

Quarterly Newsletter – March 2023

Hi. We know that you have a lot to read and digest in your daily news feed, so we don't want to take away much of your time. We are well-aware how hard it is to keep up given the rapid rate of change and evolution in your business. Our quarterly newsletter will differ in structure and tone from what some of you see in my Annual Letter, with a greater focus on the venture capital space in and around technology-enabled companies targeting climate, sustainability, and decarbonization. Our goal is to provide you with interesting food for thought.

We are building [Quantum Innovation Fund](#), now with 15 portfolio companies and ~\$355 million deployed, and we want to keep you abreast of our activity. We plan to do that on a quarterly basis with succinct encapsulations of our portfolio companies, and some thoughts and insights we have that might be beneficial to you. Sometimes that commentary will come from me, sometimes from my colleagues, and sometimes from generative AI.

Speaking of generative AI, a topic of interest to most of our portfolio companies and an area of emphasis of the working group we recently established among these portfolio companies so that they could get the benefit of the combined expertise of this group, I asked Bing the following questions:

Question: “What is the Quantum Innovation Fund?”

“The Quantum Innovation Fund is a venture capital fund that invests in transformative technology-based businesses focused on the energy and sustainability sectors. It is part of Quantum Energy Partners, a private equity firm that specializes in the energy industry. The Quantum Innovation Fund aims to provide early-stage companies with differentiated strategic insights and access to customers, partners, and markets. It also leverages its network of energy experts and industry leaders to help entrepreneurs scale their businesses.”

Some of the companies that the Quantum Innovation Fund has invested in include:

- **Dragos**, a cybersecurity company that protects industrial control systems from cyberattacks.
- **Aurora Solar**, a software platform that enables solar professionals to design and sell solar projects.
- **Carbon Engineering**, a company that captures carbon dioxide from the air and converts it into clean fuels or stores it underground.
- **ZeroAvia**, a company that develops hydrogen-electric powertrains for zero-emission aviation.”

FYI, Dragos is in our portfolio, but not the others. At least the description of QIF was good!

Question: “What advice do you give to start-ups in climate tech?”

“Some of the ways that startups can overcome the challenges of climate venture capital are:

- *Building a sustainable virtual operating model that can adapt to changing market conditions and customer needs.*
- *Providing “smart” capital that offers more than just funding, such as strategic guidance, technical expertise, and network access.*
- *Measuring impact and telling powerful stories that demonstrate the value proposition and differentiation of their solutions.*
- *Managing the CVC (corporate venture capital) and IVC (independent venture capital) worlds by understanding their different objectives, expectations, and processes.*
- *Rethinking their investment approach and focus by exploring alternative forms of financing, such as grants, debt, or crowdfunding.*
- *Adapting to the downturn by conserving cash, negotiating flat or down fundraising rounds, and adjusting to rising costs of capital.*
- *Applying digital innovation to address emission-intensive ways of operating and doing business and opening the way to new business models with huge breakthrough potential in addressing climate change.”*

Question: “Is there fraud in the voluntary carbon offset market?”

“Hello, this is Bing. Voluntary carbon offsets are credits that represent a metric ton of reduced, removed or avoided greenhouse gas emissions. They are bought by companies and individuals to subtract emissions from their own accounts. However, some offsets may be of poor quality or fraudulent, meaning they do not actually deliver the environmental benefits they claim. A recent study found that more than 90% of rainforest carbon offsets by the biggest provider were worthless. There are some efforts to improve the standards and transparency of the voluntary carbon market, but it is still a risky and unregulated sector.”

You can derive your own conclusions from the answers re: the maturity of the technology, but it is amazing to get nearly instant responses to these questions. We are not going to comment on the media frenzy about how current inaccuracies in the output reflecting the biases in data sets used to train the tool will drive even more divisive political discourse, spread falsehoods, or incite bad behavior, but instead focus on the benefits that the technology can provide today and likely will provide in the future. We expect that our portfolio companies will start to derive near-term commercial benefits from generative AI via improved productivity around software code documentation and report writing where the datasets are sufficient. Over time this will broaden, and we hope the working group mentioned earlier will ensure that the portfolio is on the leading (not bleeding) edge.

We value our relationship with you and seek an active dialogue. Constructive criticism and advice will help us too. We look forward to your comments. Finally, if you do not want to be on the mailing list, please let us know; we will not be offended.



