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2023 G20 SUSTAINABLE FINANCE REPORT VOLUME II

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COMPENDIUM OF CASE STUDIES FOR FINANCING SUSTAINABLE DEVELOPMENT GOALS

Compendium of Case Studies for Financing Sustainable Development Goals

1.1. G20 Workshop on Enabling Finance for Sustainable Development Goals

The G20 Sustainable Finance Working Group under India's Presidency organized **G20 workshop on enabling finance for the Sustainable Development Goals**. The workshop was welcomed by all members. It presented a unique opportunity for delegates to gain deeper insights and engage in practical conversations regarding financing for SDGs with a wide range of stakeholders, including the public sector, private sector, IOs and academia. Speakers shared a wide range of views on and priorities for social impact investing and nature-related financial information.

The workshop was organised in the following 3 sessions, preceded by a keynote:

- ➡ Session I: Developing an Analytical Framework for Enabling Finance of Select SDGs
- ➡ Session II: Social impact financial instruments
- ➡ Session III: Reporting and data on nature-related financial information

This note captures key messages voiced by speakers and summarizes the workshop's main outcomes. The workshop's agenda, including further details on speakers, is provided in an annex.

Keynote Address

The keynote speech was delivered by Marcos Neto, Director for the Sustainable Finance Hub, United Nations Development Programme (UNDP). Speaking in his address in his capacity as a Director of the UNDP and not on behalf of the SFWG Secretariat, Neto highlighted key global challenges - the ongoing

COVID-19 pandemic and climate change, all underscoring the pressing need for SDG financing. The presentation drew attention to the UN Secretary-General's SDG Stimulus Plan's key elements, including leveraging Multilateral Development Banks, reforming the international financial architecture, and aligning lending policies with the SDGs and climate goals. Neto commended the G20 SFWG on their efforts to develop an analytical framework to support the implementation of the G20 Sustainable Finance Roadmap which encompasses all SDGs. In addition, Neto mentioned that this framework could serve as a significant catalyst for the success of the SDG Stimulus Plan and also inform the implementation of Integrated National Financing Frameworks (INFFs), which support governments' efforts to finance their SDG action.

Session I: Developing an Analytical Framework for Enabling Finance of Select SDGs

Dr. Ma Jun, as the moderator, introduced the session and emphasised that there is general consensus that financing for non-climate SDGs is falling behind. Dr. Ma Jun asserted that Green, and Sustainability bonds, have been largely allocated for climate related projects. Sustainable bonds, including Green, Social, Sustainability, Sustainability-Linked and Transition themed bonds, annual issuances have reached more than \$1 trillion in 2021, demonstrating that substantial progress has been made in developing an ecosystem for financing climate positive activities. However, private financing has flowed less into non-climate SDGs than other categories. In this context, Dr. Ma Jun welcomed the SFWG's development of an analytical framework to support the implementation of the G20 Sustainable Finance Roadmap, which encompasses all SDGs.

The speaker from the Global Alliance for Banking on Values (GABV) emphasised three main opinions about impact investment:

- ➡ Impact investment cannot be considered only in the short-term. Taking long-term considerations into account is important. Investors should seek out initiatives that are transformative and that can scale.
- ➡ Investors have insufficiently invested in some SDGs, sectors, and regions which are not attracting enough funding to reach the 2030 Agenda goals.
- ➡ Impact investors could work with MSME finance banks or MDBs that can provide a comprehensive assessment of relevant investment opportunities. Reporting is also key to support investors' selection, but MSMEs may struggle to provide data. Hence the importance of clarity in the definition of metrics, which look beyond just the impact desired but also consider other potential positive or negative impacts on society.

The speaker from Pensions for Purpose stated that, in relation to social impact disclosure, there is a need for capacity building and streamlining. One speaker noted that increased awareness, capacity building and public private collaboration with elements of innovation is also needed.

Acumen's India Country Director stated that the global estimation of the impact investment market reached around \$1 trillion in 2022, \$11 billion of which has been invested in India. The speaker also emphasized that there should be a shift in narrative around social impact investment, and that it is crucial to treat end-consumers of social impact investments as consumers rather than as beneficiaries. The primary tool that has been used for such investment is the venture capital model, but it is not necessarily the best model in all circumstances or for all enterprises. The speaker highlighted that there is also a need for "humble honesty" within the community of impact investors as returns on early-stage

social impact investments are often lower than market returns.

Speakers also emphasized the need for governments to create an enabling environment in which social impact investors are appropriately protected and incentivized. One speaker noted the need to "monetize social impacts," so that positive impacts may be counted in return calculations, and incentivize social impact investments, including through vehicles and tools that can attract more private capital. One speaker emphasized that there is still a need to shift typical thinking about socially-aligned investments, which are usually seen as charity or philanthropy; rather, there is a need to integrate social impact into mainstream investment, and to acknowledge that investments may not necessarily have lower returns when positive social impacts are factored into return calculations.

A representative from Aviva Investors Sustainable Finance Centre for Excellence highlighted that impact investing cannot solve social issues overnight. A gradual transition of investments is required to simultaneously deliver investors financial expectations and generate positive social outcomes. To do so, several obstacles were cited, including the dearth of data and standardized metrics, the risk of compartmentalizing SDGs, and systems design challenges involving both market practice and targeted regulations. The speaker opined that there is a need to design a system that promotes social outcomes and also recognizes that there are social elements to all of the SDGs. This systems design could help to create an enabling environment to incentivize greater social impact investing alongside other forms of SDG aligned investing.

Representative of The S Factor advocated for a global framework for social impact investing that takes a double materiality approach, considering both risk and impact. One speaker

suggested that “impact washing” should be addressed through greater transparency and accountability on risk and impact. To aid investors in financing SDGs, another speaker called for a framework for data and reporting.

Speakers noted that there is a lack of shared understanding of proper and credible definitions of socially- and nature-positive activities. There is also limited shared understanding of standards for social or nature-related impact and risks or a set of financial products that can channel large-scale private sector financing to social impact and nature-related areas. One speaker noted that there is a need for more clarity on the recyclability of social or nature-related funding and investment alignment.

Session II: Social impact financial instruments

Speakers highlighted the importance of acknowledging that government budgets alone cannot address social challenges due to the scale of the financing gap, which varies depending on region and market infrastructure. Speakers emphasized the important role of governments, as well as the importance of data and reporting. They also expressed that it is critical to consider social impact as part of every investment decision.

Social impact investments have grown substantially in the past years. However, speakers noted that there is still a need for better understanding of existing financial instruments for social impact investment and standards, as well as metrics and methodologies for impact management and reporting.

- o Some speakers suggested that a social taxonomy could be a useful tool. According to speakers sharing this view, it is important for social impact investment taxonomies to include not just a list of eligible sectors but to have granularity and clear criteria to understand what makes

significant impact and then measuring and monitoring that impact.

- o The representative of the Global Impact Investing Network also discussed building an infrastructure for investors to assist in their decision-making processes; if an investor can track social impact outcomes, they can make business decisions accordingly. It is also critical for investors to understand how to measure impact performance using, for example, readily available and comparable metrics or benchmarks.
- o The representative from Impact Investment Exchange noted that it is important to take a data-driven approach to impact assessment and foster transparency to maximize impact. Standardised data is an enabler and must be robust enough, balancing accessibility and simplicity.

According to a representative of Global Steering Group for Impact Investment, government budgets and philanthropic efforts alone cannot meet the significant SDG financing gap. There is a need to transform the way in which investment and capital is allocated across all assets in all countries to address environmental challenges. Further, this speaker noted that there is a need for integrating impact into risk-return financial models and to foster transparency and accountability through global standards for both climate and social outcomes that are relevant to developed and developing economies.

One speaker noted that most impact investments remain in private markets. Institutional investors, including pension funds, hold significant pools of capital around the world, including in geographies where social and environmental challenges are more profound. However, such institutions are inherently risk averse, and often

conservative to take up new and unfamiliar instruments. There is also a growing use of impact investing instruments in public markets. Here, governments have a crucial role to play to create and facilitate an enabling environment to support social impact investing. Governments in particular can play a critical role, when appropriate, to take on an appropriate level of risk in blended finance mechanisms, including through guarantees, to leverage and encourage private markets and investors.

According to the representative of Aavishkaar Group, blended finance as a tool has emerged to support the creation of unique instruments to attract private capital in more complex and challenging areas as well as to support entrepreneurship. Blended finance can help mainstream socially-aligned investments, and in this, public, philanthropic, and private capital all can play key roles.

The representative from Impact Investment Exchange highlighted the importance of using a gender lens for impact investing, as women may have an edge due to their proximity to social issues and are well positioned to solve them. The representative emphasized that this makes a strong case for investing in gender equality more broadly. For instance, in countries like India, women are at the forefront climate adaptation efforts. Therefore, social impact investing can act as a powerful tool for democratizing the conventional financial markets and channelling finance to social SDGs.

Session III: Reporting and data on nature-related financial information

Nature and biodiversity are integrated with other SDGs such as climate actions, poverty, and gender equality. Speakers advocated for integrating nature considerations into core investment decision making processes, which could help to close the financing gap for nature and biodiversity. Data and reporting forms a key step towards this goal, and while there are currently data gaps in nature and biodiversity

reporting, multi-stakeholder engagement could help improve data and reporting and potentially help address biodiversity loss.

According to the representative from TNFD, nature-related reporting is an opportunity to incorporate nature into financial system operations. In addition to transparent reporting, TNFD advocated for embedding nature along with climate and other issues into the core decision-making processes for businesses and financial institutions.

TNFD highlighted that with regard to the issue of data gaps for nature and biodiversity, it is essential to improve data coverage, and the interoperability of datasets. Moreover, current debates are more focused on the benefits and trade-offs of various reporting approaches, while not enough importance is given to the training and capacity development needed to implement these frameworks.

The IFRS Foundation representative highlighted that its role is to develop sustainability-related standards to meet the needs of global investors. IFRS aims to equip global investors with high-quality information about the sustainability risks and opportunities of companies. Moreover, IFRS aims to enable companies to efficiently and effectively describe to global capital markets how they produce or obtain sustainability information and how they determine its materiality.

The IFRS representative noted that nature is covered in IFRS's draft general sustainability standards, IFRS S1, and, to some degree already in IFRS S2, its climate-specific standard. S1 requires companies to consider nature-related risks and opportunities and disclose them if material. The draft climate-related standard requires companies to consider nature-related variables when preparing disclosures on climate resilience and targets, if material.

The IFRS representative previewed that nature would be covered in two future IFRS workstreams: first, foundational work on the nature-climate nexus, by researching incremental enhancements to the S2 disclosure standard, and second, on transition planning. The IFRS is also looking at possible new research projects on biodiversity, ecosystems, and ecosystem services.

The representative from IUCN noted that biodiversity is particularly complex and the understanding of it is still evolving. The speaker noted that while gaps remain in the primary levels of biodiversity measurement and data, actions should not stop. Understanding the impacts of how economic and financial activities increase or decrease the threats to biodiversity is one way to assess how biodiversity is affected and is also a way to overcome data gaps at the primary level.

The IUCN representative also noted that there are already tools and datasets available that allow stakeholders to better assess their impacts and dependencies on biodiversity and nature. The speaker noted that dependencies and impacts are very much related.

The speaker shared that as stakeholders start using these tools and datasets, a better understanding of these risks, impacts, and dependencies can help accelerate action towards halting biodiversity loss and improving transparency.

The representative from the central bank of Netherlands (DNB) concurred that there is already a lot of available data on nature and biodiversity, and that the real challenge is to unlock it and manage its complexity and interpretation. Also, he noted that there is a need to improve the data, but in doing so, the focus should remain on the need to translate it into action. The speaker also noted that the DNB has conducted initial stress testing

on nature-related risks.

The representative from the Securities and Exchange Board of India (SEBI) highlighted that in India, listed companies are reporting on climate as well as nature, including information related to forests and water security in their annual reports. The Business Responsibility and Sustainability Report (BRSR) framework of SEBI was introduced in 2021, replacing the existing Business Responsibility Report (BRR) in place since 2012. The BRSR has more than 400 data points that companies must report and is outcome oriented.

Many speakers noted that climate issues cannot be solved without addressing nature. Based on learning from climate action, speakers noted that delayed action for nature only makes them more costly and difficult. Thus, the real scarcity is not necessarily data but time. By starting early, setting clear targets, and showing how actors could act towards a common goal, climate, nature, and biodiversity targets can be achieved in time.

1.2. Case studies on Financing for Sustainable Development Goals

As part of the 2023 SFWG priorities, the G20 Presidency organised a workshop for discussion on enabling finance for the Sustainable Development Goals. The workshop summary can be found on the [G20SFWG.org website](https://G20SFWG.org).

The workshop was informed by several input papers:

- a) [Impact investment perspectives and opportunities to support the social agenda](#), developed by the Global Steering Group for Impact Investment (GSG)
- b) [Landscape Assessment of Nature-related Data](#) from Taskforce on Nature-related Financial Disclosures (TNFD)

- c) [Enabling Finance to Deliver on the SDG through the Improved Use of Biodiversity Data: An Assessment of Available Biodiversity Data from the International Union for Conservation of Nature](#) (IUCN)
- d) [Building a business case through nature-related corporate reporting by emerging economies - Brazil, China, India, Indonesia, South Africa](#) from CDP; and
- e) [Social Impact Investing](#), submitted by the International Labour Organization (ILO).

In parallel, the SFWG Secretariat has compiled the following compendium of case studies to build understanding and awareness among G20 members of current concrete actions

being taken to enable financing toward SDGs. The compendium includes 53 case studies, 3 country-level case studies, and the 2 questionnaires that were sent to members for input.

The following compendium is aimed at sharing country experiences of deploying different models. Individual SFWG members selected and submitted these documents voluntarily. The case studies are not exhaustive and do not represent the official views of the SFWG. We are deeply thankful to all members who have submitted their case studies for this compendium.

1. Social impact investment

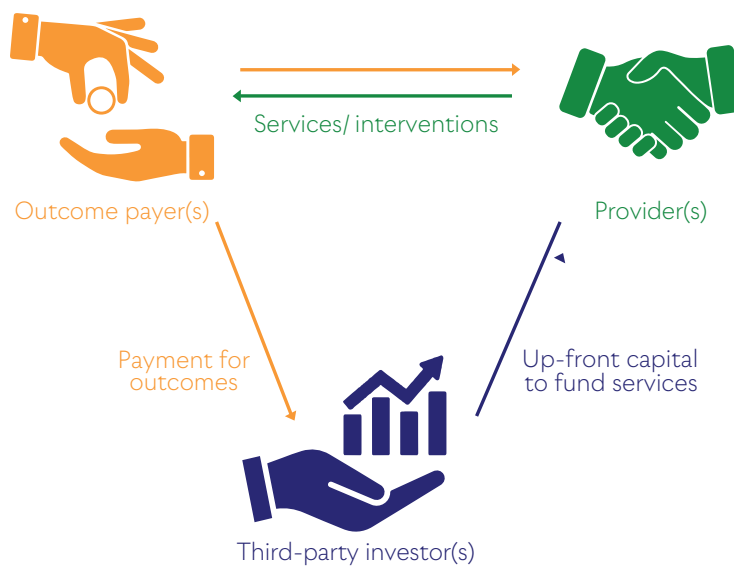
1.1 Bonds

1.1.1 Development Impact Bonds¹

Impact bonds are a form of results-based financing (RBF) that attach payments to

outcomes, and where financial risk is shared with third-party investors.

Figure 1 Key Partners in Impact Bonds



¹ <https://documents1.worldbank.org/curated/en/099846504132230407/pdf/IDU02b848900027dd04d480a179090d86b2071a4.pdf>

They are being increasingly used to support development in low and middle-income countries (L&MICs), including in education projects. As of 2021, the Government Outcomes Lab (GO Lab) INDIGO dataset contained five education impact bonds that had been launched in L&MICs (two in India and one in each of South Africa, Chile, and Russia), with the Education Outcomes Fund

(EOF) about to launch two programmes that may include impact bonds (in Sierra Leone and Ghana). There is still limited understanding concerning when they are most appropriate, how they should be best designed, and what they could achieve. Some guides on impact bonds exist, but due to limited empirical research, they are often conceptual and not always based on real-world examples.

Figure 2 Geographic Distribution of Impact Bonds

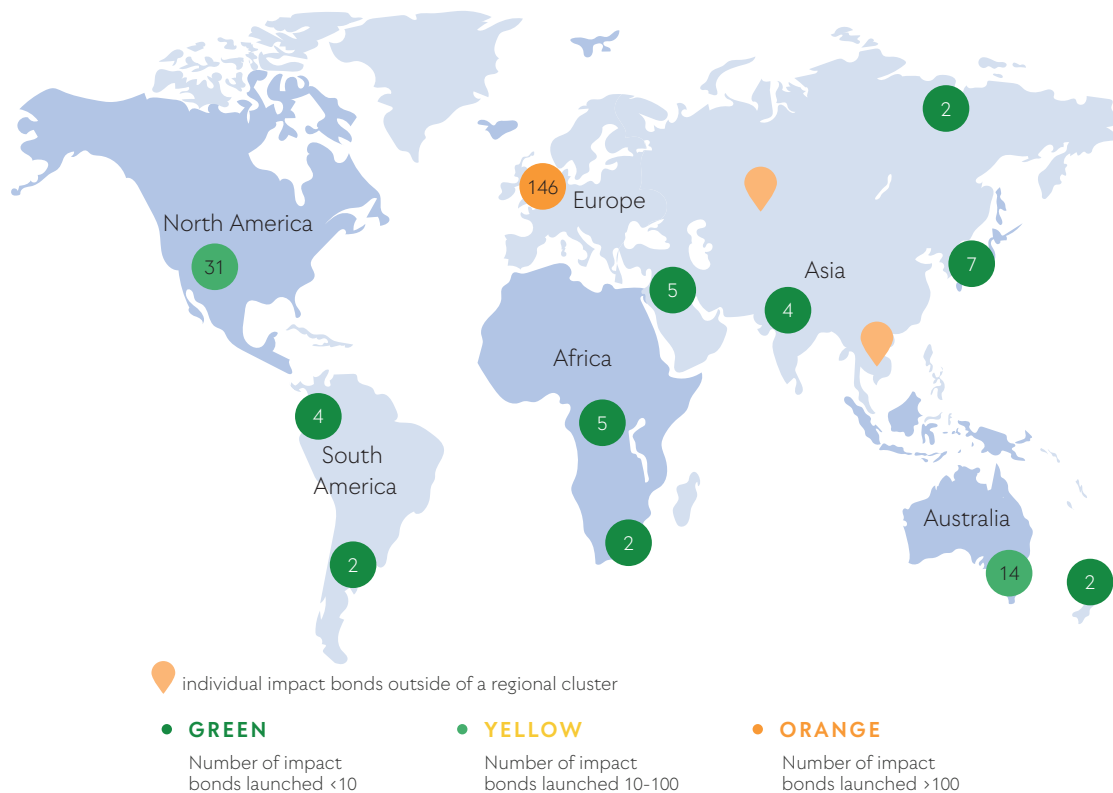


Figure 3 Impact Bonds in L&MICs



Example of a Development Impact Bond: Educate Girls (2015-2018)

This impact bond aimed to improve the enrolment, retention, and learning for marginalised girls and boys in Rajasthan. It is considered a DIB because the **outcomes payer** was an external donor, the *Children's Investment Fund Foundation (CIFF)*. *Educate Girls* was the **service provider**, and the *UBS Optimus Foundation* was the **investor** and recuperated their initial USD 270,000 investment plus a 15% annual return.

A review of the evidence highlights that, although there is useful evidence regarding the process of developing and launching impact bonds (including the key challenges, sticking points and factors leading to success), robust evidence comparing the effects of impact bonds to other types of funding mechanisms is limited. Moreover, published studies into impact bonds and other types of outcomes-based contracts in education tend to be qualitative in design and rely

heavily on the testimony of stakeholders close to the projects, who may be more likely to extol the virtues of the model. To understand the effectiveness of the model further, those launching impact bonds should build opportunities for more rigorous evidence assessments into their design, such as simultaneously launching projects funded through impact bonds and other funding mechanisms and comparing the two.

Setting up and launching an impact bond can be greatly aided by sufficient buy-in from stakeholders; a legal and financial framework conducive to impact bond arrangements; and availability of data necessary to develop a robust business case. There should also be sufficient capacity within the local markets of service providers and intermediary organisations to deliver effectively and meet the specific demands of impact bonds. Although these conditions may not always

be present in L&MICs, there is scope to develop them through effective stakeholder engagement, capacity building and data collection prior to launch.

Education impact bonds in L&MICs have succeeded in terms of service providers largely achieving participation and learning outcomes to the extent specified by the outcome payers. However, it is unclear whether these outcomes would also have been achieved had the interventions been funded through fee-for-service or PBR contracts, due to the lack of empirical research convincingly isolating the effect of the impact bond mechanism from that of the intervention as a whole. Qualitative evidence suggests that impact bonds could shift the focus to outcomes, drive performance management, support adaptive management and lead to greater collaboration. Impact bonds appear to cost more in absolute terms, mainly because of the additional staff time and consultancy required to design and set them up. However, measuring cost-effectiveness is complicated by the limited number of impact bonds and the absence of comparable outcomes performance data for conventionally funded projects; therefore, evidence of their cost-effectiveness is inconclusive.

1.1.2 Capital Markets - World Bank (IBRD)

World Bank's Funding Program: Mobilizing Capital and Raising Awareness for SDGs through World Bank Sustainable Development Bonds

The World Bank (IBRD) mobilizes funds from private investors in the capital markets, to finance its sustainable development activities, raising on average USD 40-50 billion each year from asset managers, commercial banks, pension funds, insurance companies, central banks, and other investors from around the world. The World Bank labels its bonds as "Sustainable Development Bonds" ("SDB") and provides transparency around how bond proceeds support the

integration of social and environmental goals and contribute to the World Bank's overall Sustainable Development purpose. As part of its SDB program, the World Bank also issues thematic bonds to engage with investors to highlight and explain how the World Bank's work contributes to specific Sustainable Development Goals and solving development challenges. While proceeds from World Bank bonds are not earmarked by sector or to specific projects, dedicated themes have allowed for engagement around topics such as climate action; biodiversity; food loss and waste; gender equality; health; and water and oceans.

Examples of bonds that have raised awareness for these topics are [climate action](#); [biodiversity](#); [food loss and waste](#); [gender equality](#); [health](#); and [water and oceans](#).

Outcome-based World Bank Sustainable Development Bonds

In addition to issuing bonds that fund the World Bank's sustainable development activities and raise awareness for certain themes, the World Bank continues to be at the forefront of financial innovation, and in recent years has executed innovative outcome bonds. These outcome bonds raise funds for the World Bank's sustainable development activities and mobilize private capital to provide additional financing to specific sustainable development projects and clients.

Since 2021, the World Bank has issued three outcome bonds that mobilize capital from bond investors to provide upfront financing to projects or entities that lacked funding or access to capital markets. This included funding for (1) an emission reduction project in Vietnam, (2) a wildlife conservation project in South Africa, and (3) an initiative to support UNICEF's response to COVID-19.

The Emission Reduction-Linked Bond issued in February 2023 and the first-of-its-kind Wildlife Conservation Bond issued in March 2022 both use a principal protected bond structure. The bond principal supports the World Bank's sustainable development activities and investors forego regular World Bank bond coupons which are instead used to provide financing to a specific project. Project outcome risk is passed to bond investors, who are compensated if the underlying activities are successful.

The Emission Reduction-Linked Bond mobilized additional private capital for a water purifier project in Vietnam. In return for the foregone regular coupons, investors earn a return linked to the generation and sale of carbon credits by the project. In the case of the Wildlife Conservation Bond, investors forego regular coupons to finance a conservation project in South Africa that benefits the black rhino and other conservation efforts. If the project is successful, investors receive a success payment funded by a donor, passing project outcome risk from donors to private investors.

In March 2021, the World Bank issued a bond that supported both the World Bank's ongoing sustainable development activities and added a new feature that supported efforts by the United Nations Children's Fund (UNICEF) to address the Covid-19 pandemic's impact on children. The bond was issued under IBRD's Capital at Risk notes program and frontloaded an amount equivalent to half of the total proceeds of the bond, i.e., USD 50 million for UNICEF to support its pandemic response programs for children around the world. While the World Bank ensures repayment of 50% of the bond proceeds, UNICEF is responsible for the repayment of the remainder, which is subject to UNICEF receiving sufficient donations from private individuals in 18 target countries.

Outcome Bond Examples:

- ➔ \$150 million five-year Wildlife Conservation Bond - [Case Study](#) and [Press Release](#)
- ➔ \$50 million five-year Emission Reduction-Linked Bond - [Case Study](#) and [Press Release](#)
- ➔ \$100 million five-year UNICEF Bond - [Q&A](#) and [Press Release](#)

Catastrophe (CAT) Bonds and Insurance

The World Bank also structures and executes several Cat bonds to support countries' resilience to climate change and natural disasters. Cat bonds allow the World Bank's member countries to access the additional insurance capacity provided by the capital markets. Investors in these bonds receive a coupon that includes a premium for an embedded insurance policy against disaster events that meet certain pre-defined criteria. In exchange for receiving this coupon, investors take the risk that if the specified event occurs, they will lose some or all their principal, which instead goes to the sponsoring member government to help it finance its disaster response. Since 2020, the World Bank has issued over USD 3 billion in CAT bonds in 18 transactions, providing financial resilience to countries like Jamaica, Chile, Indonesia, and Mexico.

Catastrophe Bond and Cat Swap Examples:

- ➔ USD 630 million Chile Cat Bond and Swap - [Case Study](#) and [Press Release](#)
- ➔ USD 185 million Jamaica Cat Bond - [Case Study](#) and [Press Release](#)
- ➔ USD 485 million Mexico Cat Bonds - [Case Study](#) and [Press Release](#)

1.1.3 Educate Girls' Development Impact Bond (Submitted by [India/India MOF])

Characteristics

- Country: India
- Timeline: 2015-2018
- Type of Project: Revenue-Based Finance Design/Implementation
- Funding amount: USD 270,000
- Sector: Education
- Target: 140 communities in Rajasthan

Key Players

- Implementing NGO: Educate Girls
- Upfront capital funder: UBS Optimus Foundation
- Outcome funder: Children's Investment Fund Foundation (CIFF)
- Performance Manager: Instiglio
- Impact measurement: IDinsight

Problem

One out of every ten girls between the ages of 11 and 14 are kept out of school. In the state of Rajasthan particularly, the quality of education was also a concern with the female literacy rate reaching 52%, lower than the national average of 65%.²

Opportunity

Therefore, an experiment in the financing and

delivery of a social program was designed in the form of an outcome-based impact bond aimed at increasing girls' school enrolment and learning outcomes achievement in Rajasthan. The main opportunity was to overcome the challenge of gender inequality in education and provide equal opportunities to girls in socio-economically backward regions of India³. The Educate Girls Development Impact Bond was the first DIB to ever be launched in India and the education sector globally.

SDGs Mapped



Structure

The DIB brought together Educate Girls as the service provider, UBS Optimus Foundation as the investor, and Children's Investment Fund Foundation (CIFF) as the outcome payer ("Educate Girls' Development Impact Bond (DIB)", 2018). UBS invested a total of USD 270,000 upfront funding to Educate Girls in 2015 which would be paid back to UBS by CIFF at the end of the three-year project period in 2018 with a 15% rate of return if the decided outcomes were met. While Instiglio designed the DIB and provided performance management support for the project, IDinsight was the evaluator.

Defining features

The DIB programme, as it is focused on outcomes, facilitated Educate Girls (the service provider) the flexibility to use funds as they saw fit. The results from the DIB were measured in two key areas - Enrolment Outcomes and Learning Outcomes. These were clearly defined, and a Performance

² <https://www.brookings.edu/blog/education-plus-development/2018/07/13/worlds-first-development-impact-bond-for-education-shows-successful-achievement-of-outcomes-in-its-final-year/>

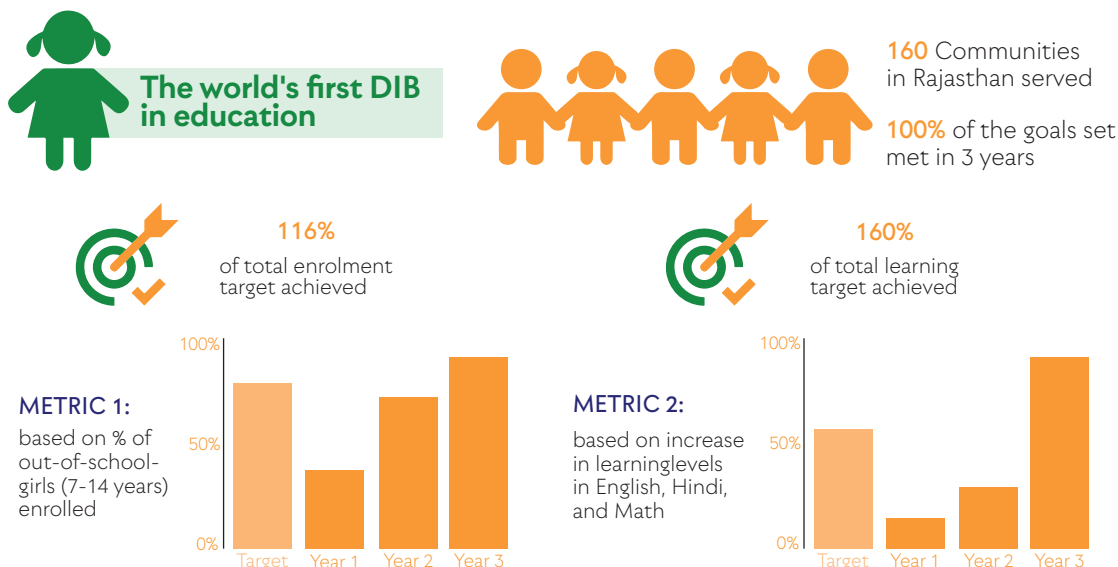
³ <https://golab.bsg.ox.ac.uk/knowledge-bank/case-studies/educate-girls/>

Management System (PMS) was created to ensure every frontline worker had a

dashboard to be able to track the progress, identify roadblocks and innovate.

Results

Figure 4 Outcomes from the DIB



Educate Girls not only achieved but also surpassed the ambitious education outcomes. According to the final evaluation report by IDInsight⁴, Educate Girls surpassed both its targets based on the metrics mentioned in the section above by 160% (learning) and 116% (enrolment) respectively. The first metric measured the percentage of out-of-school girls aged 7-14 enrolled in school over three years, against a target of 79% and at the end of three years saw a 92% (768 girls) increase.

The second metric measured for girls and boys using the ASER test for English, Hindi, and Math, in which students receive a grade between A-E for each subject. The target over the three years was a combined increase of 5,592 learning levels for the students receiving the intervention, by the end of year three, this group had improved their test performance by 8,940 more learning levels

than the comparison group, equivalent to 160 per cent of the target (Figure 4).

UBS Optimus Foundation received its initial funding and an additional 15% return from the Children's Investment Fund Foundation. The return on the outcome was higher than the benchmark rate of interest in that year.

Learnings

The flexibility of the DIB gave way to innovations by the service provider to alter their course of action on a real-time basis to achieve the outcomes set out. However, impact bonds remain complex, time-intensive, and expensive. This particular DIB was hyper-localised (targeting 166 schools in 140 villages in the district of Bhilwara, Rajasthan). The costs had increased from USD 5 per child per year to USD 12 per child per year⁵. While

⁴ <https://www.educategirls.ngo/dib/>

⁵ <https://givingcompass.org/article/development-impact-bond-india>

the outcome payer faces limited risk, the investor (UBS, in this case) must be willing to take significant risks. Therefore, to scale up DIBs, the engagement of the government in tailoring the policy landscape to enable the long-term sustainability of such social impact financing vehicles is important.

The United Nations⁶ estimates that an additional USD 205 trillion is required to achieve the SDGs by 2030. With traditional funding sources under pressure, innovative financing mechanisms will be needed to unlock new private capital and encourage governments to invest more in areas such as education.

1.1.4 National Skill Development Corporation (NSDC)

Characteristics

- **Country:** India
- **Timeline:** 2021-2025
- **Type of Project:** Outcome-based financial instrument
- **Funding amount:** USD 14.4 million
- **Sector:** Skilling
- **Target:** 50,000 youth, (60%) women

Key Players

- Risk investors: NSDC, Michael & Susan Dell Foundation
- Outcome funders: HRH Prince Charles British Asian Trust
- Outcome fund supporters: Children's Investment Fund Foundation, HSBC India, JSW Foundation, Dubai Cares
- Technical partners: FCDO (UK Government), USAID
- Independent evaluator: Oxford Policy

Management

- Performance manager: Dalberg

Problem

Millions of Indians, especially the youth, lost their jobs during the Covid-19 pandemic and are both at immediate risk and likely to face higher long-term economic impacts than adults. Out of this category, women have been hit the hardest. India already has the lowest female labour force participation in South Asia at 20.3% and current outcomes of skilling for them are highly inadequate. Out of every 100 women enrolled in skilling programmes, only ~10 stay in post-skilling jobs for 3 months or more⁷.

Opportunity

NSDC launched the largest 'Impact Bond' for skilling in India in collaboration with global partners, involving a USD 14.4 million fund. It aims to support the youth of India, especially women and girls who make up 60% of the target group, by imparting skills and training, as well as providing them with access to wage employment in Covid-19 recovery sectors including retail, apparel, health-care, and logistics.

SDGs Mapped



Structure

NSDC and MSDF, risk investors under the skill bond, have initially committed to provide upfront working capital of up to USD 4 million to fund service providers to implement the programme for the lifespan of the skill bond. If the agreed outcomes are achieved, risk investor funding will be reinvested every year,

⁶ [UNSDG | Unlocking SDG Financing: Findings from Early Adopters](#)

⁷ <https://www.nsdcindia.org/sib>

which means that over four years, outcome funders will commit USD 14.4 million. Service providers will be responsible for delivering skilling interventions to improve employment outcomes, which will be measured by an independent evaluator at the end of every year.

Defining Feature

The training will be imparted through NSDC's affiliated training partners such as Apollo Medskills, Gram Tarang Employability Training Services, Learnet Skills, Magic Bus India Foundation, and PanIIT Alumni Foundation.

The collaboration amongst global partners also aims at building the capacity of India's skilling and TVET ecosystem through knowledge exchange and promoting good practices. The stakeholders will work towards promoting effective interventions, supporting research, and enhancing the impact of the skill development program.

Learnings

Leveraging governments and global philanthropies to maximise collective impact to increase the economic participation of women.

1.1.5 Aavas Financiers Limited Social Bond Issuance

Characteristics

- Country: India
- Timeline:
- Type of Project: Outcome-based financial instrument
- Funding amount: INR 360 crore (USD 43.5 million)⁸
- Sector: Financing and loans
- Target: Middle and low-income groups across rural and semi-urban India

Key Players

- Aavas Financiers
- CDC Group

Opportunity

Overcome the challenge of financing the needs of the unserved, underserved, and undocumented middle-and low-income groups of society across rural and semi-urban India, with a focus on women's financial inclusion.

SDGs Mapped



Structure



The typical borrower profile of the company includes low-and-middle income self-employed and salaried customers in semi-urban and rural areas, and individuals/enterprises involved in basic and essential economic activities. Its business model has been built around a sustainable fabric.

The CDC Group, the UK's development finance institution, in March 2022 announced an INR 360 crore (USD 43.5 million) investment in the program. The investment was made in the form of Rupee Denominated Bonds (Masala Bonds) and is listed as a social bond, in alignment with the International Capital Market Association's Social Bond Principles. The proceeds of the bonds will 100% be used to finance the women-owned property

8 For ease of reference, all financial figures have an accompanying USD figure. Exchange rate as of 8th August 14, 2023

loan portfolio, with an aim to address gender inequity in asset ownership in India.

Aavas also qualifies under the 2X Challenge – an initiative launched by the development finance institutions (DFIs) of the G7 to mobilise capital to support increased economic empowerment for women in emerging economies.

Defining features

With only 9% of households in India being legally women-owned, access to finance is a key factor that impedes women's ability to own property. Access to housing and ownership of property can have a strong positive impact on safety, dignity, improved livelihoods, and better economic outcomes. The Aavas bond will help increase women's access to housing finance by encouraging property ownership. It will in turn boost women's social empowerment, broaden their economic opportunities and promote higher standards of living for families and communities in underserved segments of lower-income borrowers, especially in rural and semi-urban areas of India. Additionally, the social bond will address the shortage in affordable housing.

Results

- ➔ Overall women-owned property loan portfolio in the company's total loan portfolio increased by around INR1200 crore (USD 145.1 million) in 12 months from INR 4800 crore (USD 580.4 million) in December 2021 to INR 6000 crore (USD 725.1 million) in December 2022. It also led to an increase in the overall percentage of women-owned property loan portfolio in the company's total loan portfolio to 45.5%.
- ➔ The number of women-owned property

loans in the overall company's loans increased by 17,000 in 12 months to 71,000 in December 2022 as compared to 54,000 in December 2021.⁹

Takeaways

Companies can take inspiration from the vision and business model of Aavas, which does not see its role only as a financial service provider, but as a social catalyst helping build an equitable society.

1.1.6 Shriram Transport Finance Co. Ltd. Social Bond Issuance

Characteristics

- ➔ **Country:** India
- ➔ **Timeline:** 2020-present
- ➔ **Funding amount:** USD 475 million
- ➔ **Sector:** Financing and loans
- ➔ **Target:** 50,000 youth, (60%) women

Opportunity

Overcome the challenge of financing driver-turned-owners by offering affordable finance on pre-owned commercial vehicles.

SDGs Mapped



Structure

STFC's commitment towards socioeconomic advancement is at the core of their business as the company provides financing to drivers, in particular, first-time buyers and small road

⁹ social-bond-utilization-report.pdf (www.aavas.in)

transport operators (this segment accounts for more than 90% of the lending portfolio), who typically do not qualify for bank loans due to the lack of stable income. USD 475 million has been successfully raised via 'Senior Secured Social Bonds' for a 3.5-year tenor at an interest rate of 4.15%. The proceeds would be used for employment generation, including through micro, small, and medium-sized enterprise (MSME) financing. The issuance is guided by STFC's Social Finance Framework, which is aligned with the ICMA Social Bond Principles from July 2021.

In addition, STFC also runs initiatives focused on quality education, skills development and healthcare programmes. Some examples include supporting healthcare centres for drivers and their family members, education centres to provide job-oriented courses for women, scholarship programmes to promote access to education and STFC driver training programs.

Results

The bond has received an overwhelming response from investors, with the final order book over-subscribed 2.5 times. The transaction witnessed global investor participation with 66% from Asia, 18% from EMEA and 16% from the US, with 93% investment from asset managers including insurance companies, 4% from banks and 3% from private banks and others¹⁰.

Learnings

Companies can take inspiration from the vision and business model of STFC, which is committed to building an equitable and inclusive future for its ecosystem, as well as providing financing towards socioeconomic

necessities with a large multiplier effect.

1.1.7 Utkrisht Impact Bond

Characteristics

- ➔ **Country:** India
- ➔ **Timeline:** 2017-present
- ➔ **Type of Project:** Outcome-based financial instrument
- ➔ **Funding amount:** USD 2.9 million
- ➔ **Sector:** Skilling
- ➔ **Target:** 600,000 pregnant women and new-borns

Key Players

- ➔ USAID
- ➔ Merck for Mothers
- ➔ UBS Optimus Foundation
- ➔ PSI
- ➔ Palladium
- ➔ HLPPT

Opportunity

To support private healthcare facilities in Rajasthan to achieve and sustain a standard of quality that will result in decreased maternal and newborn mortality. This bond is the world's first health development impact bond and the largest and most ambitious impact bond to date.

SDGs Mapped



10 <https://cdn.shriramfinance.in/uploads/media/pdf/Social-Bond-USD-475-Million-Fund-Raise.pdf>

Structure

Aiming to increase access to life-saving supplies, appropriately trained staff, and the improved ability to address complications in labour, this partnership will reach up to 600,000 pregnant women and new-borns with improved care during delivery over a five-year period by improving the quality of private healthcare facilities that support a region of 75 million people. The State Ministry of Health in Rajasthan has signed a Memorandum of Understanding with the partners to invest in and scale up the partnership should the pilot program be successful.

