas, logistics, public safety and the military.

Operations teams can make just-in-time critical decisions, automate efficiencies, and achieve global visibility of assets and people.

**Platform technology** with a long-term target of 13.5 million tonnes CO2 reduction in methane emissions.

![](_page_18_Picture_5.jpeg)

Their technology allows for the orchestration of these technologies and service providers on a continuous basis.

At scale, SensorUp believes that they can drive a sustained 45% reduction in methane emissions with a 50% market penetration in the Canadian and Oil

![](_page_18_Picture_9.jpeg)

![](_page_18_Picture_10.jpeg)

## Technology Impact

Goal 8: Decent Work and Economic Growth

With SensorUp, field staff are informed and more productive with the right tools and information. Offering just-in-time field coordination and improving safety can improve employee performance and economic productivity.

**Goal 12: Responsible Consumption & Production** SensorUp reduces the average time needed to repair fugitive emissions within natural gas assets. Reducing upstream leakage means lowering GHG emissions for more responsible production.

![](_page_19_Picture_1.jpeg)

Syzygy Plasmonics develops chemical reactors with both lower cost and lower environmental impact than current approaches. The unique Antenna-Reactor nanoparticle system turns traditional catalysts into high-efficiency photocatalysts. It utilizes light to perform high-volume chemical reactions at lower costs than are possible today.

Syzygy will enter the market with a low-cost, low-emission hydrogen production system and build on this success to create reactors for other commodity chemicals including ethylene, ammonia, and methanol. Photocatalytic process for hydrogen production reduces emissions by 40% relative to incumbent.

## Technology Impact

Syzygy seeks to replace thermal catalysts which require high-grade industrial heat and fossil fuel combustion with a photocatalytic reactor and catalyst platform powered by renewable electricity sources. Their photocatalytic process for hydrogen generation reduces emissions by 40% relative to incumbent technologies.

Additionally, as Syzygy expands the application of their reactor to net-zero methanol production, they anticipate consumption of 0.34 kg CO2 per kg of methanol produced.

![](_page_19_Picture_8.jpeg)

![](_page_19_Picture_10.jpeg)

#### **Goal 7: Affordable and Clean Energy** Syzygy's photocatalytic reactor and catalyst

platform reduces emissions in the production of hydrogen and ammonia and will be using CO2 for methanol production.

![](_page_19_Picture_13.jpeg)

#### Goal 9: Industry, Innovation and Infrastructure

Syzygy's technology is replacing processes that require high carbon industrial heat allowing for production of commodity chemicals with reduced combustion emissions.

![](_page_19_Picture_16.jpeg)

#### Goal 11: Sustainable Cities and Communities

Cleaner, lower-cost hydrogen production for transportation and industrial processes will reduce the adverse environmental impact of cities, and improve air quality in communities close to industries and transportation hubs.

## -twelve

Twelve (formerly Opus 12) is a carbon transformation company that makes essential products from air, not oil.

Their novel technology eliminates emissions by transforming CO2 into critical chemicals, materials and fuels that are currently made from fossil fuels. They are reinventing what it means to be a chemical company, on a mission to create a climate-positive world and a fossilfree future through the power of electrochemistry.

## Goal of converting 35 million tonnes of CO2 by 2030.

## Technology Impact

The main environmental benefit from Twelve's technology is CO2 transformation into useful products and creating economic incentive to reduce CO2 emissions from industrial sources.

At full theoretical deployment in transportation and industrial manufacturing sectors, their technology could address 2-3 gt of CO2 emissions per year or nearly 10% of energy-related emissions.

This number is calculated by assuming 100% renewable electricity powering their technology, and from determining the carbon required to replace the global demand for the petrochemicals (1 gt CO2), aviation fuel (1 gt CO2), diesel for some shipping and very longhaul trucking (0.5 gt CO2) that Twelve is capable of producing.

![](_page_20_Picture_9.jpeg)

#### Goal 7: Affordable and Clean Energy

Twelve's process relies on the use of clean electricity to efficiently produce carbon-neutral energy sources such as ethanol.

#### Goal 8: Decent Work and Economic Growth

Twelve will contribute to decoupling economic growth from environmental degradation through resource-efficient production of fuels.

**Goal 9: Industry, Innovation and Infrastructure** Twelve's future manufacturing locations will include significant industrial infrastructure and application of their clean and environmentallysound technologies will promote sustainable industrialization.

