Green Fintech Network

The Green Fintech Theory of Change

The mechanisms through which
Green Fintech can benefit the world

In partnership with:

zh aw

inyova

August 2025

The Green Fintech
Theory of Change

Acknowledgements

About the Green Fintech Network

The Green Fintech Network is a multi-stakeholder association dedicated to nurturing the green digital finance ecosystem in Switzerland. Guided by its ambition to position Switzerland as a globally leading hub in green digital finance by 2030, the Network is devoted to facilitating optimal conditions for green fintechs and fostering innovative, sustainable solutions.

Learn more about Green Fintech Network (GFN)

1. Introduction

The Green Fintech Network (GFN) is committed to advancing the role of fintech in driving the green transition within the financial sector and enabling positive environmental impacts globally.

As a complex and emerging sector, one key barrier preventing the uptake of and investment in green fintech is a limited understanding of these solutions and how they will trigger positive change. This can make it challenging for investors and stakeholders to identify opportunities and accelerate truly impactful innovations with the power to drive meaningful progress towards a sustainable future.

This publication aims to provide a clear and concise breakdown of the mechanisms through which green fintech can benefit the world. It explores the practical outcomes of these solutions. We hope this resource can act as a roadmap for investors to identify and support impactful startups and their technologies.

"Green fintech solutions are defined as technology-enabled innovations applied to any kind of financial processes and products, all while intentionally supporting Sustainable Development Goals or reducing sustainability risks." - Green Fintech Classification.

This publication covers:

- The importance of finance in solving the world's environmental crisis.

- A framework to understand how green fintech can help address global environmental challenges.

- Recommendations for investors to identify opportunities within green fintech.

2. Environmental Crises and the Role of Finance

Humanity is at a critical juncture. Environmental crises, including climate change, biodiversity loss, and natural resource depletion, are accelerating, with dire consequences for human well-being, planetary health, and economic prosperity.

The financial sector, which plays a pivotal role in shaping the world's economic activities, is contributing to these environmental challenges by funding industries and activities that drive deforestation, pollution, and greenhouse gas emissions. In fact, since the signing of the Paris Agreement in 2015, when over 200 countries agreed to limit global warming to 1.5°C, the world's largest banks have collectively provided $7.9 trillion in funding to the fossil fuel sector (Profundo, 2025).

Aside from diverting finance away from harmful activities, more needs to be done in the sector to invest in initiatives that foster sustainable development, nature restoration, and climate mitigation. This is exemplified by the substantial financing gaps for achieving the Sustainable Development Goals (SDGs), up to 4 trillion dollars annually, and reversing biodiversity loss, around 700 billion dollars annually.

This lack of action is not merely a matter of oversight; it reflects a systemic misalignment between financial incentives and environmental sustainability, manifesting on multiple levels:

- **Macro Scale Challenges:** At a macroeconomic level, the failure to fully internalize the environmental costs of economic activities, known as externalities, leads to widespread environmental harm. Polluters often do not pay for the damage they cause, and inadequate regulation allows harmful practices to persist. While there is a growing trend toward more stringent environmental legislation, it is often reactive rather than proactive, lagging behind the pace of environmental degradation.

- **Micro Scale Challenges:** On a microeconomic level, individual investors and financial institutions frequently prioritize short-term financial returns over long-term sustainability. Even when there is a desire to invest responsibly, many face significant information gaps. The lack of reliable data on the environmental impact of different investments makes it difficult to make informed decisions, leading to suboptimal allocation of capital.

Investing sustainably is also simply just a strategic necessity for the financial sector. In 2024 alone, global economic losses from natural disasters exceeded 368 billion dollars, 60% of which was uninsured (Aon, 2025). By failing to account for environmental risks, financial institutions risk undermining their entire portfolios, putting even more urgency on understanding and managing the relationship between finance and the natural world.

3. The Promise of Green Fintech

Green fintech is a critical tool in helping the financial sector overcome key challenges to tackle its environmental issues. By leveraging digital technologies, green fintech can help align financial flows with environmental sustainability goals. The impact of green fintech can be understood through the lens of a "Theory of Change", which outlines the mechanisms through which these technologies can drive real-world results. In order to derive the theory of change for green fintechs, this section will cover the concept of impact in the green finance sector and the defining characteristics of financial technology.

3.1 Understanding Impact

The "Investor's Guide to Impact" framework recognizes two distinct components of impact in order to help develop investment strategies that accomplish real-world change: investor impact and company impact (Heeb & Kölbel, 2020).

