



“**NGIF Capital** is One of
the Canadian VCs
Breaking New Ground”

- *Canadian Venture Capital & Private Equity Association (CVCA)*

Cleantech Ventures Fund I

PERFORMANCE REPORT 2023

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Message from the Managing Partner

NGIF Capital partners with the most innovative companies in the world, operating at the forefront of the energy evolution.

Despite a challenging venture capital environment in 2023, we witnessed continued interest in cleantech investing in Canada. This sector is on pace for a record-setting year. New and exciting companies continued to bring the next generation of emissions reduction technologies to market, and government policies such as the Clean Technology Investment Tax Credit incentivized investors to deploy capital. Additionally, Canada's announcement at COP 28 of new targets for methane emissions highlights the need for the next generation of emissions reduction technologies to come to market to meet these government targets.

At NGIF Capital, we are positioned to build on this momentum. We launched Cleantech Ventures Fund I, the world's first venture capital fund focused on natural gas and the low-cost production of hydrogen and renewable natural gas. Our vertically focused fund invests in solutions to increase the economic and environmental performance of natural gas. We invest in diverse teams with solutions to reduce CH₄ intensity, CO₂ intensity, and even freshwater use in natural gas production. While our fund is on its 3rd year anniversary in April 2024, our strategy is already yielding results. Our portfolio companies are scaling with markup on their growth, our pre-commercial startups are seeing product development trials with our investors, and our later-stage companies are getting orders from those same investors. We are also starting to quantify

A low-angle, upward-looking photograph of several modern skyscrapers with glass facades, set against a bright blue sky with light, wispy clouds. The buildings are arranged in a way that creates a sense of height and scale, with lines converging towards the top of the frame.

material environmental benefits across our portfolio.

Moreover, we have seen that many of our fund investors publish Environmental, Social, and Governance (ESG) reports each year. With the rising market and regulatory demand for ESG compliance, strategic and institutional investors are under increasing pressure to track and report on ESG performance. In Canada, we have already seen institutional investors requiring ESG disclosures, as there has been an uptick in the number of Canadian LPs asking general partners to report against the ESG Data Convergence Initiative (EDCI).

With this in mind, NGIF Capital is working with an organization specializing in regulation and metrics disclosure to support regulatory reporting needs for portfolio companies to create an ESG strategy. These ESG metrics of our portfolio companies will be reflected in our 2023 Cleantech Ventures Performance Report.

John Adams
Managing Partner, Cleantech Ventures

The NGIF Capital Story

NGIF Capital, a subsidiary of CGA Enterprises, is a venture capital firm offering equity financing for cleantech startups with environmental performance solutions for natural gas and low-cost production of other gas fuels like renewable natural gas and hydrogen. NGIF Capital is unique as it brings Canada's energy industry leadership to every investment. NGIF Capital and its subsidiary organization, NGIF Accelerator, work together to compress the time it takes for startups to bring their ideas from concept to commercialization. NGIF Capital operates Cleantech Ventures Fund I.

NGIF Capital has offices in Calgary, Ottawa, and Montreal, and it has a team with a proven track record of gaining access to industry and winning allocation in highly competitive deals.

We are recognized as investors with deep technical, business, and market due diligence, leveraging resources gained from operating our startup accelerator and our investors.

We scout for and invest in the next generation of breakthrough clean technologies for the energy sector by understanding our investors' priorities, market fluctuations, and founder capacities to make successful investments.

Our Cleantech Ventures Fund I continues to be represented in the 3% of the 150 climate tech/cleantech funds launched in North America in the last six years that will expand the market share of cleaner fossil fuels. We have no shortage of cleantech deal flow coming to our fund- about a third from Canada, a third from the US, and a third from international countries.

We continue to see a concentration of opportunities in Methane (CH₄) and Carbon Capture, Utilization, and Storage (CCUS). In order to accelerate the release of technological solutions onto the market, our team offers direction and assistance. This is frequently accomplished by working with our investors on pilot projects that validate and expedite the development of their innovations. One of the value propositions we bring with our investment is a pool of customers in our fund. Our team provides guidance and support to accelerate the delivery of technology solutions to the market. Often, this is done through pilot projects with our investors to validate technologies and accelerate the development of these technologies. We have already seen pilot projects and commercial contracts initiated by our fund's portfolio companies with our investors.

Building on the success of Cleantech Ventures Fund I, NGIF Capital is now developing a Fund II opportunity that will focus on emissions reduction technologies that will accelerate the timeline for operators to reach regulatory compliance measures in place by the government.

The background of the page is a bright, high-key photograph of a diverse group of professionals at a construction site. In the foreground, a man in a grey work shirt and white hard hat is kneeling on a concrete surface, looking at a tablet. Behind him, several other people, including women in blue hard hats and men in white hard hats and suits, are smiling and looking towards the camera. The scene is brightly lit, suggesting an outdoor setting with large windows or an open area.

Cleantech Ventures Fund I

Meet our People: Investment Team

We are a diverse team of dedicated, seasoned venture capital investment professionals aligned in values and intent.

Our team brings expertise in cleantech, industry, legal, industrial operations, company building, finance, and investment banking to scale a portfolio of high-impact, diversified companies.

We use this expertise to build and grow our relationships with our investors, our portfolio companies, and our network of founders.



John Adams

Managing Partner

Experience: 30 years of experience in cleantech, management, venture capital, and finance. John is a board member at Clean Resource Innovation Network (CRIN) and Tidewater Renewables (TSX: LCFS).

Education: B.Sc. Environmental Science (University of Toronto), Venture Capital Executive Education Program (University of California, Berkeley), ICD. D certification (in progress).



Akhil Abat

Partner

Experience: 15 years of experience in gas plant operations, venture capital, and strategic innovation. Akhil is a board member/observer on several Cleantech Ventures portfolio companies.

Education: B.Tech. Chemical Engineering (Kurukshetra University), MBA (Cornell University).



Abdul Qadir

Director, Finance

Experience: 18 years of experience in audit, financial controls, and risk management at KPMG, EY, TRG, and Jazz. Abdul is also a member of CFO Committee of the Canadian Venture Capital & Private Equity Association.

Education: B.Sc. Accounting (Oxford Brookes University), M. Commerce (HEC Pakistan), Chartered Professional Accountant, and Associate Chartered Certified Accountant (UK).



