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CLIMATE CHANGE AND TECHNOLOGIES: WHY NGOS CAN AND SHOULD HELP FINTECH TO GO GREEN

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More and more countries, institutions and companies are starting to consider not only various profitability goals, but also to be in line with climate commitments to have a better reputation across clients and customers and potentially contribute to improving the environment. Some of them have committed themselves to contribute to the attainment of the - United Nations' 2030 Agenda and Sustainable Development Goals (Figure 1) - while others are aligned to the objectives of the Paris Agreement.

Figure 1: 17 Sustainable Development Goals adopted by the United Nations General Assembly in 2015.[1]

1 - "17 Sustainable Development Goals" https://sdgs.un.org/goals

At the same time “Fintech Action plan”[2], with the aim of creating a harmonized and dynamic framework for Fintech, has been developed. The plan removes obstacles (including EU financial regulation) which have hindered the use of technologies in financial services, such as improving competition through cooperation and common standards of interoperability and data exchange.

FinTech relates to innovative financial solutions, as well as insurance solutions (InsurTech) enabled by Information Technology (IT). The classification of all Fintech solutions can be described in the following way:

- The application of IT in the financial services domain
- Startups that provide services for financial processes
- Services covering all relevant financial services processes ranging from payments, investments and financing
- Innovations in the insurance industry like digital brokers or peer-to-peer insurances

2 - “Fintech Action Plan for a more competitive and innovative financial sector” https://ec.europa.eu/info/publications/180308-action-plan-fintech_en

Typical examples are crowdfunding platforms (capital-raising), virtual currencies and tokens (crypto-assets; especially in the payment and investment sectors) created through DLT structures, robo-advising (investment and insurance advice as well as portfolio management) and InsurTech (i.e. usage-based, on-demand or P2P insurance). Both of the directions are called Action Plans that are parts of the broader European Union Capital Market Union Projects that have stressed the importance of focusing EU actions on both digital finance and sustainable finance that help to create and achieve a more efficient, affordable and sustainable society. That's exactly what NGOs aim their efforts at.

Multiple NGOs already have the Action Plan towards Fitech and Sustainable initiatives, albeit separately. However, there is a need to address sustainable applications for developing fintech technologies simultaneously to have them aligned towards the climate situation, as well as to adopt the most efficient development of all sustainable goals.

For instance, fintech technologies are not often associated with environmental goals (especially the high energy-consuming lockchain)[3], which postpones the achievement of the Sustainable Development Goals. At the same time the Sustainable Development Goals have a long-term horizon and require significant funds to start implementing them.

Only recently, the European Union seemed to realize the potential in using technologies developed in the Fintech area in the context of Sustainable Finance. However, certain steps, definitions and frameworks are needed to be initiatives by organizations truly patient about fixing the problems of society. This is exactly the reason why NGOs can and should help fintech companies to go green.

3 The New Yorker "Why Bitcoin is Bad for the Environment"
https://www.newyorker.com/news/daily-comment/why-bitcoin-is-bad-for-the-environment

GREEN FINTECH: WHY DOES IT MATTER AND WHO ARE THEY?

According to Arena et al. the term Green FinTech is simply the area of “cooperation” between Fintech and sustainable finance. After analyzing the extensive list of academic papers, Puschmann, Hoffmann and Khmarskyi defined 4 necessary criterias for solutions to be considered as fintech (Figure 2):