While in Heeb & Kölbel's framework the impact discussion revolves around whether the impact originates from investors or from companies, this distinction is different for green fintech. Green fintech solutions provide services that both help investors improve their investment decisions and directly assist companies in enacting positive change, such as via climate risk analyses or identifying gaps in ESG reporting. Therefore, in a green fintech context, impact should not be understood as a strict separation between investor and company, as it can occur through both mechanisms.
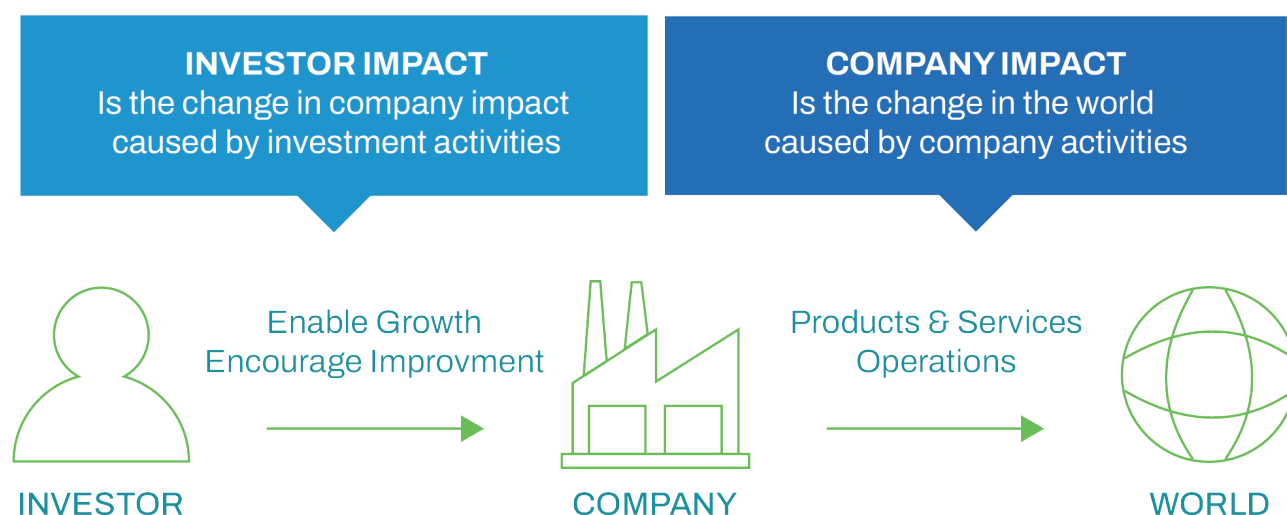

Figure 1: Understanding Impact (source: Florian Heeb, Julian Kölbel (2020), The Investor's Guide to Impact)

Building on the "Investor's Guide to Impact" framework and applying it to the green fintech space, the impact of the financial industry and investors on the real world can be understood through two primary mechanisms:

1. **Enabling the Growth and Development of New Activities:** This mechanism focuses on providing capital and support for new, sustainable initiatives that might otherwise struggle to secure funding. Green fintech platforms that enable crowdfunding, sustainable investing, and the creation of new financial instruments are key players in this space.

2. **Encouraging the Transformation of Existing Activities:** This mechanism involves using technology and data to help existing companies and infrastructures transition toward more sustainable practices. Fintech solutions that offer ESG data analytics, risk management tools, and sustainable financial products are crucial in this process.

3.2 Understanding Technology

To better understand the impact of technology, it is helpful to define three different levels of categorization.

1. **Automation and Robotics:** mainly serves as a critical enabler, reducing operational costs and expanding access to financial services.

2. **Big Data and Artificial Intelligence (AI):** revolutionize data collection, processing, and analysis, providing novel insights that drive better decision-making.

3. **Distributed Ledger Technology (DLT)**, such as blockchain, decentralizes transactions, reducing frictional costs and enabling asset tokenization, which can be divided into smaller, tradable pieces via fragmentation, making them more accessible and liquid for a wider range of investors.

Despite the different technologies at each level being applied across different fields, for green fintech, it is crucial to understand which technology is being used in order to comprehend how it contributes to a positive impact, for example, via increased efficiency, effectiveness, or decentralization.

3.3 Potential Impact of Green Fintech

Building on the mechanisms for understanding investor and technology impact discussed above, the impact of green fintech can be categorized into two primary buckets, which focus on the core activity of the fintech company or solution.

1. **Lending, Assets, and Investing:** focuses on the economic activity of the green fintech as capital movers.

2. **Data and Analytics:** focuses on the collection, processing, and analysis of data to enable better decision-making in finance.