Michael Hebert

Principal

Experience: 12 years of energy capital markets experience, including equity research, investment banking, family office, and venture capital. Michael is the former Executive Director of the Venture Capital Association of Alberta.

Education: B.Mgmt. Finance (UBC), M.Sc. Energy, Trade, & Finance (Bayes Business School), Chartered Financial Analyst.



Isaac da Silva Aboo

Principal

Experience: 8 years of experience, including corporate law in the Emerging and High Growth Companies group at Osler, Hoskin & Harcourt LLP, venture capital investing and holding board observer seats on several Cleantech Ventures portfolio companies.

Education: B.Mgmt. (Dalhousie University), JD (University of Ottawa).

Cleantech Categories

We invest in clean technologies that can improve all areas of environmental performance, including Greenhouse Gas (GHG) emissions, air, water, and soil. For example, this can look like lowering CH₄ and CO₂ emissions, reducing criteria air contaminants, reducing freshwater use, and lowering land disturbance. More specifically, we have broken down clean technology solutions into ten categories.



Energy Efficiency



Heat and Power Generation



Low Emissions Transport



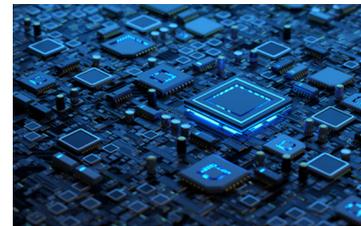
Hydrogen



Renewable Natural Gas



Water Management



Digital Transformation



Value-Added Products

Detecting and mitigating methane emissions has the potential to drastically reduce the GHG footprint of the entire natural gas value chain.



Methane Mitigation



Carbon Capture, Utilization and Storage

CCUS is a critical technology to reduce emissions in hard to decarbonize industries, while providing economic prosperity and improved environmental performance.

Recognition

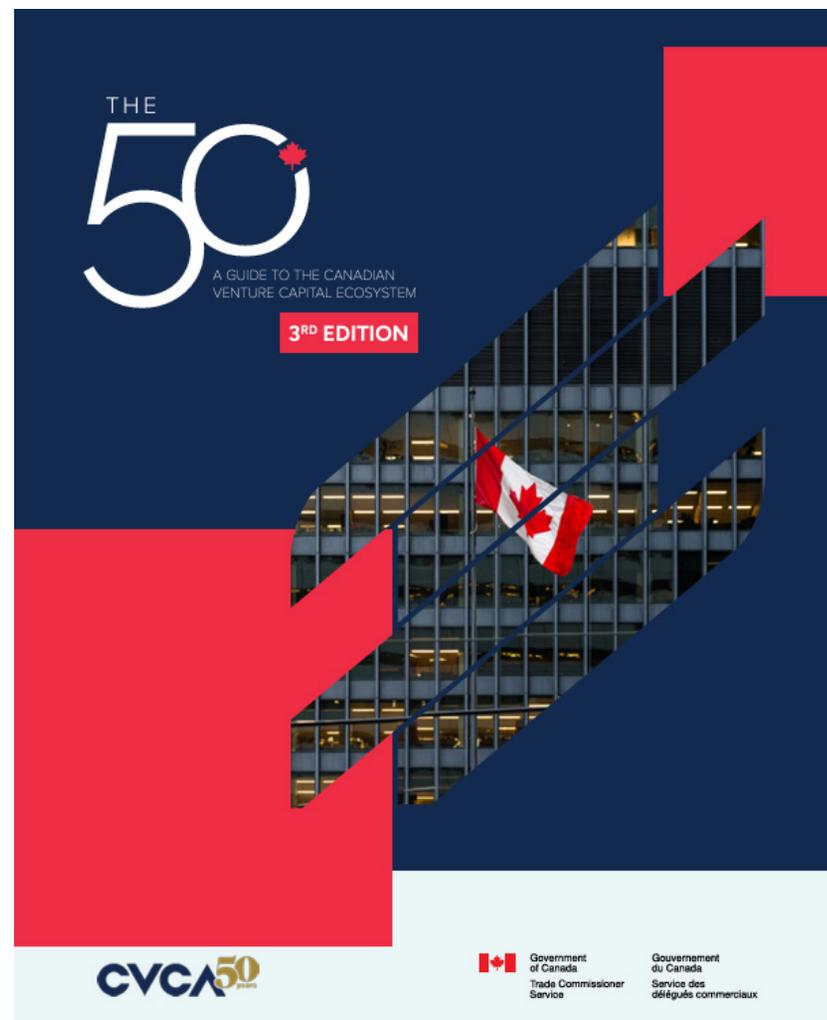
CANADIAN VC BREAKING NEW GROUND

“

Canadian venture capital is witnessing the rise of several prominent players who are swiftly gaining recognition through innovative strategies and the pursuit of fresh opportunities.

These dynamic fund managers stand out for their adaptability in navigating the rapidly evolving Canadian market. They exhibit a keen awareness of shifting dynamics across various sectors, such as technology, renewable energy, and healthcare, strategically aligning their investments with these emerging trends.

Canadian Venture Capital & Private Equity Association (CVCA)



CVCA names NGIF Capital as a Canadian VC breaking new ground.

A group of five diverse construction professionals wearing hard hats and work clothes, gathered around a laptop on a construction site. They are smiling and looking at the screen, suggesting a collaborative work environment.

ESG Impact

Overview

With the rising market and regulatory demand for ESG data, investors are under increasing pressure to track and report on ESG performance. The Sustainable Finance Disclosures Regulation (SFDR) and Corporate Sustainability Reporting Directive (CSRD) in Europe, Senate Bills 54 and 253 in California, the UN’s Task Force on Climate-Related Financial Disclosures (TCFD), and the International Financial Reporting Standards (IFRS)’s International Sustainability Standards Board (ISSB) are among the private market regulations that investors are preparing for disclosure against.

In Canada, the Business Development Bank of Canada (BDC) has ESG and Diversity, Equity, and Inclusion (DEI) disclosure templates that it requires investors to report on annually, and there has been an uptick in the number of Canadian LPs asking their General Partners to report against the EDCI.

We have introduced a dashboard in our 2023 Cleantech Ventures Performance Report and will continue to build on this version to track our portfolio companies’ ESG metrics.



Overview

Our 2023 Performance Report provides an overview of our portfolio companies' ESG practices, framed by specific metrics.

