earth finance

Earth Finance 2026 outlook

Key trends and insights across energy security, renewable fuels, transition strategy, spatial finance, and the water-nature-food nexus

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Foreword

Building a more resilient and sustainable global economy is an unstoppable megatrend.

It is remarkable that, despite significant policy uncertainty, growth in solar and wind deployment exceeded global electricity demand in the first half of 2025, leading to renewables overtaking coal generation for the first time in history. And despite global electricity demand rising by 2.6%, power sector emissions fell in the first half of 2025. Furthermore, investors are pouring billions into clean energy solutions — more than any year on record.

In the private sector, Harvard Business Review recently reported that an overwhelming majority of companies stayed the course or even accelerated their sustainability initiatives in 2025, regardless of political pressure. We have directly observed a similar trend. Our customers continue to invest in sustainability initiatives to capture efficiency, manage acute and chronic risks, establish competitive advantage, and generate ROI.

Why are companies still leaning in? Because they increasingly understand the unseen costs of doing business, the trade-offs of shortsighted thinking, the realities of planetary change, and the opportunities to capture business value.

The most innovative companies are leveraging advanced geospatial analytics to visualize and model physical, policy, and financial impacts with increasing degrees of precision. Emerging AI solutions pledge to protect critical infrastructure, secure supply chains, and keep the lights on when the grid goes dark. These resiliency-focused tech solutions can lead to more sustainable outcomes by optimizing operations and supply chains and establishing new markets and business models.

We have the tools, capital, technology, and creativity to establish the next phase of global prosperity — one that benefits all people.

But the fact is, we live on a finite planet with resource constraints.

NVIDIA's CEO Jensen Huang recently told shareholders, "Your revenues are power limited." We need abundant and affordable energy, water, and natural resources, or else businesses (and markets) will face limited growth.

This report explores how innovation, policy leadership, and sustainable finance are reshaping economic growth and why the next decade will be defined by opportunity rather than uncertainty.

The path forward is clear: sustainability is not a cost — it is THE growth story for the global economy. Please join us in helping accelerate the global economic transition to a sustainable future.

Hon. Reuven Carlyle
EVP, Earth Finance
Washington State Senator
(2009-2023)

Garrett Kephart
CEO, Earth Finance

Energy Security

Garrett Kephart,
CEO

Geopolitical, regulatory, and technology megatrends are reshaping the global energy landscape. The key question: how do we reliably deliver more electrons to homes and businesses as demand surges while keeping power bills as low as possible? Although the drivers of electricity demand vary by region, in North America, the primary driver is data center growth. United States electricity demand is projected to rise 25% by 2030 and 78% by 2050 compared to a 2023 baseline.

We need an “all-of-the-above” approach to address the emerging energy supply-demand gap. Still, as JPMorgan publicly warned, the United States risks missing its energy priorities without renewables. Solar, wind, and energy storage solutions are the cheapest and quickest forms of energy to deploy. And even without incentives, behind-the-meter solutions can make sense in the right situations.

“Abundant and affordable power is the growth limiter. As a result, energy security is rising to the top of corporate and investor agendas.”

Energy security trends to watch for in 2026

Increasing focus on demand response and energy efficiency.

Building new energy infrastructure is expensive. As demand surges, grid productivity and demand response can help us get more from our existing energy infrastructure. The U.S. electricity grid only operates at about 40% efficiency, meaning many electrons are wasted to ensure we meet peak loads. Utility-scale batteries and AI solutions that improve grid utilization and data center capacity are scaling rapidly.

THINKING OUTSIDE THE BOX

A new report suggests that hyperscale data centers could meet 100% of their electricity needs by paying for energy efficiency interventions such as heat pumps and battery storage systems in surrounding residential households, in essence freeing up grid capacity through residential energy efficiency. Global research supports this proposition — World Resources Institute finds that every $1 invested in building efficiency (such as heat pumps), saves $2 in new power plants and electricity distribution costs.

