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Foreword

This work was conducted during the unfolding of the devastating COVID-19 pandemic. Spain is according to the World Health Organisation one of the worst affected countries. It is also a country that is likely to soon join a handful of progressive nations to have set out a legally binding strategy to end their contribution to global heating in the next 30 years. The draft text of the Climate Change and Energy Transition law sets the direction of economic recovery from the coronavirus pandemic in Spain. The law requires among other financial institutions to publish specific decarbonisation objectives of their loan and investment portfolios from 2023, in line with the Paris Agreement. Leveraging digital technologies is an avenue to accelerate the capital reallocation towards carbon efficient assets as well as to unlock new sources of climate and socially just finance. 

Prior to the COVID-19 pandemic the UN Secretary General (SG) decided to establish a Task Force for Digital Financing of the SDGs in late 2018 to explore how digitization can help align finance with the SDGs to offer guidance to policy makers and financial ecosystem players. The first Progress Report of the UN SG’s Task Force for Digital Financing of the SDGs, launched at UNGA in September 2019, called for a framework to measure progress in harnessing digital financing for the SDGs at country level. The knowledge partner to the UN SG’s Task Force, the Green Digital Finance Alliance, was called upon to lead the development. To design a framework for maximum utility value several countries have been engaged in test runs as part of the framework development process. The final framework is launched with the final report of the UN SG’s Task Force. The intention is that the measurement of the evolutions in sustainable digital finance at country level can help policy makers and regulators harvest insight on the market response to new regulation, but also that it can point to ways to innovate financing of the SDGs via the deployment of fintech. 

Spain was selected as a test country because of, among others, the country's status as a sustainable financial center (FC4S) member. In addition, Spain currently has one of the largest fintech ecosystems in the world, at least in terms of the number of startups per capita, ahead of countries such as France or Germany¹. In addition, Spain has several banks that have dared to experiment with digital technologies also for green finance. For this paper the Central Bank of Spain provided a long list of 120 sampled fintechs² which were screened by the GDFA. A total of 27 number fintechs were assessed to be SDG Native fintechs designed to deliver on one or more of the SDGs. The findings are presented in this report. It is important to note that since we have not conducted a comprehensive survey, the mapping makes no claim for completeness. It is rather a first step for a continuous, in-depth monitoring of the sustainable digital finance landscape in Spain. 

² With the collaboration of the spanish credit institutions associations (AEB, CECA and UNACC), and Finnovating.

Definition of Sustainable Digital Finance:

“An intended application of digital finance or fintech towards the achievement of financing for Global Sustainability goals such as the Paris Agreement and/or the SDGs”. 
(Taskforce 2019, p. 8)
Main Findings

Finding #1: Incumbents and fintechs are equal Sustainable Digital Finance Champions
In Spain the sustainable digital finance landscape is neither dominated by incumbents nor by fintechs, rather the supply side is shaped by both market actors. This differs from trends in other EU mapped countries such as the Netherlands where the incumbents are the sustainable digital finance champions and in Germany where it is the fintechs.

Finding #2: Spain is a mature SDG 1 Fintech Innovator and emerging SDG 13 innovator
SDG 1 is the goal which most of the Spanish sustainable digital finance solutions deliver impact on. Solutions include crowdlending platforms explicitly targeting poor micro-entrepreneurs in Spain and/or Latin America, AI powered automated savings apps targeted at improving savings and with several of the solutions integrating financial literacy functionalities.

Finding # 3: Second runner up is SDG 13
The SDG 13 fintech supply is less mature but emerging. Solutions range from digital carbon footprint analytics, to platform marketplaces for carbon off-setting and to digitally powered green securities.

Finding #4: High alignment between fintech innovation landscape and policy priorities
The landscape analysis shows a high degree of alignment between the supply side of sustainable digital finance fintech and the SDG priorities of Spain. The largest concentration of fintech innovate on SDGs 1 and 13, which mirror the national policy priorities in the Climate Change and Energy Transition act to create a decarbonised society that leaves no one behind.

Opportunity Avenues

Avenue # 1: FinTech to accelerate intelligent energy efficient mortgages: In addition to a high number of fintechs Spain is also home to a significant proptech scene with 330 companies³. This strength can be leveraged by Spanish banks to decarbonize their real estate portfolio via intelligent solutions such as remote real-estate screenings, energy savings automated scenario analysis and IoT enabled verification of energy savings real-time. It requires that Spain enhances its energy data ecosystem in line with the national AI strategy to ensure energy data updated at high frequency is available for integrated fintech and proptech solutions.