ENVIRONMENT

Using company-based GHG accounting, our analysis is rooted in quantifying how much a startup will reduce GHG emissions over time. This year, we have also started tracking the total volume of our portfolio companies' Scope 1, Scope 2, and Scope 3 emissions. This data, together with information on reduction targets and energy consumption, helps to gauge the effectiveness of initiatives to improve energy efficiency and operational impact.

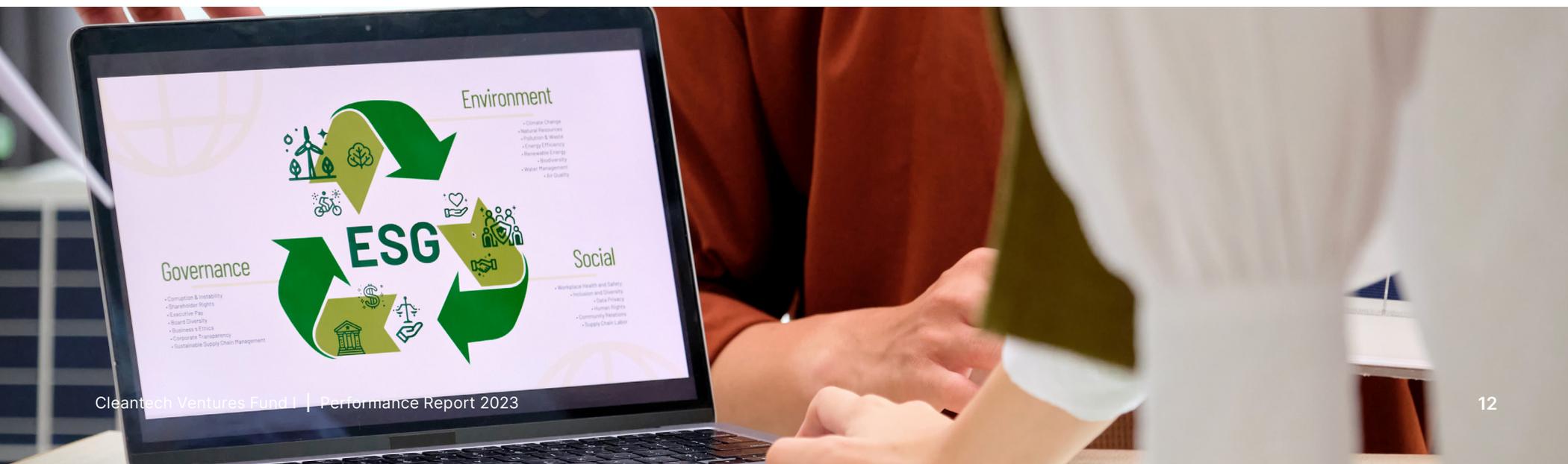
SOCIAL

The social dimension of our ESG framework examines workforce composition and engagement within our portfolio companies. By

accounting for the number of full-time equivalent employees and monitoring diversity, we assess inclusivity and growth trends. Feedback survey response rates provide additional context on employee satisfaction and organizational culture. Finally, our attention to data privacy and cybersecurity is underpinned by inquiries into policy adoption and compliance with established regulations such as SOC 2 and the EU's GDPR.

GOVERNANCE

Governance within our portfolio companies is analyzed through the lens of board and executive diversity, policy enforcement, and risk management. We assess the composition of the board of directors, noting the balance of independence and diversity. The evaluation extends to D&O insurance adequacy and the presence of a formalized ESG policy. Finally, impact assessments uncover how our companies identify and navigate political, supplier, and human rights risks across their operations and supply chains.



Results

We are pleased to present the following insights gained from data we collected from our portfolio companies over the course of 2023. To provide anonymity to our ventures, the responses have been aggregated at the portfolio level. This data set represents the eleven companies that were within the Fund I portfolio at YE 2023. Our portfolio companies range in size from pre-commercial stage startups with three FTEs to more mature large-scale enterprises.

The commonality among them is a technology solution with the potential to drastically improve the environmental performance of the natural gas value chain. Given the diversity in our portfolio, it is difficult to standardize metrics to measure impact across fundamentally different solutions. However, our team has synthesized the data we collected and extracted out key findings to highlight the most meaningful data points across the portfolio.

ENVIRONMENT

9%

HAVE A GHG
EMISSIONS
TARGET

18%

HAVE AN ESG
POLICY

18%

HAVE ENERGY
EFFICIENCY
INITIATIVES



ANGIF

€000



1.2E4
8.354
2.554
51.503-
21.88E,25
20.421-
84.44E,51

▲ %22.8+

▲ %33.51+

Lower
connect
bomau
reolob
ev minim

%88

%30

%23

%29

▲ %42.5+

▼ %2.131-

▲ %22.1+

Results

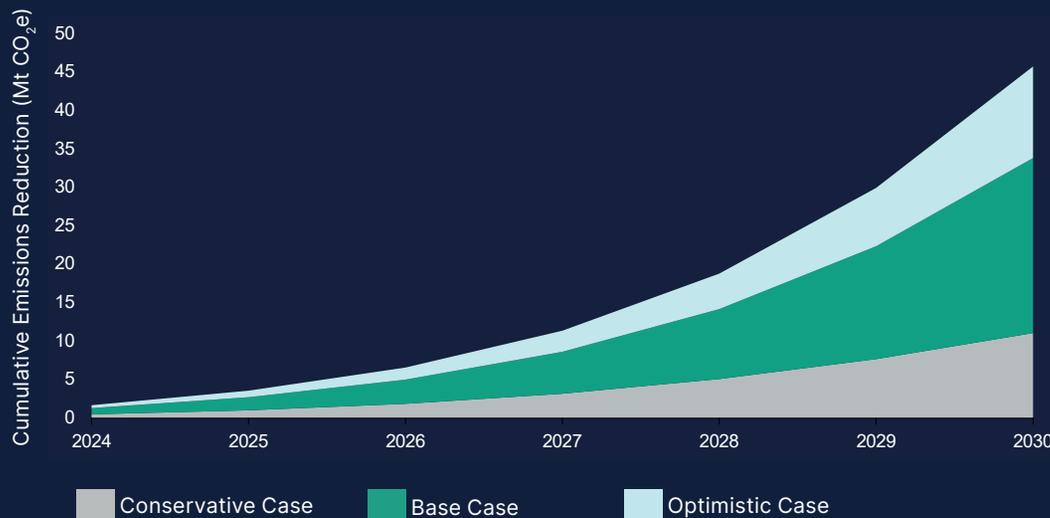
ENVIRONMENT

GHG Emissions Reduction Across the Fund I Portfolio:

The goal of the GHG accounting is to quantify how much each of our portfolio companies will reduce emissions over a given time period. Emissions reductions are calculated using a life-cycle model that accounts for emissions sources, sinks, and reservoirs associated with production, transportation, and end-use processes.

