

# Technology scan

## Integrating climate finance with technology

### UNITED KINGDOM

#### DNA Sampling Tech for Biodiversity Frameworks

To address Biodiversity, companies and investors have invigorated a cohort of startups offering tools to help monitor biodiversity levels.

One such startup, based in London, is Nature Metrics, which works on DNA sampling tech and collects samples of water or soil to measure the number of species at a given site, cross-checking the samples against DNA databases. It has one DNA lab in the UK and another in Canada.

It offers kits for water samples, with which it can detect fish species as well as algae, along with soil samples, with which it can detect mammals, fungi, and the soil microbiome. Companies and asset managers can use DNA sampling to monitor the effect their activities have on the biodiversity of the places they operate in.

Nature Metrics works with companies building infrastructure projects wanting to assess the impact of their project on the ecosystem around it, as well as with water utility companies, mining businesses, and conservation charities. It's worked on projects around the world, from Mozambique to the UK. It recently secured £9.8m in funding.

There is a large and expanding possibility for large-scale nature monitoring and reporting; other firms are developing other biodiversity monitoring approaches, including as acoustic and satellite monitoring systems. Interest in biodiversity monitoring increased after the launch of the Global Biodiversity Framework at COP15, in Montreal, at the end of 2022. Under the framework, aimed at halting biodiversity loss by 2030, governments will introduce policies requiring large companies and banks to report and reduce the damage they do to ecosystems.

The demand for monitoring technologies is set to increase as the Taskforce on Nature-related Financial Disclosures

(TNFD), an international initiative to develop biodiversity disclosure frameworks for businesses.

<https://sifted.eu/>

#### Climate Intelligence

As climate-related physical and transition risks become more prevalent, companies need to embed climate considerations into risk mitigation and put effective climate strategy and adaptation at the core of long-term business resilience.

Cervest's proprietary CI platform provides science-based climate risk insights, including exposure metrics and globally comparable risk ratings for assets and asset portfolios. Known as Cervest Ratings™, these can determine combined risk or hazard-specific risk that climate change effects including droughts, flooding, wildfires, or extreme temperatures can have on any asset. Assets can be selected from Cervest's pre-mapped catalog of over 600 million assets or uploaded manually. The platform's collaboration tools enable easy sharing of portfolios and insights across teams and organizations, and seamless integration into reports and presentations.

Accenture Ventures Project Spotlight initiative has entered into a collaboration agreement with Cervest, an AI-powered climate intelligence (CI) platform, that will expand Accenture's capabilities to deliver on-demand access to historical, current, and predictive views of combined climate risks to assess and address asset and portfolio vulnerabilities for clients across industries.

Accenture will combine its industry-leading capabilities in ESG intelligence with Cervest's Earth Science AI™, data modeling, and machine learning capabilities available through its CI platform and EarthScan™ product. This collaboration will help clients assess and mitigate physical asset risk based on different climate scenarios enabling them to better plan for resilience and inform net zero strategy,

while also making climate-related disclosures more transparent.

Having a single source of truth for climate risk-related insights, backed by the latest climate science data, will expand the network of solutions available to enterprises looking to embed sustainability at the core of strategy & operations. Those businesses that adopt measurement and management strategies that integrate carbon data and ESG insights into core business decision-making will be better positioned to reinvent and build business resilience while mitigating risks and capitalizing on opportunities of the advancing transition to net zero.

Cervest's Unified Climate Intelligence™ (UCI) platform is enabling enterprises, public bodies, and financial institutions to measure interconnected climate risks and opportunities on built and natural capital assets – across physical and transition risks. Powered by cutting-edge Earth Science AITM and globally comparable climate risk ratings, Cervest's flagship product EarthScan provides UCI-driven insights that chief risk and sustainability officers use to increase asset resilience and meet climate-related financial disclosure requirements. By connecting and de-risking decisions on every built and natural asset through UCI, Cervest is powering a Climate Intelligence Network™ whose climate-aligned decisions will drive a chain reaction of adaptation actions to build a more resilient world.