![](_page_21_Picture_1.jpeg)

VEERUM has developed an asset visualization platform that can be up and running in 48 hours. It integrates asset data from survey data capture, engineering design systems, original equipment manufacturers, and document management systems.

Digitally verified information is available in near-real time for data driven decision making. Users access verified asset data from a secure cloud-based web platform, enabling data management across the entire asset lifecycle. Asset stakeholders can view aggregated asset data in the context of a 3D model. All information is available for total audit history of the asset. 50% reduction in on-site hours and 15x productivity improvements for industrial users.

## Technology Impact

Current asset visualization platforms suffer from information separation and siloing, and do not achieve the level of integration demonstrated by VEERUM's digital twin technology.

The greatest environmental benefits from VEERUM's technology are increases in operational efficiencies, reductions in on-site hours, and increased monitoring to reduce accidents as well as leaks that would have negative environmental impacts.

![](_page_21_Picture_8.jpeg)

![](_page_21_Picture_10.jpeg)

#### Goal 8: Decent Work and Economic Growth:

When integrating digital twin technology into workflows, VEERUM customers have reported productivity enhancements of up to 15x through diversification, technological upgrading, and innovation in labour-intensive industries.

![](_page_21_Picture_13.jpeg)

#### **Goal 9: Industry, Innovation and Infrastructure** VEERUM's technology enables industrial sites to be better managed, monitored, and innovated by using accurate digital twins, while at the same time integrating siloed data and information

into one platform.

![](_page_21_Picture_16.jpeg)

#### **Goal 12: Responsible Consumption & Production** VEERUM's digital twin tool reduces on-site hours by up to 50%, resulting in lower downstream consumption of fuel for transit (on-site, to-site and fly-in, fly-out workers).

# Summary of **Results**

Since Evok Fund II launched in March of 2022, the following results represent companies that were funded through Fund I. These companies were Series Seed and Series A stages, with employee head counts ranging from 6 to 135.

Being that our portfolio companies are in different stages of growth, their ability to provide data for this ESG Survey varied. Based on our sample size, we still believe there are valuable lessons to be learned.

#### Survey highlights:

- 100% response rate
- 77% ESG Survey completed by portfolio company C-suite members
- 0 reporting in any ESG framework
- 0 reporting in another investors ESG Survey

#### Measuring our Environmental Goals

United Nations Sustainable Development Goals (UN SDGs) are a staple in the industry for reporting impact. In aggregate, our ventures have selected goals that we believe are foundational pillars in addressing climate change.

![](_page_22_Figure_11.jpeg)

## Summary of **Results**

#### **Our Footprint**

Since Evok's portfolio companies are in the early stages, tracking the environmental impact of their operations will become more important and more impactful as they grow.

We wanted to check in on our ventures to see how they were progressing and to start talking about how to best approach tracking in the future.

We are impressed to see that some of our respondents are already tracking, and many have plans to track in the near future.

![](_page_23_Figure_6.jpeg)

![](_page_23_Figure_8.jpeg)

# Summary of **Results**

#### Measuring Diversity, Equity, and Inclusion (DEI)

We adopted the Institutional Limited Partner Associations (ILPA) framework to measure DEI for our portfolio companies. As we reviewed our results, we note that we still need to improve the diversity in our portfolio companies' C-suites and boards. We have addressed this shortcoming by integrating DEI reviews into our Fund II investment due diligence process.

#### **Governance Oversight**

We gathered governance information for our portfolio companies by taking inventory of both their policies and procedures as well as their oversight practices.

It was interesting to find that for ESG-related policies, the C-suite was most active in oversight, and for climaterelated policies, the Board was most active in oversight.

![](_page_24_Figure_7.jpeg)

## Conclusion

In developing our ESG program over the last year, our team has gained valuable insight, not just from industry leaders, but also from our portfolio companies.

These learnings will guide our next Impact Report, as well as inform and reshape our investment lens. We would like to thank all of our portfolio companies for taking part in our first Impact Report, as well as our limited partners who assisted with developing our program.

During the next year, we will continue the conversation as we work towards version two.

If you have questions about this report, please email **info@evokinnovations.com** 

![](_page_25_Picture_6.jpeg)

![](_page_25_Picture_8.jpeg)

![](_page_26_Picture_0.jpeg)

![](_page_26_Picture_2.jpeg)

![](_page_26_Picture_3.jpeg)