Rise of behind-the-meter solutions.

Energy security is now a primary driver of operational and supply chain resiliency for many commercial and industrial businesses. Physical growth will be constrained by access to reliable and affordable power. In the right locations, behind-the-meter generation and storage solutions can improve reliability and manage long-term price volatility. And although behind-the-meter CAPEX may be higher in the near term, electrons and molecules produced locally can be more secure and more affordable than those produced and transported across borders.

Some B2B businesses are addressing CAPEX hurdles by coupling innovative financing with outsourced operating models. Another emerging company is harvesting critical materials from end-of-life batteries to build and deploy low-cost, large-scale storage solutions that can co-locate with data centers and offer back-up power.

Energy affordability gets political.

As of October 20th, U.S. gasoline prices were below $3 per gallon in 33 states and down ~$0.13 since the same time last year. Residential electricity rates, on the other hand, have risen over 30% on average since 2020, and wholesale electricity rates are 267% more expensive in some areas near U.S. data hubs. Higher power bills will hit low-income households the hardest, and at a time when tens of millions are making tradeoffs between paying their power bill and expenses like healthcare and housing. If this trend continues, power bills may replace gasoline as a political bellwether in the United States.

Water, nature, & agriculture

Jared Sheehan,
Senior Director,
WATER, NATURE, & AGRICULTURE

Will Sarni,
Practice Lead,
WATER, NATURE, & AGRICULTURE

Reflective of what's happening in the broader global economic landscape, developments across the water-nature-food nexus this year have been dominated by a renewed clarity on building security for these resources and an AI-focused digital transformation of the private and public sector. The proliferation of AI and hyperscale data centers has led to a sharper focus on their immense water and power use and impacts on local communities. As a result, corporations are actively looking for ways to offset their use of natural resources, particularly through AI-powered technologies such as leak detection and advanced cooling systems.

While the water and power footprint of these hyperscale data centers is drawing increasing attention to the value of digital technologies, corporations are also grappling with water scarcity and pollution, loss of ecosystems and biodiversity, and risks to agricultural production. A lion's share of venture capital investment in water, nature, and agriculture has been awarded to AI solutions, leaving a widening gap in funding for adaptation-related interventions. Closing this gap will be table stakes for corporations seeking to bolster operational and value chain resilience in 2026.

Water, nature, and agriculture trends to watch for in 2026

A shift toward decentralized water and power infrastructure.

The public sector alone cannot solve water and power scarcity. As demand for water and power continues to skyrocket with the mainstreaming of AI, leading corporations are realizing that relying solely on public sector water and power providers is a business risk. Spearheaded by the food and beverage and technology sectors, companies like Microsoft and AB InBev have begun proactively investing in decentralized power and nature-based water infrastructure. As these assets come online in 2026 and beyond, we could see large-scale facilities like data centers become de facto utilities.

More water-related ag-tech interventions in the suppy chain.

PepsiCo and Walmart were early pioneers in improving soil health and water quality through regenerative agriculture. Now, corporate leaders are making more targeted supply chain investments to boost agricultural ROI through water security, such as Google's investment in precision irrigation technology company Arable. This trend will accelerate in the coming years, whether through pre-competitive partnerships to share risks on agricultural investments or innovative farmer incentive financing programs.

An emergence of diverse business ecosystems.

Solving systemic water, nature, and agriculture issues requires building and scaling innovative solutions — and no single stakeholder can solve them alone. Business ecosystems build upon the concept of collective action by introducing a commercial relationship and anchoring stakeholders around shared values that strengthen and sustain long-term collective impact. Several thriving business ecosystems targeting water scarcity, such as Water United in the Colorado River Basin, are already taking shape. We expect to see applications of this framework applied across other sectors and issues in the coming years.