Defining features

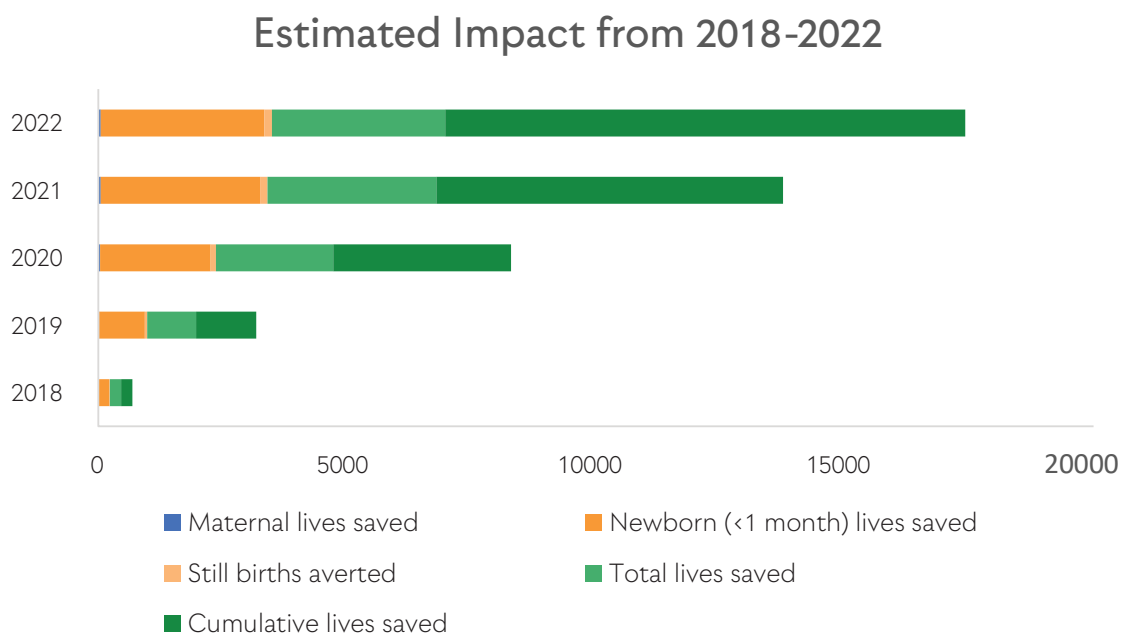
Through this public-private partnership, private capital from UBS Optimus Foundation would front the costs to improve the quality of health services in private health facilities in Rajasthan and implementing partners HLPPT and PSI would use that capital to improve the quality of care in facilities and help them

become accredited. As outcome payers, USAID and Merck for Mothers would pay back the investment only if certain targets to improve quality were met. The pay-for-success approach ensures appropriate stewardship of US taxpayer dollars while unlocking both private capital and government resources for health.

Results¹¹

Overall, the quality of private facilities in Rajasthan has improved due to their participation in the bond. No evaluation has been conducted to assess the direct impact, however, the modelling tool, Lives Saved Tool (LiST) which leverages the evidence linking healthcare practices to mortality rates and maternal health outcomes predicts the gains in quality improvement of facilities can be attributed to meeting the quality standard required by the bond (figure below¹²). This is expected to lead to fewer maternal and neonatal deaths.

Figure 5 Impact of Utkrisht Impact Bond



¹¹ <https://golab.bsg.ox.ac.uk/knowledge-bank/case-studies/utkrisht-impact-bond/>

¹² <https://thepalladiumgroup.com/news/Worlds-first-healthcare-development-impact-bond-aims-to-reduce-mother-and-baby-deaths-in-Rajasthan-India>

More specifically, the prediction from LiST was that the facilities meeting the quality standards set by impact bond would avert approximately 13,449 maternal and neonatal deaths across 405 private healthcare facilities in Rajasthan by the year 2023. The estimated cost to improve a private facility is USD 21,800. Further studies on the potential returns are needed to provide insights into whether continued efforts are justified for implementing and sustaining the quality improvement efforts.

Learnings

- ➔ Given the fiscal constraints confronting government agencies, this kind of DIB opens up an alternative, valuable window of opportunity for financing social welfare initiatives. Leveraging this opportunity requires identifying factors that will either catalyse or hamper the success of DIBs.
- ➔ A diversity of procurement methods from donors and foundations will help participation in impact bonds at scale.
- ➔ An impact bond's success is often a direct result of a champion stakeholder(s) leading development from concept through to implementation.
- ➔ In contexts where data is more readily available, outcome funders are better able to determine price points upfront.

1.1.8 South Africa Impact Bond Innovation Fund (IBIF)

Characteristics

- ➔ **Country:** South Africa
- ➔ **Timeline:** 2018-2020
- ➔ **Sector:** Education
- ➔ **Target:** Children aged 3-5 from the low-income communities of Atlantis and Delft in South Africa's Western Cape Province

➔ **Funding amount:** USD 1.04 million

Key Players

- ➔ **Commissioner:** ApexHi Charitable Trust, Western Cape Department of Social Development
- ➔ **Intermediary:** Mothers2mothers, Social Finance UK, The Bertha Centre, Volta Capital
- ➔ **Investor:** Futuregrowth Asset Management, LGT Venture Philanthropy, The Standard Bank Tutuwa Community Foundation
- ➔ **Provider:** Western Cape Foundation for Community Work (FCW)

The Impact Bond Innovation Fund (IBIF) is a South African outcome-based financing mechanism that seeks to improve early childhood learning and development outcomes in the Western Cape. This innovative financing mechanism represents the first Social Impact Bond focused on Early Childhood Development (ECD) to be launched in the Global South.

Current investment in ECD in South Africa is a fraction of the amount required to ensure access to quality Early Childhood Development (ECD) services for the approximately 4 million children under the age of 6 living in poverty. Greater investment and more coordinated financing are needed from both Government and private sectors.

Aim

To improve children's cognitive, social, and psychological readiness for school that enabled children to thrive at school ("ECD Development Impact Bond", 2021). It was launched in South Africa, and in fact, was the first early childhood development SIB to do so, to improve early learning and childhood

development in the region of western cape town for the period of three years (2015-2018).

The Impact Bond Innovation Fund (IBIF), a Social Impact Bond (SIB), is the first ECD-focused transaction of its type in the Global South. It is being implemented as a public-private partnership to determine the feasibility of this approach to financing early childhood development initiatives in the South African context.

SDGs Mapped



Structure

The IBIF was implemented as a public-private partnership. The Government of South Africa provided a matching funding arrangement with ApexHi Charitable Trust, a private sector outcome funder to augment the available funding for the programme. Private investors invested USD 540,000 upfront. Private investors were paid a principal amount along with a maximum rate of return of 16% on their investment by the government department (Dept. of Social Development) and private outcome funder (ApexHi Trust) at the end of the project (Impact Bonds in Developing Countries: Early Learnings from The Field, 2017).

The service provider in this project was the Western Cape Foundation for Community Work (FCW). An SPV was created to act as a coordinating mechanism for all stakeholders to interact. Payments and deliverables over the project live cycle were made through the SPV. There were also technical intermediaries - mothers2mothers and Volta Capital who provided technical assistance to evaluate performance against the targets.

Defining Features

The performance targets set were:

- ➔ 50% attendance of beneficiaries in the program over a year.
- ➔ Recruitment of 1,000 children per year in the program and retention of these children over each year.
- ➔ Success against Early Learning Outcomes Measure (ELOM) assessment that measures the extent to which the program has prepared the children for school.

Results

The Interlude final evaluation report¹³ (2021) covered the performance of this project up to October 2020. The Innovation Fund impact bond delivered above-market returns during this period, with investors earning, on average, annual returns of 14% (the maximum possible return was 16%).

On the outcome achievement side, the Intellidex report found that the Innovation Fund impact bond delivered on social returns. It was relevant to beneficiaries' needs and was successful in meeting its immediate aims. 4,000 preschool-aged children (and their caregivers) were provided with free early learning programming in their homes (this is double the target number of children).

Learnings

This case study is a key lesson for countries looking to adopt innovative financial instruments. It demonstrates that financial innovation can generate returns along with social outcomes. It is important to caveat that the ELOM assessment tool was observed to be complex and time-consuming thereby making it difficult to achieve. Hence, in the

13 <https://tutuwafoundation.org/standing/StandardBankGroup/tutuwa/images/Intellidex-the-IBIF-SIB-report.pdf>

third year of the program, the ELOM outcome did not form a part of the assessment making it easier to meet the targets. Instead, returns were linked to recruitment and attendance targets that the delivery agents had no chance of missing because of the agent's track records prior to the impact bond. Hence, in the third year, the investors increased annualised returns.¹⁴ Therefore, it is imperative to form performance evaluation frameworks that demonstrate quality programming is being delivered and higher-quality interventions are implemented. This will help avoid the misallocation of risk and returns.

1.1.9 Wildlife Conservation (Rhino) Bond¹⁵

The World Bank's USD 150 million Wildlife Conservation Bond (WCB) is a first-of-its-kind outcome-based bond that supports the financing of conservation activities and together with financing from the Global Environment Facility (GEF) transfers project risk from donors to investors.

The transaction mobilizes private capital to facilitate the financing of black rhino conservation activities at two protected areas in South Africa, Addo Elephant National Park (AENP) and Great Fish River Nature Reserve (GFRNR).

Background

Conservation of biodiversity and ecosystems faces an estimated annual financing gap of up to USD 800 billion. Financial instruments that can crowd in additional private capital for conservation are urgently needed. Rhinos play a crucial role in Africa's wild ecosystems, which is critical to other species and to the national economy of South Africa through tourism and jobs. However, black rhinos are critically endangered due to poaching and loss of habitat. The black rhino population

numbers at AENP and GFRNR represent a significant portion of South Africa's and the global black rhino population. The parks have a strong track record of rhino growth in recent years; however, further conservation investments are required to secure and grow this important black rhino population.

The objective of the WCB project is to secure and grow the black rhino population, support over 2,000 jobs for the local community and improve the management of a 153,000-hectare area from the project's conservation activities. Importantly, the WCB transaction tests a new model for conservation financing where investors accept project outcome risk in return for a potential payout if the project is successful. The structure creates an opportunity for private investment in conservation, supported by sound quantifiable metrics and models.

Financial Solution

The WCB is a 5-year USD-denominated principal-protected World Bank Sustainable Development Bond. Investors in the WCB do not receive coupon payments. Instead, the World Bank will make conservation investment payments to the two protected conservation sites – AENP and GFRNR, to fund rhino conservation activities.

Investors stand to receive a successful payment at maturity, linked to the growth rate of the black rhino population at the two parks, paid by the World Bank with funds provided by the GEF.

The rhino growth rate will be calculated and verified by independent parties, Conservation Alpha and the Zoological Society of London respectively, over the bond term. The

14 <https://www.tutuwaoundation.org/assets/downloads/Intellidex-the-IBIF-SIB-report.pdf>

15 <https://thedocs.worldbank.org/en/doc/7039bd837e60e484fb3a93ea63951306-0340022022/original/CaseStudy-WildlifeConservationBond.pdf>

financial structure was developed with Credit Suisse and builds on earlier preparatory work at the parks.

Irrespective of the rhino growth rate and project implementation risk, investors will receive their principal investment back at maturity from the World Bank, providing investors with an AAA-rated investment with the potential for an additional return if conservation outcomes are achieved.

Outcome

The WCB is a first-of-its-kind structured bond, that tests a new model of conservation financing, linking the investment return under a bond issuance to conservation performance.

Key innovations of the WCB include:

- ➔ Facilitating access to additional financing that South African parks would otherwise not have access to
- ➔ Passing project implementation risk to capital market investors with donors paying only on a successful outcome

- ➔ Deployment of advanced conservation monitoring, verification and quantification tools in connection with a bond transaction

World Bank's Role

The World Bank (International Bank for Reconstruction and Development or IBRD) is the issuer of the WCB. World Bank Treasury led the structuring, documentation, marketing, and execution of the bond transaction, and coordinated the activities of numerous external service providers. This transaction benefited from the World Bank's large institutional investor base and bond issuance infrastructure.

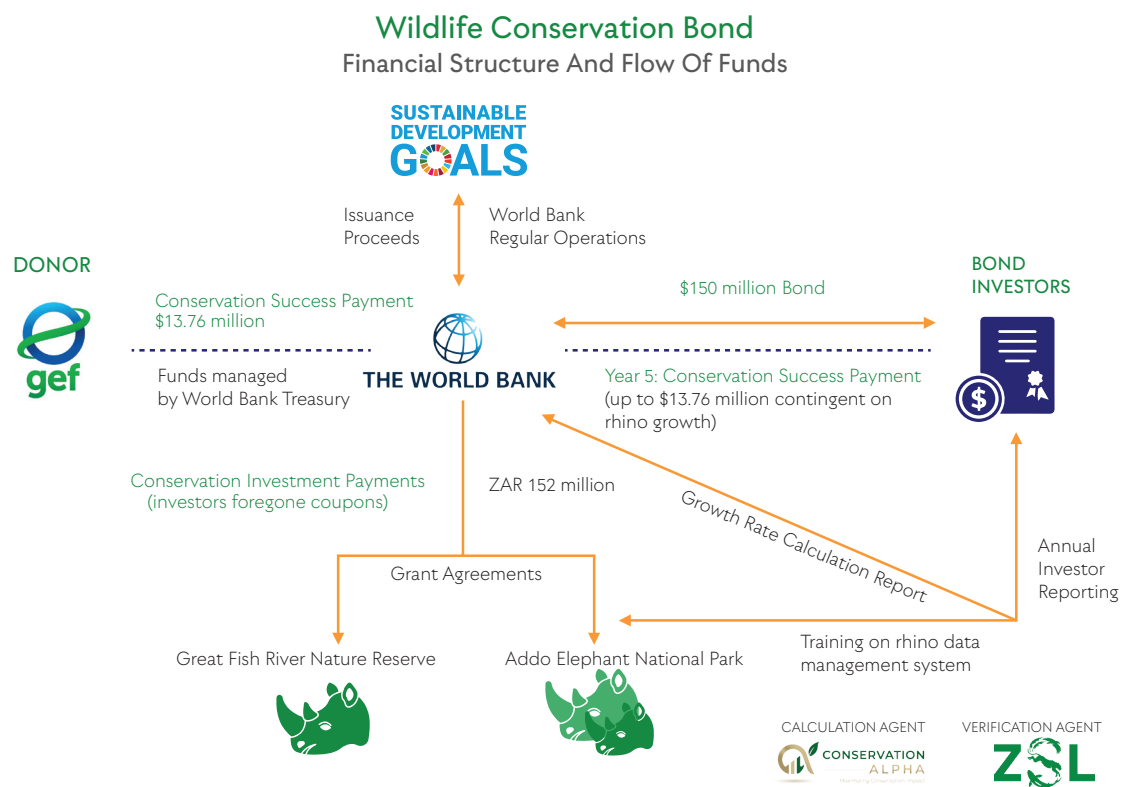
The World Bank is the GEF's trustee and provides administrative services for its operation. The World Bank's Environment, Natural Resources, and Blue Economy Global Practice project team is an implementing agency of the GEF and will manage the WCB project, providing implementation support to the parks and monitoring and assessing project progress and results.

TRANSACTION SUMMARY

Size	USD 150 million	Conservation Investment Payment	No payment of interest to investors on the bonds. Instead, IBRD will make conservation investment payments to the parks (subject to certain payment suspension events), totalling ZAR 152 million over the five years.
Issue Price	94.84	Redemption Payment	Redemption at Par
Issue Date	March 23.2022	Conservation Success Payment	A success payment may be paid to investors at maturity, determined as a function of the rhino population growth rate in AENP and GFRNR over the term of the bonds, as calculated and verified by Conservation Alpha and the Zoological Society of London respectively. The maximum conservation success payment is USD 13.76 million.

TRANSACTION SUMMARY			
Maturity Date	March 31.2027		
Sole Structurer	Credit Suisse		
Joint Bookrunners	Credit Suisse and Citi		

Figure 6 Financial Structure and Flow of Funds



1.1.10 China Haier Leasing Social Bond

Background

China has experienced remarkable growth over the last 30 years, significantly reducing poverty. Still, disparities exist between urban and rural populations, particularly in essential services like healthcare and education. Rural regions have fewer healthcare professionals per 1,000 people. Furthermore, over half of students in vocational schools and colleges hail from rural backgrounds.

Small and medium enterprises (SMEs) bridge the demand-supply gap in these essential services. But, as noted by the People's Bank of China, financing remains an obstacle for SMEs. Simultaneously, economic growth hasn't fully bridged gender disparities in economic prospects.

Social bonds can help the private sector secure funding for essential services and human capital development. In response to Covid-19, the global social bond market reached USD 206 billion in 2021. In 2022, it's projected to hit USD 150 billion. While Europe and supranational entities dominate this market, Asia contributed USD 21.5 billion in 2020, mostly from Japan and South Korea. China's share stood at 3%.

Introduction to the Haier Leasing Social Bond

In June 2022, the International Finance Corporation (IFC) committed to invest USD 100 million over five years in the debut social bond from Haier Financial Services Co. Ltd (Haier Leasing). This commitment attracted an additional USD 100 million from the Asian Infrastructure Investment Bank and Sumitomo Mitsui Banking Corporation, leading to a total bond value of USD 200 million.

This bond from Haier Leasing, China's first from a private sector financial leasing firm, aligned with the International Capital Market Association's Social Bond Principles. It was vetted by Sustainalytics, a leader in ESG evaluations. Proceeds target healthcare, education, food/agriculture, SMEs in neglected regions, and women-owned enterprises.

IFC also offered guidance to Haier Leasing, helping them shape their Social Bond Framework and enhance their ESG approach. Additionally, they helped navigate potential environmental and social risks while emphasizing the bond's positive societal contributions.

Measuring Social Impact

IFC supported Haier Leasing to develop the impact indicators in alignment with the IFC assisted Haier Leasing in forming impact indicators, in line with the Harmonized

Indicators for Private Sector Operations. This framework includes sector-specific markers and overarching indicators emphasizing gender and employment. They also equipped Haier Leasing with a background note on the bond's potential impact.

Leveraging Private Finance to Finance SDGs through Social Bond

Around 40% of China's population resides in rural regions, often overlooked by traditional financiers. Haier Leasing's bond aims to address these disparities by funding essential sectors, especially in rural China. This bond not only enhances Haier Leasing's ability to pinpoint valuable projects but also strengthens its service offerings. The international investment diversifies funding sources, stabilizing their financial position.

While most social bonds come from the public sector, there's a pressing need for fresh financial tools to combat poverty in emerging Asian markets. IFC's collaboration with Haier Leasing sought to establish a market for emerging Asian institutions to launch social bonds.

The Haier Leasing bond promotes diversity and global best practices in China's social bond scene. It paves the way for other nations, increasing transparency and boosting capability in impact evaluation. The lessons learned from this endeavour form the foundation for future bonds. Haier Leasing's digital platform further promises transparent impact tracking and efficient risk management.

Building on this project's insights, IFC crafted guidance for Asian FI issuers, titled "Social Bonds: Maximizing Impact, Reducing Risk." This guide demystifies sustainability aspects of social bonds, spotlighting the integration of ESG and impact criteria.

SDGs Mapped



1.1.11 Sustainable Bonds and Sustainable Taxonomy in Mexico

What SDG or topic is the focus of this case study?

➔ **Case 1 - Sustainable bonds:** The Issuance of sustainable bonds is carried out under the SDG Sovereign Bond Framework that includes eligible expenditures linked to the SDGs: SDG 2 - Zero hunger; SDG 3 - Good health and well-being; SDG 4 - Quality education; SDG 6 - Clean water and sanitation; SDG 7 - Affordable and clean energy; SDG 8 - Decent work and economic growth; SDG 9 - Industry, innovation and infrastructure; SDG 11 - Sustainable cities and communities; SDG 13 - Climate action; SDG 14 - Life below water; and SDG 15 - Life on land.

➔ **Case 2 - Sustainable Taxonomy:** The Sustainable Taxonomy of Mexico includes environmental and social objectives. For the first phase, three initial objectives were developed: i) climate change mitigation; ii) climate change adaptation; and iii) gender equality. The climate change mitigation and adaptation objectives are related to several SDGs and have a direct impact on SDG 7 - Affordable and Clean Energy and SDG 13 - Climate Action. The gender equality objective is directly related to SDG 5 - Gender Equality and SDG 10 - Reduced inequalities.

How has your jurisdiction promoted an enabling environment to finance the identified SDG(s)?

Mexico is developing a Sustainable Finance Mobilization Strategy to mainstream and scale up access to sustainable financing towards activities with positive impacts on the environment and society. Some efforts that already incorporate this perspective are issuing Sovereign Sustainable Bonds and developing and implementing the Sustainable Taxonomy.

Case 1 - Sustainable bonds: In 2020, Mexico was the first country to issue a sovereign bond linked to the Sustainable Development Goals (SDGs) of the United Nations' 2030 Agenda. The Government of Mexico has issued SDG bonds at international and domestic markets on nine occasions since 2020 for around a total amount of USD 11.3 billion.

According to the first published SDG Bond Allocation and Impact Report in 2022, USD 1.48 billion were notionally allocated in marginalized areas across 30 eligible expenditures. From the total allocation, 19.4% had an impact on SDG 2 - Zero hunger), 29.6% on SDG 3 - Good health and well-being, 30.6% on SDG 4 - Quality education, 2.2% on SDG 8 - Decent work and economic growth, and 18.2% on SDG 9 Industry, innovation, and infrastructure.

Case 2 - Sustainable Taxonomy: Regarding the recent launch of our Sustainable Taxonomy, Mexico is pioneering and innovating worldwide by being the first one to consider environmental and social objectives since its design. The Taxonomy includes six economic sectors, and more than one hundred activities covering agriculture and forestry, construction, energy and water, waste management, manufacturing, and transportation sectors.

For all of them, technical criteria were developed to assess their contribution to sustainability. Also, users must demonstrate that they cause no significant harm to biodiversity, water, pollution, waste, and mitigation and adaptation, as appropriate. For the gender equality objective, cross-cutting guidelines have been established to identify activities that ensure the reduction of the gender gap, based on a Gender Equality Index developed for the Taxonomy.

What methods are your jurisdiction or market participant(s) using to measure alignment with the identified topic?

Case 1 - Sustainable bonds: Under the SDG Framework, Mexico provides investors with an Allocation and Impact Report annually.

- a) Impact reporting: This Report provides the expected environmental and social benefits of the eligible sustainable expenditures. The Impact Report may include lists of projects to which SDG Sovereign bond proceeds have been allocated; expected environmental benefits and positive social impacts of the projects and assets; qualitative performance indicators and, where feasible and available, quantitative specific results of the impacts of projects funded; segmentation of the budgetary expenditures' end-beneficiaries; estimated lifetime results

and/or economic life (in years) of projects; and methodology, and metrics and assumptions used to prepare the report.

- b) Allocation reporting: This Report is provided annually to bond investors and includes the description of the eligible expenditures undertaken, including, the relevant geospatial criteria as defined above in the Framework; the amount of budgetary resources allocated to each of the Eligible Sustainable Expenditures, including, the percentage of resources allocated to meet the geospatial criteria; the type of budgetary expense; any co-financing share of the eligible expenditures; and the remaining balance of any unallocated proceeds and the nature of the proceeds.

Case 2 - Sustainable Taxonomy: Mexico is working on the implementation phase of the Sustainable Taxonomy, where it will design specific reporting guidelines for each user. Once the users have demonstrated their compliance with the established metrics and thresholds, including the Do Not Significant Harm (NDS) and minimum safeguards criteria, they will be able to disclose the percentage of their activities aligned with the Taxonomy in terms of their assets holding, for financial institutions, and in terms of turnover, capital expenditures, and operating expenses, for real sector companies. The reporting will provide standardization of information, ensure the correct applicability and will allow for better measurement of the financial flows destined to environmental and social objectives determined for the Mexican case.

What types of financial instruments are used to finance the identified topic? Are blended finance solutions used? Are blended finance solutions supporting the maximization of the social impact investment market?

Case 1 - Sustainable bonds: As mentioned

before, the Government of Mexico has issued seven SDG bonds at international and domestic markets for around USD 7.6 billion.

Case 2 - Sustainable Taxonomy: The Taxonomy will favour the creation of innovative financial and credit instruments to facilitate access to financing for projects and activities benefiting the environment and society. For instance, Mexico envisages an increased availability of specialized financial instruments such as green mortgages and other green or gender credits. Similarly, the Taxonomy will set a baseline for the capital and debt markets, generating certainty and incentivizing the mobilization of financial capital flows and the issuance of taxonomy-aligned bonds and loans.

How is additionality and/or impact assessed when using these instruments?

Case 1 - Sustainable bonds: Mexico provides investors with an Allocation and Impact Report to guarantee the transparency of the use of proceeds, following best international practices and ensuring the high quality of this instrument.

Case 2 - Sustainable Taxonomy: Mexico is designing a specific reporting guideline for each user of the Taxonomy, including financial institutions and companies from the real economy.

What are the key challenges that remain in financing the identified SDG or topic? How is your jurisdiction addressing them?

It is essential to continue disseminating information about the importance of considering environmental, and social aspects in finance among authorities and entities of the financial and non-financial sectors. Further, also introducing them in

the financing tools that are being developed (for example, the introduction of the Gender Equality Index in the Sustainable Taxonomy). To this end, it is essential to implement actions to build capacities. The Ministry of Finance is developing e-learning tools and online platforms for building capabilities in these critical topics.

What, if anything, is preventing the replication and scaling of the solution highlighted in this case study?

There remains a significant gap in understanding sustainable finance instruments. Additionally, there's a need to emphasize the importance of financing investments that have positive social impacts and the creation of instruments that support these goals.

1.1.12 Social impact bonds and Sustainability-linked bonds in Russia

What SDG or topic is the focus of this case study?



How has your jurisdiction promoted an enabling environment to finance the identified SDG(s)?

The Bank of Russia has adopted a 'soft' regulation approach in relation to sustainable development agenda issues. The Bank of Russia supports the gradual enforcement of regulatory requirements on relevant issues considering international approaches. One of its tasks consists of creating favourable conditions for a gradual transformation of Russian companies given the necessity to advance towards SDGs.

The Bank of Russia is working on the development of infrastructure and instruments for sustainable development financing. To develop approaches to responsible investment in the Russian financial market, the Bank of Russia has issued, among others, Recommendations on the Implementation of the Principles of Responsible Investment. The document focuses on the need for financial institutions to consider ESG factors while building an investment portfolio. These and other measures taken by the Bank of Russia are aimed at providing financial market participants with a wide range of opportunities to raise financing, considering sustainable development issues.

Special resolution of the Russian Government No. 1491 of 21 November 2019 on the organization of social impact bonds (SIB) pilot testing in federal constituent entities of the Russian Federation in 2019–2024 (Resolution 1491) is intended to implement the Concept for Improving the Efficiency of Public Budget Expenses in 2019–2024 (Ordinance of the Russian Government No. 117-r of 31 January 2019). According to Resolution No. 1491, it is necessary to promote new mechanisms for public-private partnerships in the social sphere with a view to safeguarding the economic interests of private partners and attracting private investment in social services provided that Russian budgetary financing is contingent on the achievement of social outcomes. The service provider, however, receives upfront financing from the investor. According to Resolution 1491, State Development Corporation VEB.RF is a SIB operator.

What method is your jurisdiction or market participant(s) using to measure alignment with the identified topic?

The verification system has been established in the Russian Federation to assess the compliance of investments with the stated goals in terms of sustainable development.

General approaches to verification, its subject matter, as well as requirements for the verification system of sustainable development financing instruments are set out in the Decree of the Government of the Russian Federation dated 21 September 2021 No. 1587 "On Approval of Criteria for Sustainable (including Green) Development Projects in the Russian Federation and Requirements for the verification System for sustainable (including Green) Development Projects in Of the Russian Federation". The list of independent verifiers authorized to conduct an independent assessment (verification) of sustainable financial instruments is compiled by VEB.RF, Russia's national economic development institution.

What types of financial instruments are used to finance the identified topic? Are blended finance solutions used? Are blended finance solutions supporting the maximization of the social impact investment market?

Sustainability-linked bonds are aimed at raising funds for general corporate purposes, the financial characteristics of which depend on the issuer achieving KPIs related to the UN Sustainable Development Goals within a certain timeline. Within the framework of the issue of the described bonds, KPIs in the field of social activities related to the UN Sustainable Development Goals can be established. Therefore, sustainability-linked bonds can be used to finance the combination of environmental and social projects.

In Russia, since 2019, the mechanism of social impact projects has been used (the Russian equivalent of SIB – social impact bonds). Social impact bonds are a mechanism to attract private investment in the social sphere on a "pay-for-success" basis in the form of a multilateral contract between the government, an investor and a service provider. Repayment from the government to

investors is contingent on the achievement of specified social outcomes as confirmed by an independent evaluation, which makes SIBs compare favourably with providing traditional public financing or outsourcing social services to the private sector. The main aim of SIBs is to find the most effective way to achieve definite social effects and then scale the explored approach all over the country.

How is additionality and/or impact assessed when using these instruments?

When evaluating a sustainable financial instrument, the verifier also analyzes information on the indicators of the environmental effect of a sustainable development project, as well as information about significant negative factors affecting the achievement of environmental effects indicators. This information is obtained by conducting interviews with employees of the initiator and (or) organizations implementing a sustainable development project, from open sources of information, as well as, if necessary, by sending requests to third parties, including specially authorized federal authorities, authorities of federal constituent entities of the Russian Federation, local authorities and non-governmental organizations. Thus, the verifier evaluates the impact and additional positive effects of the use of these financial instruments.

With regard to social impact bonds, VEB.RF acts as an intermediary and key performance manager. It is tasked with the following functions:

- ➔ specifying the desired social outcomes, targets and financing jointly with the public sector commissioner;
- ➔ searching for SIB investors and service providers;
- ➔ organising the interaction between the public sector commissioner, investors

and service providers;

- ➔ coordinating project implementation, providing methodological support and project monitoring;
- ➔ providing regulatory support (preparing drafts of SIB-related regulations of the Russian Government/federal constituent entity); and
- ➔ organising an independent evaluation of social outcomes.

Examples of social impact projects completed via raising finance through dedicated financial instruments.

Over the four years of SIB's implementation, ten projects have been launched, three of them have already been successfully completed and achieved the preset social outcomes, four are still running and another three will start in 2023. The total investment for the projects is close to 400 million (USD 4.1 million).

Completed projects:

- ➔ Project in Republic of Sakha (Yakutia) 2019-2022

Sphere: Education

Social effect: Growth of educational results of school pupils in the remote area of Khangalassky Ulus of the Republic of Sakha (Yakutia)

Number of social beneficiaries: ~ 5,000

- ➔ Project in Primorski Region 2020-2022

Sphere: Social welfare

Social effect: Raising awareness of low-income families with children about the possibilities of receiving state social assistance on the basis

of a “social contract”. Increase the number of low-income families with children who have signed a “social contract”.

Number of social beneficiaries: ~ 400 families

➡ Project in Primorski Region 2020-2022

Sphere: Healthcare

Social effect: At least 65% of citizens subject to medical examination will participate in a scheduled medical examination. At least 90% of citizens who have agreed to participate in the project will receive medicines by home delivery and will transmit information about their health status to a medical organisation. Number of social beneficiaries: ~10,000

What are the key challenges that remain in financing the identified SDG or topic? How is your jurisdiction addressing them?

➡ Lack of a unified non-financial reporting standard

In the absence of a unified non-financial reporting standard, both foreign and Russian companies published their sustainability reports based on different international standards, sometimes applying several standards at once, depending on the target audience. This complicates the analysis of the dynamics of the company's sustainable activities, as well as the comparison of information about sustainable activities even between companies from the same industry. To harmonize approaches to non-financial information disclosure among publicly listed companies, in 2021 the Bank of Russia published Recommendations on Disclosure by publicly listed companies of non-financial information related to the activities of such companies. However, these recommendations are voluntary.

➡ Harmonization of approaches to assigning ESG ratings In order to increase the efficiency of the sustainable development financing market, ESG ratings should be transparent, clear and comparable.

For these purposes, in January 2023, the Bank of Russia published a report for public consultations “*Model methodology of ESG ratings*”. The Bank of Russia plans to publish recommendations aimed at harmonization of ESG ratings in Q2 2023.

➡ Stimulating the sustainable development agenda

The Bank of Russia considers the possibility of introducing risk-based incentive regulation in relation to the financing of green and adaptation projects, the criteria of which are provided by taxonomies, which require differentiation and prioritization of these projects taking into account national goals.

What, if anything, is preventing the replication and scaling of the solution highlighted in this case study?

- ➡ Geopolitical factors.
- ➡ Lack of common baseline standards for non-financial reporting and data aggregation in the field of sustainable development.
- ➡ Lack of generally accepted methods for assessing climate risks.
- ➡ Structural transformation of the world economy.
- ➡ Need for additional incentives from the government.
- ➡ The lack of investors in social impact projects due to elevated financial risk and low ROI; and

- ➡ Low requests from regional authorities for such projects and high bureaucracy levels can slow down the replication and scaling of SIBs.

1.1.13 Sustainability Awareness Bonds: reliable sustainable investment for the SDGs (European Investment Bank – EIB)

The EIB has issued the world's first green bond in 2007 with its inaugural Climate Awareness Bonds. In 2018, the EIB issued its first Sustainability Awareness Bonds which extended the approach from climate change mitigation to further environmental and social sustainability objectives.

The Sustainable Development Goals have been an integral part of the European Union's policy framework since 2016. A [Communication from the European Commission](#) explicitly links the SDGs to the European Union's policy framework to ensure that all actions and policy initiatives, both within the European Union and globally, take the SDGs on board from the outset. This applies directly to the regulatory framework that the European Union has established to facilitate sustainable investment.

The EIB was the first issuer to tune the documentation of its sustainability funding instruments to the EU Taxonomy Regulation in 2018. This allows investors to monitor consistently how the funds raised are being

used through audited allocation and impact reports. This provides a reliable sustainable investment opportunity at the service of the Sustainable Development Goals. Sustainability Awareness Bonds' sustainability objectives establish a direct link to the EU Taxonomy's environmental objectives as well as to social dimensions of SDGs.

This business-driven entrepreneurial approach in the absence of an official EU social taxonomy has taken the logic of the EU Taxonomy Regulation as reference to increase transparency and accountability in social finance.

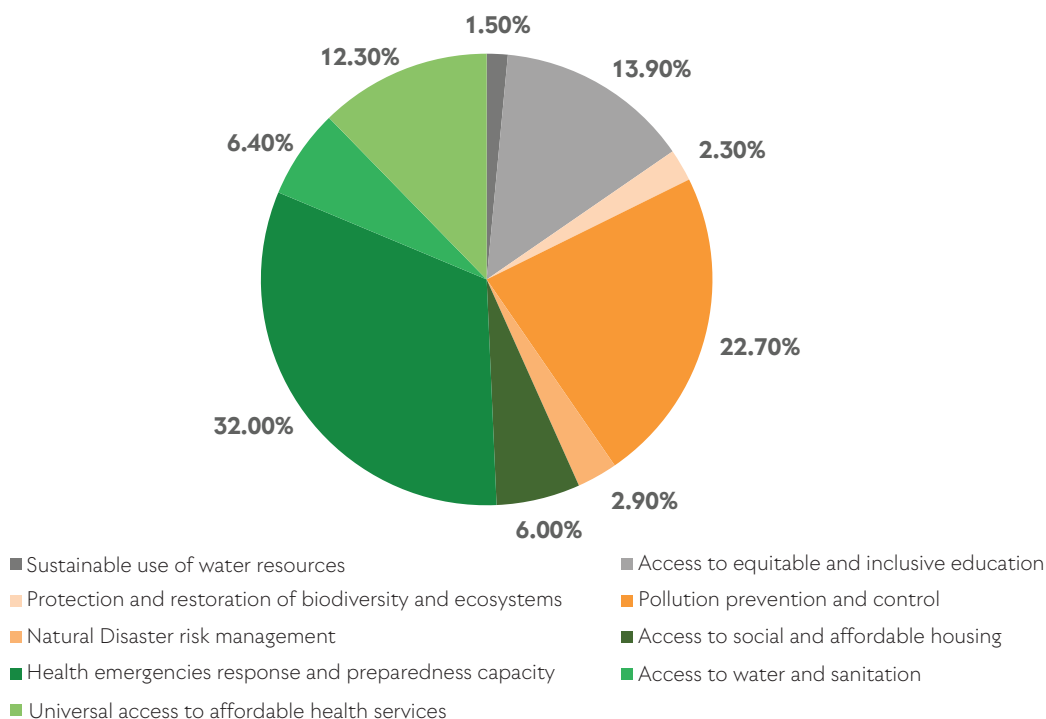
The EIB's approach is characterised by transparency and accountability as the [annual SAB Framework](#) (including the SAB project eligibility criteria, the SAB [allocation report](#) and [impact report](#)) is published and **audited by a supervised auditor with Reasonable Assurance (ISAE 3000)**. Reasonable Assurance is the highest level of assurance in the use-of-proceeds bond market.

In 2021, around EUR 2 billion was allocated to disbursements to projects contributing substantially to social objectives, such as access to water and sanitation, health emergencies response and preparedness capacity, universal access to affordable health services, and access to equitable and inclusive education.

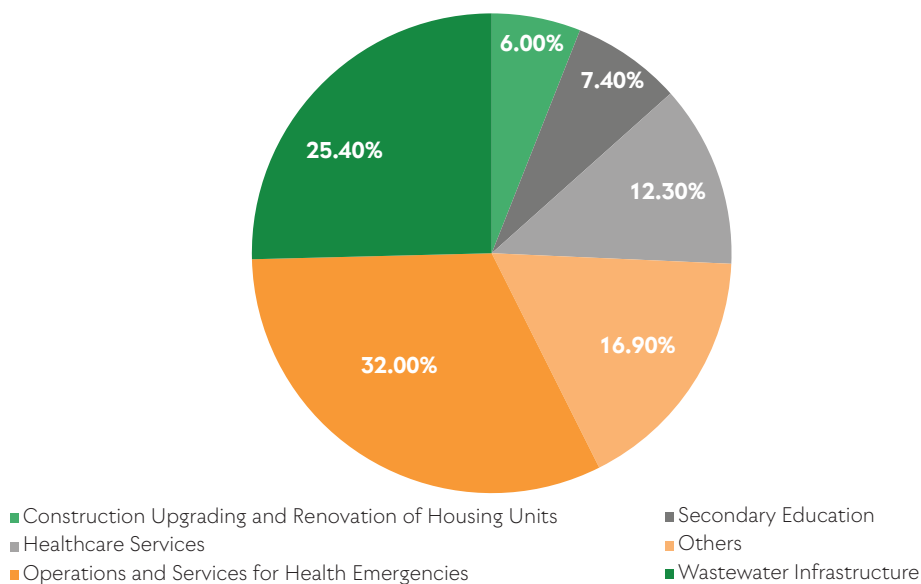
SAB allocations by sustainability objective and activity for 2021 (audited)

More than 70% of SAB allocations went to social objectives

Sustainability objectives¹



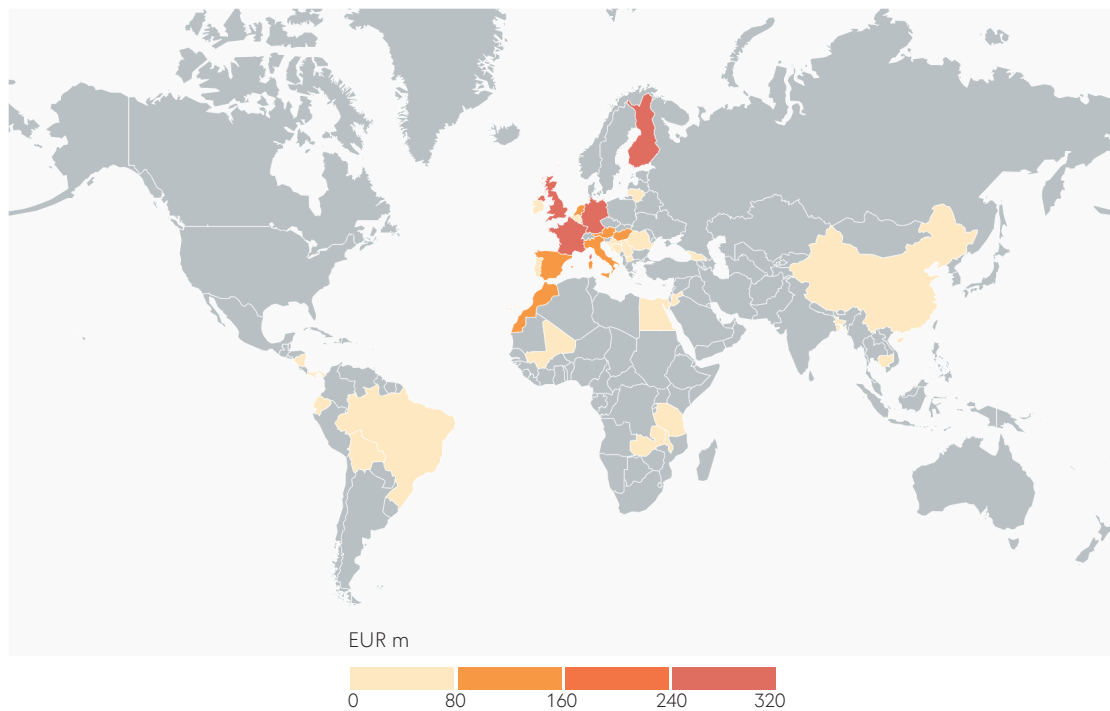
Economic activities²



¹ Environmental SAB-Objectives are coloured in green; social SAB-Objectives are coloured in orange

² "economic activity" relates to the SAB-eligible activity that corresponds to the largest share in project cost

Sustainability Awareness Bonds highlight the EIB's growing engagement beyond EU borders at the service of SDGs globally.