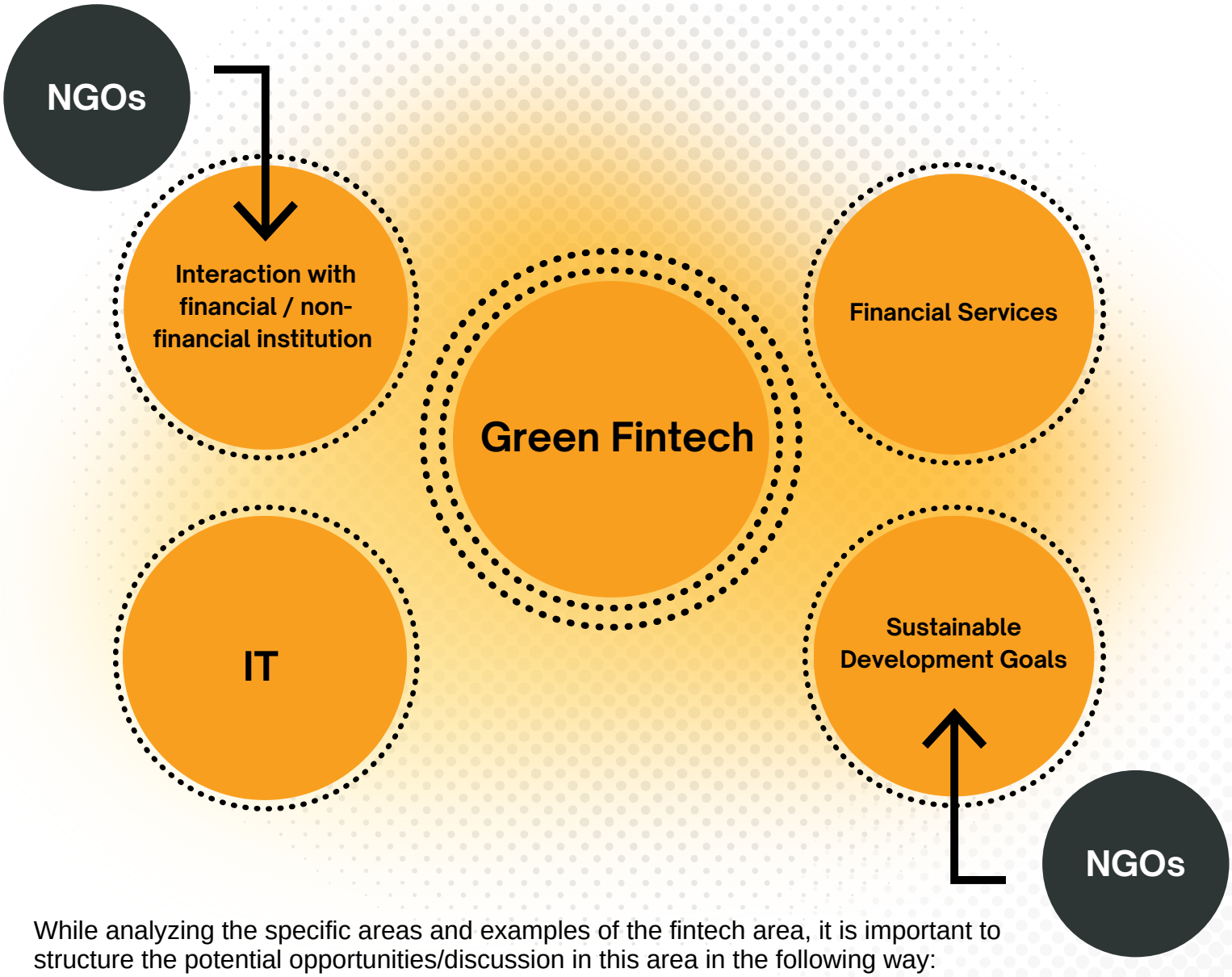
1. It supports the interaction of a customer with a financial institution or a non-financial institution

2. It has a connection to a customer process in financial services (advisory, payments, investments, financing, non-life insurance life insurance, underwriting, claims management, and cross-processes) and/or indirect relation to financial services while being part of another industry’s ecosystem (e.g., peer-to-peer (p2p) payment in energy networks)

3. It is supported by IT

4. It has an impact on one of the climate-related Sustainable Development Goals (SDGs)

These so-called “Green FinTech” solutions are an emerging area with the purpose to alleviate climate change risks and which are relevant to policymakers, particularly in emerging and developing countries, as they pursue the implementation of the Paris Agreement and foster the achievement of the SDGs. NGOs specifically might help alignment with Sustainable Development Goals as well as give appropriate recommendations on how to interact with financial institutions and non-financial institutions to have financial and sustainable business exposure.



While analyzing the specific areas and examples of the fintech area, it is important to structure the potential opportunities/discussion in this area in the following way:

- Fintech and Environmental Sustainability: Overall, discussion of FinTech impact on climate change actions, clean energy, clean water, etc

- Blockchain, tokens, cryptocurrency and environmental sustainability: (Blockchain, tokens, cryptocurrency and environmental sustainability)

- Internet of things (IoT) and FinTech-enabled environmental sustainability: The effects of IoT in the context of FinTech on unlocking cleaner energy production

- Smart cities, smart homes, and FinTech-enabled environmental sustainability: Development of smart houses and cities by means of FinTech.

GREEN FINTECH SOLUTIONS

There are multiple opportunities for “green fintech” to make a difference. Below are an open-list of possible fintech solutions together with some real-world examples of these technologies.

