



Terra Alpha Newsletter

The Bumpy Road to a Sustainable Future

As our readers know, Terra Alpha's core operating assumption is that our current (unsustainable) global economic system must evolve toward one that operates within our planet's regenerative natural systems boundaries and better serves the needs of society. We simply cannot continue to overtax our planet's natural systems (clean air and freshwater, healthy forests, soils and oceans, and critical raw materials), if we are to assure prosperous lives for current and future generations.

There are several high impact changes to our economy that will lead us toward such a sustainable basis. These include the electrification of everything (e.g. cars, trucks, and home and building heating systems), as we decarbonize the power grid; increased efficiency of water infrastructure and smarter water usage; shifting diets away from the highest emitting sources of protein, while also moving toward regenerative agriculture systems that use less water and better retain carbon; and reducing the use of finite raw materials in a move away from a linear economy (extract, produce, consumer, trash) toward one that more efficiently uses and reuses raw materials. It is also true that each of these transition pathways raise serious threats for entrenched incumbents and significant opportunities for innovators.

This past year provided a stark reminder that the path to a more sustainable economy will be bumpy and long. The brutal Russian invasion of Ukraine triggered a spike in greenhouse gas (GHG) emissions due to greater use of coal and oil, causing devastating societal impacts. During the year, we also saw a concerted effort by many vested interests to stall the rate of change in the form of open political maneuvers at the State and Federal level, behind the scenes lobbying,

and misleading marketing campaigns. Meanwhile, rising interest rates and the decline in the financial markets created more challenging conditions for many companies leading the transition to a more sustainable economy.

At the same time, the year included significant success at COP15 on biodiversity, where the parties reached a historic global agreement to protect 30% of our land and oceans by 2030 in order to limit the continued loss of biodiversity. (Terra Alpha Advisor Carter Ingram offers her thoughts on COP15 in this newsletter). In November, some progress was made at COP27 on climate change with an agreement to help finance developing countries' climate mitigation plans. The year also saw continued growth of renewable power capacity, a 60%+ increase in electric vehicle sales while total auto sales declined 4.6%, a significant increase in investor interest in sustainable investing, and over 2,000 additional companies making commitments to science-based targets (SBTs) for GHG emissions.

We also saw much greater collaboration between the public and private sectors in 2022, with each committing increasingly large amounts of financing to accelerate the adaptation of existing infrastructure and the transition of key parts of our economic system to mitigate the worst potential impacts from climate change, water threats, and forest and land use damages. Of particular note is the funding from the US government due to the passage of the Infrastructure Act of 2021, the Chips and Science Act of 2022, and the Inflation Reduction Act of 2022. Funds from these bills are already spurring project announcements that include private funds and will likely lead to trillions of dollars in needed spending.

During 2022, Terra Alpha made significant progress on our highest sustainability priority: the work to drive companies toward a lower carbon economy. We saw our own firm's SBTs for GHG emissions validated by the Science Based Targets initiative (SBTi), made progress toward our portfolio net zero goals, and we ended the year as one of only three US Financial Institutions with validated SBTs.



The Paris Moment for Nature: The Historic 15th Conference on Biodiversity

Dr. Jane Carter Ingram, Executive Director of Pollination Group and member of the Terra Alpha Investments Advisory Board, shares her thoughts on COP15.

The 15th Conference of Parties to the United Nations Convention on Biological Diversity was held in Montreal from December 7-19, 2022 and resulted in the adoption of the “[Kunming-Montreal Global Biodiversity Framework](#)” (GBF). This historic agreement was negotiated by 188 countries, and although the US is not a signatory to the convention, the US sent a delegation to attend the meeting. The framework consists of 4 goals and 23 targets for achievement by 2030. Highlights include:

- Effective conservation and management of at least 30% of the world’s lands, inland waters, coastal areas, and oceans;
- Reduction of \$500 billion in annual harmful government subsidies;
- Cutting food waste by 50%;
- Mobilization of at least \$200 billion per year in domestic and international biodiversity-related funding from public and private sources; and
- Requirement that large and transnational companies and financial institutions monitor, assess, and transparently disclose their risks, dependencies, and impacts on biodiversity through their operations, supply and value chains, and portfolios.

Three major themes of the historic number of side events were:

The importance of robust measurement and valuation of nature at the national level via National

Accounting systems, and at corporate levels where more businesses are beginning to measure, manage, and disclose impacts, dependencies, risks, and opportunities associated with nature in alignment with frameworks such as the [Taskforce on Nature-related Financial Disclosures \(TNFD\)](#).

