

QIF Quarterly Newsletter – October 2023

An *inconvenient truth*: GHG emissions come from everything we do¹. Electrification (27% of global emissions) and transportation (16% of global emissions) are relatively straightforward to decarbonize via renewables and electrified transportation, respectively, though this transition will take decades. Cleaning up how we make things (31% of global emissions) – cement, steel, plastic – and how we grow things (19% of global emissions) – agriculture – will be much more difficult. Plenty of smart people are developing solutions to these problems but the timelines and costs are uncertain. Unfortunately, carbon emissions are not going away anytime soon.

Carbon markets can play an important role in helping reduce GHG emissions via economic incentives and offsets to counterbalance ongoing carbon emissions. *Compliance markets*, those created by national, regional, or international policy, continue to expand. There are around 70 compliance markets in operation today, representing roughly 23% of global emissions². The underlying price of carbon varies widely from >\$100 per ton (Liechtenstein) to a few dollars per ton (Japan)². Growth in *voluntary markets*, the buying and selling of carbon credits on a voluntary basis, is driven by demand from private corporations and individuals seeking to offset their carbon footprints. There were an estimated [\\$2 billion of voluntary offsets transacted in 2022](#).

While carbon markets are not new³, challenges remain. We need more transparency, verifiability, bankability, and liquidity in carbon markets. Today, data quality and methodologies are varied – oftentimes it is hard to infer the impact of offset projects. Not all carbon credits are created equal and poorer quality projects are [facing increasing scrutiny](#) – *buyer beware*. Due to these concerns, financing options for project developers are limited, thus increasing the cost of capital for investing in offset projects. The market remains inefficient with quality carbon credits mostly traded in brokered transactions versus on exchanges.

Encouragingly, high fidelity offset projects are being [recognized by decarbonization leaders](#) and [receiving attractive pricing](#). There seems to be plenty of appetite from companies and individuals to purchase offsets that are *real* and *impactful*. We believe this trend will continue as carbon markets mature, societal and regulatory pressures around climate change grow, and there is a better understanding of the challenges around fully decarbonizing our energy systems.

Solving these problems is a tremendous market opportunity for entrepreneurs and capital providers. It is a theme that QIF is playing in several ways through our investments in **BeZero Carbon**, **Carbon Direct**, **Heirloom Carbon**, and **Project Canary**. It is still early days, and we do not have all the answers, but QIF has developed a nice ecosystem of companies that can trade shared learnings and find ways to collaborate. Advancing the *carbon economy* is a broader investment theme across Quantum Capital Group, too, as evidenced by [Quantum's partnership with Trace Midstream](#) to develop carbon capture and sequestration projects.

¹ Statistics are from *How to Avoid a Climate Disaster*, written by Bill Gates and published in 2021.

² Statistics are from *State and Trends of Carbon Pricing 2023*, published by the World Bank.

³ Finland instituted the first carbon tax in 1990. California's compliance program has been in operation for a decade.

Last month, a subset of the QIF team attended RE+ 2023 in Las Vegas. QIF was not alone – it was a record-setting event with 40,000+ attendees and 1,100+ vendors⁴. We were struck by the passion, innovation, and quality of entrepreneurs across the clean energy ecosystem. Mankind still has plenty to figure out, but we will (eventually) get there.

In the past quarter, we made our first new investment in 2023, leading the Series C financing for **Atmosic**, an innovative semiconductor company focused on Internet-of-Things devices. Atmosic’s technology brings dramatically reduced energy consumption, translating into meaningfully lower usage of batteries in a wide variety of consumer electronics applications. In addition, we provided incremental growth capital to several existing portfolio companies. QIF’s pipeline is strong, and we are hopeful to close another transaction or two before the end of the year. As always, we are open to conversations on opportunities where we can be value-add.

Below is a reminder of the existing portfolio and what each company does.

We welcome your thoughts and advice.

A handwritten signature in black ink, appearing to read 'JAH'.

Jeffrey Harris

A handwritten signature in blue ink, appearing to read 'Heri Diarte'.