The results below highlights the cumulative emissions reduction impact projected from 2024 to 2030 for ten of our portfolio companies. These outcomes are third-party verified and are updated periodically as the market rollout information is refined.

The total cumulative impact is **11 Mt CO₂e** emissions reduction by 2030 for our conservative case.



11 Mt CO₂e

With the estimated GHG reductions from **Ionorr, Lelantos, CarboNet, and Validere** quantified, we went from a conservative case of 7.1 Mt CO₂e to **11 Mt CO₂e** across ten portfolio companies (previously six).

Base Case: 33.8 Mt CO₂e

Optimistic Case: 45.7 Mt CO₂e

Results

SOCIAL AND GOVERNANCE

24%

WOMEN ACROSS
ENTIRE PORTFOLIO

360

TOTAL JOBS
SUPPORTED
DIRECTLY

73%

VENTURES WITH
INDEPENDENT BOARD
REPRESENTATION

95%

PORTFOLIO COMPANY
EMPLOYEES
RESPONDING TO
EMPLOYEE SURVEY

27%

HAVE A RISK
MANAGEMENT POLICY

36%

CONDUCT SUPPLY
CHAIN RISK
ASSESSMENTS

55%

HAVE A DATA PRIVACY
POLICY

65%

HAVE A CYBER
SECURITY POLICY

The ESG results showcased in our annual report were influenced by the variety of maturity levels among our portfolio companies. While some companies have made notable advancements in implementing ESG initiatives, others are in the early stages of their journey. The diversity underscores the need for tailored guidance and support to foster sustainable practices. Through the thorough data collection process undertaken in 2023, we have gained valuable insights into the ESG landscape within our portfolio, identifying strengths and improvement areas. Armed with these insights, we are better positioned to advise our companies and stakeholders on ESG matters, driving progress and positive impact. Our commitment to sustainability remains unwavering, guiding our efforts to promote responsible business practices and create long-term value for all stakeholders.



Cleantech Ventures Fund I

LIMITED PARTNERS

Company	Geography	Supply chain	Description
 TOURMALINE OIL CORP.	Canada	Upstream	As Canada's largest natural gas producer, Tourmaline is focused on long-term growth through exploration, development, production, and acquisition in the Western Canadian Sedimentary Basin. They are committed to reducing emissions and have a strategy for systematic cost reduction.
 ARC RESOURCES LTD.	Canada	Upstream	ARC Resources is a leading energy company with the largest responsibly produced and certified production base in Canada, located in the Montney region of Alberta and northeast British Columbia.
 BIRCHCLIFF ENERGY	Canada	Upstream	An intermediate oil and natural gas company concentrated in the Montney/Doig Resource Play in Alberta, emphasizing ESG initiatives and operational focus on the Peace River Arch area.
 TC Energy	North America	Midstream	An energy infrastructure company operating pipelines, power generation, and gas storage facilities across North America with a strategic approach towards earnings growth and financial discipline.
 TIDEWATER RENEWABLES	Canada	Midstream	Specializes in the production of low-carbon fuels, including renewable diesel and hydrogen, along with carbon capture initiatives. Their operations are based in Alberta and British Columbia, aiming to supply North America with cleaner fuel solutions.
 ATCO	Canada	Downstream	ATCO is a Canadian multinational corporation specializing in energy, logistics, and engineering services. Founded in 1947 and headquartered in Calgary, Alberta, ATCO operates in various sectors, including electricity generation and distribution, natural gas production and distribution, and construction.
 FORTIS BC	Canada	Downstream	A key energy provider in British Columbia, FortisBC delivers renewable energy, natural gas, electricity, and propane to over 1.2 million customers. The company is committed to a lower-carbon energy future and operates several hydroelectric plants on the Kootenay River.
 TriSummit UTILITIES	Canada	Downstream	TriSummit Utilities operates as a stable utility and renewable power business, owning and managing assets that generate low-risk, stable earnings and cash flow. Their portfolio includes regulated natural gas distribution utilities and long-term contracted renewable power assets, contributing to a diversified energy mix in Canada.

The Future of Energy

CLEANTECH VENTURES FUND I PORTFOLIO COMPANIES

Cleantech Ventures Fund I Portfolio

The Cleantech Ventures Fund I portfolio is comprised of high-impact companies that are building market-facing, economically viable solutions for the energy industry.

Our investments must meet a triple bottom line: improved environmental performance, a return for our investors, and contributing to producing and distributing cleaner natural gas and low-cost renewable gases.



Fund I Portfolio

THERMOLIFT



ThermoLift is leveraging technology based on the Hofbauer Cycle to develop a natural gas heat pump that provides heating, air conditioning, and water heating from a single appliance. ThermoLift's technology has the potential to revolutionize the HVAC space by providing a significant reduction in building costs as well as associated reductions in GHG emissions.

INVESTMENT THESIS

The HVAC space is one of the largest contributors to GHG emissions globally, but it has proven very difficult to decarbonize. Incumbent technologies have stagnated and there is an immediate need for innovative turnkey solutions. ThermoLift's natural gas heat pump has the potential to drastically reduce the carbon intensity of this staple of modern-day life, and we are excited about their ability to disrupt the multibillion-dollar HVAC space.

2023 PROGRESS

In 2023, ThermoLift completed a major reliability milestone by having five machines running simultaneously, with four of those reaching 1,000 hours of continuous operation.

IMPLICATIONS FOR THE NATURAL GAS VALUE CHAIN

ThermoLift's heat pump utilizes existing infrastructure to leverage low-carbon gaseous fuels such as natural gas, RNG, and hydrogen to decarbonize residential and commercial HVAC systems. This technological revolution provides a turnkey solution for millions of end users without the need for extensive retrofits.