Jeffrey Harris

QIF Portfolio Updates

BeZero

[BeZero](#) combines risk analytics, software and science to provide independent and transparent coverage and ratings of carbon credits in a historically opaque market. BeZero's Carbon Rating will be hosted on Salesforce's Net Zero marketplace, helping build investor confidence in carbon credits and increase their adoption as a tool for net zero.



[Carbon Direct](#) combines scientific expertise and software to provide end-to-end carbon management services to large corporations for seamless carbon footprinting, reduction strategies, and procurement of high-quality carbon credits. Recently CD partnered with [American Express](#) (link) to introduce digital solutions for credit card users to help better understand and manage their carbon footprint.

ChargePoint

[ChargePoint](#) (NYSE: CHPT) designs, develops and markets networked EV charging system infrastructure connected through cloud-based services. CHPT ended its fiscal year on January 31, 2023, with \$468 million in revenue, representing 94% Y-o-Y growth. The company continues to extend its technology and market leadership position across North America and Europe, while delivering improving gross margin and better operating expense leverage.

DATAGRATION

[Datagration](#) delivers enterprise software for upstream operators to integrate data from disparate systems into one platform. The company continues to grow its ARR as more oil/gas operators realize the economic benefits of its software.



[Dragos](#) provides cybersecurity threat analysis, detection and prevention software for physical assets primarily for utilities, oil & gas, and manufacturing companies in the U.S. and select other countries. Dragos posted a record year in 2022 with strong growth across its various markets reflecting the increasing awareness by corporations and governments of the risk to infrastructure from bad actors.

FigBytes

[FigBytes](#) provides cloud-based enterprise software for organizations integrating ESG data and performance into their activities. The company was featured as a market leader both in Verdantix's "2023 Smart Innovators: ESG reporting and Data Management Software report" and IDC's "Worldwide ESG/Sustainability Strategy Consulting Services 2023 Vendor Assessment."

Heirloom

[Heirloom](#) is successfully building a more capital efficient direct air capture technology system based on the principle that, over time, carbon dioxide in the air and water chemically bind to naturally occurring minerals. Recently, Heirloom announced a breakthrough that together with CarbonCure, the capture of CO2 from the atmosphere and then permanently sequestered it in concrete.

 ORENNIA

[Orennia](#) provides market-leading data and analytics to private equity firms, investment banks, utilities, corporations allowing them to make informed decisions across renewables, clean fuels and decarbonization investments. The company is growing quickly reflecting the high-quality information and differentiated offering it is bringing to market.

 POWERFACTORS

[Power Factors](#) is the largest provider of asset management software for owners and operators of wind, solar and battery storage systems globally and continues to expand its business benefitting from the significant worldwide investment in new facilities.

PROJECT
CANARY

[Project Canary](#) offers low-cost, continuous, real-time methane emissions monitoring with a certification process for oil & gas and other emitters to measure ESG performance and support Responsibly Sourced Gas. The company continues to set the standard for high fidelity measurement and rigorous analysis

RECURVE

[Recurve](#) provides a software and online marketplace platform, called FLEXMarket, that enables demand flexibility from behind-the-meter to help manage the grid and reduce electricity prices. The company's FLEXMarket platform is live in several California markets today and the business plans to expand into additional states later this year.

 Risilience®

[Risilience](#) provides an analytics platform and services to help large companies quantify potential climate risk impact and identify mitigation actions, track progress on their net-zero strategies, and comply with increasing climate-related reporting requirements. Our newest investment, the company closed its \$26 million Series B round in December 2022

seismos

[Seismos](#) uses advanced acoustics technology to help oil and gas operators better characterize well stimulations and improve economics. Recently, the company introduced their first unmanned system, and separately demonstrated its technology as a useful tool for pipeline operators suffering from the all-too-common problem of locating stuck Pigs (used for cleaning).

 WELLIGENCE
ENERGY ANALYTICS

[Welligence](#) provides data collection and machine-learning based analytics for the oil & gas industry and the financial community covering select international basins. The company recently opened its Asia Pacific office as it now provides global coverage (other than US lower 48).

workrise™

[Workrise](#) offers a digital platform for contingent skilled workers in oil and gas and renewables industries and is the leading workforce management solution for the skilled trades. The company completed a record year of growth led by its core oil and gas business.

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