Proceeds from Sustainability Awareness Bonds are allocated to projects that meet eligibility criteria which are aligned with the logic of the EU Taxonomy Regulation.

In areas of environmental and social sustainability not yet covered by the EU taxonomy, EIB has already started applying its own expertise to data collection and reporting in line with the logic and structure of the taxonomy, thereby permitting investors to monitor progress on this path. This means that the SAB project eligibility criteria are structured to include criteria or processes for the assessment of “substantial contribution”, “no significant harm”, and “minimum social safeguards”. In addition, the SAB technical screening criteria

for substantial contribution are aligned with the logic of the technical screening criteria for substantial contribution of the article 3 of the EU Taxonomy Regulation i.e. “structured to incorporate principles, metrics and thresholds where possible and otherwise include qualitative criteria or processes for the assessment of substantial contribution”. In the area of “Do No Significant Harm” and “Minimum Safeguards,” the EIB has also compared (in 2021) for the first time its Environmental and Social Standards with the provisions of Articles 17 and 18 of the EU Taxonomy Regulation, establishing an accountable platform for further improvement over time.

1.2 Public-Private Partnerships

1.2.1 SDG Impact Finance Initiative

What SDG or topic is the focus of this case study?

The SDG Impact Finance Initiative is a multi-donor facility with the mission to advance measurable progress in developing countries towards the achievement of the SDGs. It

aims to do this by mobilizing new capital through innovative finance solutions and collaboration between public and private partners. The Initiative potentially covers all 17 SDGs, depending on the priorities of the Initiative’s funders. The Initiative also aims to

strengthen the impact investing ecosystem and contribute to improved framework conditions and promote quality impact management practices.

What types of financial instruments are being used to finance the identified topic? Are blended finance solutions used? Are blended finance solutions supporting the maximization of the social impact investment market?

The Initiative pools grant funding from public, philanthropic and private actors and deploy it through blended finance solutions in the form of grants, conditionally repayable grants, payment for outcomes and first-loss investments. The Initiative aims to support the design and development of innovative finance solutions and to scale impact investment solutions by mobilizing private capital.

How is additionality and/or impact assessed when using these instruments?

The Initiative operates mainly through competitive calls for proposals. Submitted applications are reviewed against a set of pre-defined and published evaluation criteria. These include, inter alia:

- ➔ Development impact: the potential social, economic and/or environmental impact of the solution and whether robust metrics and impact measurement practices are identified / in place.
- ➔ Additionality: to what extent will the funding by the Initiative be catalytic in achieving the targeted impact; to what extent will the solution address key market failures and catalyze long-term financing for the targeted countries.

What are the key challenges that remain in financing the identified SDG or topic? How is your jurisdiction addressing them?

- ➔ Key challenges in impact investing in emerging markets remain:
- ➔ Unfavourable risk/return profiles.
- ➔ Lack of standardization and low sophistication in impact measurement.
- ➔ Deal costs are high.
- ➔ Deal sizes are (too) small for institutional investors.
- ➔ Sourcing and evaluation of deals are challenging and costly.
- ➔ Lack of exit options and liquidity (private markets).
- ➔ High setup and structure costs of impact investing solutions in relation to their investment product sizes.

1.2.2 Adana Health Complex¹⁶

The Government of Turkey launched its Health PPP Program (the Program) in 2010. The Program aims to improve service delivery and outcomes through a realigned public hospital network serving nearly 90% of the population that is covered to varying degrees by social health insurance.

The Health PPP Program also seeks to complement the Government's other efforts to increase, or where appropriate replace, the existing bed capacity, by focusing private sector support mainly in specialized areas such as women and child health, oncology, cardiology, and rehabilitation. The Program will help achieve this by realigning hospital bed capacities to match national health needs (for example pediatric, cardiovascular, oncological, and rehabilitation), improving efficiencies and quality in service delivery,

¹⁶ <https://ppp.worldbank.org/public-private-partnership/sites/ppp.worldbank.org/files/2022-03/IFC%2BPPP%2BStories%2BTurkey%2BAdana.pdf>

and making public health facilities more energy and resource-efficient through the use of energy-efficient technologies. The Program will also provide significant value for the government by transferring risks to the private sector – under the PPP scheme, the private partner assumes substantial financial, technical and operational risk, allowing the public sector to focus on the delivery of health services.

Background

The Adana Health Complex entails the construction, operation, and maintenance of an integrated health campus in Adana, a key health sector hub in Anatolian Turkey. The Health Campus will have a 1,550-bed capacity and will be composed of three hospitals: a 1300-bed main hospital, a 150-bed Physical Therapy and Rehabilitation Hospital and 100-bed High Security Criminal Psychiatric Hospital. Under the project, the winning consortium is responsible for financing, building, maintaining, and managing the facilities, and providing or coordinating medical support services, while the Ministry of Health (MoH) will deliver core medical services.

The Project is expected to improve patient access to high-quality public health services and support the Government of Turkey's efforts to transform its health sector to match the current and future health needs of the population.

IFC's Role

The Adana Health Complex and two others – Etlik and Kayseri – totalling USD 163 million are IFC's first investments in PPP projects in the health sector. For Adana, IFC also mobilized a further USD 200 million of additional financing (35% of the total senior debt) plus a USD 157 million MIGA guarantee.

Given that the Adana project was one of the first projects to be signed as part of Turkey's Health PPP Program, IFC has played an important role in the project's success and will contribute to the success of the wider Health PPP Program. For example:

- ➔ Through its continued engagement with the MoH and the sponsors, IFC helped improve the Project structure and documents, which are now in line with international standards and best practices.
- ➔ IFC is providing and catalyzing long-term funds amounting to 45 per cent of total debt.
- ➔ IFC is leveraging the World Bank Group's global healthcare knowledge, including IFC Advisory Services' expertise in PPPs, to ensure best practices are implemented.
- ➔ As a senior lender in the Project, IFC is complementing IBRD's continued support of the Turkish healthcare sector. This includes the potential for providing capacity building within MoH's relevant departments to effectively manage and implement the PPP Program.
- ➔ IFC is providing critical guidance and input to the implementation of best practices in the areas of environmental and social issues, including the application of energy-efficient technologies in the buildings.

Transaction Structure

Under the project agreement, the Ministry of Health pays the private partner to use the facilities ("Availability Payments") and for services provided ("Service Payments"). Adana Hospital is in operation since September 2017 and will be handed over to MOH by the end of a 25-year concession period.

Bidding

Following a transparent bidding process, AND PPP Saglik Yatirim A.S was awarded the PPP. AND PPP Saglik Yatirim A.S is a joint venture between:

- ➔ Ronesans Holding AS, Ronesans Saglik Yatirim A.S.,
- ➔ Meridiam Eastern Europe S.a.r.l,
- ➔ Sila Danismanlik Bilisim Saglik Insaat Ticaret A.S., TTT Saglik Hizmetleri Egitim Insaat Sanayi Ticaret A.S., and
- ➔ Sam Yapi Sanayi ve Ticaret Ltd.

Ronesans and Meridiam each have a 40 per cent ownership stake, while Sila and Sam each have 10 per cent ownership in the joint venture. The Consortium combines strong construction and development experience, local and international know-how, as well as specific healthcare, concession, and PPP expertise.

Expected Post-tender Results

- ➔ Improved patient access to relevant, high-quality, public health services.
- ➔ Realignment of hospital bed capacity to match national health needs.
- ➔ Helping improve health system process efficiency.
- ➔ Improving energy and resource efficiency.

Long-term value through the transfer of risk from the public to the private sector.

1.2.3 ProShkola Project

ProShkola (which means ProSchool) is the largest social investor and concessionaire of social projects in Russia. The Government of the Russian Federation together with State Development Corporation VEB.RF is to ensure the construction of at least 1,300 schools by

the end of 2024 as part of the implementation of the Education National project, with the involvement of non-budgetary funds, including private investments.

What SDG or topic is the focus of this case study?



How has your jurisdiction promoted an enabling environment to finance the identified SDG(s)?

ProShkola is recognised as a federal concessionaire, with which Russian regions and municipalities may conclude concession agreements for the construction of schools without competition under regional development programmes and the state educational programme. The main goal is to implement the Education national project aimed at creating new places in general educational organisations using public-private partnership tools.

According to the Instruction of the Russian President, the Ministry of Education of the Russian Federation provides for the construction of at least 600 schools by granting subsidies from the federal budget to:

- ➔ co-finance the costs of the creation of new places in state schools in the Russian regions;
- ➔ promote creating new places in state schools located in rural areas and urban-type settlements in the Russian regions and modernise the infrastructure of state secondary education;
- ➔ eliminate the third shift at Russian schools and create conditions for obtaining high-quality general education by 2025.

What methods are your jurisdiction or market participants using to measure alignment with the identified topic?

The Government of the Russian Federation strictly monitors the implementation of the projects for the construction of new schools financed through subsidies from the federal budget. Therefore, the Russian regions have the chance to receive co-financing of their costs arising from the implementation of projects providing for the creation of additional school places where they are strongly needed. The rules for granting subsidies apply to both concession agreements and public contracts.

What types of financial instruments are used to finance the identified topic? Are blended finance solutions used? Are blended finance solutions supporting the maximization of the social impact investment market?

All ProShkola projects are implemented within the model of public-private partnership (hereinafter – PPP). Proshkola and its subsidiaries are included in the list of concessionaires with whom regions and municipalities may conclude concessions without public competition.

- ➔ 70 schools will be built by the end of 2024;
- ➔ the total project budget is ₺136 bln;
- ➔ the group's total balance is ₺150 bln;
- ➔ investments in the creation of facilities exceed ₺8 bln.

The Project Selection Commission chaired by the Russian Ministry of Education selects applications made by the regions and decides whether it is appropriate to provide a “demographic” subsidy from the federal budget to the regional budgets for co-financing their expenses by providing capital grants and concessionary fees under concession agreements.

What are the key challenges that remain in financing the identified SDG or topic? How is your jurisdiction addressing them?

- ➔ PPP projects are still strongly affected by the economy and interest rates;
- ➔ The PPP mechanism is still developing and sometimes even faster than the legislation. Thus, timely amendments to the legislation are to be ensured regularly.

In general, the PPP programmes must have an appropriate legal framework, strong decision-making mechanisms and open process, clear contracts, upfront agreements on service delivery and infrastructure, and follow-up and close monitoring and evaluation agreed upon upfront.

1.2.4 PPP Constructed University Campuses Project

The main objective of the project is the creation of modern world-class university campuses through a public-private partnership (PPP). The project involves the establishment of integrated infrastructure facilities for students and academic staff accommodation, the organization of scientific and educational activities, and the provision of cultural and sports activities. It is the first infrastructure initiative in Russia that utilizes the PPP in higher education. Earlier, infrastructure projects were implemented exclusively at the expense of the federal budget.

What SDG or topic is the focus of this case study?



How has your jurisdiction promoted an enabling environment to finance the identified SDG(s)?

The Russian Ministry of Science and

Higher Education and State Development Corporation "VEB.RF" have developed a regulatory and methodological framework to create university campuses using the PPP mechanisms. The key project conditions and government funding arrangements are regulated by Decree No. 1268 of the Russian Government of 28 July 2021 as follows: financing from the state budget for the investment phase should not exceed 60% of the total project cost. The remaining funds are attracted from Russian regions, private investors and banks.

The property rights over the campus belong to authorities of the designated Russian region, while a private investor (concessionaire) is responsible for its construction and further management during the operational phase.

Revenues from the accommodation of students and academic staff, commercial space rentals and fee-based services ensure the return on the investment. The projects include a minimum income guarantee mechanism to compensate for the risk of not achieving the expected gross revenues making them more flexible and attractive for investment.

To ensure efficient and high-quality project implementation, the following documents have been developed:

- ➔ marketing research on the development of scenarios for the creation of student campuses in Russian cities;
- ➔ a typical economic model of the campus;
- ➔ Decree No. 1268 of the Russian Government regulating the project's basic conditions and other regulations;
- ➔ methodology of economic evaluation of investment projects;
- ➔ methodology of legal assessment of investment projects;

- ➔ methodology for calculating the demand for accommodation places for students and academic staff in Russian cities;
- ➔ documentation for the selection of investment projects;
- ➔ roadmap template for campuses;
- ➔ logo of the campus project;
- ➔ materials for two strategic sessions to improve the quality of investment projects.

Anticipated socioeconomic effects associated with the initiative

The project involves an intercollegiate form of campus development, with two or more universities sharing educational, research, accommodation, social and other infrastructure facilities. The integration of science competence centres in various fields on the campus site will enhance the exchange of ideas and encourage the formation of interdisciplinary teams.

The modern, favourable, and creative environment of university campuses increases the attractiveness of science careers and higher education ensuring the development of technology teams and entrepreneurs in universities.

The development of university infrastructure will help strengthen the educational, scientific, technological, and innovative potential of Russian universities, stimulate cooperation processes between them and scientific organizations, and the business community, and ensure the socio-economic and cultural development of the regions. In the long run, an improvement in the quality of human capital in Russia is expected.

In addition, the experience of the campus project contributes to the development of the Russian PPP market, especially projects in

the social sphere. Based on this experience, the PPP retirement homes project was launched in 2022.

What types of financial instruments are used to finance the identified topic? Are blended finance solutions used? Are blended finance solutions supporting the maximization of the social impact investment market?

In the 2021 and 2022 selections of campus projects conducted by the Russian Ministry of Science and Higher Education, 13 PPP projects from 13 regions were chosen out of 40 applications. The total cost of constructing 13 campuses is about \$5 billion, including \$2.7 billion of private investments. The average term for attracting private investment (shareholder and bank loans) is 15-20 years.

The interest rate of the shareholder loan is 14-16% per year. These campuses are designed to accommodate up to 60,000 students and academic staff from universities and scientific organizations.

In 2022, concession agreements were signed for three campus projects in Ufa, Nizhniy Novgorod, and Chelyabinsk. Currently, these campuses are being designed, and construction will start this year. Commissioning will take place between 2023 and 2026. Implementation of other campus projects is scheduled to begin in 2025, with completion slated for 2026-2030. In 2023, it is also planned to select at least eight campus projects using the PPP mechanism.

1.3 Concessional Loan Facilities

1.3.1 The International Finance Facility for Education (IFFED)

Characteristics

- ➔ **Launch date:** 2022
- ➔ **Type of Project:** Public-philanthropic partnership
- ➔ **Funding amount:** USD 2 billion (initial)
- ➔ **Sector:** Education
- ➔ **Target:** Asia and Africa regions

Key Players

- ➔ United Nations (UN)
- ➔ Asian Development Bank (ADB)
- ➔ African Development Bank (AfDB)

The International Finance Facility for Education is a financing innovation that multiplies donor resources so that countries can make urgent investments in quality education and skills development.

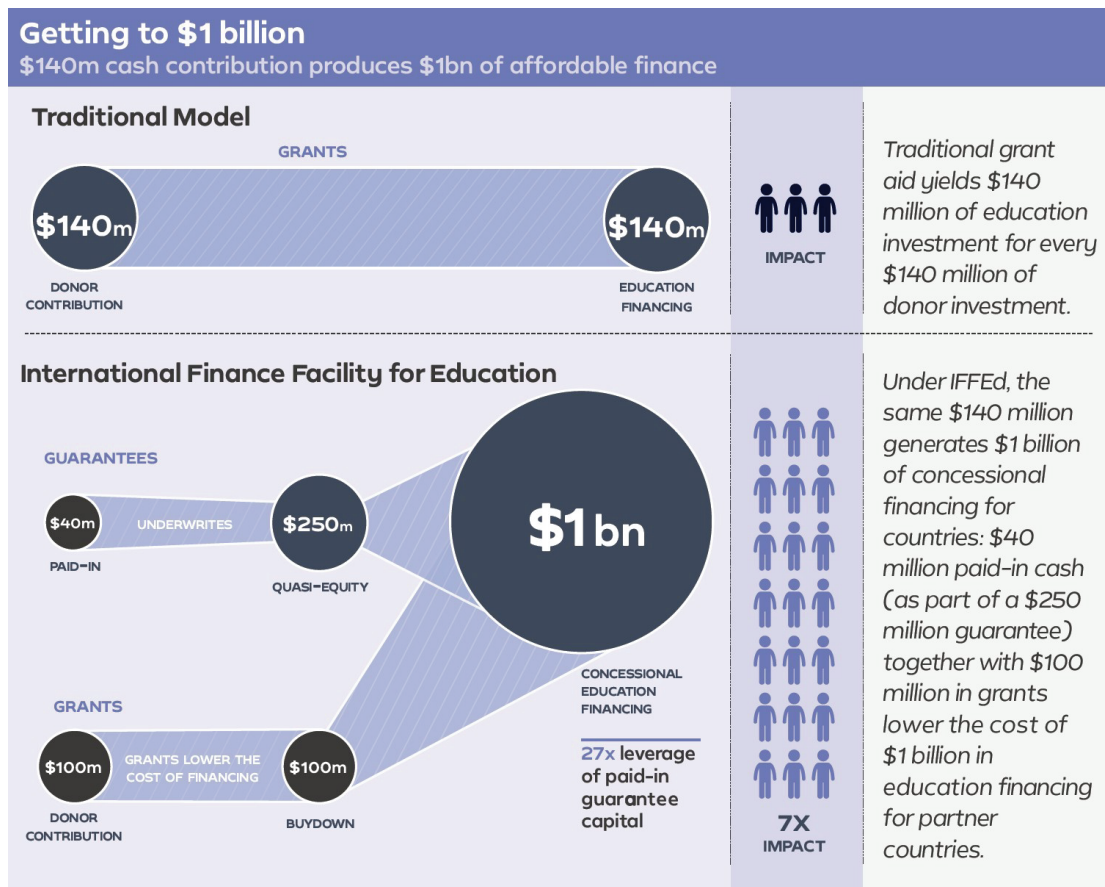
Aim

To help tens of millions of children go to school and prepare youth for the future of work through quality education. The investment will help fill the global education financing gap.

SDG Mapped



Structure



Source: [IFFed](#)

It is a mix of sovereign guarantees and donor grants, to finance affordable education to lower-middle-income countries. The proceeds are invested in affordable education in turn will raise the quality of education. According to International Finance Facility, soft loans- that are loans with no interest or lower than the market rate- to developing countries are critical as the costs of capital facing emerging and developing economies are much higher than that of advanced economies and private finance is insufficient. The funding facility uses guarantees and grants from donors to generate increased education financing by the MDBs and reduce lending terms for borrower countries. IFFED has two funding windows:

- ➔ Grants: IFFED will provide grants to participating MDBs that can then be lent to eligible LMICs at concessional rates for financing affordable educational investment.
- ➔ Guarantees: IFFED will guarantee loan repayments to MDBs from their client countries, effectively providing MDBs with a form of capital that they can leverage four times on the capital markets.
- ➔ Donors only need to provide 15% of total commitments to this window up front in cash, with the remaining 85% provided in the form of a contract to convert commitments to cash if needed to maintain the financial stability of IFFED.

Defining Feature

The fund harnesses the power of MDBs to mobilise resources and implement programs using existing channels, hence, increasing efficiency. Within the first few years of operation, it was able to mobilise USD 10 million in capital, double the existing investments from banks. This implies the scalability of investments.

1.4 Blended Finance

1.4.1 Women's World Banking

Commitment to Gender Equality and Empowerment

KfW, on behalf of BMZ, is dedicated to supporting SDG 5 – Achieving gender equality and empowerment of women and girls. A primary focus area for KfW is enhancing financial accessibility for women, including female entrepreneurs.

Investment in Women's World Banking Capital Partners II (WWBCP II) Fund

On behalf of entities including BMZ, KfW has invested in the catalytic first loss tranche of the WWBCP II fund. The fund's objective is to invest in financial service providers in emerging markets that:

- ➔ Focus on reaching and serving low-income female clients.
- ➔ Prioritize gender diversity within their workforce and leadership roles.
- ➔ Implement innovative strategies to expand customer engagement and reach.

WWBCP II aims to bridge the gender disparity in financial inclusion. It further endeavours to validate the commercial viability of gender-

Learnings

It is a demand-oriented fund to fill in the education financing gap in LICs and MICs. However, it must be kept in mind that lending to education must not increase the countries' debt vulnerability through private debt. Therefore, adherence to principles on promoting responsible lending and borrowing (as prescribed by UNCTAD) is of utmost importance.

focused investing by delivering appealing returns to its investors.

Fund Structure and Financial Mechanisms

WWBCP II operates as a blended finance fund. The initial loss tranche investors provide security, enhancing returns for those in the senior equity and debt tranches. This structure has successfully drawn private investors, pushing the fund's size to over 100 million USD. Complementing the fund is a Technical Assistance Program. Funded by BMZ and the European Commission, this program finances gender assessments for every portfolio firm. These assessments scrutinize strategies targeting the female market and organizational gender dynamics.

Monitoring and Reporting Practices

Besides the financial tracking of its portfolio companies, WWBCP II annually gathers gender-segregated data from each of its Portfolio Companies to assess its stride towards amplified gender equality. This involves:

- ➔ Evaluating portfolio gender performance – understanding financial products offered, client demographics, client terms (like average loan sizes), and portfolio quality.

- ➔ Gathering reports on institutional gender performance, which covers facets like female representation in the firm, employee acquisition, retention, promotion metrics, and remuneration disparities.

Challenges in Scaling and Replication

A significant hurdle in advancing gender equality financing is the availability of catalytic (grant) funds. These funds are crucial for financing the first loss tranche and the Technical Assistance component. Their scarcity poses challenges for both amplifying the existing structure and emulating it elsewhere.

1.4.2 SAMRIDH

Characteristics

- ➔ **Country:** India
- ➔ **Timeline:** 2020-present
- ➔ **Funding amount:** USD 11 million
- ➔ **Sector:** Healthcare
- ➔ **Target:** Vulnerable populations in tier 2 and 3 cities in India

Key Players

- ➔ Atal Innovation Mission (AIM)
- ➔ NITI Aayog
- ➔ US Agency for International Development (USAID)

Opportunity

India's healthcare system needs reinforcement through collaborative efforts from the public, private, and philanthropic sectors. By combining their resources, we can introduce

innovative healthcare models that provide easier capital access. This will enhance the availability of affordable, high-quality healthcare for vulnerable communities in tier-2 and tier-3 cities, as well as in rural and tribal areas.

SDG Mapped



Structure

SAMRIDH (Sustainable Access to Market and Resources for Innovative Delivery of Healthcare) has a robust governance structure in the form of an Advisory Committee, which provides oversight and guides the efficient disbursement of funding, ensuring the funded solutions are sustainable in the medium to long term. The Advisory Committee is constituted of senior bureaucrats, experts from Atal Innovation Mission, NITI Aayog, Principal Scientific Advisor Office of Government of India (GoI), IIT-Delhi, Rockefeller Foundation, and IndusInd Bank.

In the long-term, it aims to strengthen health services comprehensively to improve access to affordable and quality health care for the most socioeconomically vulnerable 40% of the population (approximately 540 million) and build resilient health systems to effectively respond to future health emergencies.

Defining features

SAMRIDH follows a systematic evaluation approach to identify high-impact health solutions and uses blended finance models to mobilize grants and facilitate debt funding support to healthcare businesses. In addition, it has built networks to provide proven health solutions, market access, business

advisory services and technical assistance to advance its expansion and sustainability plans. To implement this multipronged approach, SAMRIDH has catalysed diverse

partnerships with over 100 ecosystem players from the government, financial institutions, philanthropies, incubators, academia, and industry associations.

Results



10.7X LEVERAGE

On development funding mobilized from corporates, philanthropies, and development agencies



11 MILLION

committed from grant pool in 25+ high impact healthcare solutions in 28 STATES



REACHED

30 MILLION POPULATION
1200 healthcare facilities;
15000 medical staff

- ➔ Over USD 11 million committed from grant pool in 25+ high-impact healthcare solutions, reaching 28+ states across India.
- ➔ Through the blended financing solutions, SAMRIDH so far has achieved leverage of 10.7x on development funding mobilized from corporates, philanthropies, and development agencies.
- ➔ Reached over 1200 healthcare facilities, 15000 medical staff and nurses and covered 30 million population through its partners.

Learnings

There's an estimated annual financing gap in the trillions of dollars if we aim to achieve the UN's Sustainable Development Goals (SDGs). Many traditional private investors view bridging this gap as either too risky or yielding inadequate returns. The COVID-19 pandemic has accentuated the urgency of these needs, especially in the healthcare domain. A potential solution is "blended finance", especially for addressing SDG 3 in developing countries like India that face numerous challenges in healthcare capacity and infrastructure.

Although blended finance is only one piece of the solution, initiatives like SAMRIDH are gaining traction in ensuring affordable and quality healthcare services for low-income and vulnerable groups.

1.4.3 The Africa Agriculture and Trade Investment Fund

Characteristics

- ➔ **Continent:** Africa
- ➔ **Launch date:** 2021
- ➔ **Sector:** Agriculture and trade
- ➔ **Type of fund:** Public-private partnership
- ➔ **Funding amount:** USD 146 million

Key Players

- ➔ Founded by: Federal Ministry of Economic Cooperation and Development, Government of Germany, European Commission, KFW Development Bank, DWS Investments International
- ➔ Sustainability Advisor: International Labour Organization

➔ Technical Assistance Facility Manager: Common Fund for Commodities

Aim

To realise the potential of the entire value chain of the agricultural sector in Africa. There is a need to improve food security and generate employment, and, in turn, maximise manufacturing, production, and trade opportunities in Africa.

SDG Mapped



Capital Structure

AATIF uses a 'cascade' approach to raise USD 146 million through an innovative public-private fund. The contribution by private capital is 37% and public capital is 63%. Germany's Federal Ministry for Economic Cooperation and Development (BMZ) invested the first loss tranche of the fund. The first loss tranche absorbs the first losses that the fund faces and ranks the last in repayment. The amount contributed by it is EUR 45 million (USD 49.4 million) with no maturity. This public capital is leveraged to further attract private capital. The second loss tranche, known as the mezzanine layer, has been contributed by KfW and Deutsche Bank. The mezzanine layer ranks above the first loss tranche in repayment but below the senior tranche which includes the private investors. Both have committed EUR 20 million (USD 21.9 million) each with a 10-year maturity. KfW, BMZ, and Deutsche Bank are the anchor investors in the fund.

Defining feature

Every investment made by AATIF has a Technical Assistance (TA) facility. The TA

facility provides grant-based support to research, employee training, and other capacity-building activities. At the moment, 16 countries have 103 TA projects implemented till now worth EUR 6.7 million (USD 7.3 million).

The Fund seeks to track, measure and report on the social and environmental performance of its investments to assess its progress and impact through a set of indicators that measure:

- ➔ Increase in agricultural production and productivity levels.
- ➔ Generation of additional employment opportunities.
- ➔ Investee company outreach to smallholder farmers.
- ➔ Increase in farm and overall household income.
- ➔ Improvement in living and working conditions.

Progress is measured through a three-level monitoring and evaluation framework, which ranges from the analysis of self-reported data of investee companies to rapid appraisals conducted by third parties to long-term in-depth impact evaluations.

Learnings

The first loss tranche using the German government funding attracted additional private funding. Moreover, the fund manager, Deutsche Bank, uses a 50% risk buffer, which is much larger than other sectors (20% in the case of clean energy) (*State of Blended Finance, 2022*). This attracts private investors who are otherwise unwilling to invest in the agricultural sector due to its risk profile.

1.5 Social Stock Exchange

1.5.1 Jamaica Social Stock Exchange (JSSE)

Characteristics

- ➔ **Country:** Jamaica
- ➔ **Launch date:** Early 2019
- ➔ **Organizations raising funds through the JSSE:**
 - Agency for Inner City Renewal (AIR) (the JaMIN Tours division)
 - Alpha Institute
 - Choose Life International
 - Deaf Can!
 - Spring Praise Jamaica

Structure

JSSE was jointly formed by Jamaica Stock Exchange (JSE) and the Inter-American Development Bank (IDB) which provided USD 910,000 as a part of the CSR activity of the JSE. JSSE is housed as a subsidiary under JSE. The JSSE plans to set up two social capital markets in two phases:

- ➔ Jamaica Social Investment Market (JSIM) in the first phase works as a platform for attracting charitable contributions for social enterprises to create impact. The returns here are 'the feel-good factor or social returns. The JSSE has raised JMD 50 million (USD 323,694) in 3 years of its operation, and it is expected to attract 20 projects in the next 5 years.¹⁷ It has also been instrumental in raising funds during the pandemic to help MSMEs. Jamaica

currently has grant-based instruments but intends to expand to equity and debt in the later phases.

- ➔ Jamaica Impact Investment Market (JIIM) is in the second phase, where social enterprises are listed as profitable businesses and equity is traded for profit. Here, there is a combination of returns in the form of dividends as well as social impact.

Learnings

- ➔ Most SSEs around the globe have impact areas that are targeted. For instance, JSSE targets health, environment and social development including employment of people with disabilities.¹⁸ They also align this with their national development plan, Vision 2030.
- ➔ It is seen that causes supported through the SSEs are inclined towards revenue-generating projects such as clean energy.¹⁹ To expand the scope of SSEs, it is important that SSEs remain independent by strengthening decision-making chains through good leadership. For instance, the JSSE has an independent board and team.
- ➔ To align investors with SDGs beyond green, the country must create awareness for companies to increase philanthropic contributions. Merely allocating mandatory CSR funds is not sufficient. Consistent efforts on behalf of the country, regulators, as well as companies, need to

¹⁷ <https://www.jamaicaobserver.com/news/jsse-anticipates-future-growth/>

¹⁸ <https://www.samhita.org/wp-content/uploads/2021/03/India-SSE-report-final.pdf>

¹⁹ <https://idronline.org/social-stock-exchange-what-india-can-learn-from-global-examples/>

be made to channelise these CSR funds into creating lasting impact. For example, Jamaica's small and medium enterprise policy was recently amended to include social enterprises, which would help recognize social enterprises as a special category of enterprises. The Jamaica National Foundation and USAID have jointly launched an initiative called the Social Enterprise Boost Initiative (SEBI) to create an enabling environment for social enterprises to help shift from a grant-based organization to a profit-making one.²⁰ Moreover, legislation such as The Social Enterprise Act is well underway, which will allow these entities to offer shares for sale.²¹ The legislation proposes to protect the ownership rights of social enterprises as well.

- ➡ To run an SSE based on a viable business model, it is important to identify revenue streams to fund the SSE's operation apart from listing charges. For example, Jamaica aims to establish a self-sustaining revenue model by using 10 per cent of the funds raised by organizations listed on the SSE.

It is, therefore, important for countries, regulators, and social enterprises to work in tandem and channelise philanthropic funds to create lasting impact.

1.5.2 India's Social Stock Exchange

The voluntary organizations in India vary widely in terms of objectives, action plans and legal structure, and they are an important constituent towards achieving SDG goals. NITI Aayog in its SDG India Index and Dashboard for 2020-21 observed that *"civil society organizations bring to partnerships a lot of substance such as presence at the grassroots*

and proximity to people, social capital born out of people's mobilisation, public discourse centred around rights and entitlements, context-responsive local knowledge, and problem-focused innovations." Most voluntary organizations are not-for-profits and are heavily reliant on benefactors that share the inclination to achieve social impact in the area of operation of the voluntary organization. Social enterprises also take the form of for-profit organizations. Such organizations are focused towards providing positive social returns through their operations which are revenue-generating and may be profitable.

Unlike typical financial investments, investments in social enterprises, especially, voluntary organizations, rely heavily on the "trust factor" and "area of operation" from the perspective of the benefactor. While the "area of operation" is something that is governed by the likings and passion of the benefactor, the trust factor is a function of various determinants such as leadership, scale of operation, track record, reporting on social impact, and transparency in administration. Any negative deviation in these determinants leads to a trust deficit thereby resulting in poor investments in social enterprises.

India has set up a platform - the Social Stock Exchange (SSE) under the aegis of existing Stock Exchange(s) and the Securities and Exchange Board of India (SEBI – India's capital market regulator), to enable non-profit organizations (NPOs) and for-profit social enterprises (FPEs) to raise funds within the securities market domain.

The SSE aims to provide a disclosure-based regime for fundraising by the social enterprise(s). It provides increased visibility for social

20 <https://islandinnovation.co/articles/positioning-small-island-economies-for-growth-through-impact-investments-lessons-from-the-jamaican-economy/>

21 <https://www.jamaicaobserver.com/news/jsse-anticipates-future-growth/>

enterprises and ensures efficient channelization of capital towards entities which demonstrate delivery of social impact. A mandatory audit of social impact by social auditors is one of the key features of SSE. Further, to assist voluntary organizations navigate the process of fundraising methods on SSE, a separate capacity-building fund has been instituted under NABARD (a developmental agency under the Government of India) with contributions from other developmental agencies and Stock Exchanges. Some of the key features of SSE in India are as under:

- ➡ SSE is to be housed under the existing stock exchanges with a separate governing body having participation from the social sector. The structure of governing body of the SSE ensures that it can leverage the infrastructure and human capital of the Stock Exchange while being open to the requirements of the social sector.
- ➡ A social enterprise which is a non-profit can raise money through a public issuance of an instrument termed "Zero Coupon Zero Principal". The instrument offers a promise of social return and no financial return to the investor.
- ➡ A non-profit raising money through SSE has to publish a "fundraising document" on the website of SSE. A fundraising document is a comprehensive document covering aspects of the nonprofit such as vision, target segment, strategy, risks, governance, management, finance, compliances, and past social impacts. After the fundraising, the non-profit would also be required to disclose audited social impact among other details such as a quarterly statement of utilisation of funds raised through SSE.
- ➡ A non-profit may also merely register with SSE to signal donors about their compliance level without raising any funds. Such registered non-profits would annually disclose their audited social impact.
- ➡ As on July 24, 2023, the SSEs at NSE and BSE have registered 17 non-profits each. Several of these registered entities are in the process of filing their fund-raising document with the exchanges to raise funds through the public issuance of ZCZP. The fundraising document would be available in the public domain for 21 days before the non-profit can begin raising funds.
- ➡ The Capacity Building Fund has been tasked with hand-holding non-profits to understand the structure and process of SSE. They shall also support non-profits in covering the costs of some aspects of fundraising such as documentation, social impact, and listing charges.
- ➡ SSE also offers structured finance products – i.e., Development Impact Bond (DIB). In a DIB, an Alternative Investment Fund acts as an intermediary and raises funds from risk investors which is used to implement a social impact project through non-profits. Upon validation of the social impact by a third-party evaluator, the outcome funder provides funds which the AIF uses to provide returns to the risk investor.

1.6 Impact Investing

1.6.1 Big Society Capital

Background

Big Society Capital (BSC)²² was launched in 2012 by the UK Government as the world's first social impact investment wholesaler, and to drive the development of the social investment market. It aims to deploy capital at scale to help tackle a wide range of social issues in the UK, including poverty/inequality reduction, providing safe housing, tackling gender inequalities, improving health and wellbeing, improving educational outcomes for young people, and driving sustainability (including clean energy).

Utilising social impact investment through BSC has maximised the use of private finance for social goals. A range of instruments have been drawn upon to deliver this, such as social lending (including utilising debt, blended finance, tax reliefs, and guarantees), social outcomes contracts and impact venture investments (equity). As a social investment wholesaler, BSC invests in investment intermediaries (such as fund managers and social banks) who in turn invest in social enterprises, charities and social purpose organisations delivering the outcomes described above. This has allowed more impact funds to be recycled into an ever-growing number of organisations. Previously many of these organisations relied on repeated government grants, whereas now more are developing their own revenue streams using social investment [now valued at GBP 8 billion (USD 10.1 billion) in total market size].

BSC Project Example 1: Tackling fuel poverty while protecting the environment through community acquisition of renewable energy assets

The approach of BSC's renewables funding has been to invest through specialist fund managers and intermediaries which are helping local communities acquire renewable energy projects. For example, enterprise debt investments have been made by BSC via programmes such as Community Owned Renewable Energy Partners (CORE). CORE is a financing facility that provides capital to fund the purchase and development of solar farms, help optimise their cash flow, and then provide the financing for local communities to acquire them. This enables local people to generate their own energy and reinvest the profits to benefit local people through local projects.

The broader community energy sector has grown rapidly over the last decade with BSC investments playing a major role in this growth. BSC-supported projects accounted for more than half (56%) of community energy generation at the end of 2019. This was achieved by drawing down £90.2 million from BSC alongside a further £30.6 million from other investors. Through the 23 large projects supported, an estimated 382,000t of CO₂ has been avoided (2020 figure), and a range of SDGs have been supported:

22 Big Society Capital Impact Report 2020
https://bigsocietycapital.fra1.cdn.digitaloceanspaces.com/media/documents/Impact_Report_2020.pdf
 Big Society Capital Ten Years of Investing for Impact
https://bigsocietycapital.fra1.cdn.digitaloceanspaces.com/media/documents/Big_Society_Capital_Ten_Years_of_Investing_for_Impact.pdf

SDGs Mapped



BSC Project Example 2: Providing affordable, safe, secure homes for vulnerable women

The Women in Safe Homes fund provides affordable, safe, secure homes across the UK for women who: are experiencing homelessness; are survivors of domestic abuse; used to be in prison; or have other complex needs. It acquires homes and leases

them to charity partners, with a specific focus on working with specialist women's sector organisations. Big Society Capital provided a £10 million cornerstone investment to help start the initiative with the intention to bring in other investors alongside. The fund is aiming to provide 650 affordable homes, and house 6,000 vulnerable women.

SDGs Mapped



1.6.2 Aavishkaar Capital

Characteristics

- ➔ **Country:** India
- ➔ **Founded:** 2001
- ➔ **Sector:** Investment management: Early-stage investing, Venture Capital, Impact Investing, and Micro-equity Investments
- ➔ **Target:** To invest in entrepreneurs building sustainable enterprises that can catalyse development impact for excluded communities and remote geographies across the globe

In 2001, Aavishkaar Capital pioneered the venture capital approach of investing in early-growth stage enterprises in India with a focus on often overlooked and challenging geographies and sectors. Today, it has closed six funds and has USD 500,000 in assets under management.

Along with its core objective of delivering commercial returns to its investors, Aavishkaar Capital creates livelihoods, reduces vulnerabilities, and provides access to essential products and services to the target population through its investments in ambitious and innovative entrepreneurs.

Its investment strategy has evolved over the years to include other emergent geographies in addition to India - Emerging Asia and Sub-Saharan Africa- with a focus on three core sectors, namely, financial inclusion, food & agriculture, and essential services.

Investment Approach – “sow-tend-reap”

The firm seeks to invest in businesses which meet the following criteria:

- ➔ Operations focused on the targeted demographics of the emerging 3 billion population.

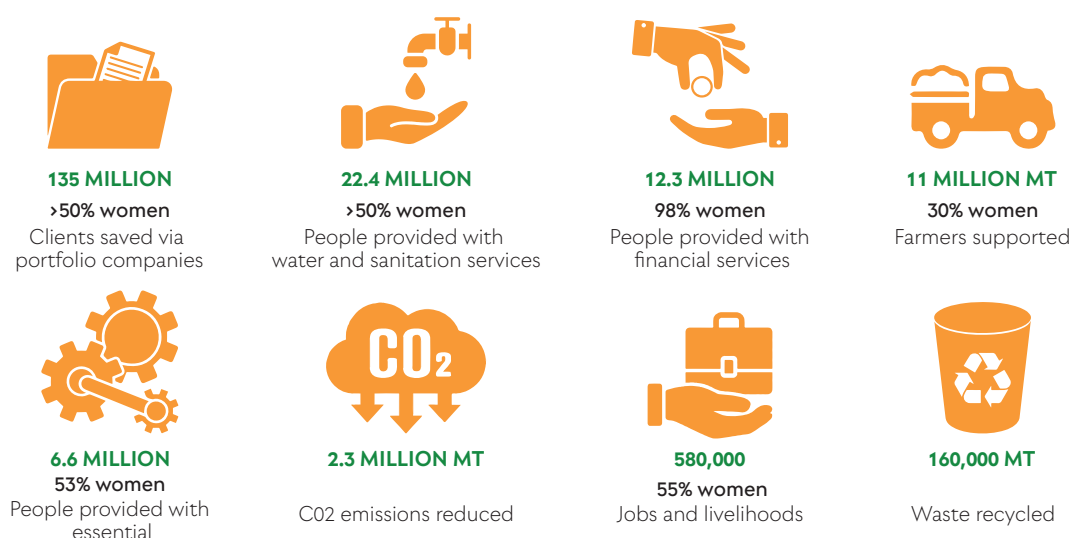
- ➔ A business model with the potential to scale significantly within 4 to 5 years.
- ➔ Strong management team with the ability to capitalise on the market potential.