INITIAL INVESTMENT DATE

May 2021

ROUND

Series A

CO-INVESTORS

Euclidean Capital

BOARD SEAT

Observer

Fund I Portfolio

IONOMR INNOVATIONS



Ionomr Innovations (Ionomr) is a developer of ion-exchange membranes and polymer product solutions. Ion-exchange membranes are critical components in many electrochemical applications, including hydrogen production, zero-emission vehicles, and synthetic fuel production from CO₂ capture and conversion processes.

INVESTMENT THESIS

Ionomr is well positioned to become the market leader in ion-exchange membranes. The company's patented process, in conjunction with a wide range of OEM partnerships, will allow for rapid market penetration and generate economies of scale that market competitors will be unable to match.

2023 PROGRESS

In 2023, Ionomr made significant strides, marked by advancements in technology, funding, and industry recognition. The company enhanced its ion-exchange membrane technology, Aemion™ and Pemion™, improving efficiency and environmental impact. They secured USD\$20MM in Series A-4 financing, underlining industry confidence in their innovations. Ionomr was also named a Global Cleantech 100 company for the third consecutive year, affirming its impact in the cleantech sector.

IMPLICATIONS FOR THE NATURAL GAS VALUE CHAIN

We believe that increased blue hydrogen production will benefit all members of the natural gas value chain. Ionomr's revolutionary ion-exchange membranes provide critical exposure to multiple end-use applications for hydrogen gas, including and increased adoption and demand for hydrogen fuel cells, and synthetic fuels production.



INITIAL INVESTMENT DATE

October 2021

ROUND

Series A

CO-INVESTORS

Shell Ventures, Finindus, Chevron Technology Ventures, Pallasite Ventures, N.V. Bekaert, Asahi Kasei, Samsung Ventures, and SAIC Capital

BOARD SEAT

Yes

Fund I Portfolio

GALATEA TECHNOLOGIES



Galatea Technologies (Galatea) has created a software platform to better manage fluid logistics workflows. Galatea automates regulatory compliance regarding waste and commodities with a fully digitalized workflow. Using this digitalized dataset, Galatea enables field-based workers to make better decisions, resulting in lower costs (~20% savings) and better environmental outcomes.

INVESTMENT THESIS

North American oil and gas producers spent approximately USD\$41Bn annually on oilfield waste transportation and disposal. Disposing of wastewater is a complicated endeavor because each waste facility is engineered to only accept specific waste types. Managing this process creates unpredictability, lengthy wait times, limited available capacity, and increased hauling distances, all of which can increase costs and the environmental impact of the disposal of a single load of waste.

2023 PROGRESS

In 2023, Galatea achieved recognition for its innovative technology platform at the 20th annual Energy Tech Venture Forum presented by the Rice Alliance for Technology and Entrepreneurship. The company was awarded the People's Choice award, recognizing their tech platform's capability to enhance operational, financial, and environmental performance for energy clients.

IMPLICATIONS FOR THE NATURAL GAS VALUE CHAIN

Galatea provides upstream producers with the ability to materially reduce OPEX, generate quantifiable and credible emissions reduction metrics, and create additional revenue streams by marketing unused or underused wastewater disposal facilities.



INITIAL INVESTMENT DATE

October 2021

ROUND

Seed

CO-INVESTORS

N/A

BOARD SEAT

Yes

Fund I Portfolio



IONADA

Ionada is a CCUS company that develops, manufactures, and markets exhaust gas cleaning systems. Ionada has developed membrane contactors, which are ideal for small and medium-sized emitters with applications where space is limited. Ionada's module units are capital-efficient, and easily scaled up with additional units to provide bespoke on-site applications.

INVESTMENT THESIS

Carbon pricing in Canada has increased by 300% since 2018, and it is expected to grow by 1,600% to \$170 per ton by 2030. 85% of emissions are attributed to small and medium emitters, which is why Ionada is targeting that market segment with its patented membrane contactor decarbonization system for applications <200,000 tons per annum.

2023 PROGRESS

Ionada completed the first close of their Series A financing with Archrock as the lead investor. The financing provides the necessary resources for Ionada to construct its first 20,000 tonne per annum commercial demonstration facility.

IMPLICATIONS FOR THE NATURAL GAS VALUE CHAIN

Ionada's containerized carbon capture solution can be deployed at various locations across the natural gas value chain, including at remote well sites, compressor stations, and processing facilities. The flexibility of a solution created to specifically address the needs of small and medium-sized emitters will be critical for natural gas industry participants to meet their emissions reduction objectives.



INITIAL INVESTMENT DATE

November 2021

ROUND

Seed

CO-INVESTORS

Halliburton Labs

BOARD SEAT

Yes

Fund I Portfolio

EKONA



Ekona Power (Ekona) is a hydrogen technology developer that is pioneering a Pulse Methane Pyrolysis (PMP) platform to deliver low-carbon, low-cost, and scalable industrial hydrogen production. Ekona's patent-pending PMP reactor process uses the principles of pulse-combustion and high-speed gas dynamics to dissociate feedstock methane, thereby converting natural gas into industrial-scale hydrogen.

INVESTMENT THESIS

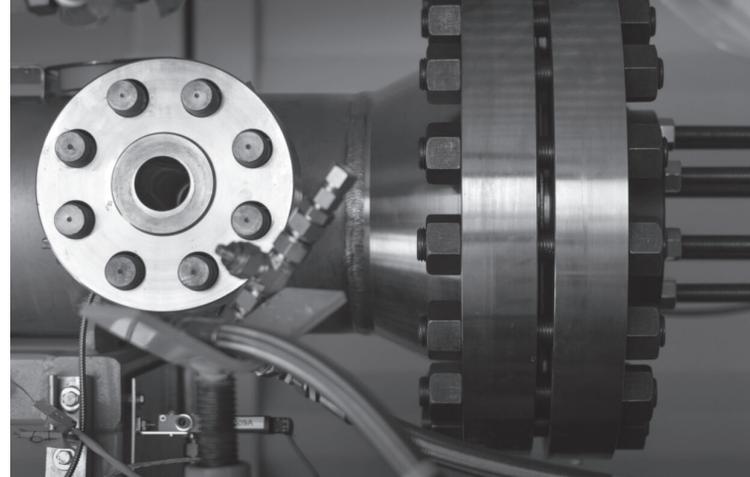
Ekona's PMP reactor process puts them in the sweet spot 'Goldilocks' zone for hydrogen production. The pulse-combustion and high-speed gas dynamics allows Ekona to cheaply produce hydrogen at industrial scale while generating up to 90% fewer CO₂ emissions compared to traditional steam methane reforming.

