

Sachdokumentation:

Signatur: DS 3895

Permalink: www.sachdokumentation.ch/bestand/ds/3895



Nutzungsbestimmungen

Dieses elektronische Dokument wird vom Schweizerischen Sozialarchiv zur Verfügung gestellt. Es kann in der angebotenen Form für den Eigengebrauch reproduziert und genutzt werden (private Verwendung, inkl. Lehre und Forschung). Für das Einhalten der urheberrechtlichen Bestimmungen ist der/die Nutzer/in verantwortlich. Jede Verwendung muss mit einem Quellennachweis versehen sein.

Zitierweise für graue Literatur

Elektronische Broschüren und Flugschriften (DS) aus den Dossiers der Sachdokumentation des Sozialarchivs werden gemäss den üblichen Zitierrichtlinien für wissenschaftliche Literatur wenn möglich einzeln zitiert. Es ist jedoch sinnvoll, die verwendeten thematischen Dossiers ebenfalls zu zitieren. Anzugeben sind demnach die Signatur des einzelnen Dokuments sowie das zugehörige Dossier.

March 2022

foraus Policy Paper

Bridging Sustainable Digital Finance Ecosystems

A Call for a Grassroots Governance Approach

Nadir França

Eduardo Belinchon

Moritz Fegert

Nicole Grandi

Lead author

Nadir França

Nadir is responsible for providing research and policy inputs for the Sustainable Fintech project. She has a Ph.D. in business (University of Sao Paulo), with a focus on sustainable finance and impact-driven entrepreneurship. Nadir also has a wealth of practical experience in initiatives for the productive & financial inclusion of underserved populations. She is particularly interested in topics related to responsible businesses and social impact management.

Co-authors

Eduardo Belinchon

Edu is foraus' digital innovation manager, responsible for Policy Kitchen and the Innovation Cell and a member of the Executive Committee at foraus. His background ranges from working on video games to providing technical assistance on statistical data for member states with the United Nations as well as working in the field by empowering civil society organizations with new tech in countries such as Guinea Bissau or Cambodia.

Moritz Fegert

Moritz is managing different projects related to global health and other topics at foraus. He is a member of the Executive Committee and led the project "Health Data Governance: What's in it for Switzerland" in 2020. Moritz studied International Relations and European Studies at the Universities of Geneva and Leiden. Before joining foraus, he worked in various fields from the perspective of international organizations (WTO), Swiss diplomacy (Swiss Mission to the EU) and industry advocacy.

Nicole Grandi

Nicole has a MSc in Sustainable Development with a focus on Economics and Sustainable Finance. She has a multidisciplinary background leading and carrying out projects for a variety of stakeholders. Her thesis about sustainable finance initiated her interest in sustainable digital finance, which brought her to be a member of foraus and join the publication as co-author. Working in InsurTech, Nicole is integrating her expertise in the field of sustainability and digital solutions.

Table of Contents

Executive Summary	3
1. Introduction	12
2. Project and Methodology	17
3. Insights from the current global sustainable digital finance ecosystem	19
3.1 Sustainable digital finance ecosystems: main actors, topics, concerns driving policy debates	19
3.2 Governing the global sustainable digital finance ecosystem	23
4. Grassroots global governance for sustainable digital finance	25
Phase 1: Diffusion of global ideas on digital finance & sustainability to local settings	27
Phase 2: Adaptation of global ideas on digital finance & sustainability through local experiments	29
Phase 3: Evolution of global ideas on digital finance & sustainability resulting from the reverberation of local experiments	32
5. Taking stock: A call for leading forces in activating a grassroots governance approach for sustainable digital finance	34
Recommendation for phase 1: Positioning the Financial Centers for Sustainability (FC4S) network as the coordinator of the grassroots governance framework at the global level	35
Recommendation for phase 2: Identification and support of “national delegates” of sustainable digital finance	36
Recommendation for phase 3: Consolidation of national experiences into a global knowledge platform on sustainable digital finance	37
6. Final remarks	40
7. Project team and contributors	42
Endnotes	43

Executive Summary

^{English} The growing attention paid to technological innovations in finance is creating substantial momentum to develop sustainable digital finance ecosystems, both at global and national levels. Acknowledging the key role that the finance industry has to play in financing the UN 2030 Agenda, grounded in the so-called ‘FinTech revolution’, several players and institutions are aiming to cooperate to steer the (digital) finance industry’s transition to more sustainability-oriented and inclusive business models. The ultimate goal is to ensure that the development of financial innovations is guided by global challenges, such as the achievement of the SDGs.

While certain countries are adopting innovative approaches in terms of regulation, institutional arrangements, and measures to develop their respective digital finance ecosystems, the global landscape is composed of fragmented groups of players and institutions, as national ecosystems vary greatly in terms of demographic, social, economic, and political conditions. A governance mechanism that can orchestrate the interactions of the different ecosystems to achieve local and global objectives is needed. The question is: *What would be the ideal governance model for the global sustainable digital finance ecosystem?*

Based on desk research, discussions with experts, and the results from the participatory process *FinTechs & Sustainability: Envisioning Sustainable FinTech Bridges*, we argue that **a grassroots governance approach should be adopted following three recommendations for action, linked to three identified phases of implementation**, to provide a level playing field where different players, no matter their size, can be heard, learn from each other’s experiences and support the expansion and adoption of innovations across the different ecosystems. Within this framework, national ecosystems act very much as grassroots movements aiming to achieve a more sustainability-oriented financial system using technological innovations and exploring local capabilities and challenges. By creating local-global knowledge interfaces, a grassroots approach may also address the needs and concerns of new players, small actors, and users in their local realities, thus mitigating risks related to FinTechs and sustainability, while providing room for big tech companies and traditional global institutions to adapt and drive innovation.

Recommendation for Phase 1

Positioning the Financial Centers for Sustainability (FC4S) network as the coordinator of the grassroots governance framework at a global level

Lead: Financial Centers for Sustainability, in collaboration with the G20 Sustainable Finance Working Group

Recommendation for Phase 2

Identification and support of “national delegates” of sustainable digital finance

Lead: Financial Centers for Sustainability, in collaboration with the G20 Sustainable Finance Working Group

Recommendation for Phase 3

Consolidation of national experiences into a global knowledge platform on sustainable digital finance

Lead: Green Digital Finance Alliance, sponsored by UNDP, UNEP, and private players, and supported by Building Bridges Week organizers

To this end, we propose that the framework be implemented via a **dynamic, cyclical process comprising three phases**. In **Phase 1**, the Financial Centers for Sustainability (FC4S) network should coordinate the **dissemination of global ideas on digital finance and sustainability to local settings**. In **Phase 2**, **“national delegates” of sustainable digital finance** should be identified and supported to adapt **global ideas on digital finance and sustainability through local experiments**. In **Phase 3**, national experiences should be consolidated into a **global knowledge platform on sustainable digital finance**. The end goal of the grassroots governance model is to enable cross-border learning and bottom-up innovations in sustainable digital finance ecosystems. ●

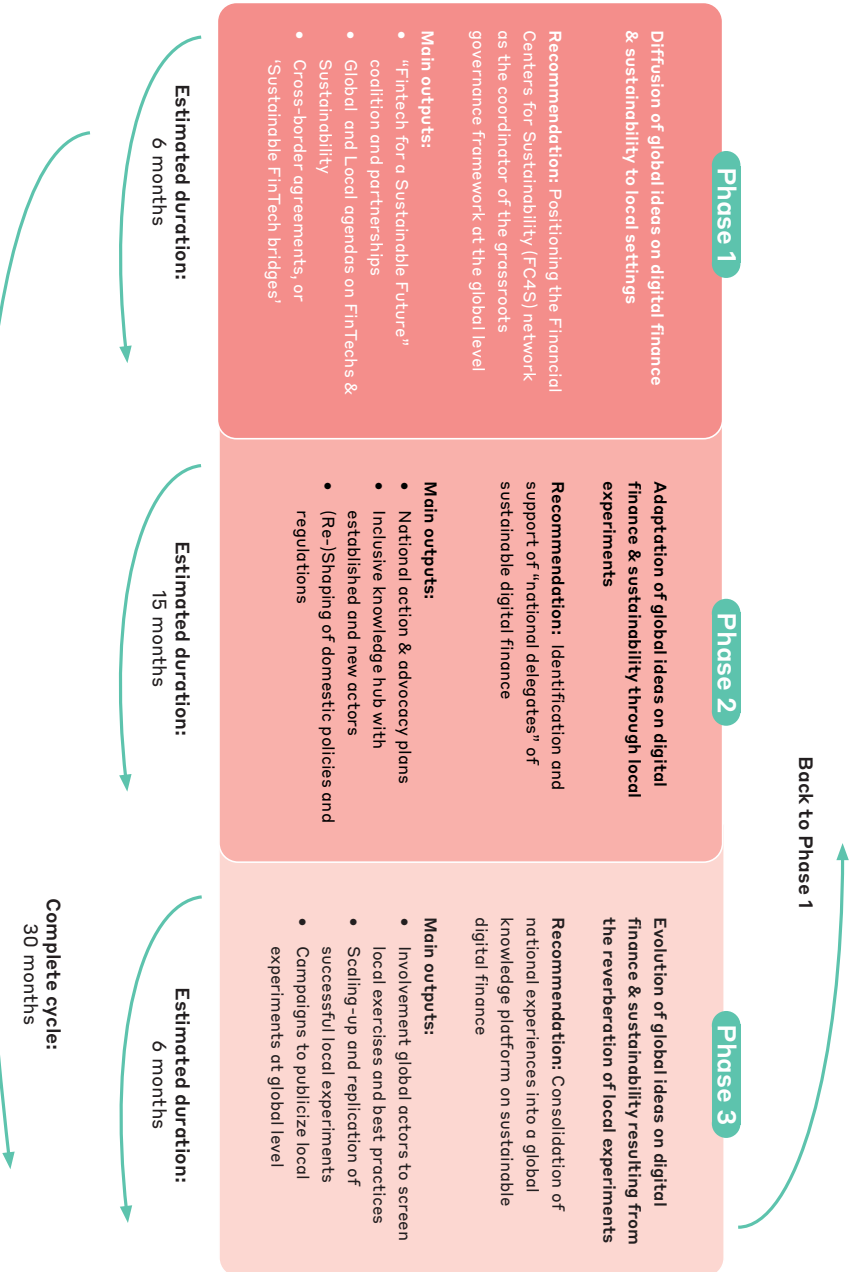


Figure: Dynamic, cyclical process to implement the global governance model for sustainable digital finance