Heri Diarte

A handwritten signature in black ink, appearing to read 'Rob Meister'.

Rob Meister

A handwritten signature in black ink, appearing to read 'Chase T. Randolph'.

Chase Randolph

A handwritten signature in black ink, appearing to read 'Tran Ly'.

Tran Ly

A handwritten signature in black ink, appearing to read 'Zak Aldelamy'.

Zak Aldelamy

⁴ Our bet is RE+ 2024 will be even bigger. Book your hotel room early!

QIF Portfolio Updates

Atmosic™

[Atmosic](#) is re-architecting wireless connectivity solutions to radically reduce IoT dependence on batteries. In August 2023, QIF led the company's Series C financing, which will accelerate sales and further product development.

BeZero

[BeZero](#) combines risk analytics, software, and science to provide independent and transparent coverage and ratings of carbon offset credits in a historically opaque market. BeZero is introducing ex-ante carbon ratings for project developers to further increase carbon credit quality and transparency to accelerate funding for carbon projects.



[Carbon Direct](#) provides carbon management services to large corporations for carbon foot printing, reduction strategies, and procurement of high-quality carbon credits. The company recently launched a software platform that provides organizations with the information and resources they need to deliver on their climate commitments, including auditable carbon footprints, emission reduction strategies, and high-quality carbon removal portfolios.

-chargepoint+

[ChargePoint](#) (NYSE: CHPT) designs, develops, and markets networked EV charging system infrastructure connected through cloud-based services. CHPT ended its second quarter on July 31, 2023, with \$150 million in revenue, representing 39% Y-o-Y growth. The company continues to extend its technology and market leadership position across North America and Europe, while improving gross margins and capturing better operating leverage.

DATAGRATION

[Datagration](#) delivers enterprise software for upstream operators to integrate data from disparate systems into one platform. In July 2023, Quantum and Datagration [announced a multi-year commercial agreement](#) to automate and digitize workflows across the Quantum upstream portfolio.



[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. The company continues its rapid growth across the multiple geographies and expanding vertical markets that it serves.

FigBytes

[FigBytes](#) provides cloud-based enterprise software for organizations integrating ESG data and performance into their activities. The company recently released an upgraded [FigBytes Sustainability Platform](#) featuring new capabilities for climate accounting and climate action, water stewardship, and an enhanced user interface.

Heirloom

[Heirloom](#) continues to make great strides scaling its direct air capture technology using limestone to absorb CO₂ and then storing it underground or into materials such as concrete. In September 2023, Heirloom and Microsoft [signed one of the largest permanent carbon removal deals](#) to-date. Also, Heirloom and its partners were awarded \$600 million from the DoE for deployment of a carbon capture facility in Louisiana.

 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 continues to grow nicely and recently closed its Series B funding that will enable it to accelerate its revenue trajectory and broaden its product offerings.

 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. The company continues to grow nicely behind an upgraded product offering and broadened product line stemming from its recent acquisitions.

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. In July 2023, Olympus Energy, a Project Canary customer, and Tenaska [announced a partnership](#) to market and deliver Responsibly Sourced Gas from the Appalachian Basin.

RECURVE

[Recurve](#) provides a software/online marketplace platform, called FLEXmarket, that enables demand flexibility from behind-the-meter to help manage the grid and reduce electricity prices. FLEXmarket is live and scaling rapidly in seven open markets in California. In August 2023, Recurve's innovation was [profiled in a long-form article](#) by Canary Media.

 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. The company recently won the King's Award for Enterprise for Innovation in the U.K.

seismos

[Seismos](#) uses advanced acoustics technology to help oil and gas operators better characterize well stimulations and improve economics. The company continues to expand internationally and has also begun to serve pipelines detecting flow rates, leaks, and stuck pigs.

WELLIGENCE
ENERGY ANALYTICS

[Welligence](#) provides data collection and machine-learning based analytics for the oil & gas industry and the financial community and has expanded to cover nearly all worldwide basins other than onshore North America. The company is also developing several energy transition-focused offerings, including carbon capture.

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 has expanded its offering to support upstream company procurement of other value-added services and products.

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