Avenue # 2: Intelligent Energy Efficient Mortgages to implement Climate act: Citizens as Energy Transition Financiers: Spain has a rapidly growing crowdfunding market, which for the first time in 2018 surpassed 150 million euro⁴. The second fastest segment of this market is real-estate crowdfunding Spain has a significant supply side of real-estate crowdfunding, however, the mapping found currently few of the platforms tailor their offering to unlocking capital for greening the Spanish building stock. There is a potential for the platforms to build in windows for energy efficiency or green building development for citizens to become co-

³ https://www.finnovating.com/news/celebrada-la-iii-edicion-de-la-proptech-unconference-de-finnovating/
financiers of the green transition. As real estate accounted for 20 percent\(^5\) of all foreign investments between 2014 and 2018 in Spain there is also an opportunity for these platforms to leverage the attractiveness of the sector for foreign citizens to increase investment volumes tied to green real estate targets. Policy makers and regulators in Spain can work on catalysing this adaptation of the crowdfunding market via e.g. subsidies on real-estate retrofits or tax reductions on green investment returns.

**Avenue # 3: Digitally powered Green Securities:** Spain was the first country where an incumbent bank issued a blockchain powered green bond and it is a country that will soon join the club of sovereign green bond issuers. The investment needs by the ecological transition is estimated at 236,000 million euros\(^6\) over the next decade which calls for an increase in private capital. Further integration of the green securities market and Distributed Ledger Technology (DLT) is an opportunity avenue for Spain to increase green bond issuance as a financing vehicle for the upcoming Climate Act. There is no specific DLT regulation in Spain\(^7\) and the next step could be to pilot IoT integration for automated proof of impact reporting for a green bond as part of the green COVID-19 recovery funding into renewable energy in Spain.

**Avenue # 4: Data for climate risk disclosure and for decarbonization target setting for Spanish FIs:** Spain has a market segment of banks that have been early adopters of digital transformation strategies and with a few experiments bringing of digital green finance. The Climate Change and Energy Transition act requirements Spanish FIs to formulate decarbonization targets and to measure and disclosure climate risks. Even though, the national landscape does not currently offer a mature supply side of digital carbon accounting solutions the emerging regulatory requirements can help to stimulate the supply side.

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Background

In Spain, 56 percent of the active consumers use fintech services (EY 2019, p. 7), which equals the global average. A monitoring by the Spanish Central Bank identified 399\(^8\) fintech start-ups in the country. The number of fintechs increased by 16 percent in 2019, which is a dramatic increase from 50 fintech start-ups recorded just five years ago\(^9\). A boom which can partly be explained by increasing regulatory innovation via the draft law for a regulatory sandbox, which has incentivised investments into fintechs by incumbents and reduced the compliance costs for start-ups.

In addition, fintech requires access to a network and data infrastructure especially if applied for green finance as solutions need data from underlying green assets in the real economy. In March, the Spanish government postponed a planned auction of 5G spectrum due to the outbreak of the COVID-19 in the country. However, already today seventy-five percent of the Spanish population already has a high-speed fibre optic connection and Spanish banks have been early investors in Fintech and virtual currencies. E-wallets — or mobile purses — have already been standard for around two years at the big banks of Santander, BBVA, La Caixa and Bankia. Santander was also the first in the world with a mobile application for international payments powered by blockchain showing remittance customers the total costs of their payment, including bank fees and foreign exchange rates, and a delivery time quote. Bringing transparency to a remittance market that is key to delivering in the SDGs.

Alongside the fintech boom in Spain is increasing attention to green finance. The Spanish Central Bank is a member of the Network for Greening the Financial System and the National treasury has a sovereign green bond in the pipeline. In the context of COP-25 that finally took place in Madrid, although co-organized by the Government of Chile, many Spanish banks ratified the Spanish Collective Commitment to Climate Action announcing actions to meet the Paris Agreement commitments. The Spanish Centre for Responsible and Sustainable Finance (FC4S) officially launched in January 2020. Its purpose is to address the challenges and needs of the Spanish business community.

Spain’s upcoming Climate Change and Energy Transition Bill is set out to promote green growth as a pillar of its COVID-19 recovery plans. Once passed this new legislation will accelerate the need for digitization of finance to enable it to reallocate existing capital and unlock entirely new sources of finance towards the carbon ambitions set out in the bill.

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Country SDG Priorities

The Spanish “Action Plan for the 2030 Agenda: towards a Spanish strategy for sustainable development” outlines nine priority areas and accelerator policies to foster the implementation of the sustainable development goals’ (SDGs) agenda in the country and abroad.

The nine priority areas and policy accelerators focus on a green transition that leaves no one behind. The green transition will be guided by the Climate Change and Energy Transition act. The law pledge to make Spain’s climate neutral by the middle of the century, ban all new coal, oil and gas extraction projects with immediate effect, end direct fossil fuel subsidies and make all new vehicles emission-free by 2040.