2023 PROGRESS

In 2023, Ekona marked a year of significant progress in their clean hydrogen production technology. They successfully met their internal performance targets for the xCaliber™ methane pyrolysis reactor, achieving a crucial 200-kilogram-hydrogen-per-day output in their Burnaby facility. This achievement was a key step towards field deployment, showcasing their reactor's efficiency in converting natural gas into clean hydrogen and solid carbon.

IMPLICATIONS FOR THE NATURAL GAS VALUE CHAIN

Ekona's PMP hydrogen production method utilizes natural gas as the feedstock, which provides increased demand for natural gas production. This breakthrough technology development ensures a robust demand for natural gas as a key input for the hydrogen economy.



INITIAL INVESTMENT DATE

January 2022

ROUND

Series A

CO-INVESTORS

Baker Hughes, Mitsui, ConocoPhillips, TransAlta, Continental Resources, BDC Capital, and others

BOARD SEAT

Strategic Committee

Fund I Portfolio

KINITICS AUTOMATION



Kinitics Automation (Kinitics) is a developer of shape memory alloy linear actuators and piston pumps. These components perform critical functions for valve operation, pumping, pressing, and clamping across a range of applications.

INVESTMENT THESIS

Kinitics is focusing on addressing pain points in several very large and well capitalized industries. Specifically, within the oil and gas sector, Kinitics units provide turn-key compliance with several AER and BCOGC regulatory mandates to reduce or eliminate gas venting from pneumatic devices. In addition to the energy industry, linear actuators and piston pumps have strong demand in the automotive, aerospace, and advanced manufacturing sectors, which ensures a robust and diverse serviceable addressable market.

2023 PROGRESS

In 2023, Kinitics successfully closed its Seed financing round with participation from prominent venture capital funds, angel investors, current shareholders, and the company founder. Additionally, Kinitics demonstrated their valve actuator at a natural gas production site, highlighting the technology's potential for substantial emissions reductions. They also presented at SMASIS 2023, showcasing their expertise in shape memory alloy technology.

IMPLICATIONS FOR THE NATURAL GAS VALUE CHAIN

Kinitics actuators can be incorporated into both greenfield projects and retrofitted into existing facilities. The primary benefit of this technology is to reduce or eliminate methane emissions from level control and pressure control devices at well sites.



INITIAL INVESTMENT DATE

January 2022

ROUND

Pre-seed

CO-INVESTORS

N/A

BOARD SEAT

Yes

Fund I Portfolio

VALIDERE



Validere is a leading data and analytics SaaS provider that is digitally transforming the oil and gas supply chain to be more sustainable and efficient.

INVESTMENT THESIS

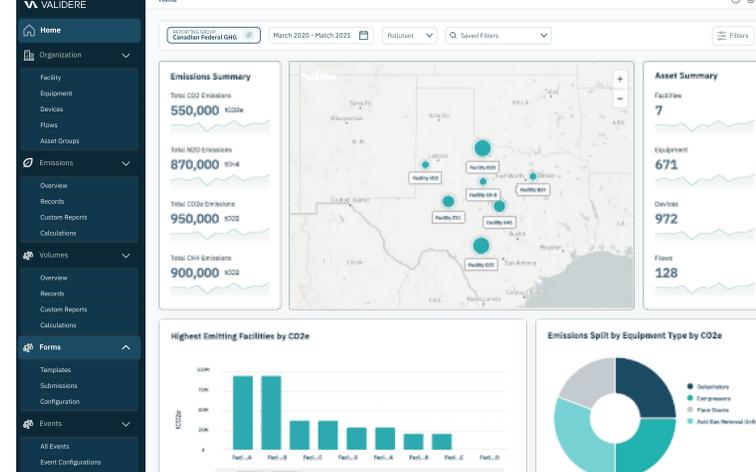
Validere's universal data layer is fast becoming the industry standard for ESG reporting. We believe this revolutionary technology offering is a critical step in commercializing certified responsibly sourced natural gas. This level of transparency is critically important to our limited partners because it allows them to receive social and financial recognition for their gargantuan efforts to lower the carbon intensity of the natural gas that flows through their assets.

2023 PROGRESS

In 2023, Validere enhanced its role in the energy sector with the launch of the Carbon Hub in Canada, aimed at streamlining environmental and regulatory reporting. This initiative, along with efforts in efficient data process management and tackling industry-specific challenges, signifies Validere's commitment to driving technological innovation and data-driven operational efficiency in the oil and gas industry.

IMPLICATIONS FOR THE NATURAL GAS VALUE CHAIN

Validere's value proposition permeates the entire value chain and allows all natural gas industry participants to access third-party certification and a system of record for methane intensity. This system of record allows stake holders to market the full value of their responsibly sourced Canadian gas and identify sources of emissions within the value chain.



INITIAL INVESTMENT DATE

February 2022

ROUND

Series B

CO-INVESTORS

Blackrock, Mercuria, Wing VC, Greylock Partners

BOARD SEAT

Observer

Fund I Portfolio

CONVRG INNOVATIONS



ConvrG Innovations (ConvrG) is a remote power generation supplier who is leading the way to enable certifiable zero emissions hydrocarbon production through its Engineered Power on Demand (EPOD) product. The EPOD product line utilizes a combination of natural gas generators, solar panels, and batteries to provide reliable and low-emissions solutions for off-grid power, heating, and instrument air.

INVESTMENT THESIS

The issue of methane venting is widespread in the upstream oil and gas industry. EPOD allows remote sites to utilize instrument air instead of instrument gas to actuate pneumatic devices, which essentially eliminates methane venting and reduces GHG emissions by up to 99.5%.

2023 PROGRESS

In 2023, Westgen rebranded as ConvrG. The company successfully demonstrated and validated its EPOD system through the NGIF Accelerator and its Emissions Testing Centre program. After more than 12 months of field operation, the EPOD-powered air compressors successfully eliminated over 3,600 tonnes of carbon dioxide equivalent emissions at two well sites.

IMPLICATIONS FOR THE NATURAL GAS VALUE CHAIN

ConvrG provides upstream producers with a turnkey solution for methane venting from pneumatic devices. The EPOD product provides material cost savings, provides a measurable reduction in GHG emissions, and allows for immediate compliance with state, provincial, and federal regulations on methane venting.