Deutsch Die zunehmende Aufmerksamkeit, die technologischen Innovationen im Finanzwesen geschenkt wird, schafft erhebliches Momentum für die Entwicklung nachhaltiger digitaler Finanzökosysteme, sowohl auf globaler als auch auf nationaler Ebene. In Anerkennung der Schlüsselrolle, die der Finanzindustrie bei der Finanzierung der UN-Agenda 2030 zukommt, die auf der so genannten “FinTech-Revolution” beruht, streben mehrere Akteure und Institutionen eine Zusammenarbeit an, um den Übergang der (digitalen) Finanzbranche zu nachhaltigeren und integrativen Geschäftsmodellen zu ermöglichen. Letztlich soll sichergestellt werden, dass Finanzinnovationen so ausgerichtet werden, dass sie zur Lösung von globalen Herausforderungen, wie der Erreichung der UNO-Nachhaltigkeitsziele (SDGs), beitragen.

Während einige Länder innovative Ansätze im Hinblick auf Regulierung, institutionelle Regelungen und Massnahmen zur Entwicklung ihrer jeweiligen digitalen Finanzökosysteme verfolgen, besteht das globale Finanz-Ökosystem aus fragmentierten Gruppen von Akteuren und Institutionen, da nationale Ökosysteme hinsichtlich demografischer, sozialer, wirtschaftlicher und politischer Rahmenbedingungen stark voneinander abweichen. Es bedarf eines Gouvernanz-Mechanismus, der die Wechselwirkungen der verschiedenen Ökosysteme zur Erreichung lokaler und globaler Ziele koordiniert. Die Frage ist: *Was wäre das ideale Gouvernanz-Modell für das globale nachhaltige digitale Finanz-Ökosystem?*

Auf der Grundlage von Sekundärerhebungen, Diskussionen mit ExpertInnen und den Ergebnissen des partizipativen Prozesses *FinTechs & Sustainability: Envisioning Sustainable FinTech Bridges* argumentieren wir, dass ein **Gouvernanz-Ansatz, der auf einem Grassroots-Modell basiert, verfolgt werden sollte. Drei Handlungsempfehlungen, die mit drei identifizierten Umsetzungsphasen verknüpft sind**, sollen gleiche Ausgangsbedingungen schaffen, in denen unterschiedliche Akteure, unabhängig von ihrer Grösse, Gehör finden, voneinander lernen und die Verbreitung und Übernahme von Innovationen in den verschiedenen Ökosystemen unterstützen können. Somit agieren die nationalen Ökosysteme als Grassroots-Bewegungen, die auf ein nachhaltigeres Finanzsystem abzielen, indem sie technologische Innovationen nutzen und lokales Potenzial und Herausforderungen erforschen. Durch

die Schaffung von Wissensplattformen zwischen lokalen globalen Ökosystemen kann ein Grassroots-Ansatz auch auf die Bedürfnisse und Anliegen neuer, sowie kleiner Akteure und Nutzer in ihrem lokalen Rahmen eingehen, wodurch Risiken im Zusammenhang mit FinTechs und Nachhaltigkeit gemindert werden. Gleichzeitig wird grossen Technologieunternehmen und traditionellen globalen Institutionen Raum zur Anpassung und Förderung von Innovationen geboten.

Empfehlung für Phase 1

Positionierung des Financial Centers for Sustainability (FC4S) Netzwerks als Koordinator des Grassroots-Governance-Ansatzes auf globaler Ebene

Federführung: Financial Centers for Sustainability, in Zusammenarbeit mit der G20-Arbeitsgruppe Nachhaltige Finanzierung

Empfehlung für Phase 2

Identifikation und Unterstützung von "nationalen Delegierten" des nachhaltigen digitalen Finanzwesens

Federführung: Financial Centers for Sustainability, in Zusammenarbeit mit der G20-Arbeitsgruppe Nachhaltige Finanzierung

Empfehlung für Phase 3

Konsolidierung nationaler Erfahrungen in der Form einer globalen Wissensplattform für nachhaltige digitale Finanzierung

Federführung: Green Digital Finance Alliance, gesponsert vom UNDP, UNEP und privaten Akteuren und unterstützt von den OrganisatorInnen der Building Bridges Week

Zu diesem Zweck schlagen wir vor, das Modell in einem **dynamischen, zyklischen Prozess umzusetzen, das sich aus drei Phasen zusammensetzt. In Phase 1** soll das Financial Centers for Sustainability (FC4S) Netzwerk die **Verbreitung globaler Ideen zum digitalen Finanzwesen und Nachhaltigkeit auf lokaler Ebene koordinieren. In Phase 2** sollen «**nationale Delegierte**» identifiziert und darin unterstützt werden, die globale Ideen zu digitalem

Finanzwesen und Nachhaltigkeit mittels lokaler Experimente umzusetzen. **In Phase 3 sollen die nationalen Erfahrungen zu einer globalen Wissensplattform für nachhaltige digitale Finanzierung zusammengebracht werden.** Das Endziel des Grassroots-Governance-Modells ist es, grenzüberschreitendes Lernen und Bottom-up Innovationen in nachhaltigen digitalen Finanz-Ökosystemen zu ermöglichen. ●

Français L'attention de plus en plus importante accordée aux innovations technologiques en finance crée un élan substantiel pour développer des écosystèmes de la finance numérique durable, tant au niveau mondial que national. Conscients du rôle clé que le secteur de la finance doit jouer dans le financement de l'Agenda 2030 des Nations Unies, qui repose sur ce que l'on appelle la "révolution FinTech", plusieurs acteurs et institutions cherchent à coopérer pour orienter la transition du secteur de la finance (numérique) vers des modèles commerciaux davantage guidés par des critères de durabilité et plus inclusifs. L'objectif ultime est de faire en sorte que le développement des innovations financières soit orienté vers les défis mondiaux, tels que la réalisation des Objectifs de développement durable (ODD).

Alors que certains pays adoptent des approches innovantes en termes de réglementation, de dispositifs institutionnels et de mesures pour développer leurs écosystèmes respectifs de la finance numérique durable, l'écosystème mondial de la finance numérique durable est composé de groupes d'acteurs et d'institutions fragmentés, du fait que les écosystèmes nationaux varient considérablement en termes de conditions démographiques, sociales, économiques et politiques. Un mécanisme de gouvernance capable de coordonner les interactions des différents écosystèmes est requis afin d'atteindre des objectifs locaux et mondiaux. La question est donc la suivante : *quel serait le modèle de gouvernance idéal pour l'écosystème mondial de la finance numérique durable ?*

Sur la base de recherches documentaires, de discussions avec des expert·e·s et des résultats du processus participatif *FinTechs & Sustainability : Envisioning Sustainable FinTech Bridges*, nous avançons qu'une **approche de gouvernance grassroots devrait être appliquée en suivant trois recommandations d'action, liées à trois phases de mise en œuvre identifiées**, afin de fournir des conditions-cadres équitables dans lesquelles les différents acteurs, quelle que soit leur taille, peuvent être entendus, profiter des expériences mutuelles et soutenir l'expansion et l'adoption d'innovations dans les différents écosystèmes. Dans ce cadre, les écosystèmes nationaux agissent en quelque sorte comme des mouvements grassroots qui visent à mettre en place un système financier plus orienté vers la durabilité en utilisant les innovations technologiques et en explorant les capacités et les défis locaux. En créant des interfaces de connaissances locales-mondiales,

une approche *grassroots* peut également répondre aux besoins et aux préoccupations de nouveaux, ainsi que de petits acteurs et d'utilisateurs ayant leurs spécificités locales. Ceci permet d'atténuer les risques liés aux FinTechs et à la durabilité, tout en permettant aux grandes entreprises technologiques et aux institutions mondiales classiques de s'adapter et de promouvoir l'innovation.

Recommandation pour la phase 1

Positionner le réseau Financial Centers for Sustainability (FC4S) comme coordinateur du cadre de gouvernance grassroots au niveau mondial

Responsable : Financial Centers for Sustainability, en collaboration avec le groupe de travail du G20 sur la finance durable.

Recommandation pour la phase 2

Identification et soutien de "délégués nationaux" de la finance numérique durable

Responsable : Financial Centers for Sustainability, en collaboration avec le groupe de travail du G20 sur la finance durable.

Recommandation pour la phase 3

Consolidation des expériences nationales en une plateforme mondiale de partage de connaissances sur la finance numérique durable

Responsable : Green Digital Finance Alliance, soutenue par le PNUD, le PNUE ainsi que par des acteurs privés, et soutenue par les organisateurs de la Building Bridges Week.