To reach its 2050 goal, the government has proposed interim targets through its national energy and climate plans to 2030. By 2030, the government pledged to reduce emissions 23% from 1990 levels and double the proportion of renewable sources in total energy consumption to 35-42% — an objective it described as consistent with the EU bloc-wide target to cut emissions 50%-55% by 2030. To do so, clean energy sources will need to make up at least 70% — striving for 74% — of the electricity mix in the next 10 years and efficiency measures will need to reduce energy consumption by at least 35%, primarily through the renovation of buildings and homes. Lastly, it also sets out a biodiversity strategy to protect and restore Spain’s wildlife and ecosystems. It promises to decarbonise the economy in a way that is socially just.

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10 Spain’s Report for the 2018 voluntary national review: [https://sustainabledevelopment.un.org/content/documents/203295182018_VNR_Report_Spain_EN_ddgrhpbrgsp.pdf](https://sustainabledevelopment.un.org/content/documents/203295182018_VNR_Report_Spain_EN_ddgrhpbrgsp.pdf)
State of the Spanish SDG Fintech Landscape

To draw the landscape, the sampling was based on the “Framework for Measuring Sustainable Digital Finance Progress” of the Green Digital Finance Alliance developed in partnership with the UN SG’s Task Force for Digital Financing of the SDGs. Data was harvested in collaboration with the Central Bank of Spain. It was possible to identify 27 SDG Native fintechs in Spain. Using reference data from the Central bank this amount to 6 – 7 percent of the total number of fintechs in Spain.

The relative distribution of sustainable digital finance solutions in Spain shows two main current strengths on the supply side. Most sustainable digital finance solutions deliver on SDG #1 (no poverty) followed by #13 (climate action) and SDG #9 (industry, innovation & infrastructure). Spain is home to a heavily banked population, hence, a large part of the SDG 1 fintech micro finance solutions are not targeting the home market, but mainly Latin American markets. For the SDG 13 solutions the majority operate in the B2B market. The SDG 9 fintech solutions cater to unmet needs of SMEs by providing digital credit to green businesses and an additional SDG 9 fintech category is ESG data providers.

There is an almost equal distribution between fintech and incumbent operated sustainable digital finance solutions. Fintechs have a higher representation on the SDG 1 supply side but for the SDG 13 sampled solutions there is an equal split between incumbent and fintech led innovations. In comparison to the other test markets surveyed by the GDFA an equal split between incumbents and fintech as shapers of the supply side tends not to be the trend. In the Netherlands it is the incumbents that constitute the sustainable digital finance champions, whereas in Germany it is the fintechs. In Spain the incumbents and the fintechs are equally fuelling the supply side both as competitors and collaborators.

Fast penetration of digital-only banks in Spain with 10 percent of consumers being clients in a digital only bank, has increased demand for similar digital services from their incumbent banks as one explanation of incumbents and fintechs as equal shapers of the demand side.
Policy alignment

If the nine SDG priority and policy acceleration areas are matched with the fintech landscape a high degree of market aligned emerge between climate change (#13) and poverty reduction (#1) priorities. The Spanish SDG Fintech solution landscape is most mature in socially oriented micro-finance solutions that leverages digital capabilities whereas the SDG 13 fintech solution landscape is more immature and with relatively fewer solutions, but with solutions that align with a number of the focus areas in the upcoming Climate Change and Energy transition law. These include solutions for digital carbon accounting as well as for carbon off-setting which responds to the requirements of the upcoming climate law for financial service institutions to formulate decarbonisation targets and disclosure emissions across portfolios.

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The SDGs with low supply in Spain but with upcoming policy priorities include SDG 14, 15 on Life on Land and Life Below Water. The Climate Change and Energy transition act include formulation of a biodiversity strategy where financial innovation will be important.

In addition to the identified policy accelerators is the digital policies, strategies and regulation. The Spanish AI strategy explicitly includes a recommendation to take advantage of AI capabilities to achieve the SDGs as it also identifies the development of a digital data ecosystem and corresponding infrastructure as a priority. In order to further mature the SDG 13 FinTech supply a data ecosystem is necessary. One which integrates climate risk data per geolocation of main assets in need of transition. Currently the SDG FinTecchs are mainly deploying data from existing databases as input into innovation. Improving the frequency of data updates and thickness of the data points will improve the ability of FinTech to deliver more SDG 13 solutions. As well as increasing 5G network infrastructure to enable greater integration of IoT and fintech solutions for automated data capture from asset level on e.g. energy efficiency, energy usage and on emissions. The draft law of the regulatory sandbox is an institutional innovation that can enable further alignment of market supply with policy demand via de-risking of experimentation.
Technologies & Business Segment

The data shows that most of the sustainable digital finance solutions in Spain are focussing on processing of big data, improving (real-time) accessibility, quality, reliability, and significance of all types of SDG-relevant data. Hence, from a technology perspective only few solutions have not stepped into working on leveraging intelligent assets or significant integration between fintech and IoT, rather the focus is on developing sustainable digital finance products via data analytics.

