Climate Fintech Playbook

September 2021

Overview

Tackling climate change is an essential component of the global sustainability agenda and one in which financial services will make an important contribution

The time is right for Climate FinTech

FinTech has already shown its ability to disrupt and accelerate innovation in the financial system. Add one of our society's most existential threats to the mix, and you create a surprising pairing with the potential to revolutionise how we address climate change: Climate FinTech.

Simply put, Climate FinTech is digital financial technology catalysing the decarbonisation of our economy. Digital innovations that help institutions and individuals save, spend, and invest in ways that put the planet first.

The movement of capital towards decarbonisation has the power to significantly benefit the fight against global warming. However, according to International Monetary Fund (IMF), roughly **$3 trillion** needs to be invested into climate solutions over the next three years to achieve a 1.5 degree warming scenario... a figure 4x current investment levels. In short, money is not moving fast enough to the solutions we need now.

Climate FinTech serves as a crucial intermediary in financial services, mobilising capital and changing behaviour. Now Climate FinTechs enable customers to make conscious choices, help investors to build climate-focused portfolios and assist insurance firms in analysing weather perils.

Incumbent banks should also be paying attention - synergies exist between smaller, more agile FinTechs and the teams innovating in large financial institutions. Working together is fruitful. It allows both parties to discover new insights and drives greater, more rewarding innovation. Incumbents who successfully form these collaborative ecosystems will be rewarded by an ever-growing mass of conscious consumers.

Within this report We include companies that fit one or more of the following criteria:

- Proximity to existing financial services infrastructure (esp. digital point of sale or software near the payments flow)
- Technology shifting capital to environmentally-friendly investments
- Climate-centric takes on existing Fintech products (digital banking)

Whatever your interest in Climate FinTech, We hope this report provides some insight about the rapid evolution of the ecosystem that you can take back to your own work. This is just the start … please do reach out with feedback, or to be included in our climate fintech database, we'd love to hear from you.

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Macro landscape: Key start-ups

Data, policy and technology are enabling start-ups across a range of sub-sectors. Take a deeper dive into a few of these companies in the slides that follow

Data

Tech

Policy

Digital Point-of-Sale Offsets

ECOCART
Neutral
stripe

Wealth Management

OpenInvest
ecotree
tumelo
Wealthsimple

Emissions API's

Åland Index Solutions
Doconomy
ecolytiq
joro
cloverly
CHOOOSE
NORI
Patch
CoGo
deedster