Renewable fuels

Tim Zenk,
Managing Director,
RENEWABLE FUELS

Despite the policy uncertainty from the U.S. government, renewable fuels markets are gaining increasing attention. As heavy-duty transport stakeholders come to terms with the challenges of electrification, they have identified renewable fuels as an economically viable, drop-in solution to mitigating planetary and human health impacts and boosting regional energy resilience. On the West Coast, robust Clean Fuel Standard (CFS) markets have taken hold, helping lower the price premium of low-carbon fuels and spur widespread adoption. Outside the U.S., progress is accelerating, particularly in countries with mandate-based policy environments such as Japan, Southeast Asia, Singapore, the European Union (EU), and China. Renewable fuels play a critical role in global transportation, and stymied progress in the U.S. will not stop the low-carbon fuel transition.

POLICY MANDATES IN ACTION

In alignment with the EU's ReFuelEU Aviation Regulation, Neste has made sizable investments in its Rotterdam renewable products refinery, which has the potential to double global SAF production.

Renewable fuels trends to watch for in 2026

Regional coalitions will lead the way.

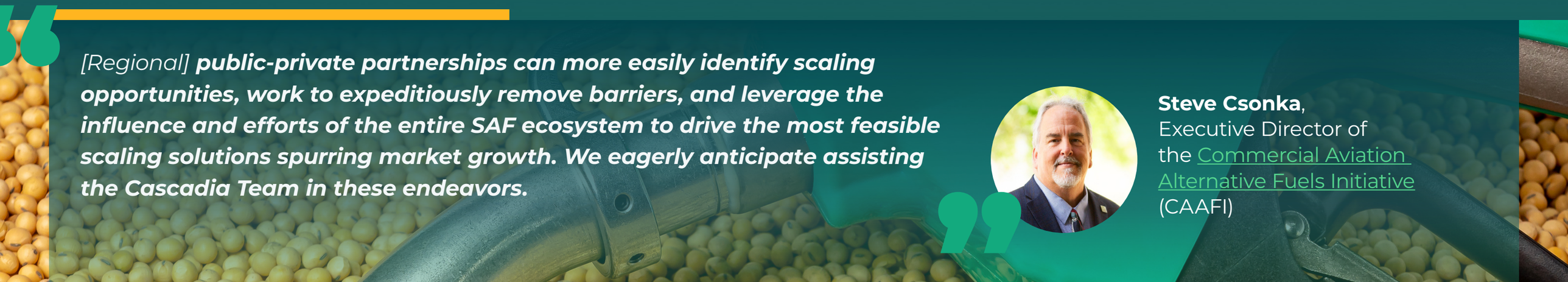
As support for renewable fuels continues to degrade at the federal level, regional cross-sector coalitions are starting to lead the way. Combining skills, resources, and expertise across the renewable fuels value chain, these public-private partnerships have all the ingredients needed to catalyze a large-scale market transformation toward lower-carbon fuels. Some notable examples include the Minnesota SAF Hub, Asia SAF Association (ASAFA), and the Cascadia Sustainable Aviation Accelerator (CSAA).

Emergence of multi-modal transportation strategies.

Sub sectors of heavy-duty transportation have long viewed feedstocks, energy, and other fuel inputs as competitive resources. That's starting to change. As aviation, maritime, and long-haul trucking stakeholders realize that many renewable fuel products stem from the same feedstocks and refining technologies, we expect to see a "multi-modal" approach to the fuel transition. For example, instead of each sector pursuing different low-carbon fuels strategies, they would benefit from coordinated offtakes and co-invest in infrastructure for shared fuel types.

Increasing demand for renewable fuels over the next decade.

As electric vehicle (EV) adoption continues to slow down, particularly in the heavy-duty market in the United States, the market for cleaner fuels increases. With the recent elimination of EV incentives at the federal level, the demand for renewable fuels will rise — focusing on hard-to-abate sectors including marine, aviation, and long-haul trucking. It is not infeasible to say that heavy-duty transportation could reach its decarbonization goals faster than the light- and medium-duty classes.