À cette fin, nous proposons que le cadre soit mis en œuvre **via un processus dynamique et cyclique comportant trois phases**. Dans la **phase 1**, le réseau Financial Centers for Sustainability (FC4S) devrait coordonner la **diffusion d'idées mondiales sur la finance numérique et la durabilité dans des contextes locaux**. Au cours de la **phase 2**, des **"délégués nationaux"** de la finance numérique durable devraient être identifiés et soutenus pour **adapter les idées mondiales sur la finance numérique et la durabilité par le biais de projets locaux**. Durant la **phase 3**, les **expériences nationales** devraient être regroupées

dans une plateforme mondiale de partage de connaissances sur la finance numérique durable. L'objectif final du modèle de gouvernance *grassroots* étant de permettre l'apprentissage transnational et les innovations bottom up dans les écosystèmes de la finance numérique durable. ●

1. Introduction

FinTech companies and FinTech-powered innovations have gained strategic importance in the implementation of the UN 2030 Agenda and the Paris Agreement.

FinTech companies and FinTech-powered innovations (see box 1 for definitions) have gained strategic importance in the implementation of the UN 2030 Agenda¹ and the Paris Agreement². In fact, sustainable digital finance ecosystems - or the global community of FinTech innovators and other interacting players and institutions working to develop the emerging field of sustainable digital finance - connect innovators, academia, financial institutions, regulators, and experts, working together to steer the (digital) finance industry to more sustainable and inclusive business models. The emerging global sustainable digital finance ecosystem is composed of smaller - regional, national, or local - ecosystems that vary greatly in terms of demographic, social, economic, and political conditions. By exploring local capabilities and challenges, these ecosystems are catalysts for sustainability opportunities, while addressing the emerging

challenges and risks associated with FinTechs and sustainability. While we observe countries innovating in regulations, institutional arrangements, and measures to develop their digital finance ecosystems, a question arises: *How are sustainable digital finance ecosystems cooperating and learning from each other?* Sustainability and digital finance are topics mired in complexities, and policies in (and across) these fields are evolving at a fast pace. International cooperation is a key tool for accelerating development within countries and across regions. Such cooperation involves creating, adapting, and sharing knowledge, in addition to driving change in discourses, strategies, and traditional problem-solving approaches. In fact, the UN Task Force on Digital Financing of the Sustainable Development Goals, moving towards implementing an Action Plan to harness digitalization for financing the 2030 Agenda, is calling upon countries to “Cooperate to share experiences, coordinate and advance ambition and develop common principles and approaches, while building capacity, infrastructure, regulations and industry support at home”.³

Box 1

Financial technologies, FinTechs and Sustainable Digital Finance

The term **digital finance** or **financial technologies** encompasses a broad range of technologies (such as big data, machine learning, AI, mobile technologies, distributed ledger technologies, and the Internet of Things) applied to financial products and services, financial business models, and finance-related software.⁴

FinTech companies or **FinTechs** are firms whose core activities include the development of digital solutions which have the potential to improve, complete or disrupt products, services, and processes in the finance industry. In this paper, the authors refer to FinTech companies or FinTechs without distinguishing the firm’s stage of maturity (i.e., start-ups, in the process of scaling-up, or established companies).

Sustainable digital finance⁵ is the application of technology in finance intended to accelerate the achievement of socio-environmental goals, such as those described in the 2030 Agenda and the Paris Agreement. Likewise, **sustainable FinTechs** are those companies which are continuously engaged in the development of finance-related technological innovations aimed at supporting the achievement of socio-environmental goals. Such continuous engagement with sustainability may be witnessed, for instance, in the definition of a specific branch or brand, a new company, or even a new product or service linked to a long-term commitment to socio-environmental goals.⁶

In fact, important initiatives are already in place to promote a multilateral and inclusive debate around sustainable digital finance, such as the Global Dialogue on Digital Financing for Sustainable Development⁷. Furthermore, various Sustainable FinTech hubs around the world act very much like grassroots movements with a mix of individuals affiliated with the private and public sectors, academia and civil society organizations rooting for the cause to achieve a more sustainability-oriented financial system. Yet, a governance mechanism which can orchestrate the interactions of the different ecosystems to achieve local and global objectives is missing.

What would be the ideal cooperation model for the global sustainable digital finance ecosystem? We argue that an adequate governance arrangement, based on concerted international cooperation and learning from grassroots pilots (see Box 2 for definitions), will enable the required institutional and regulatory innovations to address opportunities and risks related to FinTechs and sustainability. Local and cross-border exchange mechanisms will also support a uniform development within the global sustainable digital finance ecosystem, minimizing exclusion and inequalities between developed and developing countries. Equally important, grassroots learning enables the evolution of traditional practices and opens a window for bottom-up innovations.

Box 2**Grassroots Movements and Grassroots Governance**

A grassroots movement is understood to be an organized effort driven by a group of individuals or organizations using collective action on a local level to achieve change at a local, national or international level. Smith et al.⁸ highlights the premise that “people at the grassroots level already have the ideas, knowledge, tools and capabilities required to create their own innovative solutions to climate change and sustainable development”. However, as grassroots movements grow and evolve, there is a need to establish governance mechanisms to orchestrate the efforts towards common goals. This becomes more relevant when these movements acquire an international dimension.

As these grassroots movements are associated with bottom-up, rather than top-down decision making, a grassroots governance approach establishes the necessary steps to adopt coordination mechanisms between grassroots movements⁹. While supporting local members by contributing and acting at a local level, a grassroots governance approach helps to maintain a level playing field where all the different players are heard. Equally important, it supports the creation of information flows between the different local movements, so they can build on each other’s experiences and expertise to achieve commonly set goals at a local, national or international level.

In this paper, we explore the idea of adopting a grassroots governance framework (see Box 2 for definitions) to bring together all these local Sustainable FinTech hubs and build bottom-up synergies to achieve their common goals at a local, national and international level. In particular, we draw on the grassroots global governance theory¹⁰ to propose a framework for such a synergetic and inclusive development.

This work’s overarching goal is to discuss how the emerging sustainable digital finance hubs can seize cooperation opportunities to make a greater contribution to the SDGs. This is why we are calling for leading voices in the governance of the global sustainable digital finance ecosystem, while we offer three policy recommendations to steer cooperation between countries.

The rest of this paper is structured as follows. In section 2, we present the methodology used to gather information and develop this work. In Sections 3 and 4, respectively, we analyze the global sustainable digital finance ecosystem and present our proposal for a grassroots governance approach to the global sustainable digital finance ecosystem. In Section 5, we recommend policies and a timeline to implement the grassroots governance approach and

seize cooperation opportunities within the global digital finance ecosystem. Finally, in Section 6, we end the paper with final remarks on the implementation of our recommendations. ●

2. Project and methodology

This paper is the result of information gathered through desk research, discussions with experts, and participatory workshops.

This paper is the result of information gathered through desk research, discussions with experts, and participatory workshops. In particular, the workshops were tools for brainstorming and collecting insights from policymakers, industry players, and experts, from diverse backgrounds and countries.

The workshops were part of the initiative *FinTechs & Sustainability: Envisioning Sustainable FinTech Bridges*, organized by foraus' [Sustainable FinTech](#) and [Policy Kitchen](#) projects, in collaboration with [Swissnex](#) and [Agora](#). The initiative aimed to provide a platform for participants to look at the international landscape of sustainable digital finance and reflect on common topics and concerns between regional sustainable digital finance ecosystems. Moreover, it also addresses how bilateral collaborations can potentially contribute to a better use of opportunities and efficient mitigation of challenges

associated with FinTechs & Sustainability.

The two workshops took place in July 2021, when participants and facilitators (29 experts, policy-makers, and other interested parties from 10 different countries and diverse backgrounds) explored the following questions:

- How could Sustainable FinTech Bridges help to scale up the quest for sustainability in the real economy, globally?
- How could Sustainable FinTech Bridges help to address systemic challenges and risks associated with FinTechs & Sustainability?
- How could sustainable FinTechs hubs, such as Switzerland, contribute to the governance of the global sustainable digital finance ecosystem?

Qualitative analysis of the workshops' output provides insights into measures and means which can be taken to promote a more synergetic and inclusive governance of the global sustainable digital finance ecosystem. We use the workshops' output to instantiate our framework for a synergetic and inclusive development of the global digital finance ecosystem, as presented in Chapter 4. ●

3. Insights from the current global sustainable digital finance ecosystem

This section analyzes the current global sustainable digital finance ecosystem.

This section analyzes the current global sustainable digital finance ecosystem. While studying the players and key developments, we gain insight into the dynamics of the global sustainable digital finance landscape, the main applications and concerns driving policy debates, and the governance frameworks in the field.

3.1 Sustainable digital finance ecosystems: the main players, topics, and concerns driving policy debates

Great diversity of players involved

A glance at technical publications, professional networks, and discussion forums shows that this ecosystem is composed of a wide range of stakeholders. For instance, besides FinTech innovators, we

note that financial institutions, investors, industry associations, educators, academia, government officials, and development agencies are engaged in debates and providing conceptual, technical, and political support to the field of sustainable digital finance. Through research networks¹¹, knowledge hubs¹² and multi-stakeholder alliances¹³, for instance, this community of players and institutions has played a three-fold role: 1) improved the range and understanding of the practical applications of digital finance to sustainability; 2) strengthened a global community around the topic of sustainable digital finance; as well as 3) informed policy approaches to develop the field of sustainable digital finance.

We also observe that the growing and quite recent¹⁴ global sustainable digital finance landscape is composed of smaller (local, regional or national) ecosystems which vary greatly in terms of demographic, social, economic, and political conditions.

The formation of Sustainable FinTech hubs

In particular, we note more prominent developments in the nexus of Fintechs & sustainability in ecosystems where the sustainable finance and mainstream FinTech markets are well developed. For instance, with multiple competing centers, Europe is a hub of leading sustainable digital finance ecosystems, such as Amsterdam, Zurich, Copenhagen, and London. The latter is considered the best-established FinTech ecosystem in Europe and is viewed as an especially innovative regulatory environment, having pioneered the model of regulatory sandboxes¹⁵ and adding increasingly incentives for sustainable FinTechs. In the USA, while sustainable and green FinTechs seem to represent only a very small share of the total market, they are competitive and relevant in absolute numbers. The country also offers excellent access to talent and capital, with strong support also from foundations (e.g., Hewlett) and incubators with an international presence. Finally, China is widely recognized as a pioneer in digital payments with a strong FinTech industry and also a GreenTech powerhouse. Since 2014, the political commitment to environmental issues (e.g., China's Green Revolution, Guidelines for Establishing the Green Financial System) has gone hand-in-hand with an explicit focus on leveraging technology for sustainable development.