Renewables Finance

Raise Green
ecoligo
MOSAIC
powerhive

Trading

NORI
AirCarbon Exchange
ClimateSeed
REGEN NETWORK

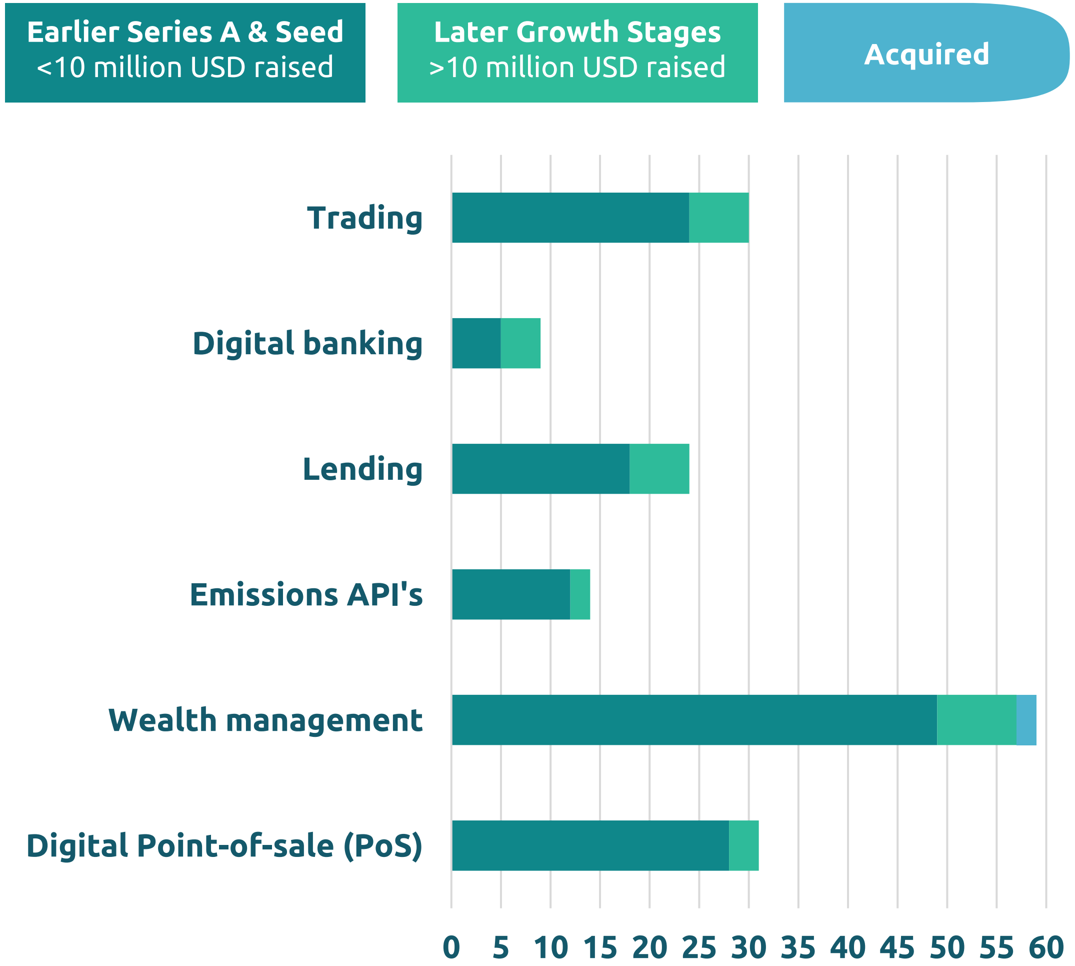
Digital Banking

Aspiration
CARBON ZERO
Doconomy
treecard
tred
bunny.money
Tomorrow

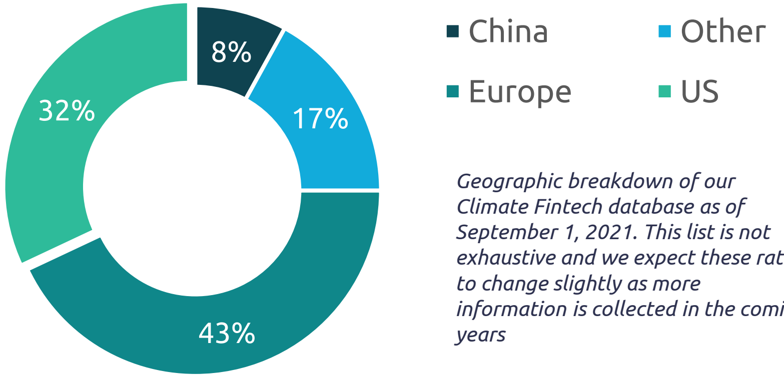
Macro landscape: Valuation trends

70% of Climate Fintech companies are early stage – having received 10 million USD in corporate capital or less. The ecosystem is ripe for investment to facilitate customer acquisition

Valuation observations



Geographic trends of Climate Fintech start-ups



Geographic breakdown of our Climate Fintech database as of September 1, 2021. This list is not exhaustive and we expect these ratios to change slightly as more information is collected in the coming years

- 70% of Climate Fintech companies are early stage – having received 10 million USD in corporate capital or less. This indicates this ecosystem is ripe for investment and de-risking initiatives which facilitate customer acquisition.
- Europe leads in Climate Fintech innovation, followed closely by the United States.
- 'Other' geographies of Climate Fintech activity primarily include Asia-Pacific, Africa and Canada
- Overall, there is commercial viability in a wide array of financial categories.
- The financial categories with the most activity are Wealth management, Digital PoS, and Trading.

Enablers

Technology, data and policy are critical to the continued growth of the Climate Fintech ecosystem and for legacy financial institutions to develop their own capabilities

Policy

Beyond start-ups and corporations, regulators and governments hold an important role to build a thriving global Climate FinTech Ecosystem. A growing number of initiatives and tangible action plans are being launched to promote both sustainable finance and Green Fintech.

In higher-level policy, the EU published its EU taxonomy for sustainable activities in July 2020, creating a framework of conditions an economic activity has to meet in order to qualify as environmentally sustainable.