> *[Regional]* ***public-private partnerships can more easily identify scaling opportunities, work to expeditiously remove barriers, and leverage the influence and efforts of the entire SAF ecosystem to drive the most feasible scaling solutions spurring market growth. We eagerly anticipate assisting the Cascadia Team in these endeavors.***

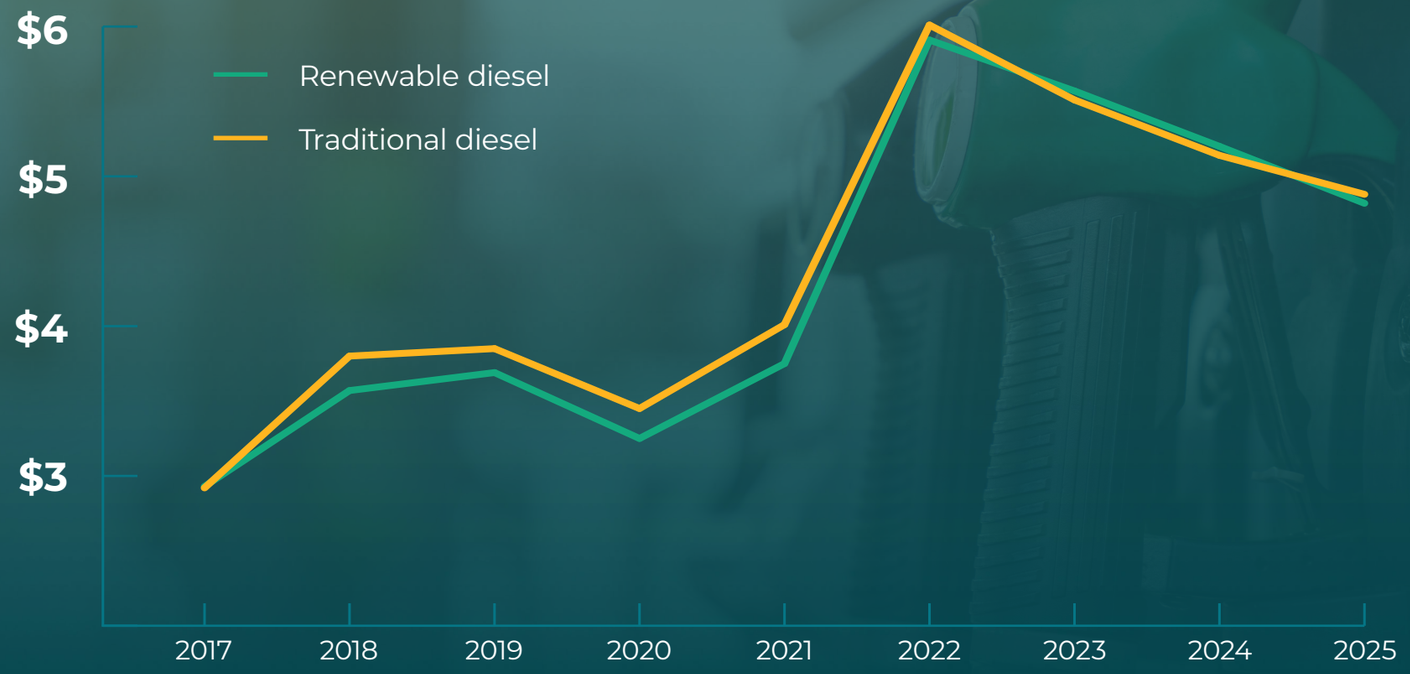
Steve Csonka, Executive Director of the Commercial Aviation Alternative Fuels Initiative (CAAFI)

Renewable fuels trends to watch for in 2026 *continued*

RENEWABLE FUELS MARKETS IN ACTION

In California, the adoption of cleaner fuels like renewable diesel has created undeniable economic value. Renewable diesel makes up **over 70%** of all diesel sold in the state and cost an average of **$10 cents** less at the pump between 2017-2025.

Average California diesel prices at the pump
($/gallon)



Renewable fuels as an energy security narrative.