The [Capitals Coalition](#) hosted a series of rich discussions on the measurement and valuation challenges that corporates face when addressing nature impacts and dependencies, and highlighted examples of how businesses are navigating these challenges. While measurement approaches and frameworks continue to evolve, the point was made that we can't let the perfect be the enemy of the good, but "the good has to be good enough," as [Frank Hawkins](#) of the International Union for Conservation of Nature (IUCN) stated on a panel focused on measuring contributions towards nature positive. Scientists and businesses will need to continue to collaborate to arrive at robust measurement approaches that are grounded in science and are practical for companies.

Countries are also committing to rigorous measurement of nature as evidenced by [the announcement at COP15 that the governments of the US and Australia](#) will collaborate to advance the development and use of natural capital accounts and environmental statistics, and will work with other countries to support common approaches and investments in nature-based solutions.

That public and private approaches must work together. For example, both governments and companies must work together on issues such as deforestation-free supply chains, a challenge few sectors/companies have effectively addressed, but if realized, could deliver significant benefits for climate and biodiversity by stemming habitat loss. Throughout the week, new public and private sector announcements on nature were made, such as a €300M [Climate Fund for Nature launched by Kering and L'Occitane Group](#), and an initial close of over \$650 million across [Climate Asset Management's](#) natural capital strategies.

The critical role of indigenous people and rural communities to all of the negotiations, business commitments, and discussions around evolving market mechanisms to protect nature such as [biodiversity credits](#). Each will be essential in stewarding and managing biodiversity and must be equitably compensated and benefit from their ongoing efforts to protect and restore nature. Groups such as the [UNDP Equator Initiative](#) have worked tirelessly over the years to ensure indigenous and community leaders are represented and empowered at important meetings such as COP15.

Other significant developments throughout the week included:

The [#makeitmandatory](#) movement led by [Business for Nature](#) with over 300 businesses supporting mandatory corporate disclosures on nature impacts/dependencies, as addressed in Target 15 of the post 2020 Global Biodiversity Framework. This will help mainstream nature, yet will require considerable effort: The [World Benchmarking Alliance](#) shared their Nature Benchmark analysis of approximately 400 companies that showed only 5% have measured their impacts and 1% know their dependencies on nature. However, frameworks and resources such as the Natural Capital Protocol, the Science-Based Targets for Nature Guidance, and the Taskforce on Nature-related Financial Disclosures provide useful guidance to help businesses address nature related impacts, dependencies, risks, and opportunities.

On the Finance Day, Emmanuel Faber, the Chair of the [International Sustainability Standards Board \(ISSB\)](#) announced that they will begin considering nature enhancements to the standards and appointed two special advisors on nature.

This historic, global agreement on a 2030 plan for nature and the record levels of attendance at this biodiversity COP, especially from the business community, demonstrate that the importance of nature, is now firmly on the global agenda, and will continue to rise in importance for governments, companies, financial institutions, and communities around the world.

Terra Alpha Impact

Our Commitment to Net Zero Investing and Achieving our Science-Based Targets

Terra Alpha has always viewed global decarbonization as an essential component of a sustainable future. We believe companies leading the transition to a low-carbon economy have meaningful opportunities to build competitive advantages, to make their businesses more resilient, and to attract and retain employees, customers, and shareholders; therefore, we seek to identify such leaders in our investment process.

Furthermore, we believe that we can meaningfully contribute to the global goal of reducing anthropogenic emissions to net zero by mid-century.

We do so by tracking our portfolio companies' climate targets and progress and focusing our engagement on those that are not meeting our expectations. Our expectations are for all companies to:

- Set science-based emissions reduction targets, including near-term milestones, and seek validation of their approach from the Science Based Targets initiative (SBTi),
- Develop and articulate an operational plan to achieve at least ~90% emissions reductions and net zero emissions by 2050 or sooner,
- Evaluate and disclose climate-related risks and opportunities throughout their value chain, and
- Transparently disclose progress and roadblocks, at least annually.

Although target-setting is only the first step toward achieving absolute emissions reductions, we believe it is a critical first step and we track our science-based targets "portfolio coverage" closely. By "science-based" targets, we mean those that are ambitious enough to result in near-term absolute emissions reductions without over-reliance on offsets/removals, and with validation by the SBTi.

Of course, Terra Alpha cannot achieve global decarbonization alone. We remain an active thought leader and collaborator. In 2021, we formalized our [Commitment to a Net Zero](#)

[Emissions Portfolio](#), becoming an early signatory of the [Net Zero Asset Managers initiative](#), and joining [Ceres' Paris Aligned Investment Working Group](#). In 2022, we became the first US-based asset manager, and one of only three US financial institutions, to have our climate targets [validated by the Science Based Targets initiative](#).

While it is easy to fall into climate change pessimism, we remain committed and optimistic. Through our investment decisions, corporate engagement, and thought leadership, we believe we are contributing to real progress.