Country-specific initiatives are gaining momentum, such as the recently launched Green FinTech Action Plan by the Swiss State Secretary for International Finance, with the goal of establishing Switzerland as a global leader in sustainable finance.

In addition, the Monetary Authority of Singapore announced Green Fintech as a key component of it's Green Finance Action Plan. "FinTech in particular has great potential to be a force for good. We can bring together the power of finance and technology, to help create a more inclusive society and a more sustainable planet," explained Ravi Menon, Managing Director, Monetary Authority of Singapore.

Momentum is building, as more and more countries and regions now see sustainable finance as an opportunity, rather than an obligation.

Technology

Any technology that opens new routes to customer engagement or removes friction for corporates to drive sustainable action has a place in climate finance products.

Blockchain is perhaps most relevant to Climate FinTech. It's a vital enabler in creating a verifiable audit trail for the highly connected world of carbon emissions and energy consumption.

The convergence of blockchain, Internet of Things (IoT) and Automated Intelligence (AI) will lead to an increased capturing, validating and reporting of 'impact' data. Data that will reflect the real-world effect the environment is having on products, or that they're having on the environment. Increased impact data will be its own enabler for innovative climate finance products.

Data

Despite the rise of ESG investing, impact data remains notoriously incomplete, inaccurate and static. Investors and incumbent data providers still frequently rely on data pulled from voluntary disclosures in annual reports.

As technology provides access to new forms of impact data (e.g. better understanding supply chain emissions), FinTechs can build novel use cases to help consumers better quantify their impact and help investors find ESG 'alpha. FinTechs like Net Purpose, YvesBlue and Nossa Data are great examples.

Data points used to quantify ESG metrics that were once abstract will become conventional, and any market participant not factoring them into their analyses may put themselves at risk of mispricing assets.

Sub-sectors: Digital Point-of-Sale (POS) offsets

These companies facilitate businesses (or consumers) to direct a percentage of ecommerce transactions to carbon offset and/or removal purchases at digital point-of-sale

While e-commerce facilitates our consumption with a minimal number of clicks, our frictionless acquisition of products and services keeps us from considering their actual environmental cost.

A growing number of start-ups are facilitating both consumers and businesses to dedicate a percentage of each transaction to offsetting associated carbon at the point of sale. Shopify estimates that worldwide e-commerce sales were $3.5 trillion in 2019 and will grow to $6.5 trillion by 2023, demonstrating the immense potential consumers and the voluntary offset market wield to catalyse change faster than the action of the largest organisations.

***Carbon offset:** a credit bought to negate an action or purchase's emissions impact.*

Stripe Climate
Enable businesses using Stripe's payments processing to direct a percentage of revenue to carbon removal projects. Carbon removal is an important component of the decarbonisation transition as it enables more permanent carbon sequestration and addresses the need to remove previously emitted greenhouse gases. With hundreds of billion dollars of payments volume flowing through its pipes each year, Stripe will rapidly develop the carbon removal market's demand side. Stripe is considering rolling out a consumer-facing product to allow individuals to opt-in to removals at checkout.

EcoCart
Offers a Chrome extension that automatically purchases carbon offsets for ecommerce transactions at no expense to the consumer. The company earns a commission when users shop at any of its 10,000+ brand partners, which EcoCart uses to buy carbon offsets for its customers. There's no reason not to install this today – it's completely free and doesn't sell your data.

Neutral
Similar to EcoCart, but 100% focused on Amazon. Neutral is a Chrome extension that computes the carbon impact of your Amazon purchases and makes it easy for you to buy carbon offsets. They also offer free alternatives on how to neutralize your CO2 impact, like "skip meat for 8 days.

Sub-sectors: Wealth management

These companies shift investor dollars away from the least sustainable businesses to greener pastures

Investment activity in decarbonisation has exploded, shattering all previous annual growth metrics. This wave of Environmental, Social, Governance (ESG) investment is driven by several factors, including regulatory pressure, product proliferation, increasing climate change education of the masses, the shift of capital to younger generations, lower fees, and perhaps most importantly, superior investment performance.

This shift in investment behaviour is not just greenwashing. Moving a pension to a more sustainable fund is 21 times more effective in reducing your carbon footprint than not flying and becoming a vegan combined.

The movement of capital is facilitated by a number of Fintech applications, including platform marketplaces which give increased access to sustainable investments for average citizens, roboadvisors, and other technologies which help wealth advisors build custom portfolios for their clients. Advanced AI and Big Data algorithms are now used by the largest institutional investors to make informed capital allocation decisions based on carbon accounting.