These two core areas where green fintechs can have impact include four sub-categories each, taken from the eight green fintech categories outlined in the Green Fintech Classification from the Green Digital Finance Alliance and the Green Fintech Network:

1 Green digital payment and account solutions	**2** Green digital investment solutions	**3** Digital ESG data and analytics solutions	**4** Green digital crowdfunding and syndication platforms
5 Green digital risk analysis and insurtech	**6** Green digital deposit and lending solutions	**7** Green digital asset solutions	**8** Green regtech solutions

Both of the two buckets represent a distinct but complementary approach to driving sustainable change and are not intended to be strictly separate categories. For example, a fintech offering a data-driven investment solution could be classified as both a capital mover and a data aggregator/analyzer. However, for categorization purposes, we focus on the primary economic activity, so, in the case of the above example, a distinction would be made between whether a fintech is primarily offering an investment solution or data as the end product.

Bucket 1:
Lending, assets, & investing

Fintechs directly interacting with capital and moving it around.

Utilising automation and DLT to reduce frictional costs to stimulate specific economic activity, such as by creating new investibles and thereby a new way to move capital to sustainable activities.

Green digital payment and account solutions	Green digital risk analysis and insurtech	Digital ESG data and analytics solutions	Green regtech solutions

Case Studies

inyova   Frigg

Bucket 2:
Data

Fintechs where the collection or processing of data is their main business.

Utilising automation and AI to collect and process data before translating it to actionable information, allowing for better decision-making when allocating capital or identifying where encouraging change is required.

Green digital investment solutions	Green digital crowdfunding and syndication platforms	Green digital deposit and lending solutions	Green digital asset solutions

Case Studies

Verdant Data   scandens

Pelt8

Figure 2: Overview of Green Fintech Buckets

Bucket 1: Lending, Assets, and Investing

Overview

This category includes green fintechs that are directly involved in moving capital, whether through investment management, lending, or creating new types of investible assets. These fintechs play a vital role in redirecting financial resources toward sustainable activities, thereby enabling the growth of new green projects and encouraging existing businesses to adopt more sustainable practices.

Areas of Impact:

1. **Green Digital Investment Solutions:** These platforms offer investors the opportunity to allocate capital directly into sustainable projects. By simplifying the process of investing in green projects, these fintechs increase the flow of capital to activities that contribute to environmental goals. For example, platforms like Inyova allow retail investors to easily invest in companies and projects that promote their environmental values through providing additional capital and active ownership, thus democratizing access to sustainable investment opportunities.

2. **Green Digital Crowdfunding and Syndication Platforms:** These platforms enable individuals and institutions to collectively invest in sustainable projects. By lowering the barriers to entry, they make it possible for a broader range of investors to participate in financing green initiatives. This not only increases the availability of capital for sustainable projects but also fosters a sense of shared responsibility and community involvement in environmental stewardship.

3. **Green Digital Deposit and Lending Solutions:** These fintechs offer alternative banking solutions that prioritize lending to green projects. By focusing on environmentally beneficial loans and deposits, these platforms help to redirect financial flows from traditional, often environmentally harmful, investments to more sustainable activities.

4. **Green Digital Asset Solutions:** These fintechs use technologies such as blockchain to create new types of sustainable assets. For instance, the tokenization of assets allows for fractional ownership, making it easier for investors to participate in funding large-scale green projects. This innovation not only opens up new investment opportunities but also increases the liquidity and accessibility of sustainable assets.

Case Studies for Lending, Assets, and Investing

- Inyova: A green digital investment platform that provides retail investors with the ability to support impact-oriented solutions. Through Inyova Grow, investors finance green projects by buying small, diversified portions of multiple projects, receiving fixed-income returns much like a green bond. Inyova Invest uses automation to free up resources for active ownership, allowing the platform to promote positive change in companies on behalf of its investors.

- Frigg: By creating a marketplace for renewable energy projects, an asset class underserved by the traditional finance system, Frigg opens up new opportunities for green infrastructure project financing. Frigg's use of blockchain technology enables much more efficient transactions through pooling, fractionalization, and composability. This not only democratizes access to sustainable and verifiable investments but also provides a new model for financing large-scale environmental projects.

Bucket 2: Data and Analytics

Overview

Green fintechs in this category focus on the collection, processing, and analysis of data to drive better decision-making in the finance sector. These fintechs address one of the most significant barriers to sustainable finance: the information gap. By providing accurate, actionable data, they enable investors, companies, and regulators to make decisions that promote environmental sustainability.

Areas of Impact:

1. **Green Digital Payment and Account Solutions**: These fintechs integrate data analytics with payment systems to provide insights into the environmental impact of transactions. For example, they might offer services that track the carbon footprint of purchases or automatically offset emissions through green initiatives. By making consumers and businesses more aware of the environmental impact of their spending, these solutions encourage more sustainable behaviors.