INITIAL INVESTMENT DATE

August 2022

ROUND

Series A

CO-INVESTORS

ARC Financial, Idea Well
Capital Partners

BOARD SEAT

No

Fund I Portfolio

ARIX TECHNOLOGIES



ARIX Technologies (ARIX) is a developer of semi-autonomous inspection robots and software analytics. The ARIX robot is the only one on the market that can drive semi-autonomously on insulated or vertical piping while traversing common field obstacles. The company's proprietary robot, sensor, and software package provides highly granular and continuous monitoring of pipeline corrosion. This powerful analytics package allows customers to not only detect but also predict pipeline corrosion before a leak occurs.

INVESTMENT THESIS

ARIX's pipeline inspection robot and AI/ML- based analytics platform are at the forefront of the Cleantech 2.0 revolution. This cutting-edge technology can be deployed across the natural gas value chain and is well positioned to capture a significant market share in the USD\$8.7Bn pipeline inspection market.

2023 PROGRESS

In 2023, ARIX continued development on the latest generation VENUS robot and completed inspections for several high-profile customers, including Con Edison, NASA, Saudi Aramco, and Cenovus, among many others.

IMPLICATIONS FOR THE NATURAL GAS VALUE CHAIN

The ARIX solution benefits participants across the natural gas value chain by detecting and predicting pipeline leaks before they occur. The level of highly granular and accurate data reduces downtime as a result of unplanned outages, improves site reliability, and protects asset operators through enhanced workforce safety.



INITIAL INVESTMENT DATE

November 2022

ROUND

Series A

CO-INVESTORS

Alley Robotics Ventures,
Benson Capital Partners,
EVOK, others

BOARD SEAT

Observer

Fund I Portfolio

LELANTOS

Lelantos

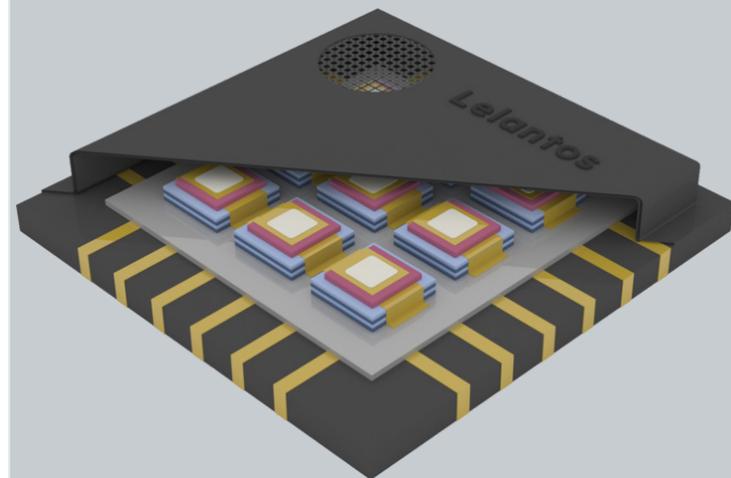
Lelantos specializes in advanced gas sensing technologies, primarily focusing on continuous methane monitoring in the oil and gas sector. Their innovative approach includes the development of low-cost, low-power sensors which leverage thin-film piezoelectric resonators integrated into Complementary Metal Oxide Semiconductor (CMOS). These sensors are designed for high sensitivity and selectivity, revolutionizing gas detection in multiple industries.

INVESTMENT THESIS

NGIF Capital sees immense potential in Lelantos due to its groundbreaking sensor technology that addresses critical industry challenges such as continuous monitoring, cost efficiency, and environmental sustainability. The company's pioneering approach positions it to disrupt the traditional gas sensing market, offering scalable solutions that could redefine industry standards.

IMPLICATIONS FOR THE NATURAL GAS VALUE CHAIN

Lelantos' technology is poised to impact the natural gas value chain significantly. Its advanced sensors can enable more effective methane monitoring, enhancing safety, reducing environmental impact, and improving regulatory compliance. This technology aligns with the increasing focus on sustainability and efficiency in the energy sector, offering a strategic advantage in environmental monitoring and management.



INITIAL INVESTMENT DATE

April 2023

ROUND

Seed

CO-INVESTORS

N/A

BOARD SEAT

Yes

Fund I Portfolio

CARBONET NANOTECHNOLOGIES

CarboNet ●●

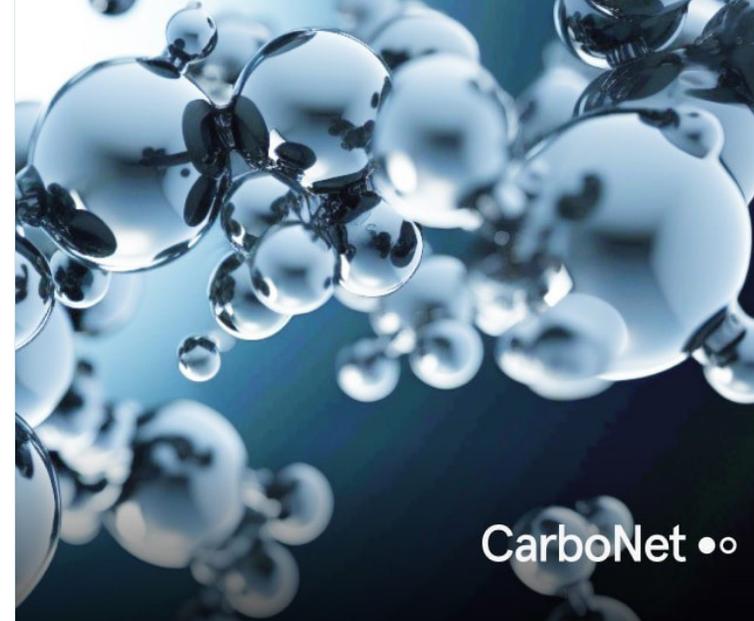
CarboNet Nanotechnologies (CarboNet) is a Vancouver-based provider of water purification processes intended to efficiently remove a broad spectrum of contaminants from water. CarboNet's technology marks a paradigm shift in how chemicals are formulated and perform. Unlike standard water treatment chemicals, the CarboNet NanoNet platform allows for the targeting and control of molecules in water.