Our changing climate threatens every physical asset and natural resource our world depends on, costing us billions today and affecting every enterprise around the world – a figure projected to cost trillions soon.

Humans have made billions of uninformed climate decisions over the last century. Despite decarbonization efforts, climate volatility is already 'locked in' for decades to come.

To adapt to and mitigate the consequences of this, we need to make billions of climate-intelligent decisions, fast.

Unprecedented technology, unprecedented foresight. Until now, organizations couldn't quantify, interpret, or integrate climate risks into core decisions – the risks are just too complex, multi-dimensional, and computationally intensive.

<https://newsroom.accenture.com>

## INDIA

### ESG Blockchain automation tool Technology

TRST01 (TrayamBhu Tech Solutions Pvt. Limited), a leading blockchain climate-tech company, announces the launch of Footprint- the World's 1st ESG Blockchain automation tool.

It is a cutting-edge ESG automation tool designed to help organizations monitor, measure, analyze, and report their environmental, social, and governance (ESG) performance. This will be the first Global ESG automation tool product using the web3 interface (Blockchain). The Footprint ESG automation tool has been developed to meet the growing demand for transparency and accountability in an organization's sustainability practices. With the tool's advanced features and functionalities, businesses can easily track their ESG performance and report their progress to stakeholders, investors, and customers.

Another essential feature of Footprint is its supply chain management reporting. The tool allows companies to track and report their suppliers' ESG performance, providing a comprehensive view of their supply chain sustainability practices. This feature is crucial as companies increasingly recognize the importance of responsible sourcing and sustainable supply chain practices. Footprint by TRST01 has been designed keeping in mind an organization's triple bottom line – People, Planet, and Prosperity. This simple easy-to-use tool helps companies track and report on their ESG

performance, supporting their efforts to reduce their environmental impact, promote social responsibility, and foster economic growth.

Footprint by TRST01 follows the latest ESG reporting standards, including the Global Reporting Initiative (GRI), Sustainability Accounting Standards Board (SASB), Task Force on Climate-related Financial Disclosures (TCFD), and Carbon Disclosure Project (CDP). It is also in sync with the United Nations Sustainable Development Goals (SDGs) to provide a comprehensive view of an organization's ESG performance. One of the critical features of Footprint is its industry-specific content that offers customized materiality topic arrangement. This feature enables companies to report the most relevant ESG metrics and critical issues for more meaningful engagement with investors, customers, and other stakeholders.

The ESG automation tool is blockchain-enabled, providing a secure and transparent way to verify the accuracy, authenticity, and reliability of the ESG data. This is particularly important as companies face increasing scrutiny and pressure to disclose accurate ESG information.

<https://www.expresscomputer.in>

### Bio soluble packaging

Although detrimental to the environment, plastic packaging is used tremendously by consumers due to its high durability. Most of this waste ends up in landfills and water bodies, causing harm to biodiversity. Mumbai-based Neha Jain has come up with an eco-friendly alternative.

She has made low-cost packaging that can dissolve in water. These are made using seaweed.

During her research, she came across a unique species that could change the face of plastic consumption in the country — seaweed. It is a species of marine plants and algae found in the ocean and does not require energy to be grown or even fertilizer, fresh water, or soil.

In 2020, she started converting various species of seaweed into low-cost packaging and launched Zerocircle, a material science startup. The team procures seaweed from farms in Gujarat and Tamil Nadu. They turn it into a powder and make handbags, bags for clothes, film for food, and more plastic alternatives.

The packaging is soluble and dissolves in the ocean without leaving any microplastic causing no harm to the biodiversity.

<https://www.thebetterindia.com/>

## REPUBLIC OF KOREA

### Composite Column Construction Technology

Over the years, the Korean administration has supported more productive yet eco-friendly methods in construction sites. Since it enables a healthier setting, lowers the carbon footprint, enhances the construction business image, reduces the need for excess resources, and delivers long-term sustainable results.

Traditional construction process doesn't hold much significance in the present age which is inclined towards sustainability. In recent years, South Korea has made investments in research and development space for green growth. The country's investment in green technology crosses \$408.65 billion in 2021. During that period, 115 green companies were successfully built.