OpenInvest
Enables wealth management advisors to build, manage, and report on ESG-focused portfolios. OpenInvest allows users to optimise their portfolios for greenhouse gas emission reductions, fossil fuel divestment, defunding pipelines on indigenous land, and fighting deforestation. They provide unique portfolio insights, justification and logic as to why specific decarbonising investment decisions are made

Wealthsimple
A fairly established retail robo-advisor platform, Wealthsimple offers robust, socially responsible investing options, such as an ETF that eliminates the top 25% carbon emitters in each industry

Tumelo
Large employee investment accounts (like pensions) often offer little transparency and optionality for its investors, especially ESG considerations. Tumelo is trying to change this by giving investors transparency into their holdings and say in the investment process. On the investment platform and provider side, Tumelo delivers insights on how to better satisfy their investor base and offers tools to expand assets under management.

Sub-sectors: Emissions API's

These companies provide the infrastructure for financial services to negate their carbon footprint. For example, by performing CO2 emissions calculations for transactions

As the implications of climate change on society worsen, developers are increasingly creating or enhancing applications which use emissions data. The best way to accomplish this is with emissions Application Programming Interfaces (APIs). Emissions APIs enable businesses to build applications that support sustainable business practices. These companies are not vertically focused on financial services but they offer a large opportunity to support financial institutions with their emissions mitigation transition. Therefore, they are worth including in this analysis. Though there are many exciting start-ups in this space, incumbent retail banks are increasing leveraging these APIs to offer sustainable banking products to their customers.

Climate *API:* Application Programming Interface in which developers can interact with climate data in order to integrate it with their own applications.

Cloverly

Offers a carbon offsetting API for a wide range of use cases, including supply chain, ridesharing, and energy. Its Fintech integration enables analysis of transaction data to turn into actionable emissions mitigation and sustainability tracking.

Nori

A big name in the climate world, Nori is a supply-side carbon removal platform. Differentiating themselves from some of their competitors, Nori develops carbon removal projects by working with U.S. farms to implement regenerative agriculture practices. They sell carbon credits created from these projects to businesses and individuals, including via API. Nori's also doing interesting work in carbon markets broadly.

Doconomy

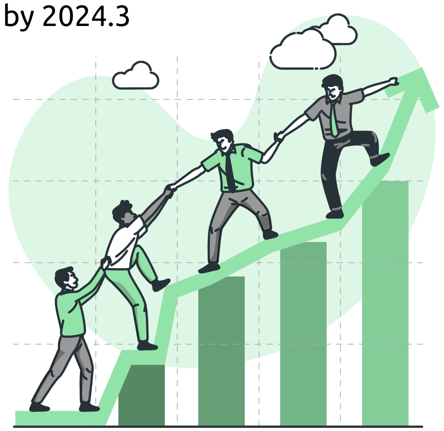
Aland Index Solutions is a product within Doconomy's suite. It is used by financial institutions to perform CO2 emissions calculations for payments and transactions. SF-based Bank of the West's 1% for the Planet debit card uses this API for its emissions math and offsetting.

Sub-sectors: Lending

These companies increase the accessibility of financing for sustainable infrastructure projects through digitalisation

Debt financing is an enormously important component of facilitating investment and initiating sustainability projects. A lender assesses a borrower, and then gives them capital based on how likely they believe repayment to be. Most large sustainable infrastructure projects are financed with project finance, and most project finance is predominantly debt-financed rather than equity-financed. The digitalisation of this core financial process has been both extremely disruptive, and beneficial. Now Fintech applications like Peer2Peer lending, Artificial Intelligence, and Blockchain are demonstrating their immense value by increasing accessibility to debt capital, while improving the processes of credit analysis, structuring, counter-party verification, loan issuance, and regulation among others.

Crowdfunding is one example - financing a project by raising small amounts of capital from large numbers of people, using a digital platform marketplace. In 2019, the value of the crowdfunding market was 100.32 billion USD and is projected to reach 224.67 billion USD by 2024.3



Raise Green

A crowdfunding platform for community renewables projects. Gives investors, both accredited and non-accredited, access to direct investment in renewables projects with measurable community impact. On the project origination side, Raise Green provides software to streamline the process of creating local renewable projects and executing a securities offering.