To achieve its goals, the firm follows a multi-stage ‘sow-tend-reap’ investment strategy which supports businesses across the growth spectrum, from seed to growth stages, while building a portfolio with a balanced risk-return profile. With an active investment style, the Firm supports the investee companies in building their capacity for growth by advising on strategy, governance, operational processes, human resources, and fundraising.

Impact

Success Cases backed by Aavishkar Finance

Figure 7 Impact



i. AgroStar

Characteristics

- ➔ **Founded:** 2013
- ➔ **Sector:** AgriTech

- ➔ **Headquarters:** Pune, Maharashtra, India

- ➔ **Investors:** Aavishkaar Capital; Chiratae Ventures; Accel; Bertelsmann Investments; Rabo Frontier Ventures; IFC; Schroders Capital; Hero Enterprise; British International Investment; Evolve India

Problem

Farmers in India have small farm holdings (86% of farms are less than 2 hectares) resulting in lower incomes for farmers. The challenges for farmers are further accentuated by lower yields due to a lack of access to scientific agronomy services and to genuine quality inputs at fair prices as the traditional supply chain network for delivering farm inputs is characterized by the presence of multiple layers of intermediaries.

Opportunity

The founders of AgroStar understood that these challenges not only lead to low-quality products getting introduced in the chain but also a significant escalation in prices. Therefore, inspired by the e-commerce-based solutions available in urban cities, the founders decided to attack rural problems with a replica of such innovative models.

AgroStar is today the largest mobile-based agri-solutions platform for Indian farmers and uses agronomy, technology, and data to solve systemic issues in farming practices and agri-inputs supply chain. It encompasses three main elements: e-commerce, agronomy knowledge, and social network.

SDGs Mapped



Structure

Agrostar's services are divided into four categories²³: farm advisory solutions, agri inputs, omnichannel access, and market linkages.

Farm Advisory Solutions: The company has built a strong Agronomy tech stack, which with machine learning makes the advisory stronger every day. It enables scientific information to be given on demand to the farmer. This information can be accessed through the following channels:

➔ AgroStar App

➔ Agri Advisory Centre

Agri inputs: Over the years it has begun to partner with reputed players in the agri input space and made a wide range of products available to all farmers. This is facilitated by the company's tech-enabled fulfilment centre and its last-mile delivery network, which consists of more than 300 partners.

Omnichannel access: AgroStar has aligned its offline and online channels in a way that makes it easier for farmers to join and then continue interactions throughout their crop lifecycle. In addition, to its digital channel, it has an offline presence in over 1000 stores across five states in India.

Market linkages: The AgroStar ecosystem enables the procurement of farm produce from farmers and provides direct access to the best buyers, thereby creating avenues for farmers to fetch the best rate for their output. Its in-house tech capabilities allow the identification of farmers at scale and link them forward to the right customers (domestic or export).

Defining Features

➔ Access to the largest digital farmer network in the country to increase supply across 30 fruits and vegetables.

23 <https://www.corporate.agrostar.in/>

- ➔ An integrated supply chain powered by technology, data science, infrastructure, SOPs, and a logistics network.
- ➔ Clear visibility around supply through historical and live farm data coupled with weather forecasts to build a predictive model on the back of data science and machine learning.
- ➔ Real-time demand visibility and better prices for farmers, and fresh produce at competitive prices with better traceability to buyers.
- ➔ Reduction in agriculture wastage and better food accessibility to consumers.
- ➔ “Helping farmers win” by improving their incomes.

Results²⁴

AgroStar is today India’s largest farmer-centric digital platform, through which over seven million farmers have been able to go digital, grow better, and sell their produce globally across 25 countries. Its solutions have helped farmers in remote parts of India solve problems related to pests and disease, increase their yields from 30 to 100%, and reduce their cost of production by up to 25%.

AgroStar has enabled smallholder farmers to increase their yields by 30-100% by providing real-time agronomy advisory and access to quality farm inputs. It is now focussing on evolving to an omnichannel strategy, has already established a footprint of over 3000 stores across its target geographies, and has also built India’s largest Agri-Advisory Centre. Further, through a recent acquisition of INI Farms, one of the largest horticultural exporters from India, AgroStar is now also helping farmers with market linkages, thus building a comprehensive full-stack solution

model for the Indian farmers.

1.6.3 Nepra

Characteristics

- ➔ **Founded:** 2006
- ➔ **Sector:** Waste management services
- ➔ **Headquarters:** Ahmedabad, Gujarat, India
- ➔ **Investors:** Aavishkaar Capital; Circulate Capital; Asha Impact

Problem

India generates 185,000 metric tonnes of waste per day and yet most of its existing waste management businesses have a “lifting and shifting” model which consists of transporting waste to a landfill site in exchange for a tipping fee paid by the local municipality. These models were not fundamentally addressing the underlying issue of waste management and only adding to the problem of growing landfills.

Opportunity

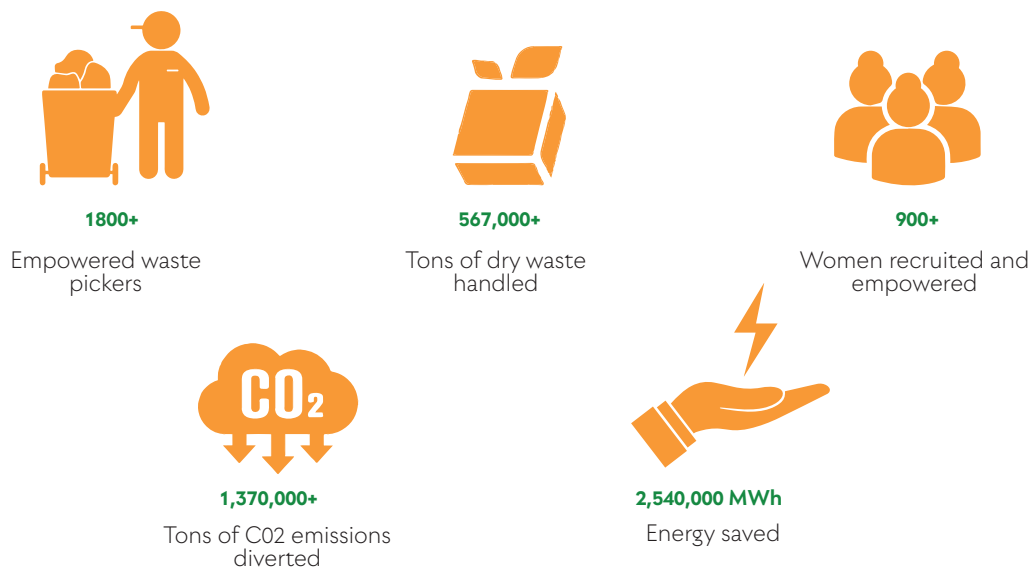
Nepra aimed to solve this complex social problem and created a unique business model which was predicated on sales to private recyclers. The company is involved in building an organized and reliable dry waste (recyclables) supply chain by connecting generators and collectors of waste (informal channels) to recyclers and leveraging technology to collect, handle, segregate and perform value addition on multiple dry waste streams.

SDGs Mapped



Results

Figure 8 A close-up on the number of energy savings



1.6.4 Ergos

Characteristics

- ➔ **Founded:** 2012
- ➔ **Sector:** AgriTech
- ➔ **Headquarters:** Bengaluru, Karnataka, India
- ➔ **Investment of USD 16 million by:** CDC Group; Chiratae Ventures; Aavishkaar Capital; British International Investment

Problem

First, almost 86% of farmers in India are small and marginal farmers who lack the resources

and knowledge to adequately store their produce, leading to post-harvest grain loss and deterioration of grain quality.

Second, most farmers in India also farm on small pieces of land and their yearly turnover remains small. At the moment, pre-existing warehouses are located near 'mandis' and cater only to farmers who have much larger yearly grain produce. This led to a huge loss of produce owing to poor storage and exploitation by traders.

There is a need for financial services which can help liquefy cash easily for farmers.

Opportunity

Therefore, two entrepreneurs from Bihar came up with the idea for Ergos, a technology-enabled marketplace focused on establishing market linkages for farmers, end buyers, and banks through grid-of-micro-warehouses at the farm gate. It is a transformational platform for farmers, which leverages technology to seamlessly provide custodial services (warehousing), loans (warehouse receipt financing) and liquidity (market linkages) to enable farmers to convert their produce into financial assets.

the end-to-end process and operations, starting from farmer onboarding to final sale. The process of capturing farmers' data, booking warehousing space, sale of grains or availing credit happens digitally on the Ergos Live platform. Farmers can easily access their digital inventory and the ability to check the current offer price and make transactions is just one call or click away.

According to BuiltWith, at the moment Ergos is actively using 22 technologies for its website, which include Viewport Meta, iPhone/Mobile Compatible, and SPF.

SDGs Mapped



Structure

Ergos' on-ground operations are backed by a comprehensive tech platform which assists

The process begins with farmers registering on the mobile/web app and booking space in the grain bank for storage. Their grains are inspected for quality at the warehouse, and deposited into the grain bank if deemed of sufficient quality, and all information about these is then digitized, thus making these grain bags fungible. Farmers will then have easy access to their digital inventory, as well as the ability to sell units of grains online and avail direct credit against these stored grains.

Impact

Figure 9 Impact



According to the founders of this company, Ergos has a few differentiating factors²⁵:

- Economic impact: Ergos promotes increased volume of sales, increased yield, increased market access, increased access to credit, reduced transaction cost, reduced production cost and allows for higher product prices thereby improving the profitability of farming ventures and imparting higher standards of living.
- Environmental impact: Ergos enables increased efficiency in agrochemical use and increased access to agricultural information services in real time.
- Social impact: The company allows for increased women participation, increased youth participation, improved social capital, increased economic mobility, enhanced social inclusion, improved social equity, and enhanced social well-being.
- Technical impact: Ergos promotes increased technology adoption, improved information dissemination, increased labour demand, increased need for agricultural extension agents and better support for extension agents.
- Therefore, impact on overall efficiency: Ergos promotes an increase in efficiency by 26-50%.

Results

In an interview, Ergos' co-founders mentioned that the company has garnered USD 17 million during its first year and has a presence

of 337 locations across various states. The high adoption of the GrainBank app among farmers in Bihar has boosted their confidence to replicate the model in UP, Karnataka, and Maharashtra within six months of the launch with 50% occupancy through farmer adoption. It expects to garner USD 242 million in the next year and expand its footprint to 650 locations²⁶.

1.6.5 Acumen India

Characteristics

- ➔ **Country:** India
- ➔ **Founded:** 2001
- ➔ **Sector:** Investment management: Early-stage investing, Venture Capital, Impact Investing, and Micro-equity Investments
- ➔ **Target:** To invest in entrepreneurs building sustainable enterprises that can catalyse development impact for excluded communities and remote geographies across the globe

Acumen raises philanthropic funds to invest patient capital in business models that deliver critical goods and services to the world's poor. Since 2001, Acumen has been working toward improving the lives of millions by investing in companies and entrepreneurs providing agricultural inputs, quality education, clean energy, healthcare services, formal housing, safe drinking water, and sanitation services to low-income customers in India, Pakistan, East Africa, West Africa, and Latin America.

25 <https://focusagritech.com/ergos-grainbank-positive-impact-on-the-agri-tech/>

26 <https://timesofindia.indiatimes.com/ergos-the-grainbank-eyes-up-to-rs-2000-cr-revenue-by-fy24/articleshow/90940808.cms>

Success cases backed by Acumen India

i. Haqdarshak Empowerment Solutions

Characteristics

- ➔ **Founded:** 2016
- ➔ **Sector:** Social entrepreneurship
- ➔ **Headquarters:** Bengaluru, Karnataka India
- ➔ **Investment of USD 16 million by:** CDC Group; Chiratae Ventures; Aavishkaar Capital; British International Investment

Problem

The Indian government spends over 7% of its GDP on welfare services but there still remains a huge gap in the demand and supply, resulting in unspent funds. For this, information asymmetry, accessibility, mobility, and literacy are the major reasons.

Most people working in urban and semi-urban areas are employed informally. They have no written job contracts, no regular salaried work, and are often employed casually through job contractors, subcontractors, and temp agencies. Several attempts to formalize informal work have been made and are underway but the on-ground reality depicts that most urban workers (62–85% of them) have no access to benefits.

Aim

Haqdarshak works with the aim that every citizen and MSME of India will have last-mile access to government welfare and financial

services. This is done through a mobile and web SaaS platform for corporate partners complemented by a training platform used by community women entrepreneurs. The company uses technology to bridge the information gap by digitizing and codifying welfare schemes data on the platform thereby building a rich repository of government services in local Indian languages.

SDGs Mapped



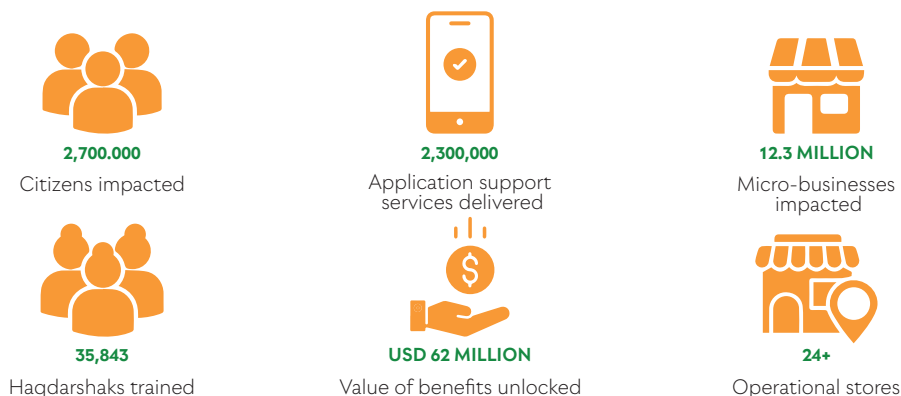
Structure

Haqdarshak operates through a network of rural women sales agents, or “Haqdarshaks”, who travel door-to-door to determine individuals’ eligibility for government benefits free of charge and by using its mobile app. Once customers know which benefits they are eligible for, they can choose to apply for them on their own or pay a small fee to their Haqdarshak to apply on their behalf. The platform also partners with large companies and MSMEs to provide support to their informal workers.

The company is currently piloting its new product called “Yojana Card” to build a scalable and customer-paid business model. The product acts as a debit card that comes with complimentary screenings for social security by Haqdarshak – and follow-on services for those interested in availing themselves of social security.

Results

Figure 10 Impact of Haqdarshak



In four years Haqdarshak has helped 270,000 beneficiaries with welfare schemes, impacted 350,000 families, and channelled USD 62 million in benefits value. It currently covers over 6,000+ schemes and is present in 19 states. The company has also recently launched the Haqdarshak app on the Google Play Store and another one of its most recent initiatives includes the launch of its MSME-focused platform to offer application support services to them to apply for eligible welfare schemes.

ii. S4S Technologies

Characteristics

- ➔ **Founded:** 2014
- ➔ **Sector:** AgriTech and food processing
- ➔ **Headquarters:** Mumbai, Maharashtra, India
- ➔ **Investors:** USAID; FICCI; Shell Foundation; DBS Foundation; Factor[e] Ventures; Ag Funder; CEEW; Ashden; University of Cambridge; UN Women; Foreign, Commonwealth & Development Office; Acumen India

Problem

Wastage of food is a serious issue in India. 20-30% of 74 million tons of fruits and 143 tons of vegetables harvested every year in India are wasted due to post-harvesting mismanagement and lack of storage facilities between the farm gate and the consumer. Due to this, the shelf life of fruits and vegetables is reduced, and the nutritional value of the food is also lost.

Opportunity

S4S Technologies, therefore, developed the Solar Conductor Dryer, a device that aids the storage and helps to extend the shelf life of farm produce by about six months without resorting to preservatives or artificial additives. This includes meats, seafood, and spices in addition to a wide range of harvested crops, fruits, and vegetables.

The solar dryer also consumes less energy and emits less carbon emissions than regular dryers and refrigeration devices. The equipment is particularly useful when food must be transported over long distances or for the purpose of creating healthy packaged foods.

SDGs Mapped



Structure

Working with the Indian government and NGO partners, the company has installed dryers in farming communities in Maharashtra. Under its 'buy-back' mechanism, S4S Technologies buys suitable crops from local farmers and trains agricultural entrepreneurs, usually landless women farmers, to dry them. It then aggregates the dried produce, does secondary processing at its own factory, and sells the final product to the food and beverage industry, consumer goods companies, distributors, hotels, and restaurants.

In this way, S4S technologies eliminate waste, act as a guaranteed buyer, and enable farmers to create a higher-value product.

Results

Since its inception, the solar conductor dryer has been installed in 1,200 sites and is used in France, Jamaica, Nepal, Vietnam, Sri Lanka, Kenya, and Bangladesh, apart from India.

The dryers create end products of the highest standards, meaning S4S is able to sell to major food industry customers and guarantee income for farmers and drying entrepreneurs. The dryer cuts processing time by up to 40% compared to other dryers and is half the cost of equivalent solar dryers when measured by output.

The company works with local NGOs who are already deeply embedded in the community to identify, train, and support agricultural entrepreneurs, boosting their business and technical skills. Entrepreneurs can earn a meaningful amount of money and it is often the first time they have had their own source of income. This has led to improvements in quality of life, empowerment, and children's

education. In a small number of cases, solar conduction dryers replace coal or electric dryers, making an important CO2 saving.

a. Kheyti

Characteristics

- ➔ **Founded:** 2015
- ➔ **Sector:** Food and AgriTech
- ➔ **Headquarters:** Hyderabad, Telangana, India
- ➔ **Investors:** Mulago; Sophia Akash Foundation; Acumen India; Cartier Philanthropy; Hampshire Foundation; Draper Richards Kaplan Foundation; Satila Foundation; Ceniath; Peery Foundation; Futura Foundations; The Elevate Prize

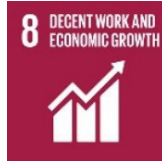
Problem

Eight in ten farmers across the world are smallholders. Similarly, 86% of farmers in India have small farm holdings (less than 2 hectares) resulting in lower incomes for them, despite their importance when it comes to food production for rising populations (they provide 66.6% of food produced around the world). They are also one of the most severely hit groups by climate change but often do not have access to solutions because of high costs.

Opportunity

Kheyti has designed and implemented low-cost technological farming solutions that will help small farmers increase the yield and predictability of produce. It has introduced a "Greenhouse-in-a-box", which is an affordable, modular greenhouse bundled with full stack services that use 90% less water, grows seven times more food and gives farmers a steady dependable income.

SDGs Mapped

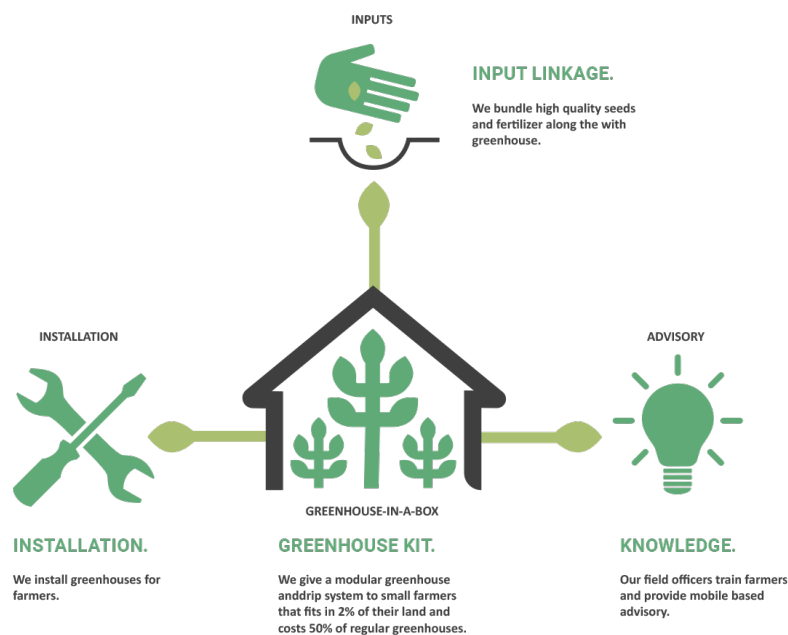


Structure

Kheyti's services are end-to-end, from input resources to market access for produce. The process (image below) begins with input

linkage: the company installs the greenhouse along with a drip irrigation system and facilitates access to high-quality seeds and nutrients for the farmers. This is accompanied by loan linkages or help to access affordable loans to purchase the greenhouse, as well as advisory help in which field officers train the farmers and provide them with mobile-based advisory. Lastly, Kheyti ensures that the farmers can sell their produce lucratively at the farm gate or to large grocery retailers.

Figure 11 Greenhouse-in-a-box



Source: www.kheyti.com

Kheyti is one of the first companies to offer a greenhouse "Dealership Model", which will help the company grow and dealers set up an innovative new business with good margins.

Impact

Kheyti recently won the GBP 1 million (USD 1.2 million) Earthshot Prize, founded by Britain's Prince William, and dubbed the "Eco Oscars". Its results were deemed "dramatic"; plants in the greenhouse require 98% less water than those outdoors and yields are seven times higher. 90% cheaper than a

standard greenhouse, they are doubling farmers' incomes, helping them invest more in their farms and their children's education, as well as using less water and fewer pesticides to protect the planet.

The company is currently working with 1000 farmers in six states of India. It has 1500 farmers enrolled in the program today and aims to reach 50,000 farmers by 2027.

Impact Investing Learnings

Aavishkaar Capital and Acumen India are

both extremely successful impact consulting companies and innovation and understanding of low-income beneficiaries is core to both of their investment strategies. They have a joint objective to increase access to capital for early-stage businesses, enabling them to transition from proof of concept to growth in their operations. Both of their proven track record in delivering impact position them as a preferred co-investing partner with a proven ability to facilitate greater financial support to

India's innovative entrepreneurs in businesses across sustainable agriculture, financial inclusion, and essential services.

Examples such as AgroStar, Nepro, Ergos, Kheyti, S4S, and Haqdarshak demonstrate these two companies' pioneering approach and capability to invest in new business models and to mentor promoters in spaces that mainstream investors cannot. There is a lot that upcoming companies in the same field can learn from their experiences.

1.7 Investment Fund

1.7.1 Ma'an Social Investment Fund

Description

The [Ma'an Social Investment Fund](#) was established in 2019 by the Department of Community Development in Abu Dhabi to provide a sustainable source of funding to enhance social cohesion with a focus on improving health, employment and education, community cohesion and access to housing for the underprivileged within the UAE. The target beneficiaries of the initiative include the elderly, People of Determination (PoD), unemployed, and socially challenged families.

Ma'an promotes an enabling environment to finance the identified Sustainable Development Goals (SDGs) by essentially acting as a centralized voice of government for social entities seeking resources. This is through collaboration with the private and third sectors, in the form of Corporate Social Responsibilities (CSRs) and innovative social solutions, to address some of the social challenges faced in the UAE. The key stakeholders involved in the initiative include private corporations and governmental social, health and educational entities.

Mapped SDGs



Impact

The Impact is a critical component in the design and selection of initiatives, programs and projects through which the Ma'an Social Investment Fund provides support and funding to Social Enterprises (SEs) and Non-Governmental Organizations (NGOs) /Non-Profit Organizations (NPOs). Ma'an

consistently seeks to identify and map how these may meaningfully address, and ultimately feed into, one or more relevant SDGs. The impact of these initiatives, programs and projects is assessed based on a combination of quantitative and qualitative measures including but not limited to post-

intervention interviews with beneficiaries.

Ma'an adopts several financial instruments to finance its projects and programs. These include social investment bonds, the incubation of social enterprises, social contracts, and direct grants. Ma'an relies on blended finance solutions to support the maximization of the social impact investment market, especially the social investment bond solution which is outcome-based.

Ma'an's fundraising activities allow community members across the Emirate of Abu Dhabi to enable third-sector organizations to support a number of social priorities aligned with the Government's ongoing commitments, in turn contributing to Abu Dhabi's vision of a collaborative and participatory social ecosystem and inclusive society. Donors who wish to make contributions can select the 'Social Investment Fund' option on the Ma'an app or website which enables Ma'an to distribute funds accordingly based on specific areas of need.

Challenges

Ma'an provides funding, through the Social Fund, to SEs and NGOs/NPOs, whose projects typically and ultimately may address a number of SDGs. One of the challenges they see in the marketplace is the lack of willingness of traditional and common financing institutions (e.g. Banks) to fund projects by SEs and NGOs/NPOs, due to the nascent nature of the third sector in the UAE and the perceived risks. However, Ma'an has been seeking to fill this funding gap, and they expect the third sector access to traditional finance sources to improve over time.

As the third sector is still relatively nascent in the UAE, the Ma'an Social Investment Fund's ability to provide funding through the sector entities, to address challenges, is limited by the relatively low (although growing) number

of third sector entities, and, in turn, the limited capability and capacity of many such entities to initiate programs and projects that may receive funding from the Social Fund. These factors prevent the replication and scaling of the solution highlighted in this case study.

Outcomes

Since its inception, Ma'an has received [USD 130.93 million \(AED 480.9 million\)](#) in contributions from individuals and organizations. Ma'an has allocated a [total of USD 46 million \(AED 168.9 million\)](#) for various social priorities, representing [35.1 per cent](#) of the total financial contributions received by the Authority from different institutions and individuals.

Projects that have received funding include:

- ➔ People of Determination Wellbeing enables PoDs to have access to dedicated welfare facilities and drive integration.
- ➔ Mental Health Wellbeing educates the community on practices that improve the mental well-being of all.
- ➔ Together For Every Orphan provides those without families to have opportunities to receive care and needed attention.
- ➔ Juvenile Care Program looks to optimize growth and rehabilitation through hands-on activities.
- ➔ Community Parks drive the urban development of community parks throughout the capital.
- ➔ Accessible Healthcare ensures people are able to access consultations and health tools regardless of financial situation.
- ➔ Social Schools funds operations which provide quality learning and opportunities for those in low-income families.

- ➔ Supporting Student Education focuses on students who may have been excluded due to financial issues and stops them from falling behind.
- ➔ Save The Planet drives messaging on reducing waste and promoting sustainable ecotourism.
- ➔ Keep Smiling looks to provide free and safe corrective surgery for those with cleft conditions.
- ➔ Senior Citizens & Residents look to enhance the livelihoods of seniors through an array of programs.
- ➔ Enabling Deaf Communities looks to improve communication skills between those with hearing impairments and those without.

- ➔ PoDs Education Support provides learning support for those who need it.

The financial allocations made by Ma'an for various social programmes and initiatives delivered a significant positive impact on the lives of 695,000 citizens and residents across Abu Dhabi, representing 24 per cent of citizens and residents across the Emirate of Abu Dhabi.

The outcomes of Ma'an's initiatives include an increased number of beneficiaries, improved outcomes for beneficiaries, corporate requests for targeted corporate social responsibility projects, and growth in the number of social enterprises seeking support from Ma'an.

1.8 Microfinance Facilities

1.8.1 Chongho Bridge

Background

Chongho Bridge (CHB) originated in 1996, as one of the first nonprofit organizations to offer microfinance in China that was piloted under a World Bank micro-credit project. It was officially taken over in 2000 by the China Foundation for Poverty Alleviation, a non-governmental organisation supervised by the State Council, with a vision to provide accessible and sustainable financial services in rural areas. CHB's endeavour is to bring the underbanked population in rural China into the formal financial system, which will enable previously excluded individuals and enterprises to access economic products and improve livelihoods.

The mission of CHB complements the Chinese government's agenda for rural development in its fourteenth five-year plan (2021-25). China has made great strides in financial inclusion, especially given the government's focus on

poverty alleviation, and achieving common prosperity. The country has now developed a robust financial infrastructure that has reduced information asymmetries between lenders and borrowers. CHB is furthering the government mandate by extending the reach of financial services to previously underserved segments. CHB's borrowers are primarily underbanked populations in rural China with no collateral, 80% of whom are first-time borrowers, with no one who can guarantee their loans. Because of these reasons, these customers were usually denied access to financial products and services from commercial banks.

Description

Over the years, CHB has successfully built a nationwide on-the-ground network to reach its rural customer base, making it a

one-of-a-kind rural service provider in China. Considering the pertinence of the mandate and CHB's execution capability, CHB has managed to secure funding from a diversified set of financing sources in the form of Asset-Backed Securities (ABS), Short- and Long-Term Borrowings from both domestic and foreign lenders (such as the Asian Development Bank, International Finance Corporation, DEG (German Investment Corporation) and loan referrals from a variety of entities. In 2010, CHB joined the credit reporting system of the People's Republic of China (PBC), becoming the first microcredit institution to access the Credit Reference Centre of PBC. Attracted by the compelling opportunity to generate a substantial positive impact by backing CHB, ABC invested equity by participating in CHB's Series D financing round of USD 165 million together with lead investor Ontario Teachers' Pension Plan in 2021.

ABC invested in CHB to bridge the financial inclusion gap for China's underbanked communities and contribute to the strong momentum of rural development and economic revitalisation in China. It ascertained the following as the impact thesis of CHB: *"By providing access to safe and low-cost financial solutions, CHB had the ability to boost economic growth in rural China while reducing poverty and inequalities"* and linked the impact outcomes of CHB to the following SDGs.

SDGs Mapped



There is sufficient research and evidence of impact in the financial inclusion space, which enabled ABC to believe that by addressing the demand for financial services in underserved regions with safe and affordable financial products, CHB is furthering financial inclusion in the country. The key input of CHB, their loans, had the ability to improve the purchasing power of micro and small Enterprises and individual borrowers. Its uncollateralised loans help borrowers overcome their credit constraints, invest in their livelihoods, achieve financial resilience and ultimately better their standards of living.

During diligence, ABC established that CHB's customers were rural micro-businesses and families usually underserved by the formal financial / larger banking systems, mainly due to lack of collaterals, or non-existence of credit track record, or other pre-requisites typically required for securing a bank loan. They also find processes and procedures commonly adopted by these mainstream lenders time-consuming and/or cumbersome that do not necessarily meet their business needs. While these rural businesses and families could get credit relatively easily from other microcredit companies or the informal sector, they would have to pay significantly higher interest rates or experience a long process time. In the absence of CHB, customers would either not be able to access credit or face risks of financial stress or over-indebtedness. CHB has disbursed USD 6.6 billion in loans to 915 borrowers since ABC's investment in 2020.

Impact

While ABC Impact had identified key performance indicators to measure the reach of CHB's products, it also intended to ensure the impact of these loans on the life of people. With support and funding from ABC Impact, CHB has pre-emptively implemented a phased longitudinal customer survey, in partnership with the Nanjing Agricultural University, to better understand both the short-term outcomes and subsequent

long-term benefits of their solutions. The longitudinal survey was designed as a randomised field experiment of 3601 respondents, to monitor and evaluate key social and economic indicators of CHB's loan clients with a control group.

The survey demonstrated that in the short term, CHB microloans have:

- ➔ Enabled improvements in incomes of rural MSMEs.
- ➔ Enabled increase in borrowers' spending on household daily necessities.
- ➔ Not resulting in over-indebtedness for their clients
- ➔ Improved borrowers' access to formal credit

In recent years, CHB has diversified its product portfolio to facilitate sustainable economic development of rural populations. Beyond enabling access to credit for underserved communities, CHB has been offering a variety of insurance products (health, personal injury etc.) to the rural population. It has offered 1.87 million insurance policies protecting 1.72 million people in China, during ABC's investment period.

The Company planned to 'go digital' to drive further growth and efficiency. The company

has adopted a mobile-enabled approach to disbursement and application of loans to facilitate faster and more convenient access to credit. This transformation improved the company's ability to connect with hard-to-reach segments of the population and opened new opportunities for financial inclusion. In addition, CHB has expanded their suite of services and launched an integrated digital platform for its rural agriculture clients. The holistic solution aggregates a range of services for remote farmers, tailored to their specific needs, offering services such as procurement, insurance, and e-commerce. The company aims to take their impact forward by empowering farmers with digital technology, facilitating the achievement of sustainable economic development in these rural populations.

While the company is committed to delivering an impact for underserved communities, it is also focused on the sustainability of its own operations. Hence, it worked closely with ABC and other impact-focused shareholders in the company to develop its ESG and sustainability strategy. Since CHB was early in its sustainability journey, this exercise helped them gain a better understanding of the sustainability issues material to their business model. They have also worked out a sustainability roadmap which would help the company refine their ESG management, reporting, and disclosures.

1.9 Insurance

1.9.1 Parametric Insurance Program in Mexico

Since 2018, a novel parametric insurance issued by the private sector is used in Mexico as a tool for managing risks associated with coral reef ecosystems. With parametric insurance, the insured parties receive predetermined payouts when certain predetermined thresholds are met, such as sea surface temperatures or hurricane wind speeds. In the case of coral reef parametric

insurance, payouts are triggered by events that cause coral bleaching or physical damage to reefs by very strong winds.

The Mesoamerican Reef, which spans over 1,000 kilometres across the coasts of Mexico, Belize, Guatemala, and Honduras, is one of the largest coral reef systems in the world and is crucial for the region's economy and biodiversity. The Reef provides numerous benefits to local

communities, such as fishing, tourism, and coastal protection. However, climate change and other human activities are threatening the health and resilience of the reef, which could have negative impacts on the livelihoods and well-being of local communities. The Trust for Integral Management of the Coastal Zone, Social Development and Security for the State of Quintana Roo has an insurance policy to cover the reefs and beaches in the Mexican Caribbean against hurricanes of more than 100 knots (greater than category 3).

The parametric insurance program provides the Trust with funds that help to quickly restore the coral reef after it is damaged by hurricane winds and thus mitigate the financial risks associated with coral reef

degradation and coastal erosion, which supports the long-term viability of industries such as tourism and fishing. Moreover, by incentivizing the protection and conservation of coral reefs, the insurance program contributes to the broader goal of sustainable cities and communities (SDG11) by promoting the preservation of natural resources and the well-being of local communities.

The monitoring and data collection that is necessary for implementing the insurance program can contribute to our understanding of the health and resilience of the coral reef ecosystem and can help to inform conservation and management efforts.

2. Data and Reporting

2.1 Eco-environmental Conservation Red Lines Map Project: ICBC

Background

Recently, ICBC has developed the project “Eco-environmental Conservation Red Lines (ECRLs) Map”, which is the leading practice in nature-related data usage. ICBC embedded the Chinese government’s ECRLs database into its Global Credit Management System (GCMS). The system added the function of determining whether the site of project loans is in ECRLs and incorporated it into the whole process management of the credit business. This project has effectively improved ICBC’s ecological environment risk and biodiversity risk management, and thus promoted the ICBC’s green finance, especially its biodiversity finance development.

Experience in using nature-related data

ICBC’s “ECRLs Map Project” is based on the Chinese government’s ECRLs. Setting ECRLs is an important innovation of the Chinese government in the field of ecological

environmental protection. They are eco-environmental conservation lines that are set by the Chinese government. They indicate the areas that must be protected strictly. So far, the drawing of ECRLs has been completed in all provinces of China. More than 30 per cent of China’s land area is now under the protection of ECRLs. They include important areas with ecological functions and ecologically sensitive and vulnerable areas.

ICBC has embedded ECRLs into its Credit Management System. After the business personnel input the location of the financing project, GCMS will automatically determine whether the project is within the scope of the ECRLs. We also developed the mobile terminal positioning function. When the business personnel visit the project site, the system can automatically determine whether the project falls into ECRLs according to the real-time location of the mobile device.

ICBC has incorporated the ECRLs determination outcome into the whole process of project loans as a condition. The projects in ECRLs will be carefully assessed for ecological environment risks. Except for special cases such as ecological protection projects, financing support will not be provided. We have developed corresponding management mechanisms in the whole process of project

loans. In the due diligence process of the project, we use the system to check whether the project is in ECRLs. In the review and approval process, loan disbursement process and duration management process etc., whether the project is in ECRLs will also be checked, and risk control measures will be adopted for the change of the outcome.

Key challenges

In practice, we found that the quality of the ECRLs data we used was generally satisfactory. However, some regional data were not accurate enough and seldom used in financial institutions. We believe that as China's ECRLs policy keeps being improved, data will be of higher quality and higher accuracy. Meanwhile,

as data users, we will work with data providers to verify and calibrate data based on practice, and keep improving data quality. We will also update the latest information in our system after the government releases the new data on the ECRLs.

2.2 Eco Enterprises Fund

Background

Eco Enterprises is a venture fund and one of the private sector pioneers in natural capital investing supported by investments from the European Investment Bank and other partners. The Fund has been a forerunner in biodiversity-focused investment and is one of the few dedicated direct investors in natural capital that focuses on LAC. The Fund has attracted private investment for over 40 companies, many of which have achieved biodiversity conservation goals, including conserving over 16 million hectares while making a profit.

The portfolio companies under Eco Enterprises Fund III offer impact solutions that generate measurable E&S outcomes and contribute to broader-scale transformative change. The SDGs that are targeted and are intrinsically linked with one another are SDG 5 - Gender; SDG 8- Decent Work and Economic Growth; SDG 12 - Responsible Consumption and Production; SDG 13 - Climate Action;

SDG 14 - Life Below Water and SDG 15 - Life on Land.

Use of nature and biodiversity data from national, regional and global sources to support risk management and business growth

Many of the Fund's portfolio companies have some form of certification – offering an additional layer of verification on everything from organic production, forestry management, ecotourism best practices, ethical treatment of employees and suppliers, and production standards. The growing certification seen throughout the portfolio is B Corp which requires a certain level of capacity to undertake as it represents a significant dedication of time and resources to examine all aspects of a business – HR policies, supply chain management, operational impact, stakeholder engagement – to confirm that systems are solid and sustainable.

Because of the nature of the portfolio businesses, environmental and social indicators are critical to their financial success. The companies depend on natural systems and local community involvement to ensure the sustainable use and long-term viability of the resource base. As such, environmental and social criteria are not just a corporate responsibility, they are central to the Fund's impact and credibility. Through its Impact Metrics Tool, the Fund generates quantifiable data that guide decisions and adjustments from the initial baseline through the company's exit.

The Fund continually refines and updates its monitoring and evaluation tools. The list of metrics first developed by The Nature Conservancy was integrated into the ESG model of 2018. The ESG includes a comprehensive set of social and environmental parameters that feed into longer-term impact goals that are associated with the 2030 Sustainable Development Agenda. As a signatory of the Principles for Responsible Investment and the Operating Principles for Impact Management (OPIM), the Fund applies the IRIS + impact indicators and metrics as well as the HIPSO (Harmonised Indicators for Private Sector Operations) indicators.

Key challenges that remain related to data and reporting and How these are being addressed

Many portfolio companies demonstrate their baseline environmental commitments through third-party protocols like Forest Stewardship Council, Rainforest Alliance, Fair Trade, and Global GAP. One of the priority areas is to provide additional financial and capacity-building support to help the investments formalize their environmental impact practices and enhance their biodiversity conservation –through the adoption of certification schemes, the

application of regenerative agriculture and sustainable harvest techniques, and the implementation of biodiversity monitoring studies and management plans. The challenge here is that grant funds are needed including time and resources to provide the support required in implementing these certification schemes. Experience has demonstrated that following a more hands-on, venture-inspired approach – spending the additional time and resources to help the companies build capacity, strengthen governance, enhance impact and E&S risk management, and execute strategy – creates long-term value for the company and the region that endures beyond the involvement of the Fund.

Community partnerships are essential for collecting and reporting on nature data as they serve as stewards and advocates for conserving and sustainably using biologically diverse ecosystems and ecosystem services throughout partner operations and supply chains. As a result, the Fund and its partners invest substantial time and capital in training, community engagement and collaboration, research, market development, and consumer education.

By bringing together investors, advisors, and technical experts through a collaborative model, the Fund facilitates innovation and the impact needed to accelerate transformative business models that address environmental and social challenges. The Fund's collaborative philosophy seeks to:

- ➔ create long-term livelihoods by increasing productivity and facilitating resilience in local communities, while encouraging sustainable use and conservation of natural resources; and
- ➔ preserve and protect critical, vulnerable ecosystems and biologically biodiverse working landscapes.

Eco Enterprises also depends on external certifications to independently monitor performance. Many of the Fund's portfolio companies have some form of third-party certification, such as Fairtrade; Marine Stewardship Council; Verified Carbon Standard; and Climate, Community and Biodiversity Alliance, among others. Besides offering an additional layer of monitoring and verification of organic production, forestry management, ecotourism best practices, fair

treatment of employees and suppliers, and production standards, these certifications allow the companies to obtain premium prices for their natural assets and to develop niche markets. One of the challenges with the different certification schemes is that their metrics are not always comparable and report on different nature aspects. This makes aggregation and measurement of impact more complicated.