South Korea's Ministry of Trade, Industry, and Energy (MOTIE) has approved the concrete-filled composite column technology by POSCO. The Pohang-based steel-making company, POSCO will be allotted a green technology certificate as its concrete technology has been verified as environment friendly. Green technology checks whether the construction ensures minimal harm to the environment, lesser toxic emissions, and energy utilization or not.

It's the Green Certification Review Committee's role to identify candidates or companies suitable for green

technology certificates in South Korea. The committee is overseen by the Ministry of Trade, Industry, and Energy along with a few other evaluation partners and ministries.

POSCO initially came up with concrete-filled composite column technology in 2019. It was swiftly recognized for its efficiency by experts. This concrete-filling composite column method is a column built using cold-forming quality steel that ultimately benefits by improving compressive potency via the composite effect of concrete and steel.

This POSCO technology reduces the amount of waste by 53%. By applying the concrete-filled composite column method construction agencies can save up to 59% on waste treatment costs. Compared to the reinforced concrete column, the POSCO technology degrades carbon dioxide emissions by about 47%.

However, what awaited was a nod from the government for its eco-friendliness level which has been fulfilled now. The green technology certificate is evidence that the company's concrete technology emits comparatively less carbon and pollution.

The South Korean steel manufacturer along with its planning, procurement, construction, and operation subsidiary, POSCO Engineering and Construction (E&C) have switched reinforced concrete methods with the new concrete-filled composite column method for underground parking facilities.

It is anticipated that POSCO will continue to expand the application of low-carbon construction methods and devote time to developing similar technologies. Construction work can be quite disturbing for nature.

POSCO and its concrete technology are cordial towards efficient usage and the environment. The company looks to transform not just the South Korean construction industry but plants and infrastructure as well.

<https://www.koreatechtoday.com/>

## UNITED STATES

### Solar Nanogrids for Electricity On The Go

After a natural disaster, communities go an average of 52 hours without power. That's why Sesame Solar Nanogrids were designed to be set up by one person in 15 minutes and start generating power immediately.

Sesame Solar's Mobile Nanogrids are grid-independent energy structures that look like construction trailers or shipping containers on a flatbed truck. This means the Nanogrids can be easily transported to areas that have been impacted by a natural disaster or power outage.

Each Nanogrid is fueled by solar power, green hydrogen, and battery storage, offering weeks of energy autonomy by combining these complementary forms of renewable energy generation and storage in a closed-loop, carbon-free, reliable system.

The solar arrays are installed on the side panels of the nanogrid. With the patented technology, one can simply "Open Sesame" and the side panels are electronically unfolded to face the sky and start generating power. The solar capacity ranges from 4-20 kW.

Nanogrid contains a battery to capture the energy generated by solar and green hydrogen energy. Depending on the configuration, Nanogrids can produce between 3-20 kW of power, with total battery storage of 15-150 kWh.

The Nanogrids are intentionally designed for multi-use case scenarios and can double as facilities for mobile clinics, offices, emergency response centers, mobile retail pop-ups, remote military applications, and more. Each Nanogrid can be tailored to a community's specific needs and power essential community functions after a disaster strikes.

The company's primary use case is disaster response, but our Nanogrids can also be used to power EV charging,

telecommunications, media and entertainment, and more.

Sesame Solar, based in Jackson, Michigan, USA manufactures portable solar power and energy storage systems for emergencies or work scenarios where they provide mobile power. The Nanogrids have a 1-year warranty, and we pass along component warranties that range from 5 to 20 years.

The US Air Force uses Sesame Solar Nanogrids as Mobile Medical units and Command and Security units for remote missions such as recovering a downed aircraft.

Santa Barbara County Office of Emergency Services is using Sesame Solar Nanogrids powered by solar and green hydrogen for Mobile Community Power after wildfires, floods, and power outages and for events and community education in non-disaster applications.