FINANCE PLATFORMS - THE MOST DEVELOPED SOLUTION:

One of the first areas of ‘cooperation’ between Fintech and sustainable finance is crowdfunding. “Crowdfunding allows individuals or enterprises to receive through an online platform many small sums from other users in the form of donations, various forms of non-financial rewards, loans or equity investments and/or, more generally, other forms of investments.” Crowdfunding of green solutions platform can therefore help to finance environmentally sustainable enterprises in a quicker and more efficient way (“Cooler Future”, “Raise Green” and “Stripe Climate”);

Other very interesting applications for the sustainable finance sector come from the Distributed Ledger Technology (DLT) and AI. The blockchain presents great potential in the sustainable processing of large amounts of data about companies’ social and
environmental impacts. In fact, a considerable amount of data derived from NGOs, specialized websites and satellites might be combined and processed by AI in order to track climate change (“Joro”, “Trine, “Miris”);

Besides, AI and big data can also be used for more efficient pricing in the lending activity (“Tree Card”); Another great example is the alternative sustainable retirement systems that spend money on various climate goals (“Aspiration”).

BLOCKCHAIN SOLUTIONS:

Peer-to-peer energy transactions using blockchain - energy exchange on a blockchain platform that enables more participants to trade electricity providing low-cost transactions in a growing market with the opportunities to exchange renewable energy. Individual homes, businesses might store electricity generated by distributed batteries or solar panels and sell it to their neighbours (For example, “Conjoule” in Germany and “Statkraft”. “Enerchain” in Europe and “Vattenfall” in Norway, “Alliander” in the Netherlands).

FRAMEWORK / ACCOUNTING SOLUTIONS - CARBON CREDITS TRANSPORTATION:

A digital asset can be created to represent and track the impact of different carbon commitments associated. This type of mechanism might be provided by blockchain technology that can record and track these separate streams of information associated with units. Companies can get carbon credits for taking some beneficial environmental actions as well as reducing the amount of emissions. After that these carbon credits might be traded by market participants.

GREEN BONDS INVESTMENTS TRACKING

Another idea of the combination of sustainability and fintech can be the easy tracking of the money flow from different investments in sustainable projects that, for example, again might be provided by tracking history with blockchain.

All these ideas seem to be quite attractive and relevant considering their intentions to combine technology and climate ideas. However, there are certain challenges with their implementation that need to be discussed.

KEY CHALLENGES OF GREEN FINTECH

Firstly, Blockchain technology still needs to prove the scalability of the process and the ability to ensure instant-time operations. In other words, before even addressing climate issues Blockchain technology should be trusted by public figures. Unfortunately, this is not currently the case. For instance, recently Tesla (via Elon Musk) said that “it would no longer accept cryptocurrency for purchases because of the environmental impact of a scalable Bitcoin mining which uses huge amounts of electricity.”

Secondly, there are still many regulatory issues related to Fintech and Sustainability to be solved. Fintech still presents relevant micro-prudential risks, in particular in terms of liquidity, maturity, volatility, as well as operational risks - cyber, legal, outsourcing. For instance, data protection, accessibility, portability and interoperability initiatives in the case of cryptocurrency protections have been initiated (for instance, it has been included in the U.S. Securities and Exchange Commission), however, it’s still in the development stage.

Sustainability still lacks the relevant interpretation of what kind of actions are considered “green”. Greenwashing (the process of conveying a false impression or providing misleading information about how a company's products are more environmentally sound) still remains a major problem for a company’s sustainable achievements.

WHY SHOULD NGOS CARE?

Non-governmental organizations can play an integral part in helping “Green Fintech” to fulfill their assigned commitments and overcome all mentioned challenges.“Green Fintech” is a rapidly evolving field with a proliferation of different initiatives that have either direct or indirect relevance to green finance and sustainable development. Most of the initiatives are at a very early stage and could benefit from NGO guidance and support to fulfill their committed goals: whether through Fintech Action plan, or the Sustainable Development Goals of the Paris Agreement. NGOs can bring up the agendas of fintech companies to various businesses and organizations to attract funds and support from multiple organizations and businesses.

Additionally, fintech and blockchain specifically are developing quickly and sometimes in parallel with a real “economy”, creating more potential opportunities for technological performance and decentralized networks. NGOs as policy makers should engage more closely with such fintech companies to make sure that this new universe is beneficial for sustainable goals as well as the overall market economy.
To sum up, in the Green Fintech university NGOs can have two primary roles (Figure 2):

- Intermediary between financial and non-financial stakeholders to insure appropriate partnerships and provide the necessary support.

- Creating a framework for Sustainable Development Goals as it relates to the fintech area.