2. **Digital ESG Data and Analytics Solutions**: These platforms collect and analyze Environmental, Social, and Governance (ESG) data, providing investors and companies with the information they need to assess the sustainability of their activities. By creating new ESG data (in the form of collection) or making it more accessible and understandable, these fintechs help bridge the information gap that often hinders sustainable investment decisions. More importantly, they enable investors to more accurately price in sustainability risks, which directly influences decisions around where to allocate capital and helps steer investments towards activities with more sustainable outcomes.

3. **Green Digital Risk Analysis and Insurtech**: These fintechs focus on assessing and managing the environmental risks associated with different investments. By providing tools for evaluating the potential environmental impact of financial activities, they help investors and companies make more responsible decisions. By simplifying the pricing of environmental risks, these platforms influence capital allocation by highlighting the financial implications of environmental degradation. This not only reduces the environmental impact of financial activities but also mitigates the financial risks and promotes investment in more sustainable alternatives.

4. **Green Regtech Solutions**: Regulatory technology (regtech) platforms help financial institutions comply with environmental regulations by streamlining the reporting process and integrating sustainability factors into their operations. By reducing the compliance burden, especially for smaller firms, these fintechs free up resources for sustainability teams to work on projects with real environmental impact rather than just ticking boxes for regulatory requirements. Moreover, these platforms often provide actionable insights on how companies can improve their environmental performance. For instance, they might highlight specific areas where a firm can reduce its carbon footprint and enhance resource efficiency. This not only facilitates compliance but also actively promotes better sustainability practices, driving genuine progress in environmental impact.

Case Studies

- Scandens: Scandens specializes in analyzing real estate to identify opportunities for cost and CO2 savings. By providing detailed, data-driven insights into where interventions can be most effective, Scandens helps property owners and investors make informed decisions that reduce energy consumption, environmental impact, and, at the same time, cost.

- Verdant Data: Verdant Data is a fintech platform that aggregates and analyzes ESG data, offering investors a comprehensive view of the sustainability performance of companies and industries. By providing detailed, actionable insights, Verdant Data enables investors to make informed decisions that align with their environmental and social values.

- Pelt8: Pelt8 offers technology solutions that streamline ESG reporting processes, making it easier for companies to comply with sustainability regulations. By automating data collection and reporting, Pelt8 frees up resources that companies can then reinvest in sustainability initiatives, thus contributing to the overall impact of green fintech.

4. Harnessing the Power of Green Fintech

As outlined in the preceding section, green fintech represents a powerful lever for driving systemic change in the financial sector. By enabling the growth of new sustainability initiatives and encouraging the transformation of existing infrastructures and industries, green fintech can realign financial flows with environmental sustainability goals. Realizing this potential requires a clear understanding of the mechanisms through which green fintech operates, as well as a commitment from investors and stakeholders to support technologies that have a tangible impact.

Recommendations for Investors

For investors looking to make a tangible difference, it is crucial to focus on green fintech solutions that:

1. **Provide Additionality:** Look for fintechs that offer new solutions or manage capital flows in a way that makes additional capital available for green projects or ensures that capital is shifted away from environmentally harmful activities. This ensures that your investments are driving real change.

2. **Deliver Transparency and Accountability:** Support fintechs that prioritize transparent reporting and accountability. This reduces the risk of greenwashing and increases the likelihood that your investments truly contribute to sustainable outcomes.

3. **Generate Efficiecies and Action:** Focus on fintechs that use technology to reduce costs, increase access, and provide actionable insights. These innovations are crucial to scaling sustainable finance, enhancing its effectiveness, and ensuring it reaches the broadest possible audience.

By understanding and supporting the Theory of Change outlined in this paper, investors can play a crucial role in driving the transition to a more sustainable financial system. The time to act is now, and green fintech offers a promising path forward.

References:

- Aon, "2025 Climate and Catastrophe Insight", 2025.
  https://www.aon.com/en/insights/reports/climate-and-catastrophe-report

- Green Digital Finance Alliance and Swiss Green Fintech Network, "Green Fintech Classification", 2022.
  https://www.greendigitalfinancealliance.org/initiatives/green-fintech-classification

- Heeb, Florian, and Julian Kölbel, "Investor's Guide to Impact", 2020.
  https://www.csp.uzh.ch/dam/jcr:ab4d648c-92cd-4b6d-8fc8-5bc527b0c4d9/CSP_
  Investors%20Guide%20to%20Impact_21_10_2020_spreads.pdf

- Nemes, N. et al. (2022) "An Integrated Framework to Assess Greenwashing," Sustainability, 14(8).
  https://cssn.org/special-projects/greenwashing-tool/

- Profundo, "The Banking on Climate Chaos: Fossil Fuel Finance Report 2025", 2025.
  https://profundo.nl/projects/bocc-2025/