Sesame Solar Nanogrids are easily transported by forklift, truck, train, ship, plane, or helicopter. The Nanogrids can be hitched and pulled by a  $\frac{3}{4}$  or 1-ton truck

<https://cleantechnica.com/>

### Soil Carbon Capture

Boomitra is a Silicon Valley-based startup working to accelerate atmospheric carbon removal using agricultural soil and doing it from anywhere in the world. The team has developed a way to measure and monitor carbon levels in the soil using artificial intelligence-based algorithms without the need to take a physical soil sample. The team uses satellites to remotely certify and monitor a field's soil organic carbon on field sizes as small as two hectares, enabling onboarding of farmers of nearly any size around the world. It operates as an agricultural carbon marketplace that connects farmers selling carbon credits with large corporations and governments who buy them.

This has the potential to enable the expansion of the entire carbon market industry since the current soil carbon

measurement practices include sending people out to a farmer's field to take soil samples and then quantifying the samples in a lab. A process that is both costly and time-consuming.

Given the remote nature of Boomitra's solution, the team can now measure nearly any field, even those as small as two hectares. This means that farmers in markets like India and Mexico who would otherwise be shut out of carbon markets because of their field sizes (which make regular soil samples prohibitively expensive) are now able to participate in this part of the agri-sustainability revolution.

<https://www.yara.com/>

## AI to predict the impact of natural disasters

Natural disasters are unavoidable and can wreak absolute havoc on cities and towns, regardless if they're in developing or developed countries. But what if we had more time to prepare before disaster strikes? And, what if we could predict what areas would suffer the most?

That's exactly the challenge solved by One Concern, a platform that uses social and economic data as well as AI to uncover a city or town's weaknesses.

With this hyper-local data, the platform enables policy-makers to make policies before disaster strikes to protect entire cities, and vulnerable populations, or "geofence" different segments of society who may be at greater risk. The platform also enables users to make smarter, more informed, and quicker decisions, during and after a disaster strikes.

One Concern gets smarter through 'collective intelligence' where human knowledge and expertise are incorporated into the overall platform, enabling AI-driven recommendations to be delivered in real-time.

While the ultimate goal of the platform is to avoid any loss of life, the technology also helps to reduce property damage, and business interruption and protect employees.

Behind One Concern's design, each line of code is a fundamental invention. The team has filed for more than fifteen patents across multiple disciplines of science and technology.

Their model's Seismic Concern and Flood Concern have been successfully trailed in San Francisco, Los Angeles, and Seattle as well as the State of Arizona, respectfully.

<https://theindexproject.org/post/one-concern>

## Parametric Reinsurance Platform

Arbol, a global climate risk coverage platform, in collaboration with The Institutes RiskStream Collaborative, a blockchain and emerging technologies consortium, has unveiled dRe, a blockchain-powered parametric reinsurance platform.

The platform is the first on-chain data calculation tool for reinsurance, its creation marks a significant milestone for parametric reinsurance.

Arbol's dRe Lifecycle Dashboard is a smart contract-based system that enables efficient and transparent parametric loss calculations for severe storm catastrophe transactions.

Leveraging validated weather data from leading decentralized climate data networks, dClimate, and Chainlink's industry-standard decentralized oracle network, the platform triggers a smart contract based on wind speed and location for specific peril events.

The system automates claim initiation, notifications, and loss calculations, resulting in rapid payouts, streamlined data flow, and heightened transparency.

The platform was developed in collaboration with The Institutes RiskStream Collaborative, employs technologies by Kaleido, and leverages RiskStream's Canopy platform—the industry's first end-to-end reusable blockchain framework.

With its flexible design, dRe can adapt to various perils such as rain, heat, or wind, and the potential for non-parametric insurance event notifications.

<https://www.reinsurancene.ws/arboll-and-the-institutes-riskstream-collaborative-announce-partnership/>

## Innovative Green Finance Market

Zero Circle can help you recognize the value of sustainability reporting and has put in place a road map for stakeholders to support their reporting as an aspect of the company's risk management approach. The first step in starting up is to teach oneself the ropes of economic viability, environmental conservation, and social equality. The next step is setting and achieving sustainability goals and implementing sustainability-focused policies and practices.