Powerhive

Powerhive is the first privately licensed energy provider in Kenya, providing rural villages with solar powered mini-grids and electric motorcycles, and catalysing local businesses through affordable loans and profit sharing. The Powerhive Micro Business program gives customers loans and guidance on how to use this electricity to power new businesses, and then receives payments from a portion of that business income.

Mosaic

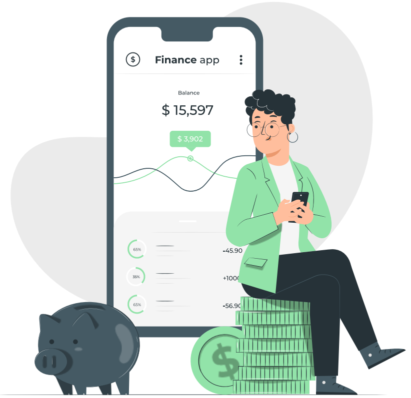
Mosaic is a well-known US-based residential solar financier, which works with homeowners and contractors across the nation to provide financing options available for solar energy systems, batteries, and energy-efficient home improvements. With the support of BNP Paribas (and 200 Million USD line of credit) Mosaic has emerged as a top residential solar financier in the US.

Sub-sectors: Digital banking

These companies offer financial services products but centre around the environment when it comes to rewards, investing vehicles, lending

When it comes to decarbonisation of financial flows, banks are uniquely positioned as intermediaries, as both retail and commercial banks have the capacity to finance entrepreneurs and institutions which are committed to tackling major social and ecological issues. To stay within ecological limits, tools that enable and educate retail customers must be integrated, while on the commercial side, Fintech can be used to increase transparency, de-risk and scale up project finance.

As Neobanks gain customers and market share, banking giants have first responded in the areas easiest for them to fix: mobile banking, lower fees, and higher interest rates on savings accounts. However, it is much harder for established institutions like JP Morgan and Bank of America to untangle their intertwined business with fossil fuel companies. This is where Neobanks have a substantial advantage – by offering ethical positioning, transparency, and simple financial product offerings which have a positive environmental impact .



Bunny.money*
A smart algorithm calculates how much you can set aside for savings and charitable donations based on your bank transactions and financial health. Teaming up with a FDIC-insured bank provider they give a high-yield interest rate on your savings, with zero transaction fees and access a marketplace of non-profits to donate to causes that matter to them.

TreeCard
Provides a wooden debit card that plants a tree for every $60 you spend by directing 80% of its interchange fee to Ecosia tree planting projects.

Aspiration
Offers a complete suite of services, including a savings account, debit card, sustainable investing vehicles, and a retirement account. Pays out more rewards when customers shop at sustainable brands and allows them to opt into round-up carbon offset purchases (e.g., spend $5.55 and $0.45 is automatically directed to buy an offset). They are about to go public with a valuation of over $2 billion.

Carbon Zero
Although pre-product at the moment, Carbon Zero is building a credit card that automatically neutralises your carbon footprint based on your transaction data.

* Bunny.money are a client of The Triple Bottom

Sub-sectors: Trading for carbon markets

These companies provide the infrastructure to verify exchange of carbon credits on carbon markets

Carbon markets provide organisations that sequester greenhouse gases a way to make money. They also allow carbon emitters, both businesses and individuals alike, to purchase carbon credits to theoretically offset or negate the impact of their carbon footprint. A massive problem in carbon markets is the double-counting of credits, meaning multiple parties are claiming the same emissions reduction.

This is where blockchain Fintechs come in. These companies validate ownership and counting of credits by providing a transparent, immutable and auditable trail of exchange in carbon markets.

Nori

Nori packages sequestered carbon in digital tokens called Nori Carbon Removal Tonnes (NRTs), which can be bought and sold through its online marketplace. By creating a blockchain-based carbon marketplace, Nori hopes to solve the issue of double-counting by providing a clear line of ownership and bring transparency to removal markets.

ClimateSeed

An intraprenurial venture from BNP Paribas, ClimateSeed is a platform marketplace which provides a range of internationally-certified projects including reforestation, energy efficiency, renewables, and waste management in more than 20 countries. They conduct due diligence on the offset project carriers, and then present simple and transparent solutions on their site. The company addresses the lack of transparency between intermediaries and educates corporate partners on various strategies for carbon offset. To date, the platform has helped offset 5 million tons of CO_2.