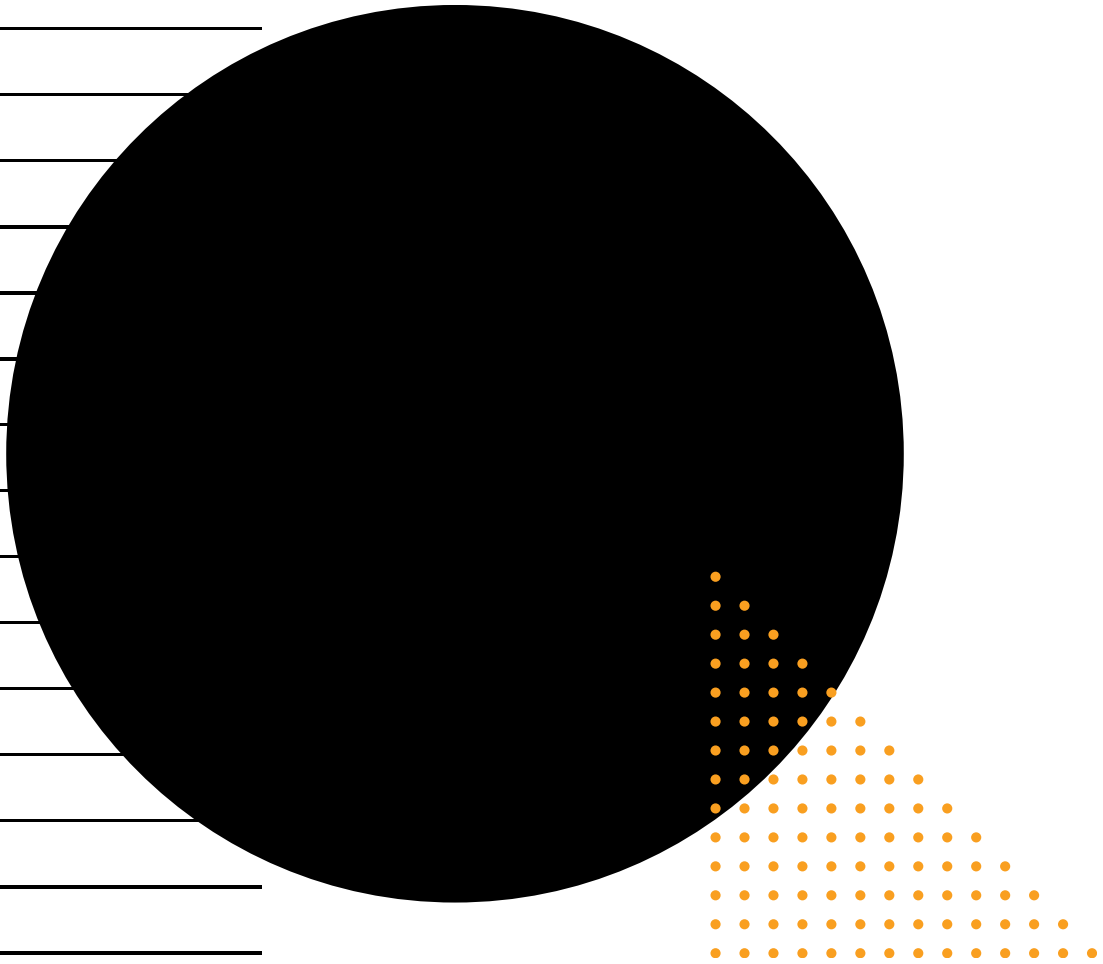
OPPORTUNITIES FOR NGOS IN GREEN FINTECH

Begin, we can examine the role of NGOs in the environmental space and find how exactly it might be combined with the fintech world to organize a more efficient transition to environmentally sustainable development (Table 1).

As a result, considering examples of “Green Fintech” in the modern world NGOs can create appropriate taxonomy / regulations to track the green intentions of multiple incentives to facilitate the development of Carbon Credits and the value of the Green Bond proceeds, as well as promote the development of fintech technology in general to fund Green Fintech platforms and peer-to-peer market.

TABLE 1: THE ROLE OF NGO IN THE “CLIMATE UNIVERSE”

NGOS FUNCTIONS	Market Research of best practices of Climate Actions	Regulations: Policy and Law	Data Vendors on Climate Change	Reporting and Disclosure of Climate commitments
DESCRIPTION	Provide up-to-date information on existing and emerging carbon trends (tracking of environmental initiatives)	Outlines, moves, legal outlooks in environmental world	Measurement of effects of climate projects (tracking of climate results)	Development of climate disclosures of the materiality of sustainable projects
EXAMPLES	World Bank Group	-Institute of Carbon Removal, Law & Policy, American University; - Energy Policy Tracker	-US Environmental Protection Agency; - Circular Carbon Network	- Global Reporting Initiative - Sustainability Disclosure Database



ABOUT THE AUTHOR

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