More significant establishments and corporations have a windfall of funds to support sustainability activities. At the same time, small and mid-sized organizations need more resources and ample funding to have a favorable impact on their communities. Smaller and mid-sized organizations are big on carrying through sustainability initiatives and need assistance figuring out how these ideas will positively impact their stakeholders and their organizations.

Zero Circle is a sustainable finance platform that focuses on green financing. It is dedicated to assisting companies in identifying suitable financing options that offer access to green financing solutions and drive positive development.

Zero Circle focuses on discovering sustainable and diverse suppliers and ensures you stay ahead of the curve. This intuitive platform helps you find the perfect suppliers to meet your business needs.

<https://www.newenergyx.com/>

## FRANCE AI assistant for ESG analysis

Iceberg Data Lab (IDL), the green FinTech firm that provides scientific environmental data solutions for financial institutions, has launched 'Barbatus', the world's first ESG AI assistant.



This new product has been launched in response to the increasing complexity of ESG reporting frameworks. It will simplify the process of ESG data analysis for clients, ultimately leading to better comprehension of the environmental impact of their investments and speeding up their sustainability transition processes.

IDL, established in 2015, caters to the growing need for reliable and science-based environmental company data among financial institutions. The company provides simplified data through its proprietary impact calculation platform, offering a comprehensive lifecycle analysis of the environmental impact of portfolio companies. This spans across Scope 1, 2, and 3, upstream and downstream.

Barbatus is a revolutionary product that uses generative AI technology to provide real-time, text-based, and fully sourced explanations in response to queries about the ESG data of portfolio companies. It is designed to extract and provide structured information from unstructured text within IDL's extensive dataset, covering over 2,300 different products and services.

The ESG AI assistant offers a plethora of solutions for professionals in the financial services industry. It allows ESG analysts to interpret results more effectively, enhance benchmarking, and better understand how corporates can reduce their environmental impact. CSR teams can also use Barbatus to analyze their own or their sector's environmental impact in response to regulators' requests.

<https://fintech.global/>

### Climate Neobank Green-Got

Finance has an incredibly powerful role in Europe's green transition and unlocking that will prove monumental in the race towards creating more sustainable societies. French startup, Green-Got, wants to facilitate that.

Founded in 2020 by Maud Caillaux, Andréa Ganovelli and Fabien Huet, Green-Got offers a sustainable approach to banking and finances. The neobank offers its customers alternative and 100%

transparent and ecological bank accounts which, with each payment, contribute free of charge to the financing of the de-pollution of the oceans, the afforestation or the development of renewable energy.

The vision is to change the world of traditional finance by redirecting financial flows towards transition. So far, the firm has already stored or avoided more than 12k tons of CO2e through its banking platform.

Whilst the amount of money going towards climate has increased by 60% since 2013, there is still a massive gap in global climate financing. Green-Got's platform directs financial support to high-impact environmental projects. The online payment and savings account enables users to pay anywhere in the world with a card made of natural wood or recycled plastic.

In addition, Green-Got has engineered its carbon calculator for its users to measure and control the CO2e emissions linked to their spending.

The neobank has just raised €5 million, including €1.9 million in crowdfunding in less than 80 minutes, to change how people manage their money. With this new funding, the climate-led fintech team plans to address the green finance market in other European countries like Belgium and develop their offer with personal saving accounts and accounts for sole traders.

<https://techcrunch.com/>

### Green energy Management Solutions

On a global scale, consumers spent \$24 billion on green electricity in 2022 and it is projected to grow this year as the demand for clean energy. This coincides with the increased concerns over climate change and the desire from organizations and individuals to reduce their carbon emissions. However, they are rarely informed where this energy comes from.

Energy companies are allowed to market tariffs as 'green' if they have sourced enough energy certificates to cover

the energy consumed by their customers on that tariff within 12 months. Furthermore, energy companies are not required to disclose from where they have bought certificates or how they have been assigned to their customers. As per a recent survey, only under 5% of leading utilities worldwide disclosed the sources of renewable energy behind their green offers last year.