Digitization and development of the sustainable FinTech industry

have also benefited emerging markets. In particular, while enabling greater access to financial services, FinTechs in emerging markets display a great deal of inherent sustainability, especially when it comes to social indicators such as financial inclusion. In Brazil, for instance, the extension of financial services to the underbanked segments of the population shows that (sustainable) digital finance innovations act as catalysts for economic growth and the eradication of economic poverty¹⁶. India's sustainable digital finance ecosystem is also well developed, especially in the fields of payments¹⁷. In particular, the robust Indian electronic payment system has built up opportunities for small businesses, while facilitating transactions between entrepreneurs and payees. The same is true for Western Africa, where the digital finance ecosystem is still in a nascent stage. In Ghana, for instance, non-banks, more specifically mobile network operators, and the issuing of mobile money, greatly increased the number of banking accounts and transactions, alongside the number of active financial agents in the country¹⁸.

The supply of and demand for sustainable financing services have evolved and several providers have become accessible. In Europe, e.g., sustainable finance plays a key role in achieving policy objectives, and at a more global level, the Paris Agreement includes the commitment to redirect financial flows towards a pathway of societal climate goals. The market has responded to the new developments in policies and societal demand, and new sustainable FinTechs have been developed, e.g., Inyova¹⁹ and SUSI Partners²⁰ in Switzerland, which channel private and institutional capital towards sustainability issues, or Doconomy²¹ in Sweden, which aims to inspire behavioral changes and the reduction of carbon emissions. Even the bigger financial companies have recognized the importance of sustainable digital finance, e.g., OpenInvest²², now a J.P. Morgan company, which delivers technology for value-driven investments. Moreover, tech-driven financial products and services have enabled sustainable innovations in areas as diverse as financial inclusion, agriculture, energy, construction, and public finance. From peer-to-peer lending platforms, such as Crowde²³ in Indonesia, which helps farmers to obtain financing; to solutions that help to increase and prove creditworthiness for farmers, like FarmDrive²⁴ in Kenya, which is a female-led FinTech.

Existing risks and potential negative externalities

Despite the enormous potential which digital financial technologies have to unlock the transition to a more sustainable business model and to overcome the SDG financing gap, these technologies also present great risks which need to be addressed in order to prevent possible negative externalities, such as:

- *“Winner-takes-all effect.”* An intrinsic problem of many technology markets is the risk of market concentration due to ever-increasing returns and network effects. A positive growth spiral where all users want to be on the same platform could create a “winner-takes-all” or “winner-takes-more” outcome²⁵, making it very difficult for new players to enter the market and bring innovation.
- *Outside players.* Big tech can afford to provide financial services at a low cost or even for free by attracting users to other more profitable cash-generating activities. At the same time, these players have the resources to find and navigate loopholes in the regulations which apply to traditional institutions, giving them another competitive advantage on the market but putting at risk users who would otherwise be protected by these regulations.
- *Data monopoly.* For digital-first companies like big tech leveraging data, insights are part of their core business but for traditional institutions with legacy IT systems getting up to speed with modern data, architectures can be a huge burden. While this is already taking place in some areas where data access is shared via Open Banking and APIs, enabling data sharing between different institutions while ensuring data privacy and security remains a main area of concern.

We argue that adopting a global grassroots approach is not only beneficial, but might be necessary to address the risks outlined above. By bringing economic players, policymakers, academia, and civil society players to the sustainable digital finance debate and creating local-global knowledge interfaces, we can address the needs and concerns of new players, small players, and users in their local realities. At the same time, we provide room for big tech companies and traditional global institutions to adapt and drive innovation.

3.2 Governing the global sustainable digital finance ecosystem

In this paper, we argue that an appropriate governance framework will provide tools for exploring innovations while addressing the key challenges related to FinTechs and sustainability, as mentioned above.

In fact, we note that, internationally, digital finance governance efforts have largely been focused on ensuring financial stability and addressing money-laundering issues related to Fintech.²⁶ Traditionally, data governance, and financial, telecom, internet and competition regulations have thus been central regulatory tools in higher-income countries.²⁷ Yet a more comprehensive regulatory approach beyond these narrow considerations is needed, given the nature of emerging powerful Fintech players, which operate in complex cross-sector business models and can have an especially harmful effect in low and middle-income countries (LMIC), as seen above. Furthermore, technological innovations, especially in the field of distributed ledger technology (DLT), are accompanied by additional regulatory challenges as they disrupt the government's ability to supervise certain economic transactions as a result of "disintermediation of established institutional processes"²⁸.

In the past years, promising initiatives have been launched by major global economies such as the Green Finance Study Group, established under China's G20 Presidency in 2016, which initiated a global dialogue around sustainable finance within the G20. This discussion was pursued by subsequent presidencies and restated as a major priority through its elevation to working group level under the Italian Presidency in April 2021.²⁹ In addition, major regulatory spaces such as the European Union, India, and China are actively pushing the sustainable finance agenda through different policy initiatives. While the Indian regulatory authorities already issued Green Bond guidelines in 2017³⁰, some recent important initiatives include, for instance, the European Commission's Strategy for financing the transition to a sustainable economy³¹ or the announcement in Spring 2021 by the People's Bank of China of a collaboration with the EU to adopt a common taxonomy for green investments³².

Despite the many regulatory efforts mentioned above, non-G20 developing countries are still largely being kept out of global discussion concerning sustainable finance governance, even though the impact on these economies is likely to be greatest in the years to come,

as noted by the Task Force on Digital Financing of the Sustainable Development Goals (DFTF).³³ The latter was established by the UN Secretary General in 2018 to ensure more inclusive and innovative regulatory approaches. A concrete response to these concerns was the launch of the International Dialogue on Global Digital Finance (DGDF) in Fall 2020. Indeed, the DGDF, which is an initiative implemented by the UN Development Program and the UN Capital Development Fund and hosted by the governments of Kenya and Switzerland, aims to ensure that the future governance of digital finance platforms is inclusive and SDG-aligned. While this constitutes a major step in addressing some critical issues raised above, Switzerland's financial contribution to the initiative is so far only guaranteed until June 2022. It will also be crucial to observe how genuinely inclusive and effective the DGDF will be in the longer term in making governance efforts more inclusive towards non-G20 developing countries and a diversified set of players.

At the beginning of chapter 3, we highlighted the multi-level nature of the global sustainable digital finance landscape, as well as the existence of multiple hubs. This should be considered in a future governance framework to allow for localized empowerment as well as best practice sharing between hubs and players within these. It is such a grassroots approach that we envision for the global governance of the sustainable digital finance ecosystem. ●

4. Grassroots global governance for sustainable digital finance

Adequate governance arrangement will enable the required institutional and regulatory innovations to address opportunities and externalities related to FinTechs and sustainability.

We argue that an adequate governance arrangement, based on concerted international cooperation and learning from grassroots experiments, will enable the required institutional and regulatory innovations to address opportunities and externalities related to FinTechs and sustainability. A grassroots approach to global governance can help decouple development aspects from larger political issues and function in a partitioned reality to accelerate innovation and, later, reconsider successes and solutions on a broader, more global spectrum. To this end, in this chapter, we draw on the grassroots global governance theory³⁴ to propose a framework for harnessing synergies and dialog within the global digital finance ecosystem.

The grassroots global governance theory explains how global policies and best practices for solving global problems are negotiated

and implemented at a local level. Derived from experiences of the governance of watersheds, the theory also explains how local experiments to implement global policies and best practices contribute to the evolution of these global ideas. The grassroots global governance model is a dynamic, cyclical process that comprises three phases:

- *Phase 1.* Dissemination of policies and best practices from the global to the local level via transnational governance networks;
- *Phase 2.* Local adaptation of global ideas and experimentation with unique institutional applications;
- *Phase 3.* Evolution of global ideas resulting from the feedback from local experiments.

We consider that the grassroots governance model provides the ideal framework to channel synergies between sustainable digital finance ecosystems. As shown in Chapter 3, we note that different Sustainable FinTech hubs around the world act very much like grassroots movements with a mix of individuals affiliated with the private and public sectors, academia and civil society organizations using collective action at a local level to achieve change and promote a more sustainability-oriented financial system. However, we also observe a lack of coordinated efforts and formal structures to promote a synergetic and inclusive development of the global sustainable digital finance ecosystem. As also discussed in Chapter 3, in the current context, for instance, there are no such formal structures connecting the different sustainable digital hubs, as well as promoting conclusions drawn from grassroots pilots.

To this end, we propose the grassroots global governance model for sustainable digital finance (Figure 1) comprising a broad set of phases and steps, detailed below, to promote a synergetic and inclusive development of the global sustainable digital finance ecosystem. This model should, nevertheless, be seen as a conceptual, strategic starting point which needs to be operationalized and adapted to local realities.