2.3 Abu Dhabi Global Environmental Data Initiative (AGEDI) and Eye on Earth (EoE)

Description

The Abu Dhabi Global Environmental Data Initiative (AGEDI) was launched on 2 September 2002, at the World Summit on Sustainable Development (WSSD) in Johannesburg by the United Arab Emirates (UAE) as a Type II Initiative (engagement of stakeholders other than national governments to effectively implement the United Nations' Agenda 21 and Millennium Development Goals). AGEDI was one of the earliest initiatives outside intergovernmental processes focusing specifically on tackling the challenges of environmental data for sustainable development.

The AGEDI Secretariat is resourced by the Environment Agency - Abu Dhabi (EAD) and is implemented in partnership with the United Nations Environment Programme (UNEP). In 2011, as the transition from Millennium Development Goals (MDGs) to Sustainable Development Goals (SDGs) commenced, AGEDI launched the global Eye on Earth (EoE) movement. Whilst AGEDI continued its focus on data for the natural environment, EoE focused on enabling data for the SDGs.

AGEDI was formed in response to the systematic absence of quality data for regionally meaningful environment and sustainability metrics and for guiding

decisions toward sustainability. Recognising that the data-for-sustainability challenges facing Abu Dhabi were systemic in all but the most developed nations, AGEDI was established with local, national, regional and global perspectives.

AGEDI and its EoE directly address nature-related SDGs - *SDG 13: Climate Action, SDG 14: Life Below Water, and SDG 15: Life on Land*. AGEDI and EoE also address ecosystem services and nature-based solutions which underpin many socio-economic SDGs making contributions to *SDG1: No Poverty, SDG2: Zero Hunger, SDG3: Good Health and Well-being, SDG4: Quality Education, SDG6: Clean water and Sanitation, SDG11: Sustainable Cities and Communities, SDG12: Responsible Consumption and Production*. Furthermore, a major part of the AGEDI and EoE mandates are related to *SDG 17: Partnership for the Goals*. AGEDI was officially recognized by the United Nations as an official contribution by the UAE to SDG 17.

AGEDI partners with national and international organizations to support the development of environmental data initiatives, promote data sharing, and exchange best practices. AGEDI's key partners include Environment Agency Abu Dhabi, United Nations Environment

Programme (UNEP) Headquarters in Nairobi, Kenya; and United Nations Environment Programme – Region of West Asia Office, Bahrain. AGEDI engages with many partners at the project level including, Local, National and Regional and extra-regional Universities, UNEP GRID Centres, e.g. GRID Arundel, Norway, and Secretariats of Multilateral Environmental Agreements.

In addition to the secretariat services provided by EAD, EoE is governed by an Alliance of pre-eminent Environmental Sustainability Institutions:

- a) United Nations Environment Programme UNEP (Head Office)
- b) International Union for the Conservation of Nature (IUCN)
- c) World Resources Institute (WRI)
- d) Intergovernmental Group on Earth Observations (GEO)

Challenges

For the EAD, enabling compromise solutions between the competing forces of economic development, natural capital and societal well-being remains a challenge. To address these hurdles, the EAD has developed a global-first innovation to document and understand the cause-effect relationships between human activities, nature and human well-being.

While the 2030 Sustainable Development agenda has highlighted the challenge of sustainability and driven demand for actionable and scientifically defensible data and knowledge, there remain significant challenges with the interoperability of data between jurisdictions and scientific disciplines.

Outcomes

AGEDI's mandate focused on nature-related

data and reporting and covered initiatives such as:

1. The Local, National and Regional (LNR) Climate Change Programme, which studied the vulnerability of multiple sectors to climate change
2. The Local, National & Regional Biodiversity Rapid Assessment project, which identified which UAE and regional ecosystems are under the most pressure
3. The Indicator Reporting Information System (IRIS), which has helped resource-limited organizations prepare and share state-of-environment assessments
4. UAE Oceanic Blue Carbon Mechanism Test Pilot
5. UAE State of the Environment Report: AGEDI develops a comprehensive report on the state of the environment in the UAE, including information on biodiversity, land use, climate change, and water resources
6. UAE Ecosystem Services Hotspot Mapping
7. Mangrove Soil Carbon Sequestration Rates in the UAE
8. Dubai Contingent Valuation on Ecosystem Services
9. 360-degree imagery educational tours of Mangrove Ecosystems and Protected Areas
10. Coastal Blue Carbon Mapping by drone
11. State of the Environment Sector reviews
12. Production of an interactive environmental atlas of Abu Dhabi
13. Abu Dhabi Blue Carbon Demonstration Project

14. Ecosystem Service Assessments
15. Development of an Abu Dhabi Environmental Performance Index

From 2011 to 2015, EoE funded eight special Initiatives with financial sponsorship of the government of Abu Dhabi:

1. Eye on Oceans and Blue Carbon
2. Eye on Biodiversity
3. Eye on Water Security

4. Eye on Community Sustainability and Resiliency
5. Eye on Disaster Management
6. Eye on Global Network of Networks (information exchange and interoperability)
7. Eye on Education
8. Eye on Access for All

Also, EoE held three large, global audience conventions:

2011	Approximately 2,000 experts from across the globe gathered in possibly the world's largest-ever gathering of data for environmental sustainability experts
2015	Approximately 650 global experts convened immediately prior to the launch of the SDGs
2018	Organized a side event to the UN World Data Forum where EoE focused on data for the environmental elements of the SDG

In addition to these initiatives, AGEDI provides training and capacity-building programs to enhance the skills and knowledge of environmental data practitioners in the UAE

and beyond, as well as supporting research and innovation in environmental data collection and analysis through partnerships with universities and research institutions.

2.4 China Shengmu Dairy Pilot with Nature Capital Accounting

Background

China Shengmu Organic Milk Limited (Shengmu), the largest organic dairy company in the country, produces desert organic raw milk in a circular way integrating planting

and raising. The business covers the entire value chain of the dairy industry, including pasture growing, dairy farming, and raw milk processing. In July 2014, the Company successfully listed on the main board of the

HKEX , becoming the world's first stock in the organic raw milk industry and the first domestic raw milk brand to be certified by organic standards of China and the EU.

Shengmu carefully selected the pristine Ulan Buh desert, untouched by industrial or chemical agriculture, as the site for their organic milk production bases. With a cumulative investment surpassing 7.5 billion RMB (USD 1 billion), it has embarked on large-scale ecological governance of the Ulan Buh desert. Through more than ten years of exploration and development, Shengmu has contributed to a series of sustainable development goals through practices in biodiversity conservation and management:

Goal 6: Ensure availability and sustainable management of water and sanitation for all

Goal 12: Ensure sustainable consumption and production patterns

Goal 13: Take urgent action to combat climate change and its impacts

Goal 15: Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss

Relationship Between Business and Nature

Shengmu maintains a deep-rooted connection with nature, with their operations significantly influencing and relying upon natural capital. Their business spans the primary sector (agriculture and animal husbandry), secondary sector (food processing), and tertiary sector (distribution, logistics, etc.).

KEY LINKS IN SHENGMU'S PRODUCTION AND OPERATION	DEPENDENCIES ON NATURE	IMPACTS ON NATURE
Forage planting	<ul style="list-style-type: none"> ➔ Freshwater resource utilization ➔ Land resource utilization ➔ Raw material planting 	<ul style="list-style-type: none"> ➔ Desert greening ➔ Water source protection ➔ Soil governance ➔ Climate regulation ➔ Species protection ➔ Environmental compliance operation
Dairy cattle breeding	<ul style="list-style-type: none"> ➔ Freshwater resource utilization ➔ Land resource utilization ➔ Utilization of biological genetic resources 	<ul style="list-style-type: none"> ➔ Waste discharge ➔ Greenhouse gas emissions ➔ Green technology improvement ➔ Environmental compliance operation

KEY LINKS IN SHENGMU'S PRODUCTION AND OPERATION	DEPENDENCIES ON NATURE	IMPACTS ON NATURE
Production of raw milk	<ul style="list-style-type: none"> ➔ Freshwater resource utilization ➔ Land resource utilization 	<ul style="list-style-type: none"> ➔ Greenhouse gas emissions ➔ Waste discharge ➔ Green technology improvement

Shengmu chose to use natural capital accounting to further understand its relationship with nature, incorporate natural capital into enterprise management, and provide information for corporate strategy, management and operation decisions.

They set December 31, 2019, as the baseline for their natural capital status, with temporal boundaries spanning from January 1, 2020, to December 31, 2022. The spatial boundaries cover not only Shengmu's headquarters and all branch offices and subsidiaries but also extend to pastures and green zones located within the Ulan Buh desert ecosystem, the site of the Shengmu Organic Industrial Park.

Following the methodology outlined by the Natural Capital Protocol, Shengmu has mapped its business operations with corresponding impacts and dependencies on nature, thus identifying the specific impact drivers and dependencies that require measurement. By recognizing and measuring changes in natural capital, they have selected representative indicators for quantitative analysis to forecast potential future alterations in natural capital. During the accounting, they acknowledged that some indicators lacked the necessary quantitative data (indicated with *), so they could only quantitatively measure or monetize a portion of these indicators.

Components	Impacts/dependencies	Impact drivers/ dependencies	Changes in natural capital/Impact of changes in natural capital on the Company's dependencies	Indicator	Quantity	Costs/ benefits ²⁷ (unit: 10,000 RMB)
Impacts on Shengmu	Environmental compliance operation Environmental policies and tax regulations	Changes in the concentration of pollutants in the atmosphere, water and soil	Environmental taxes, fines or compensation (unit: 10,000 RMB)		216.59	-216.59
	Prevention and control of natural disasters (sandstorms, etc.) Cost of natural disaster prevention and control	Natural disaster risks and losses	Insurance investment (unit: 10,000 RMB)		*1	*
	Green operation Technical transformation	Climate change Changes in water reserves	Cost of energy-saving transformation (unit: 10,000 RMB)		*2	*
	Waste discharge Faecal discharge	Changes in pollutant concentration in water bodies and soil	Livestock manure (unit: ton)		3452	+69.04 ²⁸
	Production waste		Production waste (unit: ton)		7921.86	-683.66 ²⁹

²⁷ Positive values indicate the benefits created by corporate actions, and negative values indicate corporate investments or social costs caused by corporate impacts.

²⁸ Estimated using the reference market price of 200 RMB/m³.

²⁹ Estimated at 863 RMB/ton according to the emission factor calculated by Trucost in the "Analysis of Natural Capital Costs of Chinese Financial and Investment Institutions".

Components	Impacts/dependencies	Impact drivers/ dependencies	Changes in natural capital/Impact of changes in natural capital on the Company's dependencies	Indicator	Quantity	Costs/ benefits ²⁷ (unit: 10,000 RMB)
Impacts on Shengmu	Greenhouse gas emissions Scope 1	Climate change	Carbon dioxide equivalent (unit: ton)		43553.89	-326.65 ³⁰
	Scope 2	Diminished species diversity			256731.08	-1925.48 ³¹
	Scope 3	Habitat change			*3	*
	Climate regulation Water conservation	Changes in water reserves	Annual rainfall increment (unit: mm)		22.2	+453.24 ³²
Impacts on society	Forests construction	Climate change Improved desert ecosystems	Afforested area (unit: 10,000 mu)		30	+123,075 ³³
			Average wind scale drop (force level)		*4	*
	Grassland construction		Grassland area (unit: 10,000 mu)		22	+92.4 ³⁴

³⁰ Estimated at 75 RMB/ton in line with the average price of carbon quota specified by the Beijing Environment Exchange (<http://www.cbeex.com.cn>).

³¹ Estimated at 75 RMB/ton in line with the average price of carbon quota specified by the Beijing Environment Exchange (<http://www.cbeex.com.cn>).

³² Estimated at 0.049 RMB/m³ for introducing water from the Yellow River to Inner Mongolia for agricultural irrigation, based on the academic paper titled "Research on the Development of Farmers' Water Use Cooperation Organization Based on the Price of Agricultural Irrigation Water and Traded Water Right."

³³ Estimated at 54.7 tons of carbon sequestration amount per mu of forest per year according to the academic paper titled "The Status Quo of Carbon Sequestration and Estimation of Carbon Sequestration Potential of China's Efforts to Return Farmlands to Forests", as well as an average carbon quota price of 75 RMB/ton, as sourced from the Beijing Environment Exchange (<http://www.cbeex.com.cn>).

³⁴ Estimated at the carbon sequestration amount of 0.056 ton per mu of grassland per year based on the academic paper, "Carbon and Nitrogen Sequestration Rate in Long-term Fenced Grasslands in Inner Mongolia, China"; estimated at 75 RMB/ton in line with the average price of carbon quota specified by the Beijing Environment Exchange (<http://www.cbeex.com.cn>).

Components	Impacts/dependencies	Impact drivers/ dependencies	Changes in natural capital/impact of changes in natural capital on the Company's dependencies	Indicator	Quantity	Costs/ benefits ²⁷ (unit: 10,000 RMB)
Dependencies	Freshwater resource availability Utility water Natural water resources	Reduction in available surface water or groundwater	Fresh water consumption (unit: m ³)		91350000	-447.61 ³⁵
	Raw materials Good forage species Dairy cattle	Changes in vegetation coverage	Procurement cost (unit: 10,000 RMB)		*5	*
	Land resource Cost of building land Cost of pasture land	Land resource reserves	Land area (km ²)		150	-1267.6

Notes:

from the overall equipment procurement expenses.

*1: Not yet available.

*3: The changed data has not been measured or calculated.

*2: As there is no dedicated account for "technical environmental transformation," it is difficult to separate the costs related to this account

*4: Not yet to be counted or collected

*5: Not yet available

³⁵ Estimated at 0.049 RMB/m³ for introducing water from the Yellow River to Inner Mongolia for agricultural irrigation, based on the academic paper titled "Research on the Development of Farmers' Water Use Cooperation Organization Based on the Price of Agricultural Irrigation Water and Traded Water Right."

Nature Risks and Opportunities to Shengmu

Shengmu employs natural capital accounting as a tool to manage biodiversity, maintaining an optimal balance between the input and output of funds. This approach furnishes valuable insights to inform sound business decisions, thus reducing operational risks and generating business value.

Risk Management

Leveraging the principles and methodologies of "Nature-Based Solutions" (NBS), Shengmu applies the Mitigation Hierarchy framework for effective risk management, minimizing the detrimental impact of the Company's operational activities on biodiversity and the natural environment.

Avoidance

Give priority to design and construction plans that avoid negative impacts, especially to avoid possible impacts on key areas for biodiversity conservation.

Identified risks and opportunities:

Operating within the areas designated as "ecological preservation zones" can significantly threaten local biodiversity, which could potentially lead to hefty tax burdens or fines for businesses. Since 2010, Shengmu has established a presence in the Ulan Buh Desert, stringently safeguarding the ecological "red line" and complying with the Yellow River Protection Law.

Shengmu's solution:

Pasture Site Selection: They have adopted the "low-coverage sand control theory" when building pastures in the Ulan Buh desert to enhance the pace and quality of managing desertified lands. This practice respects and leverages the regional natural environment, nurturing and planting protective forests and

sand control systems grounded in natural restoration. Not only does this method improve water utilization efficiency, thereby reducing costs and groundwater usage, but it also bolsters the windbreak and sand fixation efficiency of the protective forests (projects).

Reduction

When adverse impacts are inevitable, take full consideration and exhaust all efforts to diminish these effects through the use of environmentally friendly technologies and supporting implementation measures, to minimize the impact on biodiversity to the greatest extent possible.

Identified risks and opportunities:

Excessive consumption of water, plant, and land resources, along with improper waste disposal, could escalate the cost of dependencies on natural resources throughout Shengmu's production and operation processes. Between 2020 and 2022, Shengmu incurred a total of 2.1659 million RMB (USD 300,000) in environmental protection taxes due to pollutant discharge. However, compared to the period from 2017 to 2019, Shengmu made substantial efforts in reducing its exhaust emissions, resulting in a decrease in social costs by 4.1664 million RMB (USD 577,500) from 2020 to 2022.

Shengmu's solution:

➡ **Waste Management:** Shengmu has replaced all pasture boilers with air-source heat pumps, thereby eliminating SO₂, NO_x, soot, and other exhaust emissions, and achieving "net zero" emissions. Additionally, they repurpose cow manure for agricultural use, effectively avoiding issues such as water and soil pollution that can arise from improper disposal of livestock waste.

- ➔ **Energy Efficiency Management:** They've optimized the process of reusing the waste heat from fresh milk, which not only stabilizes the quality of fresh milk but also reduces the load on refrigeration equipment, cutting down on energy and water resource consumption in the heating process. This improved process can decrease groundwater usage by 0.4 tons per ton of fresh milk, while simultaneously generating 5 kWh of heat.

Mitigation

In response to global ecological, environmental, and climate change crises, take proactive measures to mitigate regional or global changes as much as possible.

Identified risks and opportunities:

Shengmu is committed to controlling greenhouse gas emissions, including carbon dioxide and methane, not only as a response to climate change but also to comply with increasingly strict environmental policies and emission standards. Compared to the period between 2017-2019, Shengmu anticipates a reduction in greenhouse gas emissions that will cut social costs by 10.2744 million RMB (USD 1.4 million) from 2020 to 2022.

Shengmu's solution:

- ➔ **Carbon Management:** Guided by China's goals for peak carbon and neutrality, as well as the *Paris Climate Agreement's* commitment to limit global warming to 1.5°C, Shengmu laid out a scientifically robust and effective path for reducing carbon emissions. They've set science-based carbon reduction targets and have integrated carbon reduction initiatives into all operational links. In line with this, they've made strides in deploying

renewable energy, even introducing new energy electric loaders in our pilot pastures.

- ➔ **Water Conservation:** They've made notable strides at Shengmu pastures. An extensive assessment of the Index of Water Supply-Demand Balance (IWSD) showcases this progress. From 2020 to 2030, the IWSD dropped from 0.002 to 0.0005, a clear indication that their water resources still have a carrying capacity³⁶. This shift underscores the success of their meticulous water allocation efforts in significantly enhancing the region's capacity to support socio-economic growth. At the same time, Shengmu has made impressive strides in microclimate regulation through water conservation efforts. This has led to an increase in regional annual precipitation from 105.7 mm during 2017-2019 to 127.9 mm during 2020-2022, generating a value of RMB 4.5324 million (USD 623,570).

Restoration

Focus on prompt biodiversity compensation activities and contribute new progress to biodiversity preservation.

Identified risks and opportunities:

Ecological restoration initiatives and strategies not only ensure the sustainable functioning of the enterprise but also assist in carving an eco-friendly brand image. Between 2020 and 2022, Shengmu's tree and grass planting initiatives led to carbon sequestration that resulted in a whopping 1,231.674 million RMB (USD 171,429) in societal benefits. Additionally, our practice of applying cow dung to the fields reduced corporate costs by 690,400 RMB (USD 95,700).

36 Evaluation of Water Resource Carrying Capacity of the Ulan Buh Desert Ecological Sand Industrial Zone, Inner Mongolia University, 2019

Shengmu's solution:

- **Ecological Compensation:** Shengmu has made remarkable strides in greening the Ulan Buh desert, planting over 97 million trees of various species and bringing life to more than 200 square kilometers of desert. In their organic cultivation base, they've erected a shrub windbreak every 200 meters, significantly decreasing wind speed and sand movement in the area. Along the borders and roads, they've planted poplar and willow trees, forming robust windbreaks. These interventions, along with the herbaceous crops in our fields, have systematically reduced wind power. The local average wind power, initially at levels 6-7, has been successfully mitigated to levels 4-5.
- **Soil Fertility Preservation:** Shengmu has harnessed cow dung as an organic fertilizer to not only enhance the grain structure of sandy soil but also bolster its water-retention capacity and overall fertility. As a result, crops are more resistant to drought, and our entire production process remains organic. Each year, they produce hundreds of thousands of tons of high-quality organic fertilizer, amounting to a total volume of 600,000 cubic meters. When spread over the desert at a thickness of 1cm, this volume can cover nearly 10,000 hectares of land.

Effective environmental governance, paired with judicious use of environmental data, equips businesses with the insights they need to unlock new market opportunities.

Reducing Operating Costs

Between 2020 and 2022, Shengmu witnessed a rise in precipitation by 22.2 mm, which resulted in substantial water cost savings for their operations, amounting to a remarkable 4.5324 million RMB (USD 623,570). By composting cow manure and reusing it in the fields, they've significantly mitigated the risk of water and soil contamination. This practice has reduced their operational costs by 690,400 RMB (USD 95,669)

Boosting Revenue

Their eco-conscious farming practices guarantee a completely organic production chain. Remarkably, their organic milk fetches a premium 21.7% higher than regular milk,³⁷ boosting their revenue.

Reducing Financing Costs

Good environmental governance has also paved the way for easier access to green loans. In 2022, Shengmu's financing cost was 57.4 million RMB (USD 7.9 million), marking a year-on-year decrease of 19.3%³⁸.

Enhancing Brand Value

From 2019 to 2022, Shengmu's brand value soared from 12.123 billion RMB (USD 1.6 billion)³⁹ to a whopping 17.215 billion RMB⁴⁰ (USD 2.3 billion) - a rise of over 40%.

Challenges in Biodiversity Management

While Shengmu has made strides in biodiversity management, there are still considerable challenges ahead.

37 A, Caiping Zhang, J. B. B, and T. I. W. C. "Consumers' willingness to pay for traceable pork, milk, and cooking oil in Nanjing, China - ScienceDirect." Food Control 27. 1(2012):21-28.

38 From Shengmu 2022 Annual Report

39 China's 500 Most Valuable Brands in 2019, <https://xueqiu.com/9515483182/149438006>

40 Intelligence Research List of Years: TOP100 Inner Mongolia Brands in 2022, <https://www.chyxx.com/top/1136693.html>

From a **policy** perspective, two issues arise. Firstly, current biodiversity policies primarily focus on macro, top-level construction. Unfortunately, there aren't clear policy requirements that facilitate the promotion and implementation of biodiversity disclosure and management measures at the corporate level. This gap has resulted in a lack of standardization and actionable guidelines for businesses. Secondly, in the short term, the costs of implementing biodiversity management practices outweigh the benefits they generate. The present incentive mechanism falls short of providing sufficient motivation, and the returns from market incentives are not substantial enough.

From an **industrial chain** perspective, there are two main challenges. Firstly, there's a significant disparity in how upstream and downstream businesses perceive their relationships with nature, both from an endogenous and exogenous standpoint. Their approach to action frameworks and data metrics is often misaligned and incoherent, making it challenging to achieve deep integration and mutual promotion. Secondly, the industry is experiencing a shortage of professionals skilled in biodiversity management. This shortfall in expertise creates a bottleneck for companies striving to undertake related initiatives.

Challenges

From **Shengmu's own operations and management** perspective, there are two main obstacles. First, there's a disconnect between carbon and biodiversity management. While Shengmu has a mature carbon management plan with science-based targets and reduction pathways, biodiversity management is not as systematic. Currently, efforts to mitigate climate change and protect biodiversity exist in separate silos, and there is no cohesive management system that allows them to complement each other. Second, the process

for collecting and monitoring biodiversity-related data is not yet seamless from top to bottom. This makes it challenging to extend these efforts to primary-level business and value chain activities. Difficulties persist in recording and collecting original data, calculating process data, and ultimately forming systematic data applications.

Moving forward, Shengmu's advancement in biodiversity management will hinge not just on its commitment to internalizing the externalities of natural capital, but also on several other factors. These include the refinement of regulatory measures or legal frameworks, the ongoing optimization of market dynamics and the business environment, and the collective progress and ecological stewardship efforts of all stakeholders involved.

For Shengmu, there are two main avenues of action to pursue: First, the integration of biodiversity and climate management within Shengmu's overall management framework. This implies promoting a more systematic approach to biodiversity management, bolstered by transparency in information disclosure, which will enhance internal understanding of the interplay between these two critical factors. Second, the establishment of a ledger dedicated to ecological data, perhaps even including it in a "natural income statement." This means setting up a comprehensive ecological data tracking system that utilizes data generated from primary-level operations as its source. This system should aim to encompass the entire lifecycle of organic milk products. By utilizing lifecycle assessment methods and valuation techniques, we can further tap into the potential of "converting ecological value into brand value". This will provide the necessary data, foundation, and evidence for both internal and external communication.

2.5 Impact management and measurement (IMM) in China

This summary covers four domestic case studies of impact management and measurement (IMM) and will introduce typical IMM practices from the perspectives of investors and portfolio companies in the following four thematic areas: sustainable agriculture and rural development, life sciences and healthcare, green economy, and inclusive development.

In the case studies, we cover two types of investors: private equity funds and foundations. At present, private equity fund is the main body of impact investors in China, and foundations have strong IMM motivation as the impact is embedded in their genes.

The commonalities of the four cases include:

- ➡ The agreement on the value of impact between the founders of investors and portfolio companies is the basis for the advancement of IMM practice. The financial performance of the company is positively correlated with its impact performance, which makes the impact data highly correlate with the business and operational data of the portfolio companies. This helps guarantee the sustainability of IMM practices, as the collection of impact data is not an extra burden for the company.
- ➡ The specific IMM tools and methodologies used by these investors are diverse, including a variety of international and industrial standards as well as independent research and development systems.
- ➡ Some of the investors clearly identify themselves as impact investors, and some use other related concepts such as venture philanthropy to define their

investment behaviours. However, no matter what definition is adopted, the four investors have the same intention as the portfolio companies: to improve the effectiveness of their business in solving social or environmental problems through the use of IMM tools.

Case I - Visibility and Credibility - Utilizing B Impact Assessment to empower digital agriculture

Fuping Ventures is an impact investing fund launched in September 2008. Its biggest shareholder is Leping Foundation, a Beijing-based foundation in China. By incubating and investing in social enterprises, Fuping aims to provide services for vulnerable people and help them share the benefits of China's rapid economic and social development.

In 2009, Fuping Venture and Japan's Daichi Association jointly incubated Fuping - Daichi Credible Farm project. The Farm aims to produce safe food and improve crop quality and empowers farmers to have bigger earnings while using ecological resources sustainably. It not only enables them to reduce the use of inputs such as pesticides and fertilizers that are harmful to the ecosystem but also implements soil cultivation according to local conditions and strives to protect the surrounding environment, which helps achieve the primary goal of SDG 8 and 12.

The overall idea of the agricultural digital solution is to use information technologies such as the agricultural Internet of Things, big data, artificial intelligence, etc., to improve agricultural efficiency and product quality, while preserving the environment. These data generated during the production process are of great value to the well-being of farmers and the improvement of the natural environment.

Fuping guided the Credible Farm to obtain the B Corp certification. After getting the certification, Credible Farms continues to improve its social and environmental performance, corporate transparency and social responsibility to achieve sustainable corporate goals and enhance its overall social value.

Take the coffee project of Credible Farms in Yunnan as an example to see how the investors and the portfolio companies measure the impact of the project. According to the company's market development director Cui Qi, for agricultural projects, the most difficult part is the ability to discover and diagnose underlying agricultural problems. How to solve complex agricultural problems through a comprehensive system of key indicators is the focus of impact management in this field.

With reference to environmental indicators such as "water consumption" in BIA assessment factors, combined with the features of the project the feasibility to collect the data. It is believed that the project can be evaluated by measuring key indicators such as "how much local water is saved for initial coffee processing", "how much pesticide use is reduced by farmers through the Internet of Things data collection and soil testing and fertilization formula", "how the production is increased by farmers through integrated measures", and "how much income is increased by farmers in the end". The point of all these indicators is to show whether important problems in agricultural production are being solved.

Case II: Embracing the future of healthcare by pursuing more than financial returns

Founded in 2007, Ehong Capital is an early practitioner of impact investing in China. It was founded with a clear social mission, refraining from investing in industries and projects that have a negative social or

environmental impact. From 2007 to 2012, Ehong Capital concentrated its investment in the fields of finance, TMT, new materials and modern agriculture. Since 2013, aligning with international general principles of impact investment, Ehong Capital has gradually improved and established classified investment standards for low-carbon environmental protection, sustainable agriculture, health care and old-age care, high-quality education and other industries, and formed a basic investment method for selecting investment industries and investment topics based on the analysis of social problems.

Since then, more than 70 per cent of Ehong's investments have focused on impact-driven enterprises in these industries that address social and environmental issues. In 2021, Ehong set up its second impact fund, the Wind Impact Equity Investment Fund. With the mission of "Building a low-carbon and inclusive society for the Better", the fund focuses on the two major issues of global climate change (E) and unbalanced domestic development (S), focusing on low-carbon environmental protection and business innovation solutions that improve the health and well-being of vulnerable groups.

In recent years, Ehong has been focusing on "health care for the disadvantaged" and SDG 3. Based on the analysis of social problems to provide quality medical products and services for patients with mental illness, Ehong invested in Kangning Hospital Group, which is committed to building a professional medical and health industry chain enterprise in the field of brain diseases. The main business includes molecular diagnosis, gene targeting diagnosis, pharmaceutical manufacturing, medical services, high-end health management and promotion, etc. At present, the group has provided services for thousands of medical and health institutions and hundreds of thousands of people.

Ehong uses a logical model to sort out the output, outcome and impact of the portfolio companies and individual investments. Through the investment of Kangning, Ehong helps the company expand its impact scale (output) to facilitate precision medicine for patients with mental illness (outcome), and ultimately improve the health and well-being of patients with mental illness (impact). The indicators used for impact measurement include improvements in mental illness, the number of patients served, and the number of primary hospitals covered.

In the whole process of investment, the social and/or environmental benefits of the invested projects are measured and managed from six aspects in accordance with the characteristics of the industry, policies and regulations by referring to the impact measurement and management tools such as IRIS+ and IMP commonly used in the international impact investing community. The indicators used include cure rates and recovery rates for related diseases, as well as indirect indicators, such as the rate at which autistic children return to school after treatment.

Case III: Driving value creation by the green economy

Asia Green Fund (AGF) is a private equity fund dedicated to green impact investment in China. Founded in 2016, with an AUM of more than 15 billion yuan (USD 2.06 billion), AGF focuses on equity investment in growth-stage enterprises in the fields of clean energy, new materials, green advanced manufacturing, green low-carbon transportation, energy conservation and environmental protection driven by green technology. The Asia Green Fund injects green new momentum into the development of enterprises and pursues win-win financial returns and environmental benefits.

AGF follows an approach that aligns with

macro trends and follows an investment strategy built on differentiated sector insights, technological empowerment, and robust financial capabilities. The underlying value drivers are technological change, entrepreneurship and market forces.

Founded in 2013, HOREN is a global industrial manufacturing field, providing recycling packaging, recycling services, recycling management and other zero-carbon cycle technology and services. Its main business is to enable packaging recycling and sharing solutions for customers in various industries. The company's mission is to make the packaging cycle more feasible and accessible. The company puts ESG as its strategic cornerstone, promotes industrial upgrading with technological innovation, builds an Internet platform of the whole industrial chain of intelligent recycling packaging design and manufacturing, and provides recycling services and management.

Relying on comprehensive research and development capabilities of logistics Packaging, Internet of Things and cycle management, as well as innovative technologies such as one box one yard, container and cargo co-management and AI-assisted decision-making, the company provides users of all industries with full-link digital capabilities from off-site PaaS (Packaging as a service) recycling box service to on-site SaaS cycle management. Accelerate the progress of replacing disposable packaging and becoming the green infrastructure for the zero-carbon transformation of the service manufacturing industry.

Both Asia Green Fund and HOREN adopt the method of combining external standards with internal index systems, including the greenhouse gas tracking and management standards represented by ISO 14064 and ISO 14067. At the same time, the two agencies are also working with academics and certification bodies respectively to establish

better management and emission reduction verification methods.

In the qualitative aspect, Asia Green Fund mainly considers the Sustainable Development Goals of the United Nations as the qualitative framework. In the quantitative aspect, Asia Green Fund mainly uses environmental-related indicators to evaluate the portfolio companies, so as to evaluate their green impact.

In terms of environmental value, by 2020, HOREN has saved 250,000 tons of carbon through logistics packaging and recycling services compared to single-use packaging. By 2025, the goal of container sharing is to deliver 10 million sets of common recycling packaging, and 80 million cases of recycling every year, and achieve the goal of reducing carbon by 100 million tons.

Case IV: Maximizing goodwill by integrating capital and partnership

Sany Foundation is a private foundation initiated by Sany Group, the leading Chinese construction equipment manufacturer. In June 2022, Sany Foundation completed its investment in Shenzhen Power Solution Ind Co., Ltd through one of China's biggest charitable trusts, Wanxiang Trust. Sany now holds 7.00% of Power Solution's shares.

Shenzhen Power Solution Ind Co., Ltd (hereinafter referred to as Power Solution) was founded in 2004. Its mission is to improve the life quality of BOP people around the world with green energy and is committed to helping the extremely poor people in the world without electricity to improve their living standards with solar lighting devices made in China. In 2018, Li Xia, founder of Power Solution, was awarded the title of "New Energy Leader" by the Asian Development Bank.

The project aims at meeting the daily needs of the poor population lacking electricity. Since its inception, it has always responded to the lighting and other power needs of the off-grid population of BOP. Its cost-effective products are one of the best alternatives to traditional lighting. By June 2022, Power Solution has provided solar lighting to 6.73 million BOP households in 72 countries, covering 45.85 million people living in extreme poverty. To help more than 30,000 infants and children avoid upper respiratory diseases and even death from inhaling harmful black gases emitted by candles and kerosene lamps; A total of 60.77 million KWH of electricity has been generated for the lives of extremely poor households, which will reduce the life cost of electricity by 102.15 million yuan (USD 14 million). It has saved the Earth 5.59 million tons of carbon dioxide emissions. When establishing sales and marketing channels in poverty-stricken areas such as Africa and South Asia, the company supported local distributors such as solar sister to complete the supply chain of sales jobs for women, for example.

In Sany's view, the United Nations Sustainable Development Goals can be considered as the framework to define the goodwill agreed upon by the largest group of people around the world. Along with the SDG as its impact framework, Sany also has the following as its impact screening principles. It also develops its impact screening assessment methodology based on the foundation's existing strategy of scientific philanthropy.

The Sany Foundation tailors an impact management system for each portfolio company. The core of the work is that the evaluation system should be comprehensive, instead of just a list of statistics (such as how much electricity is converted, and how many safety hazards are solved), but improve the effectiveness of the company's impact. Sany usually uses an external team to build the

framework and then communicates with the portfolio companies annually to update the data and improve the impact structure as it gradually optimizes.

The four main impact indicators that Power Solution focuses on are the number of people

affected, carbon emission, power generation and international influence. Power Solution expects the impact management would help them achieve management objectives, motivate employees and helps with its branding.

2.6 Global Program on Sustainability (GPS)

What SDG or topic is the focus of this case study?

The [Global Program on Sustainability \(GPS\)](#) is the World Bank umbrella program on the economics of natural capital and ecosystem services. The GPS is funded by the governments of Germany, the UK and Switzerland.

With support from GPS, the World Bank and Malaysia's Central Bank, Bank Negara Malaysia (BNM) collaborated to produce 2022 [An Exploration of Nature-Related Financial Risks](#), an analysis that was the first of its kind in Asia. Three countries, [Netherlands](#), [France](#), and [Brazil](#), had published the results of their study of nature-related financial risks before Malaysia, and the Malaysian study was recently presented at COP27's Biodiversity Day in Sharm el-Sheikh. The Malaysian study uses domestic and global data to assess nature-related financial risks for Malaysian banks and provides a roadmap for key stakeholders to help mitigate those risks.

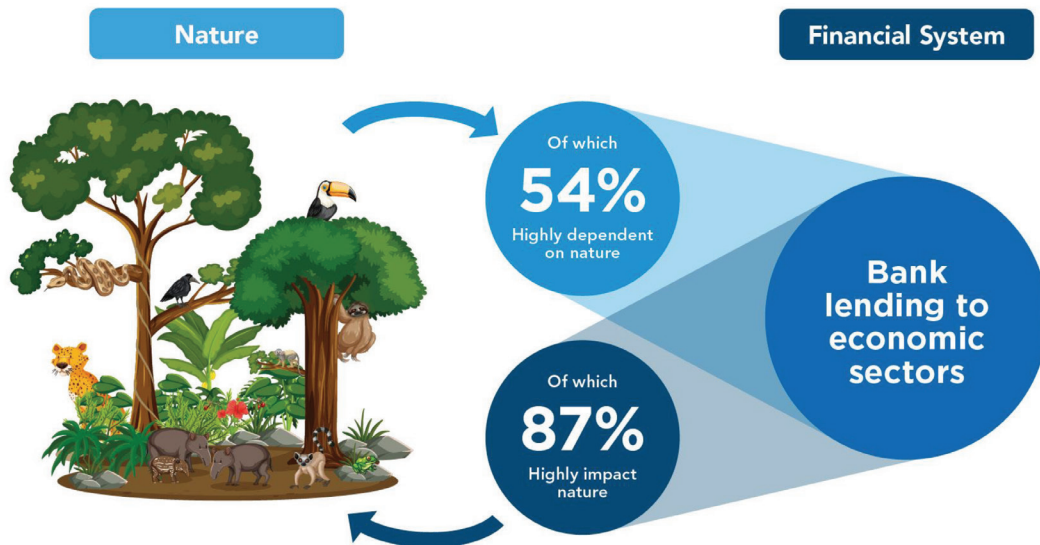
What is the experience of your institution using nature and biodiversity data from national, regional and global sources to support risk management and business growth?

Unsurprisingly for a country with its wealth of natural assets, Malaysian banks are highly

exposed to a broad range of nature-related physical and transition risks. Malaysia could experience a 6 per cent gross domestic product (GDP) annual loss by 2030 compared to a baseline scenario in a scenario of partial ecosystem collapse. Economic impacts could transmit to the financial sector, and vice-versa. Similarly, banks, through lending to economic activities, are affected by what happens in nature and can impact nature through their lending.

Malaysian banks are highly dependent on nature exposing them to physical risks from nature loss. Lending exposures were especially high to sectors that depend on surface water, climate regulation, and flood and storm protection as their primary source of ecosystem service. Most commercial lending from Malaysian banks (87 per cent) highly impacts nature via greenhouse gas emissions and extensive water and terrestrial ecosystem use. This lending could be affected by future changes in policy, technology, and consumer preferences responding to nature loss, thus representing transition risks.

Figure 12 Dependencies and Impacts of the Malaysian Banking System on Nature



What are the key challenges that remain related to data and reporting? How is your jurisdiction addressing them?

With a greater understanding of how nature-related financial risks manifest in Malaysia, BNM and other key stakeholders can take action to address these risks. BNM is now better positioned to analyze and consider how to mitigate these risks within its scope of mandate, leveraging progress made on climate risks to address broader nature-related risks. This was also emphasized by BNM Governor Tan Sri Nor Shamsiah Yunus at the launch of the nature-related risk report: *“While the primary responsibility for addressing these priorities rests with the government, the financial industry and authorities have a critical interest in deepening our understanding and appreciation of the interactions between climate- and nature-related risks.”*

Like climate change, addressing the nature-related agenda demands a multi-stakeholder approach. Possible actions that BNM could consider range from public awareness raising, capacity building and risk identification, to the

development of regulatory and supervisory expectations. Most actions would need to be jointly conducted with other stakeholders such as ministries of finance, ministries responsible for environmental issues, state-level agencies, and financial institutions.

There are still some challenges that need to be addressed, particularly concerning the availability and accessibility of relevant data, as well as the development of context-specific scenarios to assess nature-related risks. Recently, the JC3, which is a climate financial stakeholder platform in Malaysia, created a data catalogue for climate-related data. This catalogue serves as a central point of contact for financial institutions (FIs) looking for climate data-related information. It aims to help public and private FIs identify both risks and opportunities. In the future, the data catalogue could be expanded to include nature-specific data sources. Furthermore, BNM is currently considering conducting more in-depth assessments of specific sectors to refine the risk exposure analysis.

To move from analyzing exposure to performing a proper nature risk assessment, the NGFS nature task force is developing global scenarios that take into account the risks

associated with nature loss. Work within that task force is underway to provide technical recommendations on the development of nature-related scenarios

2.7 MeerWissen Initiative – African-German Partners for Ocean Knowledge

[The Initiative MeerWissen – African-German Partners for Ocean Knowledge](#) - was initiated by the German Federal Ministry for Economic Cooperation and Development (BMZ) in 2018 and seeks to provide policymakers with the scientific information they need to make profound decisions for the effective management and conservation of Africa's ocean and coasts. The MeerWissen Initiative strengthens partnerships between marine research institutions in Africa and Germany. It builds on the regional expertise of African partner countries and Germany's internationally leading role in marine research. The initiative helps ensure that future policy decisions are based on better information. MeerWissen is funded by the German Federal Ministry for Economic Cooperation and Development (BMZ) and facilitated by the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ).