As renewable fuels markets mature, reliable data can now be found on the benefits to human health, market stability, and local economic value. Renewable fuels feedstocks are by definition sourced on a more regional basis and are not tied to global crude oil impacts, creating stable fuel markets that result in a more energy secure region and nation.

Alignment in maritime toward renewable diesel.

Emerging technologies like green methanol, ammonia, and hydrogen are slowly making their way to commercialization, but still need to scale to achieve cost competitiveness. In an uncertain economic landscape, maritime stakeholders are seeing the value in renewable diesel. Next year, we expect increasing interest in renewable diesel for waterfront support vessels at key ports, such as those in the Pacific Northwest, California, Singapore, and Rotterdam.

Transition Strategy

Erin Baldini,
Head of Corporate Strategy

Kat Hunt,
Head of Finance Strategy

This year has marked an inflection point for the corporate sustainability agenda. While sustainability practitioners have long understood the need to ground their work in business value, the geopolitical uncertainty seen in 2025 has become a forcing mechanism. Corporations took a moment to re-evaluate, but by and large, they're not retracting from the sustainability challenge. Instead, they're approaching sustainability with a sharper focus — more rigorously quantifying the financial value of investments, prioritizing work that will drive long-term business resilience, and refining corporate strategy around what it'll take to reach their targets. As we heard at New York Climate Week and beyond, lofty goals are being replaced by tactical, pragmatic action on the ground.

Transition strategy trends to watch for in 2026

Broadening definition of financial returns.

As corporations reckon with increasing resource scarcity and extreme weather events, we expect to see a more holistic approach to ROI for adaptation and resilience. While avoided impacts aren't quantified in today's financing models, they are still a form of ROI. Corporate risk, strategy, and business continuity teams will need to rethink their definition of ROI to operationalize meaningful adaptation and resilience strategies (for instance, considering 5-10+ year time horizons as opposed to 1 year).

62%

Risk decision-makers from industrial, manufacturing, and technology companies report they have suffered at least one severe disruption due to extreme weather in the past three years.

- Ready for the storm: closing the extreme weather resilience gap (FM)

Increasing momentum for financial incentives.

More corporates are looking for pragmatic ways to embed financial incentives into existing organizational structures and operational processes. Following the success of early pioneers such as Walmart and Levi Strauss, they have identified incentivization through supply chain financing as a high-impact, low-cost mechanism for driving tangible progress over the short term. The emergence of financial technology (fintech) tools like C2FO will only accelerate this trend, lowering the operational lift required to implement supplier finance programs.

Further integration of sustainability into core business functions.

Sustainability, once viewed as an office down the hall, is beginning to infiltrate central corporate functions. Among our client base, we're hearing inklings of sustainability teams being integrated into departments like operations, supply chain, or even corporate affairs. As this structural shift takes hold in 2026, sustainability will more deeply inform core business activities, such as real estate teams considering extreme weather and access to water and energy in future site selection or supply chain teams identifying new sourcing regions less prone to weather-driven price volatility. We see this as foundational to companies' ability to translate sustainability into the language of business.

Spatial Finance

Chance Kania,
Head of Spatial Finance

Amid shifting political and macroeconomic conditions, it has never been more important for corporations to demonstrate the business value of sustainability. At the same time, extreme weather and other planetary impacts are becoming financially material today. The convergence of these two forces has pushed the field of geospatial analytics to center stage. Corporations dependent on commodity-based assets are craving insights on where and how their value chains interact with planetary and economic systems. And more importantly, the financial implications of those insights.

Spatial finance trends to watch for in 2026

Corporate prioritization of place-based strategies.

The ability to generate location-specific financial insights — be it on weather-related risks or economic disruptions — is the cornerstone of spatial finance. Practitioners in asset management and insurance have been conducting this kind of analysis for years, whether they call it “spatial finance” or not. Now, corporations are paying attention.