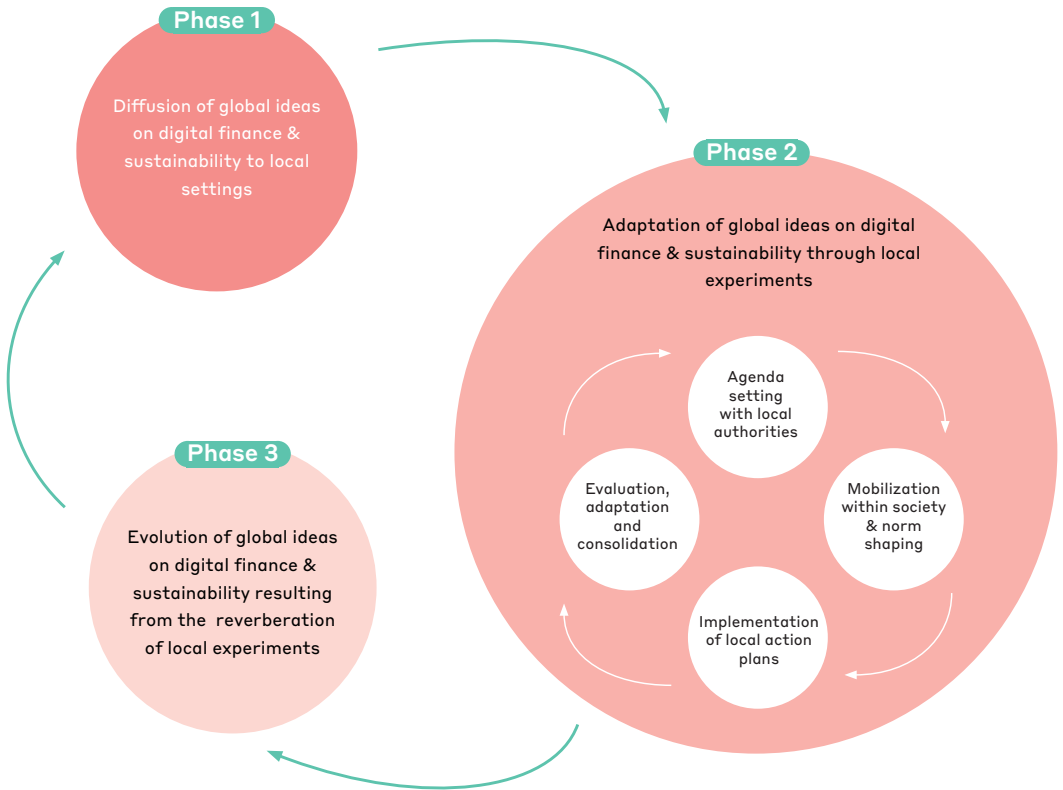


Figure 1: Summary of the grassroots global governance model for sustainable digital finance, adapted from the Kaufmann grassroots global governance process (2017)²⁸

Phase 1: Dissemination of global ideas on digital finance & sustainability to local settings

Phase 1 of the grassroots global governance model for sustainable digital finance aims to achieve the dissemination of global policies and best practices related to digital finance and sustainability in specific national or local landscapes. To this end, a coalition of transnational and local advocates works to create the framework conditions for institutionalizing global ideas in domestic settings. The table below details the five steps of Phase 1:

Phase 1

Dissemination of global ideas on digital finance and sustainability to local settings

- **Step 1:** *Consolidation of a transnational coalition dedicated to supporting the adoption of global policies and best practices on digital finance and sustainability in national settings*

Means: Transnational “Fintech for a Sustainable Future” coalition aimed at leveraging and connecting existing national networks involved in the topics of finance, digitalization, and sustainability.

In practice: Build on the work started by players such as the Green Digital Finance Alliance (GDFA), the Financial Centers for Sustainability (FC4S) network, and the G20 Sustainable Finance Working Group (G20-SFWG). The goal is to leverage their work, and other existing networks, while exploring the potential of digital finance and FinTech-powered innovations to reshape the financial system and to empower financial centers to accelerate the shift to sustainable finance.

- **Step 2:** *Activation of national sustainable digital finance ecosystems*

Means: Global call to action targeted at national sustainable digital finance ecosystems.

In practice: The “Fintech for a Sustainable Future” coalition actively reaches out to countries with the aim of building a national community of policy-makers, entrepreneurs, experts, and enthusiasts around the topic of digital sustainable finance. Through reach-out strategies (e.g., bilateral meetings, roundtables, regional calls) tailored to each targeted country, the coalition will work to include both developed and non-G20 developing nations in this global call to action.

- **Step 3:** *Definition of global key issues around FinTechs and sustainability*

Means: Global dialog and screening of published knowledge to define global issues and priorities, leaning towards social and environmental sustainability goals.

In practice: Refer to the works published by the UN Task Force on Digital Financing of the SDGs (DFTF), GDFA, FC4S, and others which have mapped out opportunities, risks, and priorities for harnessing digital finance and tech-driven innovations towards SDGs. Make sure that perspectives from non-G20 countries and LMICs are also considered in the analysis.

- **Step 4:** *Framing of global ideas and best solutions to domestic problems*

Means: National FinTech challenges aimed at incentivizing innovative solutions, identifying barriers, important milestones, and success factors, based on the context of the national sustainable digital finance ecosystems.

In practice: Gather intelligence about global challenges and solutions through open consultations and workshops, targeted at private, public, and institutional players, the results of which can serve to address specific national problems. Here, a potential benchmark is the “Fintech for Tomorrow Challenge”, an initiative by Finance for Tomorrow Paris³⁵. In addition, the integration of participatory methodologies and tools into this work (e.g., using tools such as Policy Kitchen³⁶ or SparkBlue³⁷ to host ideathons and crowd-ideation campaigns) will create new connections with existing knowledge hubs and linking organizations, and facilitate discussions to fill knowledge gaps, produce local studies and mappings about national sustainable digital finance ecosystems.

- **Step 5:** *Establishment of partnerships between sustainable FinTech ecosystems*

Means: Cross-border agreements, or ‘Sustainable FinTech bridges’, to aid policymakers, industry players, and researchers from different countries in building networks, sharing expertise and lessons learned on mitigating externalities and risks, such as the ones described in Chapter 3, as well as benchmarking on regulations in the nexus of finance, technology, and sustainability.

In practice: Based on contacts made and discussions held within the “Fintech for a Sustainable Future” coalition, two or more countries may form so-called ‘Sustainable FinTech bridges’³⁸. These are cross-border agreements to enable tailored, high-quality exchanges and aid the involved countries in building networks, sharing expertise, educating experts and novices, benchmarking regulations, as well as prospecting for investment opportunities. The “Fintech for a Sustainable Future” coalition may play the role of an ‘honest broker’ and develop a blueprint to support peer countries in reaching these formal agreements. Peer countries may be chosen based on the configuration and characteristics of local ecosystems, as described in Chapter 4 (for instance, demographic, social, economic, political conditions, and analysis of local needs and priorities). In particular, North-South agreements may provide knowledge and technology transfer as well as exposure for advanced countries to new realities, while South-South agreements may provide the ground to overcome shared challenges, enabling further innovation and potentializing contributions to the SDGs.

Phase 2: Adaptation of global ideas on digital finance and sustainability through local experiments

In Phase 2, global ideas on digital finance and sustainability are adapted to fit local realities and cater to the existing infrastructure of the respective national or local sustainable FinTechs ecosystems. To this end, in Phase 2, the bottom-up approach of knowledge gathered within the “Fintech for a Sustainable Future” Coalition constituted in Phase 1 is used in domestic settings. This can be achieved through different initiatives such as:

Phase 2

Adaptation of global ideas on digital finance and sustainability through local experiments

Agenda setting with local authorities

- **Step 6:** *Adoption of bottom-up approach and consideration of global key issues in local sustainable digital finance hubs*

Means: a) Consolidated alliance of local authorities and grassroots players that safeguards local practices, working processes, and networks while integrating considerations from the global coalition. These local authorities and players will be chosen through either formal designation, for instance, via an invitation to tender, or via informal recognition of interest in the topic of sustainable digital finance. Ideally, Step 6 will either give a voice to new players, especially when it comes to the challenges and risks imposed by dominant established players, as well as allow traditional players to take on new roles within the local sustainable digital finance

hubs; b) National and/or sub-national action plans designed in close collaboration between key, active stakeholders in the local sustainable digital finance hubs, such as policy-makers, entrepreneurs, investment firms, researchers, and other directly interested parties. c) Advocacy for the needed infrastructure and support for the local sustainable FinTech ecosystems.

- **Step 7:** *Capacity building and allocation of the necessary financial and technical resources to implement the action plan*

Means: a) Local fund, including a concrete set of requirements and the involvement of experts to ensure efficient allocation; b) Local knowledge platform to engage knowledge/experts from different fields.

In practice: Key stakeholders in the local sustainable digital finance hubs will receive funding from public and private sources and capacity-building support to set up and implement a national action and advocacy plan. Given the great diversity of players involved in digital finance ecosystems, as described in Chapter 3, the design of national action and advocacy plans should ensure the integration of various players such as financial institutions, investors, industry associations, educators, academia, government officials, and development agencies. The action plans will both identify opportunities to improve framework conditions for local sustainable digital finance initiatives, as well as suggest actions to be taken both by the government and private sector, to support the implementation of these actions. The action plans will also estimate the necessary funding, which will help to place the global problem on the local political agenda.

Mobilization within society and norm shaping

- **Step 8:** *Creation of knowledge communities*

Means: Creation of policy-relevant knowledge in the nexus of finance, technology, and sustainability. This can be achieved, for instance, through meetings, seminars, and training events with local like-minded experts and activists forming formal or informal networks (e.g., think tanks, academia, industry players).

- **Step 9:** *Promotion of dialog and transparency*

Means: ‘FinTech meets the regulators’ events, where authorities and ecosystem players will discuss regulatory challenges, identify possible market inequalities and risks, such those identified in Chapter 3 (e.g., winner-takes-all effect, outside players, data monopolies) and discuss the latest developments in sustainable digital finance at a local level.

- **Step 10:** *Provision of information, legal and technical assistance on sustainability topics*

Means: Advice Unit to offer sustainability guidance to FinTechs (e.g., legal and technical assistance on sustainability issues, such as ESG agenda, taxonomies, non-financial reporting, self-assessment tools).