INVESTMENT THESIS

Nearly every wastewater treatment plant (in every industry) uses flocculants, coagulants and a disinfectant/biocide. CarboNet provides the flocculant component of water treatment, which can be utilized to treat both produced and flowback water generated during the drilling production process for natural gas well sites.

IMPLICATIONS FOR THE NATURAL GAS VALUE CHAIN

CarboNet provides enhanced water treatment and resource recovery by selectively targeting and controlling water contaminants for removal. This process leads to improved environmental performance with an estimated 64% reduction in the lifecycle emissions of CO₂, less than 90% use of petroleum-based carbons, and a drastically increased ability for water reuse.



INITIAL INVESTMENT DATE

May 2023

ROUND

Series A

CO-INVESTORS

N/A

BOARD SEAT

Yes

A group of five professionals in a construction or industrial setting. A man in a grey work shirt and white hard hat is kneeling on the ground, looking at a laptop. Behind him, a woman in a blue shirt and blue hard hat, another woman in a grey blazer and white hard hat holding a tablet, a man in a dark suit and white hard hat, and another man in a blue shirt and white hard hat are all smiling and looking towards the laptop. The background is bright and slightly blurred, suggesting an outdoor or well-lit indoor construction site.

Conclusion

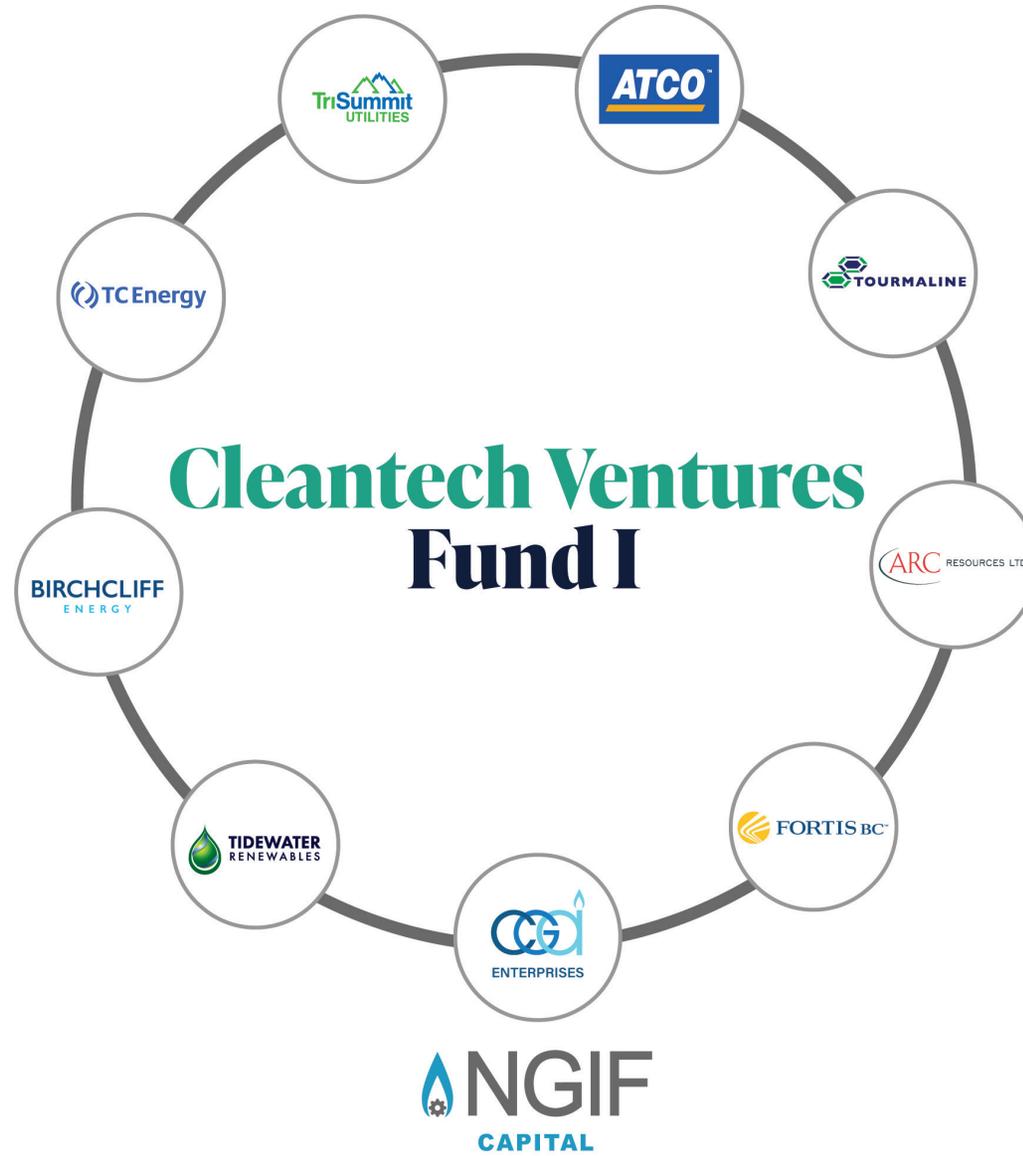


Conclusion

As an organization, we made great progress on our environmental performance goals in 2023. We added ARIX Technologies, Lelantos, and CarboNet to our portfolio and doubled down on several of our most promising investments. We have continued to deploy capital during a period of uncertainty across the venture landscape. As a vertically focused strategic fund, we continue to work towards a triple bottom line of lowering emissions, advancing cleaner natural gas, and creating a return for our investors. While other VCs are pulling back from investing in the fossil fuel industry, NGIF remains committed to advancing the natural gas sector through our cleantech investments.

While NGIF has accomplished a lot in the last year, we are a results-based company and, as such, have a continuous improvement mindset. Our team is on a constant search for startups with new ideas and solutions to reduce emissions, freshwater use, and land disturbance. They are a dedicated and hard-working team committed to the mandate of NGIF, a group of well-intended individuals that I am proud of. I want to thank this team, our industry investors in Cleantech Ventures Fund I, and our service suppliers and consultants. I also want to thank and recognize our growing ecosystem of startups that NGIF has supported, who work tirelessly through their ongoing commitment to building companies that will accelerate the environmental and economic performance of Canada's natural gas sector.

If you have any questions about this report, please email info@ngif.ca



Questions?

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