Granular Energy, through its software, provides clean energy management solutions for utilities, energy managers, traders, and large energy buyers worldwide. It seeks to address a lack of transparency in this market that is holding back funds from being directed toward technologies that deliver clean energy at the times and locations it is most needed.

Granular Energy is creating solutions to track where energy comes from hour by hour, creating an important price signal for energy storage and flexibility, alongside more clean energy generation. It aims to create a world where every organization has access to affordable, reliable, and clean energy.

London-based Granular Energy has secured €7.5 million in seed funding, in a round led by impact venture capital firm Norrsken VC (that recently backed Material Evolution), with support from All Iron Ventures, Box Group, Valo Ventures, and participation from existing investors Seedcamp, Revent and Powerhouse Ventures.

<https://techfundingnews.com/>

### CANADA Low carbon Concrete

Tongyang Inc., a South Korean concrete manufacturer under Eugene Group, is expected to speed up its environmental, social, and governance (ESG) management initiative by producing low-carbon concrete.

The company signed a contract with Canada's CarbonCure Technologies Inc. which specializes in eco-friendly concrete technology and established a CarbonCure

system for the first time in the industry that enables low-carbon concrete production.

The key feature of CarbonCure technology is injecting liquefied carbon dioxide into the concrete production process to increase strength. When liquefied carbon dioxide is sprayed during the concrete mixing process, crystallized carbon dioxide reacts with cement to form calcium carbonate, enhancing the strength of the concrete.

This allows for a reduction in cement usage by about four to six percent while maintaining the same strength. The incorporated carbon dioxide in the concrete can be permanently stored within the concrete, maximizing the environmental carbon reduction effect.

<https://pulsenews.co.kr/>

## Technology selection for renewables

Clir Renewables, the market intelligence platform for wind and solar, has announced the launch of Clir Insight for Asset Development, a new product that leverages 200 GW of data to improve technology selection and operation and ensure mitigation of risk.

In an increasingly competitive market, developers are faced with a dynamic risk profile, considerable practical challenges, and uncertainty for the successful execution of renewables projects. Leveraging over 200 GW of industry operations and risk data, Clir's new offering supports developers throughout asset development to evidence major technology selection and contracting decisions, improve the accuracy of energy yield loss assumptions and guide future operations and maintenance strategies.

Clir Insight for Asset Development navigates equipment selection and contracting by identifying technical manufacturer issues, timelines for operational maturity, relative attritional loss risk by technology type, controllable availability by manufacturer and expected loss factors given site conditions.

Site loss factors and production vary by region and manufacturer, impacting energy yield loss assumptions. By employing new technologies with access to environmental and extreme weather data, grid and technology availability, degradation metrics, trends in equipment failure rates and repair intervals, and sub-optimal performance, developers can gain invaluable access to bespoke, accurate, and extensive market intelligence to ensure greater certainty in their financial and operational decision-making.

By leveraging data for accurate assumptions, renewables developers can create a more transparent and reliable project trajectory. This can support them in the process of securing the necessary initial funds for project construction while ensuring positive returns on investment in the operational phase.

<https://renewablewatch.in/>

## SINGAPORE Li-Ion Recycling technology

Singapore-based lithium-ion battery recycling technology company Green Li-ion has developed Green Lithium Multicathode processor (GLMC) technology. It has modular battery recycling units that manufacturers and recyclers can integrate into existing onsite processes. Once installed, they can process four to six metric tons of end-of-life batteries per day (up to 20 electric vehicle [EV] batteries or 70,000 smartphone batteries) to produce precursor cathode active material (pCAM) at battery grade, the firm says.

The first Green Li-ion commercial operation is scheduled to start production in this year's fourth quarter at a plant operated by Aleon in Oklahoma. The company says it also is "rapidly expanding its presence in Southeast Asia, Europe, and North America." Its hydrometallurgical process has been designed to help extract lithium, nickel and other metals from end-of-life lithium-ion batteries. The company received investment from Twin

Towers Ventures (TTV), an investment arm of Petronas Ventures.