- **Step 11:** *Shaping of domestic policies and regulations*

Means: Funded policy research and workshops, aimed at clarifying key issues and concepts, proposing measures and norms to harness opportunities and mitigate risks, as well as incentivizing collaboration on various levels.

In practice: Knowledge communities act as focal points to disseminate relevant knowledge in finance, technology, and sustainability and to mobilize the required support to develop local sustainable digital finance ecosystems. For instance, in Germany, the meet-up group Conscious FinTech Berlin connects industry players

with experts, while promoting debates on Fintech and sustainability. In 2020, in collaboration with the Green Digital Finance Alliance (GDFA), members of Conscious FinTech Berlin published a mapping of the German sustainable digital finance landscape³⁹, offering policy directions to develop the country's ecosystem. When it comes to the provision of information and guidance to current and new entrants in the field, in France, for instance, the FinTech Innovation Hub⁴⁰ is a potential benchmark that acts as a 'One-stop shop' to inform and guide FinTech companies in formalities during their accreditation or authorization phases. The establishment of new, innovative domestic policies and regulations in the nexus of finance, technology, and sustainability may be enabled by linking institutions. In the UAE, for instance, the Reglab⁴¹ works with regulators, the private sector, innovators, and business leaders to co-create legislation that is in step with the speed of innovations, including those related to financial technologies.

Implementation of local action plans

- **Step 12: *Fostering innovation and entrepreneurship***

Means: Depending on the ecosystem and available resources, this might include: Sustainable FinTech challenges, research and business growth grants, incubation and acceleration programs, scholarships, and training for FinTech talents, among others.

- **Step 13: *Leverage interdependence and collaboration among local stakeholder groups***

Means: Collaboration platforms and guidelines aimed at facilitating partnerships between sustainable FinTech and players in other sectors (e.g., financial institutions, academia). These platforms might also provide match-making and support for financial and human capital demands.

In practice: National action plans on FinTechs and sustainability are tailored to each location, and their means of implementation depend on the context and defined objectives. Still, regardless of context, local players should guide their efforts towards fostering innovation and entrepreneurship. Here a potential benchmark is LIFT - Laboratory of Financial and Technological Innovations⁴², an initiative by the Brazilian Central Bank aimed at encouraging the creation of technological solutions prototypes for the National Financial System. In turn, leveraging interdependence and collaboration is essential for promoting synergies and learning among stakeholders in the local sustainable digital finance ecosystem. To this end, collaboration platforms, such as the Singaporean APIX, establish environments to foster cooperation and working relationships between sustainable FinTech and players in other sectors (e.g., financial institutions, academia). Evaluation, adaptation and consolidation

- **Step 16: *Monitoring and evaluation of the implementation of the national action plan***

Means: a) Multidisciplinary working group which will encompass, among other things, disciplines such as finance, telecommunications, environmental studies, and social sciences, and will monitor policies and strategies that cut across the topics of finance, digitalization, and sustainability; b) Design of an evaluation framework and KPIs to guide the progress monitoring of the national action plan.

- **Step 17: *Review and renegotiate outdated arrangements***

Means: Course-correction strategies to solve potential bottlenecks and foster the use of sustainable FinTech solutions to reach societal goals.

In practice: The activation of a strong, inclusive local governance network will enable local players to follow the progress of indicators and implement course-

corrections strategies. Indicators of progress may include, for instance, the number of policy initiatives during Phase 2, the regularity of meetings and events with public authorities, the relative number of members, and diversity among the participating stakeholders. Evaluation and monitoring processes also equip local players to broadcast successful local experiments on a transnational level.

Phase 3: Evolution of global ideas on digital finance and sustainability resulting from the feedback from local experiments

Phase 3 aims to initiate change in the global sustainable digital finance ecosystem, thus allowing the transnational coalition on sustainable digital finance to feed off the lessons learned from the experiments carried out in local ecosystems.

Phase 3

Evolution of global ideas on digital finance and sustainability resulting from the feedback from local experiments

- **Step 18:** *Involvement of transnational players in local debates*

Means: Global forums and platforms to advocate for new global models based on learning, best practices, and challenges faced by local sustainable Fintech ecosystems.

- **Step 19:** *Scaling-up local experiments*

Means: Funding for the expansion and replication of successful local experiments in neighboring (sustainable) FinTech ecosystems which might present similar challenges and contexts.

- **Step 20:** *Changing of discourses and strategies due to evolutionary learning*

Means: Campaigns to publicize local experiments at a global level and advocate for new global agendas on FinTechs and sustainability, integrating learning from non-established hubs which are facing externalities and risks, as outlined in Chapter 3. **In practice:** In Phase 3, the transnational “Fintech for a Sustainable Future” coalition created in Phase 1 will serve as a hub of common knowledge and expertise. After nations and local communities have identified best practices, challenges, and lessons learned, discussions will catalyze new models and mechanisms, as well the export and adaptation of digital finance innovations to other SDG-related challenges and opportunities.

Despite the potential drawbacks to implementing the *grassroots governance model for sustainable digital finance* (i.e. resistance to participation in international cooperation, concerns regarding market competition between different ecosystems and market players, limited financing mechanisms to implement the framework at the local level), we deem that the framework laid out in this chapter offers

a structure to build an expertise-overarching, educational global sustainable digital finance ecosystem, anchored in respective local feedback loops.

To address these potential bottlenecks and to create the ideal conditions to leverage the participation of emerging countries in global debates, it is key that the current players in the sustainable digital finance ecosystem take a leading role in activating the grassroots governance model. In the next chapter, we recommend three practical measures to kick-start the implementation of the proposed framework at a global level. ●

5. Taking stock: A call for leading forces to activate a grassroots governance approach to sustainable digital finance

The successful implementation of a grassroots approach to governing the global sustainable digital finance ecosystem depends on the involvement of key local players at a transnational level.

As discussed in Chapter 4, the successful implementation of a grassroots approach to governing the global sustainable digital finance ecosystem depends on the involvement of key local players at a transnational level. Moreover, it is equally important that emerging sustainable digital finance ecosystems receive appropriate support with seizing cooperation opportunities for a greater contribution to the SDGs.

In fact, our research shows several initiatives in the context of the global sustainable digital finance ecosystem that come near to the phases and steps proposed in the framework. Still there is room for improvement when the goal is to coordinate efforts to promote a synergistic and inclusive development of the global sustainable digital finance ecosystem. In particular, we argue that formal structures connecting the different hubs existing at municipal, regional or

national levels, as well as promoting learning from grassroots pilots, will help the key players and initiatives in the global sustainable digital finance ecosystem to use the existing momentum, capitalize on the previously described assets, and lead the activation of the grassroots governance model for sustainable digital finance. The three recommendations we present below are heading that way:

Recommendation for phase 1: Positioning the Financial Centers for Sustainability (FC4S) network as the coordinator of the grassroots governance framework at a global level

- *Lead: Financial Centers for Sustainability, in collaboration with the G20 Sustainable Finance Working Group*

The Financial Centers for Sustainability (FC4S) network should be responsible for leading concerted efforts, promoting a synergetic, inclusive and grassroots development of the global sustainable digital finance ecosystem. In particular, while undertaking this mandate, FC4S will institutionalize further space for digital finance within the G20 Sustainable Finance Working Group.

The expertise which the G20 built up via its engagement on sustainable finance and the extensive FC4S network in the global South will be key to coordinating work with international federal authorities while strengthening the autonomy of the involved countries. In fact, in its “Sustainable Finance Roadmap”⁴³, the G20 Sustainable Finance Working Group highlights that “there is limited existing international work or coordination” when it comes to promoting the use of digital technologies in sustainable finance. The Sustainable Finance Roadmap also indicates that FC4S should take a lead in developing a Sustainable Digital Finance Program for selected financial centers, which includes “working on sustainable digital finance with relevant organizations, technical experts, and academic institutions and map digital technologies application to sustainable finance on selected financial centers”. We consider that FC4S can play a fundamental role by not only leveraging its existing allies but also connecting them with leading players in national sustainable digital finance ecosystems.

In Phase 1 of the grassroots governance model for sustainable digital finance, the FC4S’ mandate will create grounds for cross-border

collaborations between sustainable digital finance ecosystems, with a special focus on the inclusion of non-G20, developing countries into the equation alongside the well-developed sustainable Fintech hubs. Agreements between sustainable FinTech ecosystems will enable tailored, high-quality exchanges and aid the involved countries in building networks, sharing expertise, benchmarking regulations, as well as prospecting for investment opportunities. Moreover, these cross-border agreements will support the involved countries in translating, running, and monitoring the implementation of ideas developed at a national level and in bringing back the learning at a transnational level.

Recommendation for phase 2: Identification and support of “national delegates” of sustainable digital finance

- *Lead: Financial Centers for Sustainability (FC4S), in collaboration with the G20 Sustainable Finance Working Group*

To kick start and lead the implementation of Phase 2, FC4S should identify and support “national delegates”, whose profile will vary depending on the local context (e.g., objectives, challenges, and priorities). Potential local players can be identified, for instance, among public agencies, industry associations, academia, and think-tank organizations.

Once capacity building and financial support are provided, each “national delegate” will act as a linking institution and be responsible for convening other players in sustainable digital finance in their countries, facilitating the design of national action and advocacy plans, promoting dialogue, identifying shared market opportunities and mobilizing knowledge communities which act as norm shapers towards the national authorities.

Besides mobilizing interested parties and setting agendas with local authorities, “national delegates” will also monitor and evaluate the implementation of national action and advocacy plans on sustainable digital finance. While disseminating relevant knowledge and broadcasting successful local experiments at a transnational level, “national delegates” will facilitate the design of course-correction strategies to solve potential bottlenecks and foster the use of sustainable FinTech solutions to reach societal goals.