What SDG or topic is the focus of this case study?

Since 2018 the initiative MeerWissen has been focusing on bridging the gap between scientific information and effective policymaking for sustainable marine management. MeerWissen contributes to addressing the challenge of lacking data and limited science for policy transfer to achieve SDG 14 by 2030.

In many African countries, decision-makers often lack the scientific data that is needed to underpin responsible marine policies and sustainable resource management. MeerWissen responds to the need for a strong knowledge basis and assists in providing

policymakers with available, accessible, and updated scientific information, which they need to take profound decisions for the effective conservation and sustainable use of marine biodiversity in 10 African countries.

What is the experience of your institution using nature and biodiversity data from national, regional, and global sources to support risk management and business growth?

The MeerWissen initiative is supporting six partnership projects between African and German marine research institutions with a thematic focus on "Strengthening biodiversity conservation in sustainable blue economy approaches in Africa". The projects that carry out activities in Senegal, Tanzania, South Africa and Namibia address a wide range of issues – from the protection of African penguins and related economic aspects to studies on the potential of marine algae habitats in "blue growth" strategies that aim at improving the data basis and data management for the protection and use of marine and coastal ecosystems.

For instance, in the [MeerWissen project "INDUCE"](#) in Senegal, scientific knowledge on the functional diversity of commercially valuable fish species was generated. By collecting and analysing data and by assessing the extent to which aspects of fish functional diversity are reflected in the current governance policies of artisanal fisheries, INDUCE assisted in laying the scientific basis for best integrating these two blue economy dimensions (fish ecology and governance). This supported the economic

growth of the Senegalese maritime sector in a sustainable way.

A new MeerWissen partnership project in Tunisia supports risk management by using nature and biodiversity data. The MeerWissen project "OceanogRaphlc and Ecological dAta for Nature-based coasTAl proTEction" (ORIENTATE) will provide sustainable and cost-effective data on erosion risk for Tunisia. It develops a living lab for nature-based mitigation through seagrass transplantations around Djerba Island. By involving local communities and local youth, the project contributes to capacity development while facilitating the adaptive governance of erosion risks in Tunisia's most vulnerable coastal areas.

What are the key challenges that remain related to data and reporting? How is your jurisdiction addressing them?

To enable ecologically viable use of marine resources and ecosystem services in the long-term, key challenges are the lack of sufficient data and the inability to analyse and disseminate collected data for policy transfer and uptake. The two following exemplary MeerWissen projects outline how these challenges can be addressed.

Given limited financial resources and capacities to resolve socio-economic and environmental problems in Senegal, the [MeerWissen project "INDUCE"](#) supported researching the nature of environmental problems and their impacts on an international basis. Thereby the project helped to understand how ecological aspects

(fish traits and fish functional diversity) relate to socio-economic aspects (economic and nutritional value) to develop governance policies that are ecologically sustainable and, at the same time, economically profitable and socially valuable. In this respect, INDUCE has laid the basis for developing better fishery governance policies in the future.

The absent dissemination and joint usage of data often hinder effective and sustainable fisheries management in the East African region. The [MeerWissen project FIDEA](#) addressed this lack head-on by developing a regional framework for the collection, sharing, analysis and reporting of fisheries data. The project has successfully linked policymakers and research institutes within the fishery sector with the support of regional and international partnerships, such as the Western Indian Ocean Marine Science Association (WIOMSA) and the Food and Agriculture Organization (FAO). Linking with the FAO enabled the project partners to conduct an extensive review of the fisheries information system in Tanzania, Zanzibar and Mozambique and allowed the countries in the Western Indian Ocean region to review and submit their first report on the progress towards SDG 14.4.1. Through this process, FIDEA worked closely with the FAO to facilitate communication and coordination at the national level between research and management institutions on technical matters relevant to SDG 14.4.

2.8 ENCORE in Switzerland

What SDG or topic is the focus of this case study?

Focus is on SDGs 14 and 15 – Life on land and in water

What is the experience of your institution using nature and biodiversity data from national, regional and global sources to support risk management and business growth?

Switzerland, through the State Secretariat for Economic Affairs (SECO), has financially supported the ENCORE Partners (formerly known as the Natural Capital Finance Alliance) to help develop a scientifically robust methodology and the creation of an open-source databank ([ENCORE](#)). The ENCORE tool guides users – e.g. financial institutions – in understanding how businesses across all sectors of the economy potentially depend and impact on nature, and how these potential dependencies and impacts might represent a business risk. In a second step, Switzerland's Federal Office for the Environment (FOEN) supported the ENCORE partners to add a Biodiversity Module to the ENCORE tool. This Biodiversity Module assists financial institutions to assess their mining and agriculture portfolios' potential alignment with global biodiversity goals. The tool provides users with spatial data on the current state of natural capital assets and the

drivers of environmental change that affect them. The data comprises a compilation of inventories of all available data relevant to natural capital assets and drivers of environmental change at a global level.

What are the key challenges that remain related to data and reporting? How is your jurisdiction addressing them?

Switzerland has not yet put in place any mandatory nature-related data disclosure framework for businesses or financial institutions, beyond general non-financial reporting requirements on ESG matters. Hence, there is currently no agreed consensus on nature-related data disclosure indicators. However, Switzerland is in favour of voluntary monitoring, assessments, and disclosure of risks, dependencies and impacts on biodiversity regularly by businesses, especially large ones. Switzerland is also a supporter of the Task Force on Nature-related Financial Disclosure (TNFD). The Swiss Government is a member of the TNFD Stewardship Council and 4 out of the Taskforce members are representatives of Swiss (based) companies. In our view, the TNFD Framework addresses the main challenges related to data and reporting and will enable organizations to start taking nature into account in their decision-making.

2.9 ASN Biodiversiteit Fonds and Make Nature Count

To gain insight into how monetary valuation data on ecosystem services can help financial institutions make decisions, the ESVD and ASN Bank have set up the Make Nature Count project. This project tested how the ESVD can be used to carry out rapid ES assessments to

analyse biodiversity-related risks from four so-called "positive impact" investment cases (in the Netherlands, Madagascar, Paraguay and Nicaragua) provided by ASN Bank. The analysis of the investment in the Netherlands showed that the change of land cover from agriculture

to forest results in a net positive effect, as the expected forest value, is almost three times the current agricultural value. This is mainly due to the much higher value of regulating services such as air quality regulation, climate buffering, groundwater replenishment, habitat protection and recreational benefits. [...]. Calculated 10 years in time, we see that, in contrast to the agricultural scenario in the forest scenario, a wide variety of stakeholders benefit from the ecosystem services. Local communities and nearby farmers benefit from regulatory services such as water flow regulation, carbon sequestration and air quality regulation. Tourists and businesses operating in the leisure sector benefit from increased recreational opportunities due to the restored biodiversity and increased habitat.

This example contributes to SDG 15: *reverse land degradation and halt biodiversity loss* by increasing forest cover, which results in increased air quality, groundwater replenishment and other regulating ecosystem services. It also contributes to SDG 8: *Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all* by benefitting multiple stakeholders and ensuring long-term employment and business opportunities for both local communities, farmers and tourism companies.

The full report is available here: [Investeren in de natuur loont, óók voor de economie - ASN Bank](#).

2.10 Pressure drainage in the Alblasserwaard-Vijfheerenlanden peat meadow area

In the Netherlands, the Climate Agreement includes measures to reduce CO₂ emissions in peat meadow areas by 2030. In these areas, the peat is drained to make it suitable for agriculture. When peatlands are drained the soil subsides while releasing CO₂. This occurs because the peat is exposed to oxygen and oxidizes slowly.

New drainage techniques can reduce CO₂ emissions. An example is the installation of pressure drainage on agricultural plots. An underground pipe system allows the groundwater level of agricultural land to be raised and lowered more effectively. Raising the groundwater level during dry periods will bring the peat into less contact with oxygen, and reduce soil subsidence and CO₂ emissions.

The Alblasserwaard-Vijfheerenlanden is an area with almost 15.000 hectares of peat meadows. In this area, the province of South Holland is looking for a new balance

between agriculture, soil subsidence and CO₂ emissions. To support this goal, RIVM has calculated whether the benefits of pressure drainage in this area outweigh the costs.

This appears to be the case for almost 4,000 hectares in the Alblasserwaard-Vijfheerenlanden region. The use of pressure drainage causes the soil here to subside 50 to 75 per cent less, with a corresponding reduction in CO₂ emissions. The measure also makes the area more attractive for farmland birds such as black-tailed godwits, lapwings and oystercatchers. Pressure drainage also offers other advantages, such as lower costs for water purification and water management. One disadvantage of the higher groundwater level is that less grass can be produced.

Based on the analysis, RIVM has made a map that shows the advantages of pressure drainage for each agricultural plot on peat soil. As a pilot project, the province wishes to install 250 – 500 hectares of pressure drainage

in the peatland area. The most appropriate plots can be selected based on this map. The greatest uncertainties in the calculations are the price for CO₂ that will be calculated in the future and the costs of installing and managing the pressure drainage system.

This example contributes to SDG 13: *climate action* and 15: *reverse land degradation and halt biodiversity loss* and SDG 12: *responsible (agricultural) production*. It namely focuses

on CO₂ reduction as well as land degradation. Due to the use of pressure drainage, the soil for almost 4,000 hectares in this area subsides 50 to 75 per cent less, with a corresponding reduction in CO₂ emissions.

More information (including the report) can be found on: [Pressure drainage can be a cost-effective technology to reduce CO₂ emissions in peatland areas | RIVM](#)

2.11 City park XXL in Dordrecht

As Dordrecht is trying to grow sustainably and healthily, there is a need for green and wetland zones. One of these zones is the Dordwijkzone. The municipality wants to invest in this area. They have asked the architectural firm Mecanoo to produce a development vision for the places in the Dordwijkzone. Decisio together with RIVM (National Institute for Public Health and the Environment) has drawn up a Societal Business Case (SBC) to assess this vision.

The transformation from the Dordwijkzone into a City park XXL is geared towards providing a more varied program, strengthening people's experience of nature, and increasing the involvement of residents. This city park is located in the middle of the urban ecological structure and has an important function as an ecological stepping stone for the animals in the area. The ambition is to further develop nature in the area and to stimulate biodiversity.

The interventions that are necessary to transform the Dordwijkzone into an attractive and accessible city park and ecological connecting zone account for the most costs. In addition, additional management and maintenance costs of the new infrastructure and public space also result in costs. The city of Dordrecht estimated these costs to total almost 60 million euros.

The city park provides extra green benefits. Consider, for example, living comfort, health, physical activity, carbon storage and cooling. [The Green Benefit Planner](#) (a set of models developed by RIVM) calculated how much these benefits are worth. Making the public space in the Dordwijkzone greener and more accessible will increase the value of homes in and around the area. This benefit yields a total of EURO 130 million (USD 142.1 million) = in net cash, making it the largest green benefit. The new and extra green also ensures that people exercise more and experience less stress. This yields health benefits, avoiding healthcare costs. In total, these health benefits yield EURO 44.5 million (USD 48.6 million) e. In addition, extra trees provide more storage of CO₂ and cooling, and the green partly captures harmful particulate matter.

The cost-benefit balance of the Dordwijkzone is positive with a ratio of 3.7 (benefits/costs). This means, that each euro that is invested by the municipality yields 3.70 euros over thirty years. The transformation of the Dordwijkzone has several positive effects. These effects give the living environment a quality boost. Moreover, the public green also encourages residents to exercise more and the transformation contributes to the biodiversity and climate resilience of Dordrecht.

This example contributes to SDG 15: *reverse land degradation and halt biodiversity loss*, as its ambition is to further develop nature in the area and to stimulate biodiversity. To achieve this ambition, an increase in area is necessary to maintain and strengthen the ecological value and to prevent further fragmentation. Other measures in the package that help achieve this ambition are the restoration and construction of fauna passages. This example also contributes to SDG 3: *good health and*

well-being, SDG 13: *climate action* as well as to SDG 11: *sustainable cities and communities*, as this example transforms the Dordwijkzone into a City Park XXL to make Dordrecht more sustainable and future-proof.

More information (in Dutch) can be found on: [Transformatie Dordwijkzone biedt groene en gezonde kansen volgens Groene Baten Planner | Atlas Leefomgeving](#)

2.12 Aardpeer

Aardpeer wants to ensure that at least one-third of Dutch agricultural land will become nature-friendly again: 600.000 hectares is the main aim. They assist farmers who want to farm nature-friendly: without fertilizers, pesticides and without degrading the soil. Dutch agricultural land however is very expensive. Aardpeer buys agricultural land through BD Grondbeheer to keep it safe. The land is leased at a relatively low price to nature-friendly farmers and is then no longer sold and can therefore also remain available for future generations. The foundation is financed by a group of investors consisting of individuals, NGOs such as Vogelbescherming Nederland and Landschapsbeheer Gelderland and institutional investors. It is an initiative

of BD Grondbeheer, Herenboeren NL, Wij.land and Triodos Regenerative Money Centre. With the combined knowledge, experience and commitment of these organisations, the transition to nature-inclusive agriculture is boosted and food is produced more sustainably.

Aardpeer contributes to SDG 12: *ensure sustainable consumption and production patterns* and SDG 15: *reverse land degradation and halt biodiversity loss* by taking a sustainable and nature-friendly approach to agriculture that improves soil health and biodiversity levels.

More information (in Dutch) can be found on: [Home - Wij.land \(aardpeer.nl\)](#)

2.13 Wij.land / Commonland

The initiative offers farmers the opportunity to test pilots, for example in the field of soil management, biodiversity and creating circular systems. It is active in the peatlands of Amsterdam and Utrecht. The initiative cooperates with farmers and nature organisations and strives for maximum yield for four different returns instead of only financial returns. These returns are social, natural, financial and inspirational returns. Wij.land has a wide range of projects. Most farmers start via the soil project, where they are urged to improve the soils on their agricultural land. The initiative

is financed by the Gieskes-Strijbis fund and Common Land, the organization that founded the 4 Returns Framework.

Wij.land also contributes to SDG 12: *ensure sustainable consumption and production patterns* and SDG 15: *reverse land degradation and halt biodiversity loss* by taking a sustainable and nature-friendly approach to agriculture that improves soil health and biodiversity levels. It also contributes to SDG 8: *Promote sustained, inclusive and sustainable economic*

growth, full and productive employment and decent work for all by ensuring long-term employment and a circular economy.

More information can be found on: [Home - Wij.land](#)

2.14 ASR

Open Bodem Index and the a.s.r. Dutch Farmland Fund has more than 40.000 hectares of agricultural land in their possession that they lease out to Dutch farmers. When the farmers comply with certain sustainability requirements, they can receive a discount on the amount of money they pay for leasing the agricultural land. These sustainability requirements are about the soil, biodiversity and the agricultural firm itself. For the soil, the farmers need to apply for an OBI score and improve their soil quality if necessary. For biodiversity, farmers need to comply with the rules set out in the Overzicht Beheerpakketten Agrarisch Natuur- en Landschapsbeheer (ANLb) and/or Subsiestelsel Natuur en

Landschap (SNL). The fund has a strong focus on value creation in the long term for both investors and farmers. Investors include the ING pension funds, BPL pension and DELA.

The fund contributes to *SDG 12: ensure sustainable consumption and production patterns* and *SDG 15: reverse land degradation and halt biodiversity loss* by taking a sustainable and nature-friendly approach to agriculture that improves soil health and biodiversity levels.

More information (in Dutch) can be found on: [ASR Dutch Farmland Fund - a.s.r. real estate \(asrrealestate.nl\)](#)

2.15 Agricultural Leasing Company Zambia Limited

As a country with large farmland of over 40 million hectares, the agricultural sector in Zambia employs about 54% of the labour force (World Bank, 2019). The agricultural sector in Zambia however has been characterized by little mechanization. Most farmers continue to cultivate the soil by hand and animal power with negative consequences for yields. Not only is less arable land cultivated than is available, but farmers are also unable to make optimal use of favourable time windows for sowing and weed control. A major reason for the often unproductive cultivation methods is the lack of access to financing for agricultural equipment.

To address this problem, the leasing company "Agricultural Leasing Company Zambia Limited" (AgLeaseCo, www.agleaseco.com) was established in 2018 by KfW with financial support from the BMZ (SEWOH fund: 10.5

million EUR). The purpose of AgLeaseCo is to provide emerging farmers (5 ha-20 ha farms) and peripheral farmers (less than 5ha) access to financial instruments so that they can meet the costs of mechanization. The solution of leasing is adventurous to traditional bank financing:

- ➡ Leasing does not require any collateral (whereas a bank loan does), the leasing company's only collateral is the financed machine, which would be collected and resold if the customer defaults on repayments. This removes an important hurdle to financing for farmers (who usually are not able to provide any collateral).
- ➡ Leasing allows for comparatively quick and unbureaucratic processing.

Since 2021, AgLeaseCo has been present in all 10 provinces of Zambia. Its leasing portfolio continues to grow rapidly, from 58 customers as of March 2020 (USD 0.4 million leasing portfolio) to 250 customers as of April 2021 (USD 0.8 million), to 639 customers as of June 2022 (USD 3.0 million) and just reached the 1000 contract in March 2022 (USD 4.4 million). Since June 2022 has generated operating profit.

By promoting mechanization in agriculture, productivity and income can be increased, contributing to socially acceptable structural change in Zambian agriculture and the countryside. KfW -on behalf of the BMZ- ensures that the project contributes to the BMZ's 2030 Agenda and the SDGs. The overarching developmental objective is to support poverty-reducing structural change which contributes to SDG 1. In addition, the company has focused on the goal of zero hunger (SDG 2) and gender equality (SDG 5) in the agricultural sector. In 2022, after achieving financial sustainability (operating revenues cover costs), AgLeaseCo was able to record and evaluate the effects on productivity and income for the first time. To adequately measure the progress towards the SDGs, annual data capturing and reporting is used as it outlines the advancements by comparing average productivity and household income before and after AgLeaseCo's mechanization. The productivity indicator refers to corn and soybean, as AgLeaseCo's leasing customers mainly cultivate these products. As of June 2022, the target of increasing farmers' productivity (yield of soybean & corn) by at least 40% has been achieved. In addition, the goal of increasing farmer incomes by an average of 40% has been exceeded with an actual value of 60%.

As a result, AgLeaseCo has effectively contributed to SDG 2 (zero hunger) and SDG 1 (end poverty). In terms of SDG 5 (gender equality), AgLeaseCo is committed

to increasing the number of women working in the agricultural sector. In 2022, women accounted for 26% of customers, and with 12 women employed in the company in April 2023, half of the workforce of AgLeaseCo is female. To promote women in the industry and increase the number of female customers, AgLeaseCo is currently in discussions with several partners.

With the public fund from the BMZ and substantial support from KfW and its partners (such as the AATIF Innovation Facility), AgLeaseCo has been successfully established as an innovative start-up recognized company in the agricultural sector in Zambia. To finance its growth phase AgLeaseCo is currently seeking financial support from the private sector from both international and local investors (blended finance).

One of the biggest challenges AgLeaseCo has faced in the startup phase was to manage the currency risk as AgLeaseCo purchases the lease equipment in USD whereas the farmers pay their monthly rates to AgLeaseCo in ZMW. AgLeaseCo and KfW are currently in discussions with the suppliers on the possibility to purchase the equipment in ZMW. Since leasing is a fairly new product in Zambia, there have been risks associated with implementation (greenfield investment), which have been managed well by an experienced management team of AgLeaseCo.

In terms of potential threats, climate change risks (SDG 13) are considered the most imminent due to the challenge of mostly unpredictable rainfall in agriculture. To mitigate these risks, AgLeaseCo's management aims to take measures for weather insurance. Lastly, providing maintenance service to the farmers on their lease equipment proves to be a big challenge due to the remote locations of farms and bad road infrastructure. AgLeaseCo is setting up a business plan to address and

tackle this problem and is seeking further financial support from BMZ and KfW.

To replicate AgLeaseCo's innovative successful approach to mechanising the

agricultural sector in neighbouring counties, KfW has tasked consultants to carry out a feasibility study for Malawi. A concept for replication will be presented once the study has been completed.

2.16 Rinascimento Bergamo – Intesa Sanpaolo

Rinascimento by Intesa Sanpaolo provides impact loans and non-repayable grants to enterprises suffering losses during the pandemic, intending to enable the restart of the urban ecosystem. The program, promoted in 2020, was targeted at the Italian cities of Firenze and Bergamo. "Rinascimento Bergamo" was divided into eight Calls, targeted at SMEs, micro-enterprises, and so-called "third-sector organizations".

Impact KPIs were defined and assessed for any of the Calls, in partnership with CESVI Fondazione Onlus and a Technical Committee, while two impact sets of indicators were identified at the Program level, to consider an interest rate reduction to be eventually applied to the impact loans, or an extension of the term.

The total funding amounted to EURO 30 million (USD 3.2 million): EURO 10 million (USD 10.09 million) was allocated for non-repayable grants to support those who suffered from the lock-down, EURO 20 million was allocated for "impact loans" to allow SMEs to adapt to the new context and rules during the pandemic and the post-pandemic era. The Municipality of Bergamo set up an Impact Guarantee Fund (EURO 1M or USD 1.09 million) to be activated in case of negative trends on KPIs,

at the request of the bank.

- ➔ Investor: Intesa Sanpaolo
- ➔ Warrantor: Municipality of Bergamo
- ➔ Impact evaluator: Technical committee, Deloitte Financial Advisory S.r.l
- ➔ Partner: Advisors contributing on a pro bono basis
- ➔ SDGs Targeted: SDG 8 and SDG 11

Project Teatro Caverna

Through Rinascimento Bergamo, Teatro Caverna, a small theatre on the outskirts of Bergamo, received financial support for "reinventing" itself, by securing its spaces, increasing the number of seats, and thus allowing citizens to go back to theatre feeling welcome and safe. New theatre formats were designed, to bring the theatre directly in the street and the courtyards. The economic constraints caused by the lockdown were successfully overcome, and after one year of the received funds (July 2020), ten professional workers, up to 800 spectators, and ten theatre companies from the surrounding area resulted to be engaged.

2.17 Cassa Depositi e Prestiti

Project: Pietro Fiorentini Group sustainable development financing: lower interest rates if employment grows

Pietro Fiorentini Group's (Group or Company)

financing is a success story for Cassa Depositi

e Prestiti (CDP) following its mission to promote Italy's sustainable development. The scope of the EURO 25 million (USD 27.3 million) financing is to support the Company's investments in new cutting-edge technologies to reduce its carbon footprint which will also contribute to increasing its employment levels in Italy.

Founded in 1940, Pietro Fiorentini Group is an important industrial entity in North Eastern Italy - recognized as a Historic Brand of National Interest - and a leading international group,

offering advanced solutions for companies operating along the entire natural gas supply chain.

With more than 80 years of experience across the entire natural gas supply chain, today the Group has expanded its horizons towards the development of technologies and solutions for a sustainable, digital world, with a particular focus on renewable energy projects. Its goal is to be key a player in future changes, such as digitization, the transition to cleaner energy sources and greater responsibility for economic, social and environmental sustainability.

The Group has made significant investments in R&D, M&A, plants and production systems, thanks to which it now holds a leadership position in smart metering, as well as in smart grids.

in general. More recently, to reduce its environmental impact, the Group has intensified its efforts to seize new opportunities related to green energy sources, such as biomethane, hydrogen, power-to-gas, water metering and digitalization of the water cycle.

The project enables support for SDG 8 (Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all) more specifically, it is contributing to achieving higher levels of economic productivity through diversification, technological upgrading and innovation, including through a focus on high-value added and labour-intensive sectors (SDG 8.2). In particular, the financing foresees a discount on the interest rate (una tantum) tied to an increase of the Company's FTE in Italy vs the latest available figure (the year 2021).

The transaction was carried out through a bilateral long-term loan with ESG KPIs, entirely funded with CDP resources (no blended finance). The purpose of the financing is to enable the growth of the Company (and the Group it belongs to) by financing the construction of its new headquarters, the expansion of the R&D department and the enlargement of the production centre (new machinery and plant expansion) which should lead to an increase of the overall production capacity and employment of specialized personnel. These interventions will lead to an improvement in Company's operation, therefore, reducing energy inefficiencies and improving products to reduce environmental impacts across the entire natural gas supply chain.

This funding, like many others, fully meets CDP's mission to contribute to Italy's sustainable development. The financing of projects that can contribute to the SDGs is in line with CDP's [Strategic Plan](#) (2022-2024), which defines the Group guidelines for the sustainable growth of the economy and for bridging the gap between Italy and other countries. The plan identifies diverse priorities for action, four major challenges and strategic directives: 1. Climate change and ecosystem protection, 2. Inclusive and sustainable

growth, 3. Digitization and innovation, 4. Rethinking value chains (as in this case study).

The progressive expansion of CDP's role and operations, reflected in the 2021 amendment to the Articles of Association - that introducing the principle of sustainable development, insofar as it aims to promote economic, social and environmental sustainability in the long term, for the benefit of shareholders and taking into account the interests of other stakeholders relevant to CDP - makes it necessary to adopt precise guidelines to steer activities on projects and interventions that can guarantee a greater positive impact on the development of Italy and its partner nations.

To integrate ESG factors into our business, so far our BoD approved specific policies that define how we incorporate sustainability into our business operations. First of all, the "General Responsible Lending Policy", which defines the principles and criteria that CDP is to apply in its financing activities (where aligned with the other sectoral strategic priorities defined in the 2022-2024 Plan). The other 5 policies are: the "General Responsible Investment Policy", the "Diversity, Equity and Inclusion Policy", the "Energy Sector Policy", the "Defense and Security Sector Policy" and the "Transport Sector Policy".

With reference to the financing activities, as of 2020, CDP has structurally incorporated the ex-ante assessment of positive and negative impacts related to ESGs aspect and SDGs into its lending operations, to raise awareness and focus efforts on the areas and actions of greatest potential impact. The evaluation is based on a qualitative/quantitative analysis methodology (Sustainable Development Assessment or SDA – a proprietary CDP model) that gives a score that expresses the expected impact of projects and initiatives that can be financed by CDP, to promote

those with the greatest impact.

This methodology, revised in 2022, includes the strategic coherence assessment with the Sectoral Strategic Guidelines and the technical assessment for specific projects with greater complexity and their economic, social, employment and environmental impacts. Such assessments feed into the internal decision-making process alongside the more traditional assessments of risk profile, compliance and anti-money laundering, financial conditions and legal aspects. The valuation activity will be carried out on a progressively increasing perimeter of financing operations, considering the following dimensions:

- ➔ Alignment with CDP's strategic objectives and with CDP's priority focus areas, identified through structured consultation with CDP stakeholders, as well as with ESG objectives
- ➔ Quality of the counterpart based on the operational model adopted within the context of its operations, and of its conduct with regard to ESG aspects
- ➔ Expected impact of the project in terms of macro-level of alignment of the intervention with sustainable development issues and the specific impact obtained on these issues
- ➔ Additionality is an expression of the CDP's additional role in the financial sector, considering the capacity to operate in strategic market sectors, to stimulate the financial resources of other public and private entities. (for more details see "CDP General responsible lending policy" - [link](#)).

CDP plays a significant role in the allocation of financial resources in sectors, companies and

projects, to create additionality with respect to other financial market operators, and thus, generating a multiplier effect of resources.

In this project, the funding additionality is related to the jobs created (as mentioned above, the financing foresees a discount on the interest rate (*una tantum*) tied to an increase of the Company's FTE in Italy vs the latest available figure (2021). CDP included in the contract a provision which enables automatically determining the potential increase in the Group's FTE from the release of the sustainability report, which will be verified through the «Compliance Certificate» to be provided annually by the counterparty to CDP.

Key challenges are in general tied in Italy to the «sustainability maturity» and landscape of potential counterparties. The beneficiary of this case study positions among the most sophisticated and largest groups in the area. In Italy, there are many potential counterparties, with strong growth potential,

nevertheless, some of them are in their early stage of maturity in terms of ESG planning and reporting, which are important requirements to catch such an opportunity.

Therefore, there is an appetite for the solution highlighted in this case study, which could boost several SDGs related levers linked to environmental footprint and employment. It is noted that, once the deal went public, many counterparties got in touch with our institution to assess the feasibility of Pietro Fiorentini-like financing. We indeed replicated the scheme with two other counterparties in the last 6 months, though in relation to different SDGs.

More and more companies are linking their investments to projects with significant social and environmental impacts. CDP, through its commitment to promoting Italy's sustainability, encourages sustainable finance instruments by responsibly deploying savings to foster growth and employment, supporting business innovation and competitiveness.

2.18 Fondo Infrastrutture per la Crescita ESG - Azimut

Fondo Infrastrutture per la Crescita ESG invests in the field of social infrastructures following the ESG approach. The view is to create measurable impacts on the economy, environment, and society while securing long-term profitability with periodic distribution in favour of the investors. It works through equity raised by fund investors together with leverage.

Investments are planned under four investment asset classes: White & Silver Economy and well-being, Young Economy, Environment and Society, and Housing on the entire national territory, for a total amount of approximately EURO 1.465 billion (USD 1.6 billion).

For the investments to be compliant with the ESG aspects, all the investments undergo an ex-ante analysis by the Scientific Advisors. The analysis from the Scientific Advisors ends with the assignment of a compatibility score with the Fund ESG Plan for Investments, which explicitly recalls eleven SDGs out of the seventeen. To each of the recalled SDGs, the ESG Plan links the Sustainability Due Diligence indicators, for a total of 45 indicators referring to the three dimensions of Environment, Social, and Governance. Fondo Infrastructure per la Crescita ESG perfects those investments that reach a sufficient degree of alignment with the ESG Plan for Investments. In relation to any investment, the Scientific advisors propose additional, specific indicators, both at the level of outputs and outcomes, while also

impact goals and related indicators are set, to be regularly assessed through monitoring and measurement processes.

- Investor: Investment fund reserved for institutional investors
- Impact evaluator: Scientific Advisors, i.e. Human Foundation, Polimi – Politecnico di Milano

Project – Dot campus

In 2022 Azimut Libera Impresa SGR S.p.A., managing Fondo Infrastructure per la Crescita ESG, started a partnership with Side

Asset Management (SAM). Together they established Dotcampus, a university ESG campus where new graduates meet Italian SMEs. Realized through an investment of EURO 17M (USD 18.5 million), occupying a surface of approximately 5000 square meters, it is meant to be a place for training and networking, in response to the social need for effective and inclusive job matching. Dotcampus was built with a view of full compliance with the ESG criteria, ensuring environmental sustainability and extensive tech-driven innovation, to offer a high-standard service to the students. Impact indicators were set to be regularly monitored and measured.

2.19 Shanghai Stock Exchange: Supporting Rural Revitalization

Issues relating to agriculture, rural areas, and rural people are fundamental to China as they directly concern the national economy and people's well-being. Rural revitalization is therefore one of China's key national strategies and the overall goal of the strategy is to build rural areas with thriving businesses, pleasant living environments, social etiquette and civility, effective governance and prosperity. It is however a challenging and arduous task. Rural revitalization is linked to several Sustainable Development Goals, including SDG No.1 No Poverty, SDG No.2 Zero Hunger, SDG No.4 Quality Education and SDG No.10 Reduced inequalities.

As an important infrastructure of China's capital market, the Shanghai Stock Exchange (SSE) plays a vital role in supporting China's rural revitalization strategy. It has adopted an all-encompassing approach to facilitate rural development by channelling capital flows into rural revitalization areas via innovative financial products and guiding listed companies to fulfil their social responsibilities.

Firstly, SSE launched an innovative product called rural revitalization corporate bonds.

The funds raised from those bonds are designated to support poverty alleviation and rural revitalization. To issue rural revitalization bonds, one of the following conditions shall be met: (1) The issuer is registered in a national key county for rural revitalization assistance or an area that has been lifted out of poverty for less than five years. The proceeds from issuance shall be used to support areas related to rural revitalization, such as fostering local industries and local employment, improving rural infrastructure and raising public service standards in poverty alleviation areas. (2) The proceeds are mainly used to build, operate or acquire rural revitalization projects, or repay related project loans.

To ensure the proper usage of the proceeds from rural revitalization bonds and help prevent related risks, SSE implemented the following requirements: (1) The issuer shall disclose the details of the proposed investment project in the issuing prospectus, including the evidence of the project's alignment with rural revitalization and poverty alleviation goals, project implementation plans and relevant policy support. The lead underwriter shall verify the above information

provided. (2) Throughout the bond's tenure, the issuer shall disclose the use of proceeds, project progress and the benefits generated from the project in periodic reports. Up to now, none of the SSE rural revitalization bonds has experienced payment default.

In 2022, a total of 33 rural revitalization bonds were issued on the SSE, totalling RMB 22.46 billion (USD 3.1 billion) and covering projects from 19 provinces. The launch of rural revitalization bonds leverages the advantages of the capital market in direct financing support, price discovery mechanisms, and optimal allocation of resources to promote the development of poverty-stricken areas and the overall revitalization of rural areas. For example, Haoji Railway Company Ltd issued RMB 2.5 billion (USD 346 million) in rural revitalization bonds in August 2022, with proceeds used to finance the final railway project and locomotive purchase. Haoji railway ended the history of no railways in Pinglu, Lushi, Pingjiang and other areas that have been lifted out of poverty for less than 5 years, creating a local transportation network that helps to empower the counties to develop local industries and local employment.

Secondly, SSE worked with China Securities Index Co., Ltd. (CSI) to release rural revitalization-related indices. For example, CSI Rural Revitalization Bond Indices are designed to reflect the overall performance of rural revitalization bonds, and CSI Poverty Alleviation Development Index is tracking the performance of listed companies operating in poverty-stricken areas or poverty alleviation industries. Together with other agriculture-themed indices, those indices play a crucial role in directing capital into rural development areas through index tracking financial products.

Thirdly, SSE has guided listed companies to fulfil their social responsibilities. SSE incorpo-

rated requirements for listed companies to actively undertake social responsibilities and disclose the performance of social responsibilities into listing rules and other relevant guidelines, encouraging companies to disclose the social contribution value they have created.

Based on their resource advantages and the characteristics of their industry, companies listed on SSE have actively consolidated the achievement of poverty alleviation and helped rural revitalization. The 2022 annual reports of listed companies on SSE showed that about 750 companies aided poverty alleviation, with a total investment of nearly RMB 80 billion (USD 11.02 billion). Through various measures such as fund assistance, consumption assistance, industrial assistance, employment assistance and talent assistance, they promoted the sustainable and high-quality development of local industries.

The challenges remain, as to how to scale up the rural revitalization-related products and market. While rural revitalization bonds experienced rapid growth in the past year, the total amount is still relatively small. There is a lack of market awareness of the new product and an obvious pricing advantage for the issuers is yet to be seen. SSE has endeavoured to support the growth of the market, by setting up a fast track for listing approval of rural revitalization bonds and providing training for market participants. In addition, SSE and relevant industry associations have also provided incentives to issuers, underwriters and investors who actively participate in rural revitalization bonds in the relevant evaluation system and rewards to encourage more market participation. Going forward, SSE will continue to explore more measures together with regulatory bodies and other stakeholders to create a more enabling environment for capital markets to support rural revitalization.

2.20 Natura

What SDG or topic is the focus of this case study?

Financial models to strengthen the Amazon socio-biodiversity organizations, businesses and supply chains, promoting a development model in the Amazon that combines conservation with income generation. These actions are connected to SDG 9, 10, 13, 15 e 17.

Natura's commitment to sustainability dates back to its founding in 1969. In the late 1990s, Natura took the historic decision to incorporate ingredients from Brazilian biodiversity in the manufacture of its products. After a few years of study in bibliography, laboratory and field, the actives started to be used, in fact, in 2000, when the brand Ekos was launched. At this moment, the sustainable use of Brazilian biodiversity becomes Natura's main product innovation platform and one of its main lines of research.

With the Natura Amazônia Program (PAM), launched in 2011, the Amazon Forest became a vector in the creation of innovation, sustainable businesses and promotion of local development in the Amazon for Natura. The relationship with agro-extractivist communities converged in the region and gained scale. The objective is for cooperatives to prosper, produce wealth locally and generate social development. The Natura Amazônia Program is the structuring front of Natura's cause called Amazônia Viva, based on three main pillars: science, technology and innovation; production chains, and institutional strengthening. Thus, in addition to being an economic development model that contributes to keeping the forest standing and sharing wealth, it also generates an enormous social impact. In 2018, Natura's Ekos was certified by the Union for Ethical BioTrade (UEBT), which attests to the ethical supply of bioactives with respect to biodiversity

and people through fair biotrade, generating income and safe working conditions for the communities in its production chain, keeping the forest standing. The Ekos brand is one of the only ones in the world to achieve it.

So far, through its pioneering business model in the region, Natura has already developed 42 Amazonian bioingredients and has relationships with 9,143 families from the Amazon from 41 different communities within. It works with 85 supply chains that harvest bioactives respecting the limits of the forest and the harvest calendar, as well as the local way of life. This business model based on socio-biodiversity bioeconomy has already contributed to conserving and regenerating 2 million hectares of forest - considering not only the areas where these communities live and collect ingredients, but also three conservation units in which they operate - the Uacari and Rio Iratapuru sustainable development reserves, and the Middle Juruá Extractive Reserve. To date, Natura has also generated more than R\$ 2.55 billion in business volume in the region.

With its products and services, in addition to paying for environmental services - ABS (access and benefit sharing) - and the circular and low-carbon economy, Natura works in a network for the bioeconomy, promoting environmental regeneration and generating greater shared value among all the actors in its relationship network, proving that the forest is worth much more standing than cut down.

In 2022, the financial mechanism "Amazônia Viva", developed by Natura in partnership with the Brazilian Fund for Biodiversity (FUNBIO) and Vert Securitizadora, was one of the 11 projects with a positive impact selected by the National Bank

for Economic and Social Development (BNDES) to receive funds through a blended finance notice. The mechanism seeks to strengthen organizations, businesses and the Amazonian bioeconomy based on a model that combines an appreciation of socio-biodiversity, environmental conservation, income generation and strengthening of traditional populations. The project foresees to stimulate territorial development in around 16 territories, increase the production of more than 40 cooperatives of small agro-extractivist communities and benefit more than 10 thousand families in the Amazon. With more resources leveraged, it is expected to increase the turnover volume of these organizations, as well as an improvement in the average income of participating families. The initiative also has the potential to contribute to the conservation of 3 million hectares of forest.

How has your jurisdiction promoted an enabling environment to finance the identified SDG(s)?

Brazil was one of the pioneering countries in implementing a law on access to genetic heritage and associated traditional knowledge and Benefit Sharing (ABS): MP 2186-16, from 2001, in line with the Convention on Biological Diversity (CBD). By signing its first ABS contract, in 2004, Natura was a pioneer in Brazil and the first in the world to execute it following the principles of the CBD. Natura's pioneering spirit in this area contributed to the creation of the Law on Access to Genetic Heritage and Associated Traditional Knowledge – Law nº 13,123, of 2015 – which today is responsible for the implementation of an environmental conservation model aligned with socioeconomic development.

Natura prioritizes the payment of ABS directly to communities to guarantee autonomy, empowerment and the promotion of environmental conservation and the sustainable use of biodiversity. The initiative

takes place through the financing of projects, chosen by these communities, which aim to collaborate with their emancipation, cultural appreciation, strengthening of the production chain, and socioeconomic development, in addition to sustainable use, conservation and regeneration of natural resources.

Since 2003, approximately R\$85.5 million has been paid through approximately 90 benefit-sharing contracts, mainly to communities throughout Brazil.

What methods are your jurisdiction or market participants using to measure alignment with the identified topic?

A key element of Natura's business model is the concept of the standing forest economy. This commitment to the generation of positive impact and also to the conservation and regeneration of the regions is established in the company's 2030 Vision, called Commitment to Life. Some of the goals established in the public document are expanding influence on forest conservation from 2 million to 3 million hectares, and from 33 to 40 communities; increasing revenue streams with 55 additional bio ingredients (up from 38); sharing at least R\$60 million in value with communities (from R\$33 million) and mobilizing collective efforts to achieve zero deforestation in the Amazon by 2025.

So far, Natura's network of agro-extractivist suppliers is composed of 9,143 families from the Amazon and 41 communities working in 85 supply chains that harvest bioactives respecting the limits of the forest and the harvest calendar, as well as the local way of life. The company has allocated R\$42.9 million in resources to communities/territories. An important metric is the area that helps to conserve through its business model, which today corresponds to 2 million hectares of forest.

Another important measurement methodology adopted by the company is the Integrated Profit and Loss (IP&L), an integrated management tool that allows us to account for, in addition to financial results, the impact of corporate performance in the environmental, social, and human dimensions. The results of the study consider several other fronts of the company's performance, such as carbon emission and offsetting, circularity, regeneration and conservation of biomes, and income generation for the network (and its impacts on health and welfare).