<https://www.recyclingtoday.com/>

## Multi-bank working capital solutions platform as a service

TASConnect is a bank, industry and Enterprise Resource Planning system (ERP) agnostic Software as a Service Platform (SaaS) platform connecting complex enterprise ecosystems to unlock sustainable economic value with visibility and control.

Approved invoices are pulled directly from Lenovo's ERP system, which are then straight-through processed to the respective banks for financing via the TASConnect platform. TASConnect collects a usage-based fee based on the volume of such financed invoice flows through the platform.

The platform significantly enhances efficiencies in accounts payable and accounts receivable financing programs; enabling access to increased working capital sources; automating and simplifying complex workflows; and allowing businesses to control their programs securely and sustainably.

A wholly owned subsidiary of SC Ventures Holdings Limited, and incubated by SC Ventures, the fintech and investment arm of Standard Chartered, TASConnect has an initial capital of US\$10m.

TASConnect has invested heavily in cybersecurity measures that follow the culture of bank compliance for data security. Furthermore, the cloud-based platform is hosted on Amazon Web Services, known to be extremely secure, robust, and reliable in disaster recovery modes and data security modes.

<https://sbr.com.sg/>

## GERMANY Home Energy Management

A Germany based startup 1KOMMA5° has developed 'Heartbeat' their energy

manager that enables users to optimize the energy demand at their homes, and their app which gives real-time access to energy flows and historical data, keeping all energy system information in one place.

The company has raised an impressive €215 million. 1KOMMA5° has expanded its reach into six new markets. This strategic move sets the stage for continued expansion into Spain, Italy, Austria, and Switzerland by the end of 2023. By entering these markets, 1KOMMA5° aims to provide sustainable energy solutions to a wider customer base and spearhead the development of a cleaner, greener future.

By 2024 1KOMMA5° announced that Heartbeat will be compatible with existing energy devices, expanding their reach and impact. This breakthrough development marks a significant milestone in the creation of the largest virtual power plant, solidifying its position in shaping a sustainable energy future.

With their climate-neutral energy solutions for homes, individuals are expected to reduce their carbon footprint while enjoying energy cost savings. Collaborating with experienced regional expert companies across 40 locations in Germany, Sweden, Finland, and Australia, 1KOMMA5° mission is to ensure that the best possible sustainable energy solutions are accessible to all, paving the way towards a cleaner, greener future.

<https://www.eu-startups.com/>

## ITALY

### Invisible Solar Panels

Italian company Dyaqua, which has developed a way to produce solar panels so that they resemble the barrel clay tiles common on the roofs of buildings in Italy, has said the technology is important for the sustainable redevelopment of historical sites.

The lighting company Dyaqua saw an opportunity as there were growing concerns with heritage buildings. The product is called Invisible Solar Panels. The panels consist of common monocrystalline silicon cells that are placed

underneath ceramic housing and made from “non-toxic” materials. The ceramics have been modified to appear opaque to human eyes while still allowing sun rays to pass through and power the cell.

Since archaeological sites and usual heritage buildings have a high energy consumption. Therefore, solar energy is very important to lower the environmental impact of these beautiful places and support them in spreading culture.

Every component of the manufactured-to-order panels is meant to be recyclable, and the company has said that they are “artisan made”, so the panels have minor differences between each one, adding to the “classic” look.

Invisible Panels can also be used for siding or pavement and were designed to be functional as well, providing surface protection akin to typical housing tiles. The company also said that the photocatalytic properties of the ceramic housing allow the tiles to self-clean. Dyaqua said it aims to make the panels sustainable.

The panels can also “withstand a high static load” and the company stated that they have been tested against chemical solvents and other “atmospheric agents”.

Each panel weighs about two kilograms and has a peak power of 7.5-watt peak (Wp), an expression of its peak energy capacity. Meant to be used on new structures as well as for the replacement of old tile, the system can be applied to a variety of building types.

The tiles were prototyped for years before being launched in 2016. In 2018 as a power method for the Pompeii Archeological Park through its Smart Archaeological Park program, which attempted to integrate sustainable technologies into the archaeological site. The project aim is to turn Pompeii into the first smart archaeological park, creating an international reference model for other cultural heritage sites.