AirCarbon Exchange

AirCarbon brings traditional commodities trading infrastructure to the carbon markets. Their Global Carbon Exchange uses distributed ledger technology to create securitised and validated carbon credits for trading.

Future trends

The Climate Fintech space is rapidly evolving and there are three key trends we expect to see over the next year

Explosion of accounting and RegTech

There is now a concerted international effort to align climate monitoring between corporates and states, with a number of global consortiums collaborating to improve carbon accounting, disclosure and risk assessment. For example, The UK government has announced its intention to make TCFD-aligned disclosures mandatory across the economy by 2025.
A growing number of sustainable FinTechs will emerge to ease the burden on compliance with regulation. 'RegTech' has the potential to organise increasing carbon reporting efforts by the largest corporates and investors, ensuring that this data undergoes systematic financial supervision while providing actionable insights for policy makers and regulators. Normative.io is a great example – an accounting tool which simplifies corporate sustainability reporting by automatically calculating carbon usage and emissions data, and generating appropriate reports. Transforming a time-consuming process into one that is easy and financially-palatable will aid compliance.

African Innovation cashes in

African innovation was emphasised by a number of big-ticket mergers and acquisitions in 2020. WorldRemit made the largest investment ever in an African technology start-up: paying $500 million to acquire Sendwave, a remittance company that allows people in Europe and North America to send money to seven African countries and Bangladesh. Two months later U.S. payment giant Stripe paid $200 million for Paystack, a Nigerian payment-processing company. In 2021, we expect to see an increase in big ticket acquisitions in Africa. With E-commerce growing across the continent, local payment platforms and sustainable FinTechs will drive investment, we expect to see:

- An increase in Fintech that enables efficient remittance services across the continent
- Services promoting financial inclusion (currently 1.7 billion adults have no traditional bank accounts in 2017 according to The World Bank Group's Global Findex database)

Incumbents will play catch-up

Many legacy financial organisations already encourage in-house intrapreneurial Fintech innovation through dedicated innovation teams or collaborations with early stage Fintechs. For example, The Barclays Accelerator, is a Fintech focused accelerator designed to scale solutions which can both integrate into the larger Barclays operation, improve upon existing solutions, or serve new banking demographics.
Most incumbent financial institutions have made major commitments to decarbonisation and 92% of customers now think banks should actively contribute in some way to preserve the planet. We therefore expect to intrapreneurship and collaboration with Fintech companies that help to decarbonise assets or consumer behaviour. We expect dedicated Climate Fintech incubators, innovation ecosystems supported by corporate venture capital (CVC) mandates, and senior executives who champion the most promising ideas on a path to investment, acquisition and integration.

Conclusion & Resources

To keep you up to date in the development of the Climate Fintech landscape there are three excellent resources to both learn from and contribute to

Climate Fintech may be in its infancy, but it is a subsector of digital financial technology with extraordinary momentum that can be applied to catalyse decarbonisation at enormous scale. Often, the start-ups highlighted in this report have harnessed existing applications, but with a refocussing on sustainability. In doing so they increase accessibility, efficiency, transparency, and accountability. They also provide education in the ways people spend, save, transact, invest, and trade for a more prosperous planet.

Citizens maintain tremendous influence over this digital decarbonization. A climate-aware populous will inevitably hold governments and institutions accountable to decarbonization and inspire innovation. The start-ups in this report will act as an enabler for change empowering citizens but also placing pressure on incumbent financial institutions to innovate and collaborate.

It is in our mutual benefit to take collective action to foster innovation in this space. The stakes have never been higher. And neither have the number of opportunities.

Climate Fintech directory – Our ever-evolving directory of the sustainable Fintech landscape including current funding, teams, and product summaries (Password = futurefintech) If you wish to be added fill out this form…

FinTech and Sustainable finance library - intends to help inform broader discussions on the topic of sustainable finance by acting as a knowledge repository.

F10's Incubator and accel for Fintech start-ups – if you're an early-stage start-up looking for mentorship, networking and upskilling.

The Triple Bottom

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About The Triple Bottom

The Triple Bottom is a free weekly newsletter and insights platform providing snappy updates on the latest sustainable business and technology trends. By connecting technology, talent and trends, the mission of The Triple Bottom is to accelerate innovation and growth of sustainable business.

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