But data and information alone aren’t enough. Next year, we expect to see organizations lean more heavily into spatial finance, connecting assets, infrastructure, and supply chains with shifting planetary and market conditions to drive financially informed decisions. Instead of high-level water risk data, corporations will seek granular, place-based insights — how will drought impact margin forecasts in specific watersheds or sourcing regions?

The (over)hyping of artificial intelligence?

AI has been invaluable in unlocking progress across data analysis and forecasting. For instance, Google’s GraphCast AI model delivers 10-day weather predictions at unprecedented accuracy, and numerous anti-deforestation tools now use artificial intelligence to monitor, detect, and predict deforestation.

However, we’re still a few years away from AI models being able to answer the “so what” side of the equation — such as computing the future nature-related financial risk of a specific piece of farmland and the financial benefit of embracing regenerative farming practices. This kind of model requires merging multiple, complex geospatial datasets with internal company data, risk tolerance, and priorities.

> ***Software solutions can’t solve everything.*** *Spatial finance deals with hyper-local issues and solutions. Companies still need to be on the ground to engage their suppliers, customers, partners, and other value chain stakeholders. This will always be true, no matter how advanced AI gets.*

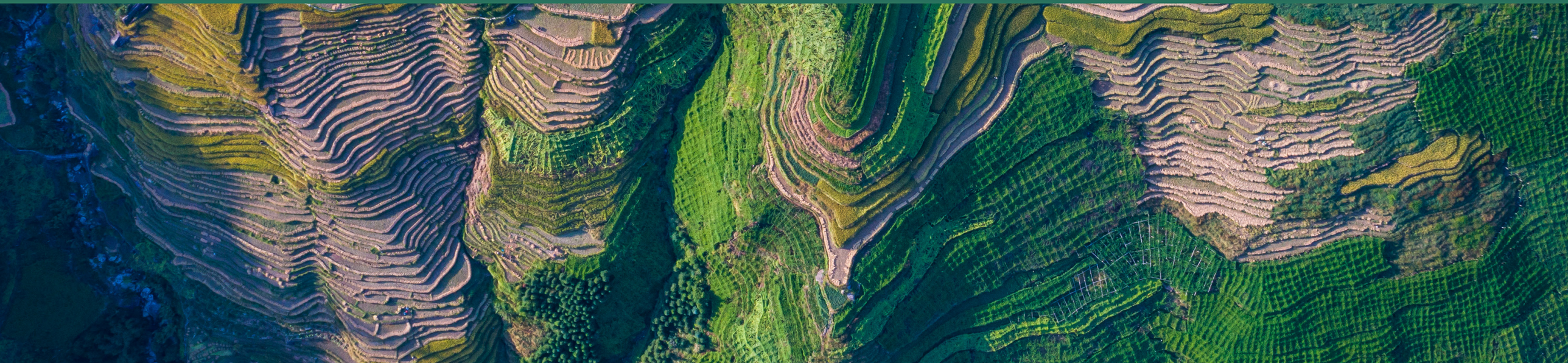
Spatial finance trends to watch for in 2026 *continued*

Integration of geospatial datasets.

Understanding the intersection of water, nature, extreme events, and other planetary risk data is critical to building a sound adaptation and resilience strategy. Corporate leaders are beginning to recognize this, and they'll actively be seeking technology-enabled solutions to help them quantify the overlap of these data in financial terms. For instance, what is the avoided cost of diesel fuel purchasing associated with the installation of decentralized solar arrays?

Emergence of adaptation-focused financing models.

As mentioned earlier, demonstrating the ROI of adaptation and resilience initiatives can be challenging. Regardless, determining how to deploy funds through corporate adaptation and resilience strategy will be paramount next year. We expect to see more creative financing models take shape — such as quantifying adaptation-related co-benefits of mitigation investments or exploring opportunities for novel partnerships in the supply chain.



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The global transition to a sustainable future is the greatest economic opportunity of our generation.

Earth Finance's technology-enabled solutions help organizations execute strategies that unleash the power of sustainable economic growth.

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