The company is experimenting with similar systems using different materials like wood, stone, and concrete.

<https://www.dezeen.com/>

## JAPAN

### Fusion Technology

Nuclear fusion is the source of the sun’s energy. Kyoto Fusioneering is involved in the development of fusion energy as a next-generation technology for the massive-scale production of safe, reliable energy. In recent years, the decarbonization trend has triggered a rapid acceleration of R&D activities by government research facilities around the world, including Japan, aimed at realizing nuclear fusion power generation. There has also been an upsurge of R&D activities in this area by startups and other private sector organizations funded by leading investors and business corporations.

Kyoto Fusioneering is a startup established to carry out R&D of solutions needed for the development of nuclear fusion energy and to provide plant engineering services. It was established in 2019, with Emeritus Professor Satoshi Konishi of Kyoto University, a leader in the field of fusion energy research, as a co-founder. The company has a proven track record of developing key components for fusion power generation and has been selected as one of the key conceptual designers for STEP, the U.K. government-led fusion reactor development program.

To create an eco-friendly society, the company is working hard to provide a diverse range of decarbonization solutions through collaborative projects with partners, cross-industry cooperation, and innovative technological initiatives. Kyoto Fusioneering is an opportunity to accumulate nuclear fusion knowledge and expertise.

<https://www.mitsui.com>

## GLOBAL

### Carbon Emissions Reporting tool

The SME Climate Hub has launched a new reporting tool that allows businesses to publish an annual carbon emissions report to maintain their committed

status to the SME Climate Hub and the United Nations Race to Zero campaign. Through the new tool, available for free to all committed businesses, companies are asked to report annual greenhouse gas emissions, list actions taken to reduce business and value chain emissions and provide comments on progress.

The reporting tool is based on the simplified disclosure framework for SMEs developed by the Carbon Disclosure Project (CDP). Exponential Roadmap Initiative and Normative provides a public and downloadable report that businesses can use in their public communications and annual accounting. Reporting provides businesses with the opportunity to share their climate action progress with customers, financiers and other stakeholders, and helps set themselves apart from competitors as climate leaders.

<https://smeclimatehub.org/>

## Tackle Cattle Methane Emissions

CH4 Global, Inc., today announced a new proprietary methane reducing digestive aide feed formulation for beef feedlot cattle called Methane Tamer™ Beef

Feedlot. The product is the first in a line of ruminant animal and farming technologies being developed under the Methane Tamer™ brand, and will first be commercially available to partners in Australia, with worldwide expansion following in future years.

With our patented innovations in operational efficiencies and formulation, CH4 Global has developed the highest quality, lowest cost and most efficacious product designed for and with the end user. This natural product includes the entire Asparagopsis plant, as used in independent peer reviewed animal feed studies, and is not a synthetic replication of only one of the active ingredients or an extract from Asparagopsis.

The new formulation reduces formation of methane in the animal rumen, with the help of a star ingredient, Asparagopsis seaweed. When processed correctly, Asparagopsis has been scientifically proven to reduce methane emissions in cattle by up to 90% without negative effects on animal welfare or beef quality taste or texture. Our proprietary formulation contains superior-quality Asparagopsis and other natural ingredients to support intake by

feedlot cattle and easy inclusion in the feeding regimen.

Benefits:

- Up to 90% reduction of enteric methane emissions from beef feedlot cattle.
- Supports feed efficiency and weight gain.
- Aids in digestion.

The product will be made available to our existing commercial partners CirPro and Ravensworth, along with other partnerships currently under negotiation with commercial scale feedlots and food producers to radically reduce the methane footprint without altering the production process, and the opportunity to deliver premium, low-methane food.

CH4 Global, founded in 2018, is on an urgent mission to bend the climate curve, through collaboration with strategic partners worldwide. It delivers market-disruptive products that enable the food industry value chain to radically reduce GHG emissions. CH4 Global is headquartered in Henderson, NV, with current subsidiaries in Australia and New Zealand.

<https://www.prnewswire.com/>