Recommendation for phase 3: Consolidation of national experiences into a global knowledge platform on sustainable digital finance

- *Lead: Green Digital Finance Alliance, sponsored by UNDP, UNEP, and private players, and supported by Building Bridges Week organizers*

We recommend that the Green Digital Finance Alliance consolidate best-practices and challenges made within respective national ecosystems on a common knowledge platform of sustainable digital finance. The latter will function as a focal point to disseminate relevant knowledge and reinforce learning between different local ecosystems. This platform will also disseminate national experiences on business and regulatory innovations and map key players to help further develop national sustainable digital finance ecosystems. As a knowledge-sharing tool, this platform may also offer an overview of existing regulations and discussions at local and global levels.

We recommend that the platform should be structured with the following main pillars:

- A live, global map of sustainable digital finance ecosystems, pointing out national and local sustainable digital finance ecosystems, as well as existing cross-border agreements between ecosystems. A point of contact in each country may be provided to facilitate communication between interested parties.
- Publication of studies on national landscapes and key opportunities in digital finance and sustainability, based on the Framework for Measuring Sustainable Digital Finance Progress and developed by the UN Task Force on the Digital Financing of the Sustainable Development Goals⁴⁴. The Green Digital Finance Alliance has already published mappings of the German and Spanish sustainable digital finance landscapes, offering policy directions to develop the countries' ecosystems. Applying the same framework in other contexts will allow countries to compare and track the progress of their ecosystems over the years. These publications may also broadcast cases and successful experiments at a national level.
- Publication of national action and advocacy plans that will serve as a reference for other countries and regions, and highlight how

countries are placing the global problems discussed on their local political agendas.

Equally important, we recommend that, when developing the knowledge platform on sustainable digital finance, Green Digital Finance Alliance increasingly emphasizes a comprehensive approach to sustainability. We argue that considering only the “green aspects” of sustainability may lead to niche behavior and exclude important players. Moreover, building a more inclusive and transdisciplinary approach is key to steering digital finance to boost innovation and make substantial contributions to social issues and, more specifically, to support the countries in holistically addressing their sustainability priorities which include both environmental and social objectives. The Building Bridges Week⁴⁵ which take place in Geneva every two years could also be leveraged to feed this knowledge platform with input gathered during the event series.

Implementation timeline

As discussed in Chapter 4, the grassroots global governance model for sustainable digital finance is a cyclical process where the last phase informs the beginning of a new cycle. Based on the timeline of previous global initiatives and dialogs in the field of sustainable digital finance (e.g., UN Task Force on Sustainable Digital Finance and Global Dialog on Sustainable Digital Finance), we recommend a 30 month timeline (Figure 2) for implementing one iteration of the completion of all phases by the grassroots global governance model for sustainable digital finance:

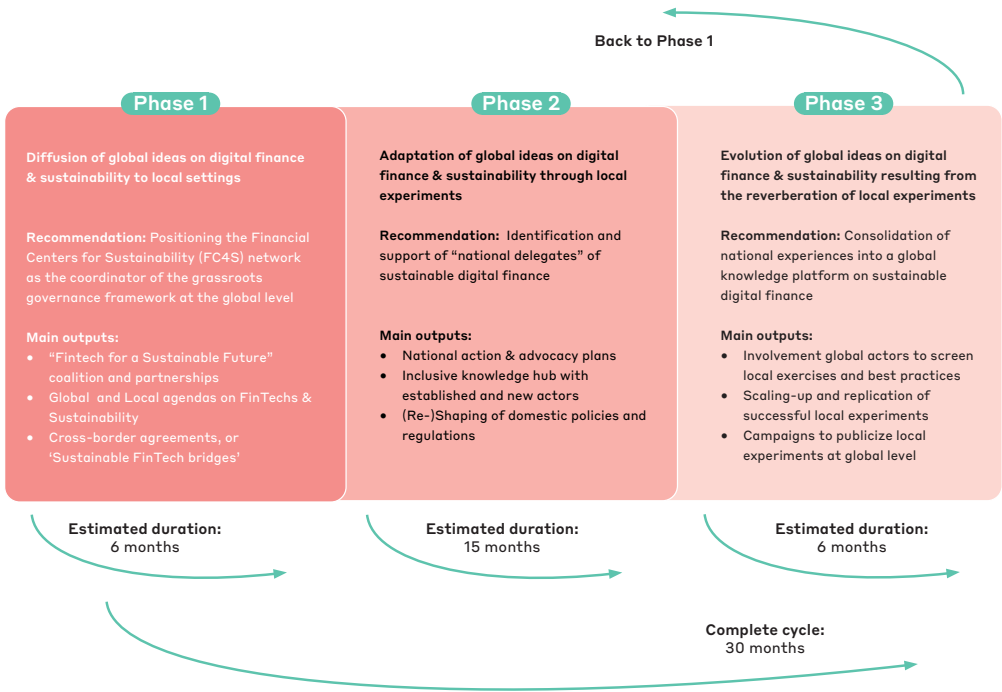


Figure 2: Dynamic, cyclical process to implement the global governance model for sustainable digital finance

It is worth noting that the timeline to implement a full cycle of the grassroots global governance model for sustainable digital finance depends heavily on the criteria for finding main players along with Phases 1, 2, and 3, the degree of organization of the involved players, as well as the range of participatory processes undertaken. ●

6. Final remarks

Our paper advocates for a grassroots governance for digital finance at a global level.

Our paper advocates for a grassroots governance for digital finance at a global level. We argue that this can be achieved through transnational partnerships to promote and accelerate innovative sustainable FinTech solutions to achieve societal goals.

Our first recommendation is based on the need for a coordinator who will enable sustainable FinTech ecosystems to gather knowledge and expertise across different ecosystems. This will allow learning from practical case studies to adapt the global knowledge locally according to countries' realities and opportunities. The second recommendation aims to identify and zoom in on country delegates, players who will take over national leadership to locally link the sustainable digital finance ecosystem and create and evaluate grassroots pilot projects. Finally, we recommend gathering all the knowledge, expertise and calls for action on one knowledge platform,

which will update the global digital finance ecosystem on the local challenges, innovations, and success stories.

Our recommendations call current players in the global sustainable digital finance ecosystem to take the lead in the activation of the grassroots governance model. This will not only allow for successful and rapid uptake of innovations but also enable a more inclusive and fair process to distribute resources and opportunities within the global sustainable digital finance ecosystem. ●

7. Project team and contributors

Project team

Nadir França - Senior Sustainable Finance Policy Fellow - foraus

Eduardo Belinchon - Digital Innovation Manager - foraus

Moritz Fegert - Project & Stakeholder Manager – foraus

Workshop contributors

Speakers

Charles Chang

Simmi Sareen

Facilitators and participants

Albert Maina, Amit Gautam, Cassius Castellino, Celso Lemme, Dennis West, Disha Giridhar, Frédéric Maurer, Geilan Malet-Bates, Hassan Murtaza, John Evans, Laura Erickson, Lilian Ponce, Marina Bresslau, Michael Yiin, Micheil Page, Nadeem Khalawi, Nicolas Wallet, Nicole Grandi, Noyonika Bagchi, Noyonika Bagchi, Otavio Lourencao, Paramjit Kaur, Wadhwa, Simon Denoth, Vaibhav Naik, Vishwa Balan, Wailea Zuelch. ●