Thought Leadership

Engaging in Global Discourse

- Terra Alpha Advisor and Executive Director of Pollination Group, Carter Ingram PhD, attended the COP15 Conference on Biodiversity, and Terra Alpha Emeritus Advisor, Ellen Stofan PhD, attended both COP27 on climate change and COP15.
- CIO Tim Dunn was a virtual panelist on corporate greenwashing at COP27.
- Harvard Business School DC Club hosted World Wildlife Fund's CEO Robert Carter, Climate Finance's CEO Stacey Swann, and Terra Alpha's CIO Tim Dunn to discuss business and the environment.

EP Insight: The Beef Issue



For the final quarter of the year, our EP Insight looked toward beef and the sustainability issues that follow its production and consumption. Improving beef production sustainability is a major challenge in the fight against climate change. From a consumption standpoint, however, there are ways we can all contribute. [Read the full EP Insight here.](#)

Team Updates

Emily Hiltz and Marissa Oliveri Join the Terra Alpha Team



Emily Hiltz recently joined the firm as our Manager of Business Development. She is responsible for maintaining existing and prospective client relationships, as well as managing the organization and content of Terra Alpha materials and communications.

On joining Terra Alpha, Emily said, "I am very excited to join the Terra Alpha team and work with an incredibly smart, authentic, and motivated group of people. Terra Alpha's purpose-driven mission is inspiring, and I look forward to continuing my investment career in an industry aligned with my interests and passion for the environment and conservation."



Marissa Oliveri joined the firm as a Research Analyst on the Investment Team. She is responsible for research coverage of and corporate engagement within several industries in the Health Care and Consumer Discretionary sectors, as well as being our area specialist on business use and impact on water.

As Marissa began her time with the firm, she said, "From the very start of this process, I could feel the incredible atmosphere at Terra Alpha. I am proud to be a part of the Terra Alpha family, and I am excited for what we can achieve."

Our Summer 2022 Interns Share their Experiences



Shoncire Graham

How did your experience at Terra Alpha influence your understanding of sustainable investing?

As an Economics major interested in the connection between the economy and finance, I have always wanted to learn more about the world of sustainable investing. Terra Alpha was my first introduction to that world. My experience taught me how to analyze companies through a sustainable lens and broadened my research capabilities to include the measurement of progress and innovation.

What was your biggest takeaway from your internship at Terra Alpha?

My internship with Terra Alpha has had a big impact on my academic experience, career development, and sustainable mindset. I was encouraged to be inquisitive and learned how to ask the right questions when I was stuck. Asking questions led to some of my most engaging learning experiences during my internship. I am motivated to use this experience and the skills that I learned to advocate for myself in my future endeavors.



Melina Ocampo

How would you describe the learning environment and culture at Terra Alpha?

Terra Alpha has a positive and collaborative learning environment. Throughout my internship, I felt encouraged to ask questions, be curious, and keep a skeptical mind as I learned more about sustainable investing. Everyone was supportive and welcoming throughout my entire experience at Terra Alpha; the team made sure I was developing the skills necessary to be a better analyst, such as learning to discern between what was relevant to my research and what wasn't. I also enjoyed getting to know everyone through team lunches and outings.

What would your advice be to people considering applying for internship opportunities at Terra Alpha?

My advice to future interns is to bring a skeptical mindset to your research. I encourage interns to be curious and unafraid to ask questions about your projects, the firm, or possible career paths in finance. Everyone on the team has so much professional experience in the industry so get to know them and take the opportunity to learn from them. Everyone at Terra Alpha will encourage you to ask them questions, so take their advice!

General Updates

- Congratulations to our Research Analyst and Associate Director of Research, Julianna Brunini, for earning her Chartered Financial Analyst designation from the CFA Institute.
- During the 4th Quarter, our Business Development Team attended and engaged with several conferences and events:
 - Our Director of Business Development, Phil Swan, attended First Affirmative Financial Network's 2022 ESG 4 Impact Conference in Colorado Springs, CO.
 - Our Business Development Analyst, Abdulrahman Gabriel, was in Carlisle, PA, for the International Climate Symposium hosted by Dickinson College.
- Emily Hiltz is now the primary investor relations contact. You can reach her at emily@terraalphainvestments.com.



About Terra Alpha

Terra Alpha Investments is a public equity manager founded in 2014 by highly experienced investors who share the conviction that our rapidly evolving world requires a change in investing thinking. Our rigorous and proprietary Environmental Productivity (EP) analysis values our planet's natural resources and sits at the center of our investment process. Our unique combination of quantitative and qualitative analysis helps us identify companies with the optimal combination of enduring business models and superior EP; which we believe is the primary driver as we seek to deliver superior long-term investment returns for our investors.

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