The distribution of deployed technologies mirrors and confirms the results of the 2019 Fintech Radar Spain, which found that only 5 percent of the entire fintech landscape leverage IoT. Blockchain and cryptoassets is an underlying technology where there is experimentation in the Spanish sustainable digital finance landscape which spans a broad spectrum of solutions, both within incumbents and fintechs. These include social currencies, digital green securities and blockchain powered remittances services.

A majority of core products or services developed by Spanish SDG fintechs are addressing Alternative Finance (48%). Data and analytics (37%), followed by Asset management (7%), payments (4%) and savings (4%). Compared to other markets tested Spanish SDG Fintech solutions focus to a larger degree on savings to create positive social outcomes. Spain has clear regulatory environment on crowd finance, and this is also emerging as the business segment organically giving rise to most SDG innovation.
Opportunity Avenues

The findings point to a number of concrete opportunity avenues to strategically leverage sustainable digital finance as a tool to scale financing of the Spanish SDG country priorities.

FinTech to accelerate intelligent energy efficient mortgages
To deliver the carbon emission reduction targets of the Climate Change and Energy Transition act there is a need to reduce the 30 percent of the national emissions from real estate. In addition to having a high number of fintechs Spain also has a significant proptech scene with 330 companies\(^\text{11}\). Spain has 10 banks are already part of the Energy efficient Mortgages Pilot Scheme\(^\text{12}\) and several banks are offering interest rebates on mortgages for certified energy efficient buildings. Fintech can be used by Spanish banks to decarbonize their real estate portfolio via intelligent solutions such as automated and remote real-estate screenings for energy efficiency options, projection of energy savings, IoT enabled verification of energy savings real-time or the use of satellite data for building heat happing can enable banks to increase the energy efficient mortgage offering to enable them to set decarbonization targets of their real-estate portfolio as required by the upcoming climate act. It requires an underlying energy data infrastructure with energy efficiency label data and consumption data available, even if in anonymized format. Targeted public subsidies for energy efficient building retrofitting in low income areas is an option for greening real estate while leaving no one behind through lowing the energy and heating monthly expenditures of poorer segments of the population. As an approach responding to the Spanish green and socially just transition approach.

Citizens as Energy Transition Financiers
Spain has a rapidly growing crowdfunding market, which for the first time in 2018 surpassed 150 million euro\(^\text{13}\). The second fastest segment of this market is real-estate crowdfunding Spain has a significant supply side of real-estate crowdfunding, however, the mapping found currently few of the platforms tailor their offering to unlocking capital for greening the Spanish building stock. There is a potential for the platforms to build in windows for energy efficiency or green building crowd financing for citizens to become co-financiers of the green transition. As real estate accounted for 20 percent\(^\text{14}\) of all foreign investments between 2014 and 2018 in Spain there is an opportunity for these platforms to leverage the attractiveness of the sector for foreign citizens to increase investment volumes tied to green real estate targets.

Digitally powered Green Securities
Spain was the first country where an incumbent bank issued a blockchain powered green bond and it is a country that will soon join the club of sovereign green bond issuers. The investment needs by the ecological transition is estimated at 236,000 million euros\(^\text{15}\) over the next decade which calls for an increase in private capital. Further integration of the

\(^{11}\) [https://www.finnovating.com/news/celebrada-la-iii-edicion-de-la-proptech-unconference-de-finnovating/]

\(^{12}\) [https://eemap.energycientmortgages.eu/pioneers-2/]


green securities market and Distributed Ledger Technology is an opportunity avenue for Spain to increase green bond issuance as a financing vehicle for the upcoming Climate Act. There is no specific DLT regulation in Spain\(^\text{16}\) and for green bonds the next step for Spain could be to pilot IoT integration for automated proof of impact reporting to the ledger from an underlying green asset. A first pilot could either be for renewable energy or for clean transport as two main priorities of the climate act.

**Data for climate risk disclosure and for decarbonization target setting for Spanish FIs**

Spain has a market segment of banks that have been early adopters of digital transformation strategies and with a few experiments with bringing it into their green finance work. The Climate Change and Energy Transition act requirements Spanish FIs to formulate decarbonization targets and to measure and disclosure climate risks. Even though, the national landscape does not currently offer a mature supply side of digital carbon accounting solutions the emerging regulatory requirements can help to stimulate the supply side.

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Imprint

FOCUS NOTE SERIES ON FINTECH FOR SUSTAINABILITY:
CURRENT LANDSCAPE AND KEY OPPORTUNITIES
Country Report #3: Spain

August 2020

Produced by the Green Digital Finance Alliance