According to IP&L, in 2021, the value generated for society by the company's activities in Amazon is R\$327 million. The number refers to the benefits of income generation for local families, community development, infrastructure improvements and productive capacity, in addition to avoiding deforestation. According to its business model, in 2021, for every R\$1 invested in the region, Natura generated the equivalent of R\$8.6 in social value.

What types of financial instruments are being used to finance the identified topic? Are blended finance solutions used? Are blended finance solutions supporting the maximization of the social impact investment market?

In 2022, in partnership with the Brazilian Fund for Biodiversity (FUNBIO) and Vert Securitizadora, Natura developed a blended finance mechanism that seeks to strengthen organizations, businesses and the Amazonian bioeconomy based on a model that combines the appreciation of socio-biodiversity, environmental conservation, income generation and strengthening of traditional populations. The mechanism was one of the 11 projects with a positive impact selected by the National Bank for Economic and Social Development (BNDES) to receive resources through a blended finance public notice.

Amazonia Viva's blended finance mechanism will stimulate territorial development in around 16 territories, increase the production of more than 40 cooperatives of small farmers and benefit more than 10 thousand families in the Amazon. With more resources leveraged, it is expected to increase the turnover volume of these organizations, as well as an improvement in the average income of participating families. The initiative also has the potential to contribute to the conservation of 3 million hectares of forest.

The mechanism will work from two different instruments, aligned under the same governance process. The first will be structured in the form of an agribusiness receivables certificate (CRA), which will be managed and structured by Vert. This title will offer advance financing to agro-extractivist cooperatives and associations and family farmers in the Amazon. The amount can be used, for example, as working capital for annual crops, making operations more efficient and increasing productivity. The instrument becomes sustainable as the fund's returns are reinvested in subsequent years. Natura, which will act as the project's main investor and off-taker, and other companies that intend to join in the future, will serve as guarantors of the purchases.

The second instrument is a non-refundable philanthropic fund, called the Enabling Conditions Facility (ECF), which will be structured and managed by FUNBIO. The purpose of the ECF is to invest in initiatives and solutions that provide support and technical assistance to cooperatives. The instrument will also promote socio-environmental programs that help solve structural problems in the territories and strengthen the role of young people and women.

How is additionality and/or impact assessed when using these instruments?

Today, one of the greatest challenges of the Amazonian bioeconomy is to expand socio-biodiversity chains. With the Amazônia Viva mechanism, Natura will be able to help to expand and strengthen this unique development model, based on the union of science, innovation and technology with the traditional knowledge of local populations, which contributes to Brazil becoming an increasing reference in a bioeconomy of the standing forest, inclusive and low carbon. This mechanism aims to contribute to the social and economic inclusion and digital inclusion of agro-extractivist communities, in addition to strengthening environmental conservation and investing in regenerative initiatives.

What are the key challenges that remain in financing the identified SDG or topic? How is your jurisdiction addressing them?

The concept of socio-biodiversity bioeconomy, which is based on valuing sustainable processes, based on ecological processes aimed at environmental conservation and regeneration, and traditional practices and knowledge of local peoples, has been gaining ground. This becomes even more relevant when Brazil's vocation for the bioeconomy and its enormous potential to be a global leader in this economy that prioritizes life, nature and people, is valued. However, despite recognizing the importance of this socio-biodiversity bioeconomy for local development, one of the country's current challenges is to scale and expand the value added for these countless small chains, which are based on socio-environmental diversity, the differential characteristics of these Amazonian chains. To expand the bioeconomy of socio-biodiversity, it is fundamental to strengthen the entire ecosystem involved.

In the short term, robust investments are needed in technology, infrastructure and training of local populations to leverage and expand access to markets, considering the entire chain and processes involved, such as the processing and transformation industry. Subsidies and government incentives are also essential to leverage the bioeconomy of socio-biodiversity and for the public sector to be a fundamental actor in the process of implementing this policy. Another important aspect is the engagement of the market and consumers in the sense of valuing products that strengthen the economy of standing forests.

Also according to a study carried out by The Nature Conservancy (TNC) and the Inter-American Development Bank (IDB), supported by Natura, it is estimated that revenue from biodiversity chains in Pará, in 2019, was around US\$ 1 billion, with the generation of 224 thousand jobs. Another study released by a group of researchers from the Amazônia 2030 project shows that the international market for biodiversity chains represents around US\$ 175 billion per year, but the Amazon chains have, in this total, only 0.2% of participation in exports. Therefore, the potential is immense and needs to be harnessed if Brazil wants to become a leader in the green and low-carbon economy.

What, if anything, is preventing the replication and scaling of the solution highlighted in this case study?

Robust public investments are needed in technology, infrastructure and training of local populations to leverage and expand access to markets, considering the entire chain and processes involved, such as the processing and transformation industry. Public policies that direct society towards this path, in addition to government subsidies and incentives, are also fundamental to leveraging the bioeconomy

of socio-biodiversity, as we understand the public sector as a fundamental actor in the process of implementing this journey. Another important aspect is market and

consumer engagement in valuing products that strengthen the low-carbon, standing forest economy.

2.21 Agence française de développement (AFD)

Project: non-sovereign credit line to BNDE – Senegal (EUR 15 million) (Banque Nationale de Développement des PME du Sénégal)

AFD project in favour of BNDE (the main Senegalese public bank for SMEs) aims to boost the Senegalese private sector, and thus employment, by accompanying BNDE, (i) in the implementation of its new strategy for 2022-2026 and (ii) in its role as a financier of actors and sectors having positive impact projects.

It has three specific objectives:

1. Facilitating new investment credits for projects with high social-economic and environmental impacts, knowing that the 2022-2026 strategic plan of BNDE has planned a very significant effort put into the financing of VSME with an average increase in the number of customers of 18% and an increase in the outstanding loans of 20%.
2. Improving financial inclusion, especially for women, by stimulating and financing the Decentralized Financial Systems (DFS) sector, particularly in rural areas.
3. Strengthening the capacity of the BNDE and strengthening its position as an inclusive (especially for women) and sustainable public bank.

What SDG or topic is the focus of this case study?

This project is supporting, via sub-loans to eligible beneficiaries, the SDGs 1, 5, 8, 9, 10 16 and 17.

How has your jurisdiction promoted an enabling environment to finance the identified SDG(s)?

Incentives are given to the bank to determine the current performance on social impacts of its loan portfolio, to commit to targets on relevant indicators and to adapt its information system for automatic indicators calculation.

What methods are your jurisdiction or market participants using to measure alignment with the identified topic?

The pragmatic method means progress step by step on impacts that are compliant with the bank business model and its capacity building to move on more social considerations, in relation to the resources available for the TA program.

What types of financial instruments are used to finance the identified topic? Are blended finance solutions used? Are blended finance solutions supporting the maximization of the social impact investment market?

The non-sovereign loan is supported by a EUR 500K subsidy dedicated to an ambitious TA program that will design an

MFI support strategy, a gender strategy and an environmental and social strategy, both declined in relevant dedicated actions.

How is additionality and/or impact assessed when using these instruments?

Via detailed reporting on indicators agreed by the bank and tailored by the TA, and after generated by the IS.

What are the key challenges that remain in financing the identified SDG or topic? How is your jurisdiction addressing them?

The key challenges relate to the capacity of

the bank staff to absorb an extra workload (new ways of working and additional reporting constraints during the project disbursement and TA period and after the end of the TA).

What, if anything, is preventing the replication and scaling of the solution highlighted in this case study?

Political and public shareholders awareness and arbitration of impact finance versus infrastructure and big SMEs investments long-term finance.

2.22 DaMi and XiaoMi: Transforming the Quality of Life for Children with Autism

Autism Spectrum Disorder (ASD) is an early-onset neurodevelopmental condition characterised by persistent social communication and behavioural interaction impairments. Classified as a spectrum disorder ASD affects each individual differently – varying in strength, challenges, and needs. Presently in China, individuals with ASD and their families face challenges throughout the entire process to address the condition – from consultation to diagnosis to treatment and follow-up.

It currently affects over ten million people in China, with an estimated two million being children. Considering the exposure, the Chinese government has been prioritizing autism care and has been providing support to families to receive better care. This has been seen in the form of reforms to include speciallyabled children in mainstream schools, research to understand the prevalence of autism and subsidies to cover the cost of early childhood education for children with autism. While China has stepped up efforts to tackle the issues related to ASD, challenges remain for the community in the form of available

options for catering to the needs of children with autism, mainly due to the inadequacy of capacity from the supply side, especially for follow-up interventions and therapies post diagnosis which require extended time efforts and intensive frequencies.

A former senior journalist in China, Jiang Ying Shuang started DMXM after her personal experience with the underserved ASD sector in China. During an incidence where her daughter was misdiagnosed with ASD, Ying Shuang found that the system offered inadequate options for formal treatment and those available were expensive and difficult to access. This spurred her to set up DMXM to prove a solution that increases the access, awareness, and availability of ASD therapy for communities across China coping with the condition. DMXM initially started as a WeChat support group for parents or caregivers of children with ASD.

Early addressal of ASD is key for optimal development of the child, which can result in substantial improvement of future

opportunities and enhanced social inclusion. However, despite ASD being diagnosable from the early age of two and interventions initiatable from ages 2-3, the average age of diagnosis in China is about 4.5 years⁴¹. This indicates that many children with ASD miss the prime window of diagnostic intervention. DMXM offers therapy and rehabilitation services for children with ASD between the ages of 3 and 12, with the average age of first treatment at DMXM being 2.8 years.

Additionally, available therapy options for children with ASD are insufficient often because of weaker localised programmes that hinder efficacy or difficulty in access for parents and caregivers. While most ASD therapy providers offer Applied Behaviour Analysis (ABA) based intervention, DMXM has allocated more resources to localise the treatment system to cater to the special needs of children with ASD in China, instead of directly importing existing intervention theories and techniques from abroad. To better serve the need of the community, DMXM developed a proprietary intervention technique in-house - the 'RICE' system - by integrating ABA-based techniques with localised content tailored to users, which makes for more effective treatment as compared to therapy techniques used globally.

This structured system offers behavioural, speech and occupational therapy, focusing on social skills development among children diagnosed with ASD to significantly improve their condition and increase the chances of reintegration into mainstream schools. Based on internal assessments conducted by the company, 94 - 95% of children have improved their social skills and 40% of children were able to join mainstream schools' post-therapy with DMXM, and over 90% of parents were satisfied with DMXM's therapy outcomes.

DMXM's commitment towards building a solution that works in the localised context is also reflected by its investment in highly qualified resources and experts who understand the issues related to autism and solutions available globally. Research and Development for DMXM is led by two reputed experts in the field in China, Professor Zou Xiao Bing, and Dr Yuan Qiaoling

➡ Prof Zou is a doctor at Zhongshan Hospital focused on behaviour development in children. He is seen as one of the pioneers and the leading expert in children's behaviour development in China. Prof Zou has worked with DMXM since the founding phase of the Company.

➡ Dr Yuan holds a PhD in Behavioural Disorder from Columbia University and has hands-on experience in delivering and developing ASD therapies for children in China, Taiwan, and the US, effectively bringing together overseas training and expertise with local understanding.

Considering the intentionality and commitment of the founder to contribute towards the solution of this pertinent issue, ABC Impact invested equity in DMXM as part of the USD 42 million series D round in 2022. During its assessment, it underwrote the following impact thesis: Enabling Children with ASD to receive required early childhood care, leads to improved outcomes for the children and better well-being for the entire family. DMXM supports the UN Sustainable Development Goals of promoting better well-being for all (SDG 3), and ensuring inclusive and equitable early childhood care (SDG 4) (refer to Exhibit 4)

Research also indicated that parents and caregivers of children with ASD frequently experience stress and isolation due to the

41 [Early screening and diagnosis for ASD in China](#)

social stigma attached to the condition. With 50% of parents suffering from anxiety, and up to 60% suffering from depression, due to the stress of caring for children with autism, it has resulted in a deep gap in the level of support for ASD patients and caregivers in China⁴².

DMXM offers two main forms of therapy: in-person behavioural therapy for children with ASD, as well as intensive training for parents and caregivers to manage their children's special needs and home. This structured system offers behavioural, speech and occupational therapy, focusing on social skills development among children diagnosed with ASD to significantly improve their condition and increase the chances of reintegration into mainstream schools. Emotional and technical support is also provided to help them alleviate potential feelings of stress and isolation as caregivers, improving the overall well-being of families.

During diligence, ABC also established that the supply of autism therapy services is not sufficient to cater to the demand in China. China has 1.5 therapy organizations per 1,000 persons with ASD in China, compared to 2.6 in the US, and 46 therapists per 1,000 persons with ASD in China as against 1,361 in the US⁴³. DMXM is one of the few autism therapy providers in China offering high-quality therapy services and is contributing to incremental access to these services in a situation of undersupply.

However, to scale and match the pace and quality of intervention services needed by China's population, an adequate and consistent supply of qualified therapists

is essential, as the shortage of therapists remains a continuous challenge for therapy providers. To cater to the rising demand for therapies, it is estimated that about 9,000 therapists will have to be recruited by third-party providers by 2026, representing about 66% of the total graduates from the relevant majors⁴⁴. DMXM is mitigating the shortage of qualified ABA professionals by hiring fresh graduates from universities or vocational schools and providing rigorous training to both fresh and tenured therapists internally. As of 2021, DMXM employed more than 40 BCBA (the gold standard for certification), BCaBA and other professional certificate holders, the highest in the industry and had a therapist turnover rate of only 7%, the lowest in the industry. Additionally, DMXM hires fresh graduates from relevant disciplines who are trained on a rigorous therapist training process (ranging from 4-6 weeks for trainees, half-day training every day for junior therapists for a year).

While the participation of the private sector is important in the resolution of challenges related to supply and technical know-how required for the delivery of therapy services, it is also pertinent to address the gaps in the mainstream education system. Considering the dedication of the Founder to address the issue of Autism diagnosis and therapy in China, DMXM is also supporting systemic efforts championed by the public sector in the delivery of early education to children with ASD. DMXM is currently piloting a partnership with the government to facilitate the integration of children with ASD into mainstream school systems. Under the proposed collaboration, DMXM will support

42 A [research article](#) published in Advances in Developmental and Educational Psychology journal studies Parents' perceptions of autism and their challenges in China and found Parents' perceptions of autism can affect not only their own well-being, but also their children's development. The parents' perception of autism questionnaire was applied to collect information from 171 families of children with ASD, mainly to investigate the knowledge of children with ASD and the difficulties the family are facing.

43 Industry assessment undertaken by Meritco Services, during diligence

44 Industry assessment undertaken by Meritco Services, during diligence

kindergarten and primary schools with the competencies and know-how of managing students with special learning needs through secondment of teachers, know-how sharing and training of teachers and children.

Since ABC's investment, DMXM has expanded its presence in key regions across China where the supply of ASD therapy is underpenetrated. It currently has therapy

centres in 33 locations across major cities, making them one of the largest providers of early intervention services for ASD across the country. The company has also introduced new services such as one-to-many classes and an expanded online syllabus that will amplify and extend intervention therapy benefits to more children and families across the country, at accessible price points.

Exhibit -1

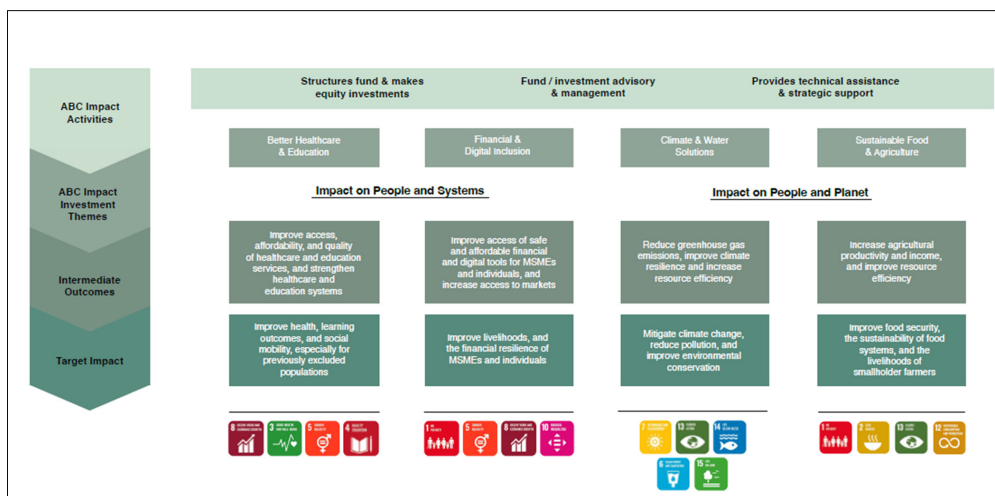


Exhibit -2

Impact Dimension	Category	Stage	How we assess and score	Score
WHAT WHAT tells us what outcome the enterprise is contributing to, whether it is positive or negative, and how important the outcome is to stakeholders.	SDG alignment Importance to stakeholders Evidence	Screen Due diligence Due diligence	Not aligned with the UN SDGs Outcome is not important to stakeholders No evidence-backed link to target outcomes	Fully aligned with the UN SDGs Very important to stakeholders Rigorous researched-backed link
WHO WHO tells us which stakeholders are experiencing the outcome and how underserved they are in relation to the outcome.	Stakeholder needs Characteristics	Due diligence Due diligence	Company addresses limited stakeholder needs Stakeholders are not in a target demographic	Highly pressing stakeholder needs 100% stakeholders in a target demographic
HOW MUCH HOW MUCH tells us how many stakeholders experienced the outcome, what degree of change they experienced, and how long they experienced the outcome for.	Scale Depth	Due diligence Due diligence	Few stakeholders affected Low degree of positive change	Many stakeholders affected High degree of positive change
+ CONTRIBUTION CONTRIBUTION tells us whether an enterprise's and/or investor's efforts resulted in outcomes that were likely better than what would have occurred otherwise.	Depth counterfactual Competition	Due diligence Due diligence	Low degree of change compared to baseline Many players providing comparable product/service	High degree of change compared to baseline Company is sole provider of a given solution
△ RISK RISK tells us the likelihood that impact will be different than expected.	Negative externalities Risk type and level	Screen Due diligence	Multiple risks affecting delivery of impact No known risk mitigation strategy	No known risk affecting delivery of impact Clear risk mitigation strategy
				What Score Weighted 20%
				Who Score Weighted 20%
				How Much Score Weighted 20%
				Contribution Score Weighted 20%
				Risk Score Weighted 20%

To measure the impact of its investments, ABC Impact established its proprietary impact

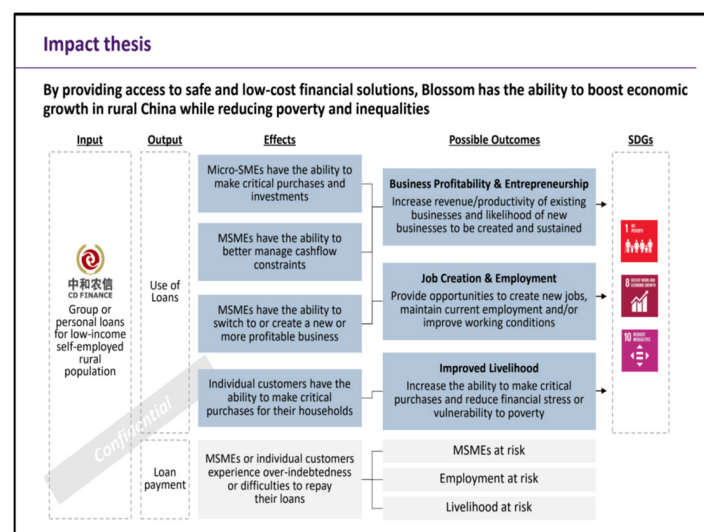
framework to assess potential opportunities according to whether the impact of the company was in line with ABC's mandate of addressing social and environmental challenges. ABC has a two-stage assessment process comprising the screen and diligence stages.

- a) At the screening stage, it develops the impact thesis for each of the investment opportunities, which provides a comprehensive description of how the company's products and services had outcomes furthering the SDGs. Additionally, it uses an initial screening tool to assess potential investments on impact considerations. The screening tool helps ensure the company broadly aligns with ABC's impact mandate before proceeding to diligence. Each company is screened on the criteria such as materiality, intentionality, negative externalities, outcome alignment, and ESG concerns.
- b) As part of the diligence, ABC uses a tool based on the Impact Management Project's (IMP)⁴⁵ methodology to score the company on five dimensions of impact–

what, who, how much, contribution and risk. For every prospective investment, ABC scores the prospective investees on the five dimensions of impact. For every prospective investment, ABC assesses the potential investee on each dimension and requires they meet a minimum threshold score to pass / before an investment decision is made / before they are recommended to the investment committee. This includes assessing the challenge addressed by the investee company and opportunities to mitigate risks. (Refer to Exhibit 2 in the Appendix)

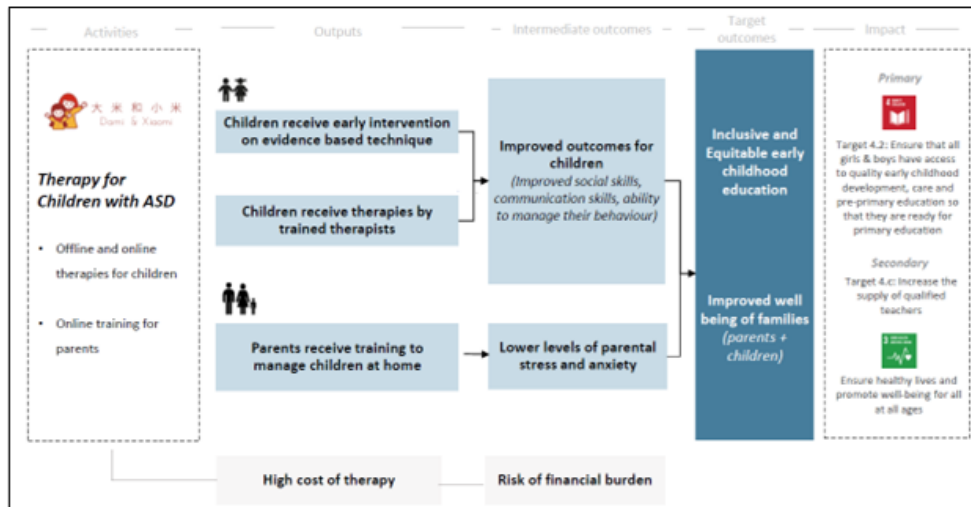
- c) Post-investment, ABC practises active ownership and implements engagement strategies. With its internal and external networks and impact management expertise, ABC engages closely with portfolio companies to drive commercial success and impact outcomes. It works with management teams throughout the life of the investments to support their achievement of the growth, value and impact that were envisioned at the point of investment.

Exhibit -3



45 <https://impactfrontiers.org/norms/>

Exhibit -4



About ABC Impact

ABC Impact (ABC) is a private equity fund dedicated to impact investing to generate positive, measurable social or environmental impact, alongside compelling risk-adjusted financial returns. The fund invests across four investment themes including financial and digital inclusion, better health and education, climate and water solutions and sustainable food and agriculture.

Impact fund managers, such as ABC Impact, are particularly well-placed to promote sustainable business practices through active management of their portfolio companies. These funds, with their unique combination of risk capital and expertise, are well suited to identifying and using equity to scale innovative business models and sustainable businesses. Such an approach creates additional value for

all stakeholders and reduces the financial and reputational risks to which they are exposed.

Two of ABC's investments in China are Chongho Bridge (CHB) and DaMi XiaoMi (DMXM). CHB is an integrated rural services provider, that started as a not-for-profit organisation specialising in microfinance to support individuals and micro and small businesses in rural China. DMXM is a Chinese provider of autism therapy services to young children diagnosed with autism spectrum disorder (ASD). Both investments are good cases that demonstrate how equity investment as one of the most effective financial instruments can be leveraged to deliver positive social impacts in accordance with the United Nations' Sustainable Development Goals.

3. Corporate Social Responsibility & Individual Initiatives Towards SDG Targets

3.1 NITI Aayog-UNDP SDG Investor Map

Country: India/International

Key Players:

- ➔ NITI Aayog
- ➔ UNDP

Opportunity

Introduce a new market intelligence tool that provides localized data and information on private sector investments and their alignments with SDG targets.



Features

In partnership with UNDP, NITI Aayog developed an SDG investor map, which is based on a standardized global methodology which aims to translate relevant country-level SDG gaps based on national development plans and policy priorities into private sector investment opportunities. The map for India has identified 18 investment opportunity areas (IOAs) in six critical SDG-enabling areas: education, healthcare, agriculture, renewable energy, financial services, and

waste management.

This tool works hand in hand with the SDG India Index and Dashboard, which is the country's official and principal tool for SDG progress monitoring at the national and sub-national levels. Two editions of the Index - 2018 and 2019-20 - rank the States/UTs on their achievements in various SDGs and associated targets.

Key highlights

- ➔ The IOAs are mature areas that have seen private equity flow and venture capital activities and show emerging opportunities with advocacy and guidelines to private firms for their investment strategies. The map features firms that demonstrate scale and profitability.
- ➔ The map also identifies the interest areas of private sector firms and investors and provides policy support for making IOAs commercially viable.
- ➔ About 83% of the identified IOAs address job creation and industrialization needs, 70% focus on inclusive business models and 50% leverage digital technologies to deliver commercial returns and impact at scale.

3.2 Tata Motors Sustainable Development Strategy

Country: India

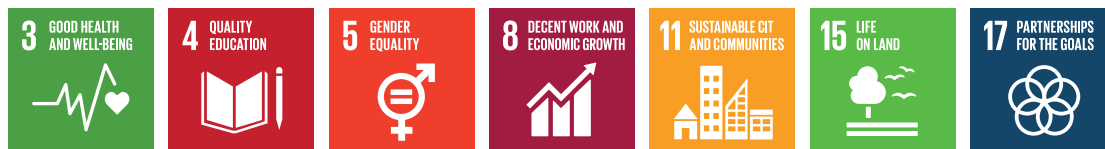
Sector: Automotives, e-mobility

Mapped SDGs

Concerning environmental sustainability:



Concerning social sustainability:



Environmental Sustainability

➔ Sustainable mobility solutions/AVINYA

Concept: a pure electric vehicle based on the third-generation architecture that encompasses new-age technology, software, AI, and a human-centric design. A crucial aspect of this strategy is the integration of sustainability into products, operations, and work processes with a clear vision to create value for sustainable development. Tata Motors generated 92.4 million kWh of renewable electricity for its manufacturing, which translates to nearly one-fifth of the total power used and is equivalent to avoiding 72,992 tCO₂e. Moreover, renewable power uptake increased by 26 per cent over the last year, and total onsite renewable power installation increased by 34 per cent.

➔ **Water conservation:** The company uses water efficiently by resorting to recycling and reuse of water at manufacturing plants

and minimizing leakages and wastages. These endeavours have resulted in a 27% reduction in water withdrawal intensity (m³/vehicle).

➔ **Waste Management:** For Tata Motors, the volume of operational waste disposed of has lessened by 27 over the past few years. There have been projects at its plants to generate value from hazardous waste.

➔ **Circular economy:** The company is collaborating with the Gujarat and Maharashtra state governments to set up a registered vehicle scrapping facility for passenger and commercial vehicles, with a vision of creating sustained benefits for the ecosystem stakeholders and the environment, lower import bills for scrap and crude oil and job creation in the MSME sector.

Social Sustainability Framework

Tata Motors invests in inclusive and sustainable development, focusing on community. Its community engagement has four key areas: health, education, employability, and environment. It covers 4,517 permanent management cadres, 29,340 non-management staff, including unionised hourly workers and 1,868 temporary staff.

The company's focus on diversity and inclusion has five dimensions: communication and sensitisation, women's development and

career pathing, women's participation in high visibility projects, work-life integration, and more hiring of women. To make the workplace more gender inclusive, the firm uses diverse instruments like adoption leave, work-life balance, celebrating motherhood, sabbatical, second career inspiring possibilities, mentoring, pathways to success, reach-out programs, and workshops on diversity inclusion. Training on safety and health performance has also grown by 34% in the past few years, leading to the lost time injury frequency rate falling by 11%.

4. Country spotlight

4.1 Brazil

The Economic Commission for Latin America and the Caribbean (ECLAC), also called Big Push for Sustainability, focuses on supporting the countries of the region in building more sustainable styles of development. One of the results of this initiative was the elaboration of a Repository of Big Push Cases for Sustainability in Brazil, with a set of case studies of Big Push for Sustainability for the Brazilian case. Some of the cases from the repository are described below: The full document is available at <https://repositorio.cepal.org/handle/11362/45583>

First: The Sustainable Development Project (PROCASE) for the towns of Cariri, Seridó

and Curimataú, in the northeastern state of Paraíba. It aims to avoid the desertification of the Caatinga vegetation. The project has financial support from IFAD – International Fund for Agricultural Development. IFAD and the government of Paraíba signed a contract which allowed the project to receive a USD 25 million loan. The project has given water and food safety to 22,000 families in the semi-arid region. Innovative production systems, such as agroforest systems, wells, dams, and renewable energy irrigation have been used. This project enhanced the Big Push for Sustainability in one of the poorest rural areas in the country. The project fulfils the targets under SDGs 1, 2, 5, 6, 10, 13 and 15.

4.2 Japan

The Japan FSA is of the view that the financial supervisor's ultimate mission is to protect national welfare by enabling sustainable growth of the economy through safeguarding critical functions of the financial system. Risks arising from climate change can potentially have a huge impact on the financial system

and the economy, the Japan FSA has been trying to be vigilant to these risks and has published *its strategy for developing well-functioning financial markets to finance Sustainable Development Goals (SDGs)*⁴⁶, believing that addressing environmental and societal negative externalities through

46 https://www.fsa.go.jp/policy/sdgs/JFSAsStrategyforSDGs_ENG.pdf

promoting SDGs in finance will serve the Japan FSA's ultimate mandate. In this context, the Japan FSA appointed *Chief Sustainable Finance Officer* in March 2019. On top of that the Japan FSA has set promoting sustainable finance as one of the priorities in its policies. Under these strategies, the Japan FSA has taken a variety of actions and established the *Expert Panel on Sustainable Finance (EPSF)*⁴⁷ in 2020. The Panel is tasked to advise us on the most desirable course of action for promoting sustainable finance in Japan, being comprised of experts in sustainability and practitioners in the financial sector and the business sector alike.

Sustainable finance is expected to contribute to the overall benefits of the economy and society by providing investments and loans that take various social and environmental issues into account, thereby having the effect of improving these issues. Regarding impact investment intended to create such environmental and social effects ("impacts"), the Japan FSA and the Domestic Advisory Committee of the Global Steering Group for Impact Investment (GSG) have jointly held the "*Study Group on Impact Investment*" since 2019.

Leveraging the discussion there, the First Report of the EPSF⁴⁸ points out that there are challenges in establishing procedures and methods for evaluating environmental and social effects. If many market participants recognize, the Report states, that the creation of impacts leads to the stability of corporate earnings and the improvement of corporate value. This would create a virtuous cycle of corporate disclosure and impact investment by investors. In addition, the Second Report of the EPSF⁴⁹ states that it is important for the public and private sectors to work together

to build an ecosystem that realizes a virtuous cycle of impact investment, including the further development and diffusion of measurement methods.

In response, the Japan FSA established the "*Working Group on Impact Investment*" under the EPSF in October 2022 to discuss measures to expand impact investment, which contributes to solving social and environmental issues and creating new businesses, including start-ups. As of April 2023, the working group was held seven times and is scheduled to compile and publish a report around this summer.

The working group defines impact investment as "investment and loans that seek to realize both social and environmental benefits and financial returns", which is one of the investment methods in sustainable finance. Based on the idea that innovative technologies and business models are indispensable to solve social and environmental issues and that support for companies and businesses working on such reforms is an urgent issue, the report will summarize the basic significance and concept of impact investment and the direction of measures to promote impact investment from the perspective of promoting support for such companies and businesses and enhancing economic growth and sustainability through the resolution of social and environmental issues. In addition, the Japan FSA will also compile and seek public comments for a "Draft Basic Guideline" that outlines the general requirements for impact investment to be used as a reference for participants in the impact investment market when structuring and financing investment projects as the market is still in its early stages.

47 <https://www.fsa.go.jp/en/news/2020/20201225-2/20201225-2.html>

48 <https://www.fsa.go.jp/en/news/2021/20210618.html>

49 <https://www.fsa.go.jp/en/news/2022/20220713.html>

For social issues specifically, the Japan FSA finalized and published the “*Social Bond Guidelines*⁵⁰” in October 2021, taking into account the consistency with the International Capital Market Association (ICMA)’s Social Bond Principles, which is an international standard, and also corresponding to Japan’s situation that it has particularly many issues developed countries are facing.

While the Guidelines state that issuers should disclose the social benefits of social projects using appropriate indicators when issuing social bonds, private companies have only just started issuing social bonds, and there has

been insufficient accumulation of examples of disclosure using indicators.

To this end, in July 2022, the Japan FSA published “*Examples of Indicators for Social Benefits of Social Projects*⁵¹” to serve as a reference for issuers to disclose social benefits. The document provides 17 examples of specific social projects that address social issues in Japan, elaborates on the process by which the social benefits of the projects reach their impacts in each example, and provides examples of indicators used to show the social benefits at each stage of output, outcome and impact.

4.3 Nigeria

OSSAP-SDGs

Although the Office of the Senior Special Assistant to the President on SDGs (OSSAP-SDGs) is more of a coordinating office than an implementing office, the Office has carried out some flagship initiatives to fast-track the achievement of the SDGs in Nigeria.

The programmes, projects and interventions carried out by the OSSAP-SDG, have had a social impact on SDG 3 (Good Health and Well-being). This includes partnering with the Federal Ministry of Health and its affiliated agencies to support the National Health Insurance Scheme (NHIS) under the [Basic Health Care Provision Fund (BHCPF); the National Primary Health Care Development Agency (NPHCDA); and the Primary Health Care Under One Roof (PHCUOR) initiative], and the National Malaria Elimination Programme (NMEP) as well as the independent evaluation of SDG 3 in Nigeria.

These initiatives aim to increase access to healthcare services, improve health outcomes,

reduce the burden of disease in Nigeria, and evaluate the impact of these interventions on Nigerian society.

Various methods were used to measure their alignment with the identified projects, such as impact assessment and reporting frameworks. For instance, some financial institutions used the Global Impact Investing Network’s (GIIN) Impact Reporting and Investment Standards (IRIS) to assess their investments’ impact on SDG 3. These frameworks provided a standardized approach to measuring social and environmental impact and enable investors to compare the impact of different investments.

In terms of financing the identified interventions, a range of financial instruments are being used, including contributory mechanisms, grants, loans, and equity investments. Blended finance solutions are also being used to maximize social impact investment markets. These solutions involve combining public and private sector resources

50 <https://www.fsa.go.jp/en/news/2021/20211026-2en.html>

51 <https://www.fsa.go.jp/en/news/2022/20221111en.html>

to finance development projects and reduce risk for private investors. For example, the International Finance Corporation (IFC) and the World Bank Group have launched blended finance initiatives to mobilize private sector investment in health and well-being projects.

The OSSAP-SDGs is also working closely with non-state actors, particularly the Private Sector Advisory Group on SDGs to mobilize resources based on the priorities of the individual members to align their CSR investments towards financing related SDGs.

Despite these efforts, there are still several key challenges in financing SDG 3 interventions. One major challenge is the lack of access to finance for small and medium-sized healthcare providers in low-income countries including Nigeria.

Additionally, the high cost of healthcare infrastructure and equipment can make it difficult to attract private-sector investment. Finally, regulatory barriers and political instability can create uncertainty for investors and limit the availability of finance for SDG 3 interventions.

UN Basket Fund

Another initiative implemented was the UN Basket Fund to support vulnerable households, small businesses, and poor families in Nigeria to recover from the impact of the COVID-19 pandemic. The UN Basket Fund was established to provide immediate support to the most vulnerable people affected by the pandemic.

The UN Basket Fund provided financial support to small businesses and poor households, including cash transfers, food assistance, and healthcare supplies. The program helped to mitigate the social and economic impact of the pandemic on vulnerable households and small businesses especially in the hot-spot locations. The UN Basket Fund was able to assist 2.4 million

vulnerable individuals, including women and girls, through its various interventions.

To measure the alignment of market participants with the identified project, various methods were used. This included surveys, assessments, and evaluations to determine the impact of the interventions on the beneficiaries. Additionally, the government engaged with relevant stakeholders, including the private sector, to ensure that their interventions aligned with their needs.

Various financial instruments were used to finance the identified interventions, including grants and credits to individuals, households, and Micro, Small and Medium Enterprises (MSMEs) affected by the COVID-19 pandemic.

Blended finance was used to mitigate the impact of the COVID-19 pandemic in Nigeria through the UN Basket Fund, which was established to support vulnerable households, small businesses, and poor families affected by the pandemic. The fund was created as a partnership between the Nigerian government, the United Nations, and the private sector to provide immediate support to those most affected by the pandemic. The Nigerian government provided funding, and the private sector contributed through various channels, including donations and concessional loans. For example, the Tony Elumelu Foundation, a leading African philanthropic organization, contributed \$14 million to the UN Basket Fund to support small businesses affected by the pandemic.

Another example of blended finance in Nigeria is the Aliko Dangote Foundation's (ADF) partnership with GAVI, the Vaccine Alliance, to support Nigeria's COVID-19 pandemic response. The partnership aims to provide funding for the procurement of vaccines, cold chain equipment, and technical support for the distribution of vaccines in Nigeria. The ADF committed \$20 million to the partnership, while Gavi provided

technical expertise and additional funding. The partnership demonstrates how blended finance can be used to leverage private-sector resources to support public-sector initiatives.

Another example of the blended finance used was the Nigeria Incentive-Based Risk Sharing System for Agricultural Lending (NIRSAL) and the Central Bank of Nigeria (CBN) N50 billion Targeted Credit Facility (TCF) to provide low-interest loans to small businesses affected by the pandemic. The facility was financed through a combination of public and private capital, with the CBN providing N40 billion, and NIRSAL providing N10 billion. The facility demonstrates how blended finance can be used to provide financial support to small businesses, which are critical to Nigeria's economic growth and development. The TCF provided loans to households and SMEs to help them recover from the impact of the pandemic. The loans were issued at a low-interest rate of 5%

and had a tenor for up to three years.

Despite the success of the interventions implemented by the Nigerian Government and the OSSAP-SDGs, there are still significant challenges in financing the identified SDGs interventions. These challenges include limited funding, inadequate resources, a lack of credible and timely data to identify the targeted beneficiaries, and a lack of capacity to implement the SDGs at all levels of governance in Nigeria.

Equally, high transaction costs in identifying, structuring, and monitoring SDG interventions can be high, which can deter private investors from getting involved, and complex regulatory frameworks for impact investing and blended finance can be complex and vary widely across different jurisdictions, making it challenging for investors to navigate the landscape.

5. Annex

Questionnaire on social impact investing:

What SDG or topic is the focus of this case study?

How has your jurisdiction promoted an enabling environment to finance the identified SDG(s)?

What methods are your jurisdiction or market participants using to measure alignment with the identified topic?

What types of financial instruments are used to finance the identified topic? Are blended finance solutions used? Are blended finance solutions supporting the maximization of the social impact investment market?

How is additionality and/or impact assessed when using these instruments?

What are the key challenges that remain in financing the identified SDG or topic? How is your jurisdiction addressing them?

What, if anything, is preventing the replication and scaling of the solution highlighted in this case study?

Questionnaire on nature-related reporting and data:

What SDG or topic is the focus of this case study?

What is the experience of your institution using nature and biodiversity data from national, regional and global sources to support risk management and business growth?

What are the key challenges that remain related to data and reporting? How is your jurisdiction addressing them?



COMPENDIUM OF CASES STUDIES ON NON-PRICE POLICY LEVERS (NPPL)

2. Compendium of cases studies on Non-price Policy Levers (NPPL) to Support Sustainable Investment

2.1 G20 Workshop on Non-Pricing Policy Levers to Support Sustainable Investment

The G20 Presidency organised a workshop for discussion on non-price policy levers (NPPLs) to enhance the understanding of their potential for addressing climate change, along with highlighting cross-country experiences.

Two input papers were circulated to members prior to the workshop: "[Non-Price Policies for Addressing Climate Change: the Global Experience](#)" by the Centre for Social and Economic Progress (CSEP) and "[Promoting Climate Action through Non-Pricing Policy Measures](#)" by the Asian Development Bank (ADB).

The workshop was organised in following 2 sessions preceded by two keynotes:

- ➡ Session I: Designing and implementing non-pricing policy tools: challenges and opportunities
- ➡ Session II: Non-pricing policies mixes: modelling challenges and economic, climate, and social effectiveness (cost-benefits)

This note captures key messages and summarizes the main outputs.