Endnotes

- 1 United Nations (2020), "Sustainable Development Goals Report": <https://www.un.org/sustainabledevelopment/progress-report/>.
- 2 United Nations (2015), "Paris Agreement": https://unfccc.int/sites/default/files/english_paris_agreement.pdf.
- 3 The United Nations Secretary-General's Task Force on Digital Financing of the Sustainable Development Goals (2020), "People's Money: Harnessing Digitalization to Finance a Sustainable Future", p. 79, URL: <https://digitalfinancing-taskforce.org/wp-content/uploads/2020/08/DF-Task-Force-Full-Report-Aug-2020-1.pdf>.
- 4 G20 Sustainable Finance Study Group (2018), Sustainable Finance Synthesis Report, p. 56-59, URL: https://g20sfwg.org/wp-content/uploads/2021/06/G20_Sustainable_Finance_Synthesis_Report_2018.pdf.
- 5 The United Nations Secretary-General's Task Force on Digital Financing of the Sustainable Development Goals (2020), "People's Money: Harnessing Digitalization to Finance a Sustainable Future", URL: <https://digitalfinancingtaskforce.org/wp-content/uploads/2020/08/DF-Task-Force-Full-Report-Aug-2020-1.pdf>.
- 6 M. Duscha, S. Hufeland & L. Schuster (2020), "Focus Note Series on Fintech for Sustainability - Current Landscape and Key Opportunities - Country Report #2: Germany", Green Digital Finance Alliance, URL: <https://greendigitalfinancealliance.org/wp-content/uploads/2020/04/CurentLandscapes-KeyOpportunities.pdf>.
- 7 Swiss Agency for Development and Cooperation, "Global Dialogue on Digital Financing for Sustainable Development", URL: https://www.eda.admin.ch/deza/de/home/themen/grund-_und_berufsbildung.html/content/dezaprojects/SDC/en/2020/7F10416/phase1?oldPagePath=/content/deza/de/home/themen/grund-_und_berufsbildung.html.
- 8 Smith, A.; Fressoli, M.; Abroff, D.; Around, E.; Ely, A. (2017) *Grassroots Innovation Movements*; Routledge: Oxon, UK; New York, NY, USA.
- 9 Kauffman, Craig M. (2017). *Grassroots Global Governance Local Watershed Management Experiments and the Evolution of Sustainable Development*.
- 10 C. M. Kauffman (2016), "Grassroots Global Governance: Local Watershed Management Experiments and the Evolution of Sustainable Development", Oxford Scholarship Online, URL: <https://oxford.universitypressscholarship.com/view/10.1093/acprof:oso/9780190625733.001.0001/acprof-9780190625733-chapter-2>.
- 11 University of Zurich (2019), "University of Zurich and the Green Digital Finance Foundation launch Collaboration Program", URL: <https://www.uzh.ch/dam/fintech/media/university-of-zurich-and-the-green-digital-finance-foundation-launch-a-collaboration.pdf>.
- 12 The United Nations Secretary-General's Task Force on Digital Financing of the Sustainable Development Goals, URL: <https://digitalfinancingtaskforce.org/>.
- 13 Green Digital Finance Alliance, URL: <https://greendigitalfinancealliance.org/sustainable-digital-finance/>.
- 14 França et al. (2021), "Swiss FinTechs & Sustainability: the Current Landscape and Four Policy Recommendations", Zurich: foraus - Forum Aussenpolitik, URL: https://www.foraus.ch/wp-content/uploads/2021/05/20210526_SUSTAINABLE_FINTECH_WEB.pdf.
- 15 UK Financial Conduct Authority - FCA (2015): Regulatory sandbox. URL: <https://www.fca.org.uk/firms/innovation/regulatory-sandbox>
- 16 Greatti, Farias & Gonzalez. Implementation of the financial inclusion policy in Brazil: interactions between credit unions and government actors (2020). URL: <https://periodicos.ufsm.br/rgc/article/view/39765/pdf>
- 17 World Bank Group: Digital Financial Services (2020). URL: <https://pubdocs.worldbank.org/en/230281588169110691/Digital-Financial-Services.pdf>
- 18 Ibid.
- 19 Inyova. URL: <https://inyova.ch/en/>
- 20 SUSI Partners. URL: <https://www.susi-partners.com/>
- 21 Doconomy. URL: <https://doconomy.com/>
- 22 OpenInvest. URL: <https://www.openinvest.com/>
- 23 Crowde. URL: <https://crowde.co/>
- 24 Farmdrive. URL: <https://farmdrive.co.ke/>
- 25 Bank for International Settlements (2021), "Fintech and the digital transformation of financial services: implications for market structure and public policy", URL: <https://www.bis.org/publ/bppdf/bispap117.pdf>.
- 26 A. Mitha et al. (2020), "Governing Global Digital Finance", University of Hong Kong Faculty of Law Research Paper No. 2020/045, URL: <https://ssrn.com/abstract=3678518>, p. 5.
- 27 A. Mitha et al. (2021), "BigFintechs & Sustainability: A necessary convergence", United Nations Development Programme, URL:

- <https://www.undp.org/sites/g/files/zskgke326/files/2021-06/UNDP-UNCDF-Summary-of-Technical-Paper-BigFintech-and-Sustainability-a-Necessary-Convergence-EN.pdf>, p. 2.
- 28 K. Schulz & M. Feist (2021), "Leveraging blockchain technology for innovative climate finance under the Green Climate Fund", ScienceDirect, URL: <https://doi.org/10.1016/j.esg.2020.100084>.
- 29 Italian G20 Presidency (2021), "G20 Sustainable Finance Working Group", URL: <https://www.g20.org/g20-sustainable-finance-working-group.html> (last consulted on 11.10.2021).
- 30 Securities and Exchange Board of India (2017), "Disclosure Requirements for Issuance and Listing of Green Debt Securities", URL: https://www.sebi.gov.in/legal/circulars/may-2017/disclosure-requirements-for-issuance-and-listing-of-green-debt-securities_34988.html.
- 31 European Commission (2021), "Strategy for financing the transition to a sustainable economy", URL: https://ec.europa.eu/info/publications/210706-sustainable-finance-strategy_en.
- 32 Latham & Watkins LLP (2021), "China and EU to Collaborate on Green Investment Standards", URL: <https://www.globalelr.com/2021/04/china-and-eu-to-collaborate-on-green-investment-standards/>.
- 33 A. Mitha et al. (2020), "Governing Global Digital Finance", University of Hong Kong Faculty of Law Research Paper No. 2020/045, URL: <https://ssrn.com/abstract=3678518>, p. 7.
- 34 Kauffman, Craig M. Grassroots Global Governance Local Watershed Management Experiments and the Evolution of Sustainable Development (2017).
- 35 Fintech for Tomorrow Challenge - Finance for Tomorrow by Paris Europlace URL: <https://financefortomorrow.com/en/challenge-fintech/>
- 36 Policy Kitchen is a policy crowdsourcing methodology that enables a diverse network of thinkers to find creative policy solutions to real and pressing challenges. URL: <https://www.policykitchen.com/dashboard/policy-kitchen-home-page>
- 37 SparkBlue is UNDP's digital platform for online engagement. URL: <https://www.sparkblue.org/>
- 38 Nordic Innovation: A Sustainable Fintech Bridge to Singapore (2020) URL: <https://www.linkedin.com/pulse/sustainable-fintech-bridge-thomas-krogh-jensen/>
- 39 Focus note series on FinTechs and sustainability: Current landscape and key opportunities - country report #2 Germany (2020). URL: <https://greendigitalfinancealliance.org/wp-content/uploads/2020/04/CurentLandscapes-KeyOpportunities.pdf>
- 40 The Fintech Innovation hub - ACPR Banque de France. URL: <https://acpr.banque-france.fr/en/autorisation/fintech-and-innovation/fintech-innovation-hub>
- 41 UEA Regulations Lab. URL: <https://reglab.gov.ae/en>
- 42 LIFT - Laboratory of Financial and Technological Innovations - Brazilian Central Bank. URL: <https://www.bcb.gov.br/estabilidadefinanceira/lift>
- 43 G20 Sustainable Finance Roadmap (2021). URL: https://g20sfwg.org/wp-content/uploads/2022/01/RoadMap_Final14_12.pdf
- 44 People's Money: Harnessing digitalization to finance a sustainable future, p. 62 (2020).
- 45 Building Bridges Week. URL: <https://www.buildingbridges.org/>

Organization

foraus

The independent think tank foraus publishes evidence-based policy recommendations in the form of discussion papers, policy briefs and blog posts, and organizes high-level debates with the aim of creating innovative solutions for the foreign policy of tomorrow. foraus was founded in 2009 and is based on a unique grassroots model with several hundred volunteers in Switzerland and abroad.

Policy Kitchen

Policy Kitchen is a policy crowdsourcing methodology developed by foraus. It enables a diverse network of thinkers from all around the world to find creative policy recipes to pressing foreign policy challenges. The methodology is built on three components: an online crowd innovation platform, interactive workshops, and a support process to create impact with the best crowdsourced policy recipes. To ensure a high level of expertise, we partner with experts and professionals of various sectors (science, government, international organizations, civil society, business, etc.). We encourage and support other actors in using participatory methods in their respective domains to generate innovative forward-looking outputs. The code for Policy Kitchen is available as open source software. Policy Kitchen has been made possible with the support of the Migros Pioneer Fund.

Sustainable FinTech project

The Sustainable FinTech project aims to raise awareness and build an ecosystem for sustainable FinTechs. While promoting a forward-thinking vision for the finance industry, the project advocates for a leading future for the Swiss financial centers based on two interlinked pillars: sustainability and technology. The Sustainable FinTech project was formally adopted by foraus in 2017 and, since 2020, has been made possible thanks to the generous support of the Sunflower Foundation.

Funding partner

Sunflower Foundation

The aim of the Sunflower Foundation and its Money Museum is to stimulate deeper analysis of money and to increase the public's knowledge of how economic and social issues are connected. The Money Museum appeals to a wide range of people who are interested in social, philosophical and historical trends.

Citation

Belinchon, E., Fegert, M., França, N., Grandi, N. (2022). Bridging Sustainable Digital Finance Ecosystems: A call for a grassroots governance approach. Zürich: foraus – Forum Aussenpolitik.

Acknowledgements

The co-authors would like to thank the Swissnex Network (specially India, China, San Francisco, Boston and Brazil offices), and the Agora Think Tank, for collaborating with our workshop series FinTechs & Sustainability: Envisioning Sustainable FinTech Bridges. We also extend our gratitude to Cassius Castellino, Micheil Page, Simmi Sareen, Charles Chang, Ignacio Benito and Florencia Baldi for their valuable contributions to our workshops and their feedback on this policy paper. Many thanks also to our foraus' colleagues Wailea Zuelch, Meret Grob, Lukas Hupfer, Riccardo Bussmann and Nora Lüthi for their support during the organization of the workshops, as well as during the writing and publication processes.

Disclaimer

This study reflects the personal opinion of the authors, which is not necessarily the same as that of the association foraus.

www.foraus.ch

Zürich | foraus – Forum Aussenpolitik | Badenerstrasse 431 | 8003 Zürich
office@foraus.ch | +41 44 501 68 65

Genève | foraus – Forum de politique étrangère | Avenue de France 23 | 1202
Genève
bureau_romandie@foraus.ch | +41 22 559 96 96

IBAN: CH06 0900 0000 6017 6892 9

Become part of our network

Through the association's unique grassroots-model, foraus advocates a socio-political future for Switzerland and stands for both a constructive foreign policy and an information-rich dialogue. Do you share this vision? Then come support us and get active! ●

as a member

A membership in our unique network and a voluntary involvement at foraus is open to everyone. We offer you access to an extraordinary network, fascinating personalities, and the possibility to bring your academic know-how into the public debate.

as an author

foraus enables you to tackle the challenges in Swiss and international foreign policy and offers you a platform where you are invited to publish your innovative ideas in the form of a policy paper, a short analysis or a blog.

as a benefactor

Our circle of benefactors, the «Cercle des Donateurs», contributes to the dissemination of the sponsorship, and offers interested personalities the possibility to support and promote foraus.



foraus.ch/membership