Keynote Address

The first keynote speaker was Mathilde Mesnard, Deputy Director for the Environment Directorate at OECD. Her presentation included a detailed analysis of available climate policy instruments, highlighting the effectiveness and efficiency of NPPLs, and the complementary and mutually reinforcing role that NPPLs can

play with respect to pricing instruments, which can accelerate the development and deployment of new clean technologies. She noted that NPPLs must be targeted with a range of policy packages that address different emission types adapting to specific sectors. She added that, although in the last two decades, the use of market-based or pricing instruments has increased, price-based measures alone are not sufficient to meet the emissions targets with current technologies and given abatement costs. The presentation also introduced OECD's Inclusive Forum on Carbon Mitigation Approaches (IFCMA), an initiative designed to help improve the global impact of emissions reduction efforts around the world through better data and information sharing, evidence-based mutual learning and inclusive multilateral dialogue. The presentation also discussed the various works undertaken by the OECD to assess the results of different policy mixes in different countries, and recommendations on how to develop environmentally effective and economically efficient instruments.

The second keynote speaker was Prof E Somanathan, Economics and Planning Unit from the Indian Statistical Institute. His presentation focused on the main types of non-price policies, including regulatory standards for carbon efficiency and fuel efficiency, public investment in green infrastructure, support for innovation, and behavioural change-focused policies including educational and social campaigns. He highlighted that for commercialisation and development of the market, price support to potential consumers and direct procurement

by the Government can be essential to develop the ecosystem. Public investment in low-emission transport such as rail and urban planning, efficiency standards, research and development, and support for municipal regulatory capacity building can have a large impact on emissions. Policies can also be directed for behavioural change through motivation and, information.

Session I: Designing and implementing non-pricing policy tools: challenges and opportunities

The roundtable was moderated by the World Bank. The speaker from School of Oriental and African Studies (SOAS) discussed the related challenges of mitigating risks and scaling up sustainable finance and the tools used by the central bankers to mitigate macroeconomic and financial stability risks stemming from climate change's physical and transition risks. The panellist from China's central bank discussed the practices of NPPLs in China and green finance evaluation for financial institutions, along with challenges, including adequate measurement of and uncertainty around physical and transition risks as well as limitations in assessing effectiveness of investments in emissions reduction. The speaker also noted that data availability is a key concern for better carbon accounting. Another speaker from UK discussed sustainable finance disclosures in the UK. The importance of multiple policy instruments to effectively address climate change was highlighted. The panellist from Morocco Central Bank discussed energy transition strategies and decarbonisation pathways developed to reduce emissions in transportation, industrial activities and the energy sector, including challenges faced by developing countries such as finding the right policy mix.

Session II: Non-pricing policies mixes: modelling challenges and economic, climate, and social effectiveness (cost-benefits)

The second roundtable discussed the challenges of choosing an optimal policy mix for maximum impact and the use of NPPL to cover the large financing gap that needs to be met to achieve the goals of the Paris Agreement. International Finance Corporation (IFC) moderated the session. IMF highlighted that holistic mitigation strategies would rely on a package of pricing and non-pricing measures, with financial and non-financial sector policies complementing each other to improve risk mitigation and information architecture. IMF noted that developing information architecture that includes data, disclosures, alignment approaches for investments, and regulation to incorporate climate-related risks into prudential frameworks will assist in building an environment for low-carbon development. The speaker from Tufts University also suggested that sequencing pricing and NPPLs appropriately is important. NPPLs can circumvent political economy constraints, mitigate distributive and equity impacts of carbon pricing tools and support in overcoming institutional capacity limitations. The panellist from Harvard Environmental Economics Program presented research on energy efficiency technology within which labelling, standards and subsidies that target the audience to switch to more efficient technology can address negative market externalities, behavioural issues and measurement issues. The representative from the Coalition of Finance Ministers for Climate Action highlighted the leadership role that the finance ministries and central banks could play in mainstreaming climate action.

Key Takeaways from the workshop

- ➡ NPPLs are critical in complementing price-based instruments and addressing negative market externalities and

inefficiencies linked to climate change and supporting low-carbon development pathways. A holistic mitigation strategy could rely on a package of pricing and non-pricing measures with differentiated effects economic growth and emissions reduction.

- ➡ A combination of the global toolbox and country experience, comparisons of policies, costs and benefits can help in building an understanding of policy sequencing
- ➡ Integrating climate risks and impacts into policy making could reduce the climate risk for the financial system and economy at large, and can be achieved through calibrating various existing instruments at the disposal of policy makers, including central banks and other regulators where appropriate.
- ➡ Consequences of negative market externalities and transition risks can be mitigated in part by developing a robust data and information architecture. Dedicated policies are needed to develop such an architecture, which could include the development of standards, disclosure requirements or guidance, and other policies, considering country-specific circumstances.
- ➡ Modelling exercises are important to understand the mobilization effectiveness, economic efficiency, and equity and environmental integrity of different policies including both pricing and non-pricing measures. However, non-pricing policy levers may be more difficult to model than pricing measures.

➡ Policies to advance the diffusion/uptake of energy-efficiency technology – for example, through labelling – are an important non-pricing approach to reducing carbon emissions and advancing broader sustainability.

➡ Governments can play an important role in nudging energy efficiency measures, investments in green infrastructure, and other behavioural changes through a wide array of NPPLs.

The workshop enabled participants to share country experiences, lessons and discuss NPPL mixes that support sustainable financing and investment, within the mandates of central banks and ministries of finance, with due consideration for national circumstances and nationally defined development priorities. The workshop provided a space for jurisdictions and international organisations to discuss the different models countries have deployed, the policies and the sequencing they have adopted, and share their experiences.

The Presidency's closing remarks reiterated that governments have significant roles in nudging consumption and production behaviour. The Presidency also highlighted the need for climate disclosures and developing them proportionally in the context of small and medium enterprises (SMEs). The Presidency also emphasised the importance of sharing experience to scale up interventions that achieve low carbon development pathways as well as the importance of taking into consideration country-specific circumstances and that of small and medium enterprises.

2.2 Cases Studies on Non-price Policy Levers (NPPL) to Support Sustainable Investment

Price, non-price policy and regulatory levers have their respective roles in incentivizing

sustainable investment decisions and enabling countries to pursue the low-emissions development pathway. However, non-price based policy levers that focus on incentivizing climate investments form an essential component of climate policy tools.

As part of the 2023 SFWG priorities, the G20 Presidency organised a workshop for discussion on non-price policy levers (NPPL) to enhance the understanding of their potential for addressing climate change. The workshop summary can be found on the [G20SFWG.org website](https://www.g20sfwg.org/website) and presentations are available for [download](#).

The workshop was informed by two input papers: [Non-price policies for addressing climate change: the global experience](#), developed by The Center for Social and Economic Progress Research, and [Promoting climate action through non-pricing policy measures](#), submitted by the Asian Development Bank.

The following compendium is aimed at sharing country experiences of deploying different models. Individual SFWG members selected and submitted these documents voluntarily. The case studies are not exhaustive and do not represent the official views of the SFWG. We are deeply thankful to all members who have submitted their case studies for this compendium.

The compendium of case studies provides a comprehensive overview of global initiatives aimed at promoting green and low-carbon development across various sectors and regions. The collection begins by exploring high-level goals and strategies with an emphasis on Japan's efforts toward achieving carbon neutrality by 2050. It then delves into industrial policies, regulations, and standards, spotlighting the measures adopted by countries such as the UAE and Canada in promoting sustainable infrastructure, energy efficiency, and reducing emissions from coal-fired electricity. A significant segment is dedicated to fiscal policies, where the focus shifts to financial instruments and frameworks that promote green investments, such as green bonds, sukuk, and sustainable finance platforms from diverse regions including Luxembourg, China, and the UAE. Furthermore, the compendium underscores the importance of disclosure and accreditation, with a case from the UK emphasizing financial transparency in the journey to net zero. Lastly, 'Country Spotlight' section provides an in-depth look at the sustainability initiatives of selected nations, illustrating the diverse approaches and strategies adopted worldwide. This collection, in essence, encapsulates the multifaceted global efforts towards a sustainable and climate-resilient future.

1. High-level goals and strategies for green and low-carbon development

1.1 Japan Green Growth Strategy

Background

In October 2020, Japan declared the goal of becoming a carbon-neutral, decarbonized society by 2050. We describe the main non-price policy levers to support sustainable investment as presented in the two government documents that have been developed since then: the “Green Growth Strategy Through Achieving Carbon Neutrality in 2050⁵²” (released in June 2021) and the “Basic Policy for Realization of Green Transformation (GX)⁵³” (approved by the Cabinet in February 2023), in the following four sections (with the Bank of Japan’s initiatives listed at the end).

Programme Details

(1) Budget

Green Innovation Fund⁵⁴

- ➔ In the FY2020 Tertiary Supplementary Budget, a Green Innovation Fund was established with an allocation of 2 trillion yen (USD 13.6 billion). This fund offers ongoing support to companies and other organizations that are dedicated to achieving the ambitious 2030 targets set by both the public and private sectors. Support is provided across various stages: from R&D to demonstration, and ultimately, to societal implementation over the subsequent decade. The focus is on areas where policy impact is significant

and where long-term, consistent support is necessary to ensure public adoption. These areas are selected from the priority fields for which implementation plans have been drawn up under the Green Growth Strategy.

GX Economy Transition Bonds

- ➔ Over the next 10 years, starting from the next fiscal year, the Government of Japan will issue GX Economy Transition Bonds worth 20 trillion yen (approximately USD 136 billion). These bonds are backed by future financial assets and aim to encourage both public and private sectors to invest more than 150 trillion yen (roughly USD 1.02 trillion) in the GX economy. The bond funds will support: a) Transitioning to non-fossil fuel energy sources, like renewable energy and nuclear power; b) Encouraging major energy conservation in industries, especially in sectors like steel and chemicals; and c) Funding R&D in resource recycling and carbon fixation technologies.

(2) Taxation

Tax Incentives for Investment Toward Carbon Neutrality⁵⁵

- ➔ Up to a 10% tax credit or 50% special depreciation for the introduction of (1) production equipment for products with

52 https://www.meti.go.jp/english/press/2021/0618_002.html

53 <https://www.meti.go.jp/press/2022/02/20230210002/20230210002.html> (Japanese only)

54 https://www.meti.go.jp/english/policy/energy_environment/global_warming/gifund/index.html

55 <https://www.nta.go.jp/taxes/shiraberu/taxanswer/hojin/5925.htm> (Japanese only)

significant decarbonization potential (e.g., lithium-ion batteries for electric vehicles) and (2) equipment that both decarbonizes production processes and increases added value (e.g., state-of-the-art thermal boiler equipment) (for three years from the enforcement of the revised law until the end of FY2023).

(3) Finance

Development of Guidelines and Roadmaps

- ➡ Developed "Green Bond and Sustainability Linked Bond Guidelines"⁵⁶ and "Green Loan and Sustainability Linked Loan Guidelines"⁵⁷ in July 2022 based on the revision of previous guidelines with extended scopes to include Sustainability Linked Bond and Loan.
- ➡ Developed sector-specific roadmaps⁵⁸ for transition initiatives toward decarbonization for high-emission industries, including steel and chemicals, based on the Basic Guidelines on Climate Transition Finance released in May 2021.

Activation of the Market for Green Bonds and Others and the Functioning of Financial Institutions

- ➡ Promoted compliance with the Code of Conduct for ESG Evaluation and Data Providers⁵⁹ finalized in December

2022 to ensure objectivity of green and transitions.

- ➡ Published the report on dialogue between financial institutions and businesses by June 2023 to promote support for corporate decarbonization by financial institutions, in addition to the climate change guidance for financial institutions⁶⁰ published in July 2022.

Disclosure of Sustainability-related Information

- ➡ Revised the Corporate Governance Code⁶¹ in June 2021, which required companies listed on the Prime Market⁶² to enhance the quality and quantity of disclosure based on the TCFD recommendations or an equivalent framework on a Comply or Explain basis.
- ➡ Revised the Cabinet Office Ordinance on Disclosure of Corporate Affairs⁶³ in January 2023 to create a new section for disclosure of sustainability-related information in the Annual Securities Reports.

(4) Regulatory Reform

- ➡ Revision of the Act on Improvement of Energy Consumption Performance of Buildings⁶⁴ in June 2022 to expand the scope of the obligation to comply with energy conservation standards.

56 <https://greenfinanceportal.env.go.jp/bond/guideline/guideline.html> (Japanese only)

57 <https://greenfinanceportal.env.go.jp/loan/guideline/guideline.html> (Japanese only)

58 https://www.meti.go.jp/english/policy/energy_environment/transition_finance/index.html

59 <https://www.fsa.go.jp/en/news/2022/20221215/20221215.html>

60 <https://www.fsa.go.jp/en/news/2022/20220715/20220715.html>

61 <https://www.jpx.co.jp/english/news/1020/20210611-01.html>

62 Prime Market is the market oriented to companies which center their business on constructive dialogue with global investors.

63 <https://www.fsa.go.jp/policy/kaiji/sustainability-kaiji.html> (Japanese only)

64 <https://www.mlit.go.jp/jutakukentiku/house/01.html> (Japanese only)

- ➔ Conducted a comprehensive review of various regulations and standards related to offshore wind power to expand the planned and continuous introduction of offshore wind power.
- ➔ Promoted the use of carbon footprints and environmental labels in order to further expand procurement by the public and private sectors of low-carbon products that have already spread to a certain extent in the market.

(5) Central Bank Initiatives

- ➔ In addition to these governmental policy actions, the Bank of Japan introduced a new funds-for-lending scheme⁶⁵ in 2021 to support private sector efforts on climate change. The scheme is designed to give consideration to market neutrality and avoid direct involvement in micro-level resource allocation as much as possible.

2. Industrial policies, regulations, and standards

2.1 Developing a Regulatory Policy for Fuel and Vehicle Efficiency Standards (UAE)

Description

The UAE has introduced a [Regulatory Policy for Electric Vehicle Charging Infrastructure](#) with stipulations and criteria for establishing a network of electric vehicle (EV) charging stations across the UAE capital, Abu Dhabi. It includes the principles for ownership, installation, and management of Electric Vehicle Supply Equipment (EVSE), the electricity supply to EVSE, and the pricing mechanism to end customers.

The policy has been developed in consultation with various public and private sector players including the Department of Municipalities and Transport (DMT), Integrated Transport Centre (ITC), Abu Dhabi Department of Economic Development (ADDED), Emirates Water and Electricity Company (EWEC), Abu Dhabi Distribution Company (ADDC), Al Ain Distribution Company (AADC), ADNOC Distribution Company (ADNOC), Abu Dhabi Quality and Conformity Council (QCC), Abu Dhabi National Energy Company (TAQA),

Abu Dhabi Future Energy Company (Masdar), Environmental Agency of Abu Dhabi (EAD), Abu Dhabi Police (ADP), Abu Dhabi Investment Office (ADIO) and Abu Dhabi Quality and Conformity Council (QCC).

Challenges and opportunities:

Challenge(s)

The key challenge during policy development was determining the operating model to be applied to ensure the achievement of the policy objectives and effective policy implementation. Accordingly, an open market approach was adopted, whereby the ownership and operation of charging stations were not restricted to a specific supplier, i.e., public and private companies can own and/or operate charging stations following an agreement with the landlord or parking owners.

The main implementation challenge was the establishment of policy governance among

⁶⁵ https://www.boj.or.jp/en/mopo/measures/mkt_ope/ope_x/index.htm

multiple sector stakeholders, which involved the identification of multi-stakeholder responsibilities and gathering consensus on an implementation plan through the establishment of focus groups.

Opportunity(ies)

The main opportunities realized in the implementation of the policy were:

- ➔ Facilitating customer choice regarding their EV charging supplier based on affordability criteria and pricing packages and services provided by the EV charging operators
- ➔ Enhancing Abu Dhabi's Competitiveness by attracting new investment opportunities for small and medium companies wishing to enter the Energy market in Abu Dhabi
- ➔ Enabling innovation and advancements in the technology used and time provided for constructing the EV Infrastructure
- ➔ Redirecting government spending towards other capital projects that would

benefit the economy.

Impact:

Since the policy was introduced, it has had positive social and economic implications on the electric vehicle sector in Abu Dhabi leading to:

- ➔ Increase in ev uptake in abu dhabi roads and increase in the rate of electrification in the emirate of abu dhabi
- ➔ Enhanced lifestyle and livability standards for citizens and residents in the emirate.
- ➔ Improved air quality and reduction in carbon emissions, which further contribute to the uae net zero target by 2050.
- ➔ Progress towards the un sustainable development goals and paris agreement goals.
- ➔ Reduced dependency on conventional sources of energy.

2.2 Introduction of National Green Building Codes across the Emirates (UAE)

Description

In 2010, the UAE Cabinet approved the [Green Building and Sustainable Building standards](#) to be applied across the country. The application of these standards was first introduced in government buildings in 2011. The project is expected to save AED 10 billion (USD 2.72 billion) by 2030 and reduce approximately 30% of carbon emissions.

In the construction sector, green building codes, the efficiency of appliances and equipment, the adoption of district cooling,

energy-efficient retrofit programs, and the application of rooftop solar systems are some initiatives that the UAE has already started implementing.

The Ministry of Energy and Infrastructure established the National Green Buildings Code in 2022 in alignment with all Emirates to ensure the minimum standards of sustainability are in-built, and to enhance the energy and water efficiency in the buildings. The first two years of implementation are optional to all entities and will be mandatory from 2024.

Several entities contributed to the development of the National Green Buildings Code, including the Ministry of Industry and Advanced Technology, Abu Dhabi Department of Energy, Abu Dhabi Department of Municipalities and Transport (DMT), Dubai Electricity and Water Authority (DEWA), Dubai Municipality, Sharjah Electricity and Water Authority (SEWA), Sharjah Municipality, Etihad W&E, Ras Al Khaimah Municipality, Fujairah Municipality, Umm Al Quwain Municipality and Emirates Green Buildings Council.

Abu Dhabi introduced the five-level [Estidama Pearl Rating System](#) in line with the standards introduced. Under the rating system, it is mandatory for all new buildings to obtain a one-pearl rating, while all government buildings and residential villas must obtain two pearls.

Dubai has also introduced 79 [green building regulations](#) for private sector constructions to reduce energy, water and resource consumption as well as improve public health, mobility and general welfare. The code is mandatory for all new buildings.

Ras Al Khaimah, launched [Barjeel](#), the Green Building Regulations that set minimum sustainability standards for new buildings in 2019 and it was made mandatory for all new buildings from 2020. The buildings permitted are expected to consume 30% less energy and water as compared to a typical building in Ras Al Khaimah.

Challenges and opportunities:

Challenge(s)

The main challenge was ensuring uniformity in the green building codes of all the Emirates while taking into consideration existing codes. The second challenge was measuring the expected economic impact after applying the green building codes.

Opportunity(ies)

The opportunities realized include ensuring that a minimum standard for sustainability requirements is maintained in new building constructions across the Emirates, creating a new market for green building materials and reducing the UAE's carbon footprint by setting standards to minimize construction waste.

Impact:

Through this initiative, the UAE is expected to:

- ➔ Reduce energy consumption by 2 TWH by 2025
- ➔ Reduce water consumption by 53 Mm3 by 2025
- ➔ Enhance air quality in buildings by 95%
- ➔ Increase construction waste recycling by 50%.

2.3 Canada's Phase-Out of Coal-Fired Electricity (Canada)

Federal Regulatory Measures

Coal is a significant contributor to climate change and a major source of air pollution that harms the health of millions of people every year.

In 2012, the Government of Canada adopted federal [regulations](#) requiring coal-fired power plants to meet stringent performance standards to limit their greenhouse gas (GHG) and air pollutant emissions. The performance standard was set at 420 tonnes of carbon

dioxide emissions per Gigawatt hour (t/GWh), applying to new units built after July 1, 2015, and to existing units reaching the end of their useful life (between 45-50 years after their commissioning date).

In 2018, the Government of Canada went further by amending the 2012 [regulations](#) to accelerate the phase-out of coal-fired electricity across Canada to 2030. This was undertaken by requiring all units to meet the performance standard of 420 t/GWh at the end of their useful life or by December 31, 2029, whichever comes sooner. Owners and operators of units can meet the performance standard by installing carbon capture and storage (CCS) or by using carbon-neutral biomass, but most coal units are expected to be shut down or converted to natural gas. Complementary gas-fired electricity [regulations](#) were adopted that apply to converted coal units. To minimize regulatory duplication, the Government of Canada may enter into equivalency agreements with provincial governments in cases where provincial coal phase-out regimes are found to deliver equivalent or better outcomes than the federal regulations.

The federal Department of Environment and Climate Change Canada (ECCC) developed these regulations in collaboration with provinces and territories, businesses, public utilities, industry associations, environmental non-government organizations and national Indigenous organizations.

As a result of Canadian actions, the share of Canada's electricity generated from coal has decreased significantly over time—from 16 per cent in 2005 to 7 per cent in 2019—and is projected to further decrease as the phase-out is fully realized by 2030.

Supporting Affected Workers and Communities

The Government of Canada has focused on supporting Canadian coal workers and communities affected by the phase-out of unabated coal-fired power generation. This included [establishing](#) the *Just Transition Task Force for Canadian Coal Power Workers and Communities* as an independent body to provide advice to the Government of Canada.

In response to the *Just Transition Task Force for Canadian Coal Power Workers and Communities*, the Government of Canada has taken action to support communities and workers, including USD 185 million towards skills development and economic diversification efforts in Alberta, Saskatchewan, Nova Scotia and New Brunswick, through:

- ➡ The Canadian Coal Transition Initiative (CCTI), with a USD 35 million investment to support skills development and economic diversification activities to help workers and communities adapt to Canada's decision to phase out coal. The fund was launched on April 1, 2018, and ended on March 31, 2023.
- ➡ The CCTI-Infrastructure Fund (IF), a USD 150 million fund that aims to help communities move away from coal by investing in infrastructure, which was launched on August 20, 2020. The initiative is set to end on March 31, 2025.

In February 2023, the Government of Canada released the interim Sustainable Jobs Plan, which defines the federal government's commitment to make progress on 10 key action areas. Key to these priorities is the Government of Canada's commitment to introduce sustainable jobs legislation in 2023, which will include a framework for accountability, engagement and transparency to guide broader efforts on the low-carbon economic and labour force transition.

Supporting the Global Transition

Canada and the United Kingdom co-lead the Powering Past Coal Alliance, a global coalition of over 165 members—encompassing national governments, sub-national governments, businesses and financial institutions—that are driving efforts to accelerate the phase-out of emissions from coal-fired electricity.

Through its co-leadership of the Powering Past Coal Alliance, Canada has contributed to ensuring that over three-quarters of coal power in Organisation for Economic Co-operation and Development (OECD) member countries are retired or scheduled to close by 2030.

Canada is providing funding to support the global transition away from coal-fired

electricity. For example:

- ➔ Canada has committed USD 275 million to drive the energy transition and coal phase-out through the Canada-World Bank Clean Energy and Forests Climate Facility.
- ➔ In 2021, Canada announced it would provide up to USD 1 billion to the Climate Investment Funds—Accelerated Coal Transition Initiative to support country-level phase-out strategies to accelerate the transition from coal-powered to clean energy, including the retirement of existing coal mines and coal-fired power plants, while enabling new economic activities and contributing to a socially inclusive and gender equal transition.

3. Fiscal policies

3.1 Luxembourg-EIB Climate Finance Platform (Luxembourg)

General description

The Luxembourg-EIB Climate Finance Platform (LCFP) is a joint initiative of the EIB and the government of Luxembourg ([Luxembourg-EIB Climate Finance Platform publishes a new report about the work of the platform - LSFI](#)). It supports climate change mitigation and adaptation projects around the world using innovative, high-impact financing solutions. The LCFP strengthens its impact by attracting private-sector investors. The multiplier effect of the LCFP, which varies depending on the fund, is calculated as the ratio of total investment in final projects to the Platform's initial commitment and stretches from just 28x in the case of the responsAbility Access to Clean Power Fund to over an estimated 667x for the Urban Resilience Fund at target size.

The Platform provides an interesting policy example of a small donor country working with a large MDB [to create a trust fund](#) to have a major multiplication effect in terms of climate finance and impacts. Investments promote sustainable land use and land restoration, energy efficiency and renewable energy, climate resilience data and engineering solutions, and off-grid electricity for households and small businesses in rural or remote areas, in accordance with the Sustainable Development Goals. By bringing its development finances, together with the EIB funding and with the support for innovative new funds coming from Luxembourg's [International Climate Finance Accelerator](#), the sum of the overall impact of the three parts is larger than the individual impacts.

Expected impact

The 13th UN Sustainable Development Goal is to take urgent action to combat climate change and its impacts. The benefits brought about by the projects supported by the Luxembourg-EIB Climate Finance Platform will help to achieve this goal, through reduced emissions, energy savings, land restoration, the promotion of new technologies and much more.

**47 million tonnes reduction in
CO₂ emissions per year**

**25 million tonnes CO₂
sequestered**

**1 143 MW in renewable energy
capacity**

**Greater energy access for millions
of people**

**350 000 hectares under
sustainable land management**

**Technologies for climate
adaptation and resilience**

Project highlights

LCFP contributed to the Green for Growth Fund, which invests in renewable energy, energy efficiency, water and sanitation projects in the Southern and Eastern Neighbourhoods, the Middle East and North Africa.

The platform supports the Land Degradation Neutrality Fund, which is looking to rehabilitate and restore 500,000 hectares of degraded land in Africa, Asia, the Caribbean

and the Pacific, mainly through sustainable agriculture and forestry.

An LCFP contribution to responsibility's Access to Clean Power Fund is helping smaller companies to provide renewable energy solutions, both on and off-grid, to millions of people across sub-Saharan Africa, Asia and the Pacific.

An investment in the Climate Resilience Solutions Fund, known as CRAFT, will support small businesses involved in climate intelligence such as analytics, risk modelling and water monitoring. This will help people in Africa, Asia and Latin America to better adapt to climate change.

The platform supports the Emerging Markets Climate Action Fund, a private equity fund of funds focusing its investments on funds that support the production of clean energy, thus reducing carbon emissions and air pollution. For example, it supports the development of low-carbon infrastructure such as solar panels, onshore wind turbines and hydropower plants.

The LCFP contributed to The Urban Resilience Fund (TURF) B, which helps cities in rapidly growing urban areas in Africa. The fund targets investments in green, sustainable and resilient public infrastructure projects

The policy lever is to decide to focus on mobilisation through innovative development funds, to combine the donor concessional funding with largescale finance and experience of the MDB, and through this combination, to support the pipeline of innovative funds coming through the ICFA accelerator. Without each of the three parts, the delivery would be less and it is therefore a powerful policy level to put the three together.

3.2 The Green Finance Evaluation for Financial Institutions by the People's Bank of China

Background

The Green Finance Evaluation for Financial Institutions (FIs) was introduced by the People's Bank of China (PBC) in 2018 (Version 1.0) and was upgraded in 2021 (Version 2.0). As a non-pricing policy lever, the evaluation incentivizes FIs' preference for green finance without direct interference with their operations, and more capital has been mobilized into sustainable projects and supports the low-carbon transition.

Why could the evaluation promote green finance development?

The evaluation sends signals to market participants and has an impact on their expectations and behaviour. The evaluation plan covers both quantitative indicators and qualitative indicators, and the quantitative indicators focus on green loans and green bonds. Based on consistent quantitative indicators, branches of the PBC have refined and enriched the qualitative indicators.

The evaluation results were incorporated into the Macro-prudential Assessment (MPA) and then into the Central Bank Rating of FIs. PBC branches expanded the application scenarios of the evaluation results based on the local conditions. For example, in some districts, especially in Green Finance Reform and Innovation Pilot Zones, more supports, such as subsidies, rewards etc., have been provided to FIs with better performance in the evaluation.

Firstly, it incentivizes FIs' preference for green finance. The quantitative indicators of the evaluation assess the growth rates of green loans and bonds held by FIs, and the scores are based on a comparison of the growth rates with historical trends and average rates of similar FIs.

Secondly, it encourages FIs to improve their governance to incorporate green finance development. The qualitative indicators of the evaluation cover the governance for green business, information disclosure, etc., acting as a guide for FIs to establish and improve their green business management.

Thirdly, it reminds FIs to be aware of risks in the development, as it covers the non-performing loan ratio of green loans and the default rate of green bonds.

Fourthly, it depicts a general picture of green finance development and helps to identify the weaknesses in green finance development, urging those with low scores to catch up. The results of the latest evaluation nationwide found that large FIs and those focusing on green businesses performed better. However, some small and medium-sized institutions still have a long way to go.

Key challenges and the way forward

In general, the evaluation has promoted green finance development. Nevertheless, there are some challenges. Firstly, green financial products and instruments are flourishing, and it takes more effort to have quantitative measurements of these businesses other than green loans and bonds. Secondly, risk management is challenging as FIs and central banks are still exploring how to gauge climate-related risks accurately. Thirdly, it is difficult for FIs to assess the effectiveness of carbon reduction in green finance business without a solid foundation of carbon accounting.

Taking all these into consideration, the PBC is working on an upgraded comprehensive evaluation plan with more dimensions. Firstly, it will cover more green finance businesses

other than loans and bonds. Some green businesses will be covered by quantitative indicators if they are well-defined and measured, and some businesses will be covered by qualitative indicators at an early stage. Secondly, several measures will be taken to improve the measurement of the carbon reduction performances of green finance businesses. Thirdly, it will take more risk management tools into account, such as

climate risk stress test. Finally, there is a need to strike a balance between the benefits and costs of the evaluation.

The new Evaluation Plan (version 3.0) has been tested in some pilot areas and by selected FIs. It will be streamlined based on the test results and applied to more FIs and in more areas.

3.3 Developing Best Practice Guidelines for listing green bonds and sukuk (UAE)

Description

The Dubai Financial Services Authority (DFSA) released its [Green Bond Best Practice Guidelines](#) in 2018. The aim was to inform issuers and market practitioners on the DFSA's approach to listing of green bonds.

The Green Bond Best Practice Guidelines were updated in November 2022, to provide further best practice guidance on transition, sustainability-linked financial instruments, and social and climate bonds.

To develop the approach, and prior to the publication of the 2018 Guidelines, the DFSA consulted UAE federal-level entities including the UAE Ministry of Climate Change and Environment and industry stakeholders, including the Gulf Capital Markets Association (GCMA), the International Capital Market Association (ICMA) and law firms in the DIFC. The DFSA repeated the same exercise of seeking feedback from entities such as GCMA, ICMA, lawyers and arranger banks before publishing the 2022 Guidelines.

issuers of ESG bonds and sukuk seeking to list in the DIFC.

The main challenge was to determine if the guidelines must be voluntary or mandatory. The DFSA published the 2018 Guidelines as voluntary considering that voluntary guidance continues to be the market standard approach. The objective was to provide clarity on the supervisory and regulatory expectations of issuers when considering issuing green bonds in or from the DIFC.

The other challenge was aligning the guidelines with international financial market best practices while ensuring the financial market's ability to operate freely. The 2018 Guidelines were based on the International Capital Market Association (ICMA) Green Bond Principles, which are commonly used by ESG bond and sukuk issuers worldwide. When the guidelines were published, the ESG legal and regulatory landscape at national, regional and international levels was in its very early stages. In the UAE, the ESG market was still developing.

Challenges and opportunities

Challenge(s)

The 2018 Guidelines and the updated 2022 version, continue to serve as a guide for

Despite these challenges, the DFSA in 2018 considered that the regulatory community would benefit from guidance to understand how to align their own bond issuance processes with international best practices.

By basing the Guidelines on a combination of the prevalent market standards (i.e. the ICMA principles) and the DFSA's existing legal framework for issuance of securities, DFSA helped promote consistency and homogeneity in the green bond and sukuk disclosures, making them recognisable worldwide and thus appealing to a broader international investor base.

The updated November 2022 Guidelines, now covering a broader range of ESG instruments, are intended to respond to the demands of this fast-growing and evolving market segment.

Opportunity(ies)

The Guidelines have helped facilitate the development of the ESG fixed-income market segment in the DIFC, increasing the reputation of Dubai/UAE more broadly as a prime ESG debt listing venue. This contributes to increasing financing opportunities for this type of debt in the region and beyond, which benefits Nasdaq Dubai as the prime listing venue.

Impact

Presently, the UAE Green Bonds and Sukuk Market is valued at nearly USD 17 billion. Based on data on 8 March 2023 from Bloomberg Finance DIFC, Nasdaq Dubai is:

1. The largest ESG Sukuk market in the world
 - ➡ 72% of the world's USD-denominated ESG Sukuk are listed on Nasdaq Dubai – which accounts for 15 out of USD 20 billion.
 - ➡ 56% of the world's all-currencies ESG Sukuk are listed by Nasdaq Dubai in the DIFC – 16 out of USD 28 billion.

2. The second-largest Sukuk market in the world

- ➡ 37% of the USD-denominated Sukuk worldwide are listed on Nasdaq Dubai – which accounts for 100 out of USD 273 billion.
- ➡ 12% of the world's all currencies Sukuk are listed by Nasdaq Dubai in the DIFC.

While it is a challenge to quantify the impact of the guidelines, the guidelines have likely offered issuers and market participants guidance and stimulation on listing green (and subsequently other ESG) sukuk and bonds, created opportunities to tap alternate bonds markets that were not abundantly available in other jurisdictions in the GCC or broader MENA region.

The publication of the 2018 guidelines has contributed to the increased visibility of the DFSA's regulatory regime, signaled the UAE's awareness of, and openness to considering, issuances of this nature, while also providing clarity over the DFSA's approach and the voluntary international best practices acceptable to the DFSA and practices acceptable in the UAE.

As the DFSA provides a tested and well-regulated venue for the issuance of green bonds, it has led to the listing of one of the first benchmark corporate green Sukuk and the first green Sukuk issued by a regional corporate, Majid al Futtaim Group, which followed the listing of a sovereign and a multilateral development bank ESG sukuk, and has further gathered interest and drawn attention to the UAE market.

3.4 The EIB Group PATH Framework (EIB)

Supporting counterparties on their pathways to align with the Paris Agreement

As the EU climate bank and a public institution, the EIB Group is committed to supporting its clients to transition towards a low-carbon and climate-resilient future: in other words, to align their operations over time with the goals and principles of the Paris Agreement.

As set out in the Climate Bank Roadmap (CBR), the principal way in which the EIB Group can advance this transition is through the Paris-alignment of all its financing activities, and in particular by the provision of finance and advisory services to invest in Paris-aligned projects – investments in physical, human and natural capital consistent with a pathway towards low-carbon and climate-resilient development, in line with the 1.5 degrees global temperature goal. The CBR, approved in November 2020, lays out how the EIB Group will apply this in practice.

EIB Group support does not end, however, with the project alone. It is important to examine the project within the context of counterparties' wider corporate activities and their impact on the environment. The Group wishes to support specific investments with a clear understanding of how the counterparty intends to transition to a low-carbon and climate-resilient future – and to support a counterparty, where appropriate, in making this transition. The EIB Group also needs to be able to address legitimate concerns from stakeholders around the risk of "greenwashing" through providing financial support to a company for a Paris-aligned or even green project, whilst that company continues to engage in activities that are difficult to reconcile with the long-term goals of the Paris Agreement.

The EIB Group was the first Multilateral Development Bank to address the wider Paris

alignment of their clients' overall activities and help them to decarbonize their businesses or manage physical climate risks in this way.

General approach

The overarching aim of the framework is to engage with counterparties that are either aligning or willing to align with the goals of the Paris Agreement. It does not intend to restrict support only to those counterparties that are already aligned. This reflects the goal of the Paris Agreement itself to make finance flows consistent with a pathway towards low greenhouse gas emissions and climate-resilient development.

In practice, the need to align is most acute for companies in high-emitting sectors and those operating in a context of high climate vulnerability. The PATH framework therefore focuses on these counterparties. In this sense, the approach is targeted and proportionate.

The regulatory environment towards corporate sustainability reporting and climate-related disclosures, as well as best practices on climate management, is evolving fast. The PATH framework aligns with these developments as much as possible. In particular, it builds closely on existing and anticipated disclosure requirements within the EU, as well as the growing importance of reporting practices based on the recommendations of the TCFD.

As the EU Climate Bank, the EIB Group encourages counterparties to be ambitious in determining their alignment plans. However, it is clear that each counterparty will develop its own strategy, target and processes on its pathway to align - reflecting the specific set of regulatory, technical, financial and economic constraints facing a particular business. It is

not for the EIB Group to prescribe a particular solution or target. The counterparty remains solely accountable for its climate-related ambitions and targets, strategy, policies and procedures.

Whilst it is for the counterparty to determine its strategy, a clear and well-motivated explanation of the strategy should be available in the public domain for all stakeholders. Building on anticipated regulatory requirements, the PATH framework promotes this transparency, placing particular focus for corporates on mid-term targets (5 to 10 years into the future) and options to decarbonise thereafter as well as increase its capacity to manage physical climate risk. By asking for public disclosure we also encourage public discussion and indeed oversight, in reviewing such plans.

As a public institution, the Group wishes to support actively counterparties who are setting out on their transition pathway. In particular, where counterparties have not yet developed plans, or wish to update existing plans, the EIB Group can provide technical assistance to support the development of alignment strategies over a relatively short period. This may be particularly relevant for counterparties operating in regions most exposed to future climate change or smaller or regional operators engaged in sectors that are challenging to decarbonise. Such technical assistance will be available both within and outside the EU.

The PATH framework is suitable for counterparties based outside of the EU. Whilst building on the EU regulatory environment, the framework needs to be flexible to work with counterparties across the world. The principle of common but differentiated responsibilities and respective capacities is central to the Paris Agreement and the CBR. This principle is reflected in the PATH framework, notably in the focus on explaining a particular climate strategy within the relevant regulatory and operating environment. The framework recognises that the adoption and disclosure of climate plans and targets can be a more complicated and lengthy process for counterparties based outside of the EU and that technical assistance needs to be available.

Whilst the PATH framework is centred on encouraging the transition, there needs to be a bottom line. For instance, it is difficult for a counterparty to defend a plan to decarbonise progressively over time, if, at the same time, it continues to invest in new long-lived assets which significantly increase emissions (e.g. new coal-fired power plants). The PATH framework therefore limits EIB support to corporates that continue to invest in such activities to very specific circumstances involving highly innovative low-carbon projects. Further details: <https://www.eib.org/en/publications/20220007-the-eib-group-path-framework>

3.5 Launching a Green Bond Accelerator to promote green bonds and sukuk issuance (UAE)

Description

The total value of the UAE market for green sukuk, bonds, and loans has reached nearly US\$17 billion.

In January 2020, the Abu Dhabi Department of

Energy announced a [Green Bond Accelerator Initiative](#), in collaboration with the Abu Dhabi Global Market (ADGM) and Abu Dhabi Securities Exchange (ADX). The initiative was launched to attract the issuance of green bonds and green sukuk for sustainable

projects across the Middle East.

Challenges and opportunities:

Challenge(s)

One of the key challenges was establishing the extent to which regulations and standards should be voluntarily or mandatory, especially since mandatory standards have the benefit of being seen as more credible in the face of avoiding greenwashing, but run the risk of obtaining limited or no buy-in from the market. On the other hand, initiatives that rely too much on voluntary adherence run the risk of lacking credibility in terms of addressing greenwashing risks.

Opportunity(ies)

The initiative helped in promoting the issuance of green bonds. It encouraged entities to fund transition activities by making the structure in Abu Dhabi clear to key stakeholders and by encouraging cooperation between authorities based in different legal jurisdictions such as ADX and ADGM. This cooperation of multiple stakeholders and government entities continues through initiatives like the UAE-wide Sustainable Finance Working Group.

Impact

The initiative has provided opportunities for private entities in the UAE to raise funds through green bonds. For example, ADGM has seen a growth in the number of special purpose vehicles established here in order to issue debt, including green debt.

The initiative has catalyzed the need for complementary non-pricing policies and frameworks such as

ADGM's sustainable finance regulatory framework which is composed of the below

policies -

1. ESG disclosure for listings, petroleum and mining companies:

➡ In September 2022, ADGM issued its [updated market infrastructure framework](#). This included measures requiring ESG disclosures for firms offering securities in ADGM as well as petroleum and mining companies.

2. Regulating carbon offsets:

➡ The same market infrastructure framework facilitated the establishment of the world's first regulated voluntary carbon market in ADGM (AirCarbon Exchange) by creating a new class of financial instruments, 'environmental instruments'. This concept allows carbon offsets to be treated as commodities for regulatory purposes.

Other non-pricing initiatives include - Sustainable Finance Working Group. Currently chaired by the ADGM, the working group is composed of regulators, ministries and exchanges from across the UAE with the aim of taking a coordinated approach to the implementation of non-pricing-related sustainable finance initiatives.

In 2023, the priorities of the working group are working towards:

- ➡ Ensuring UAE regulators implement ESG disclosures.
- ➡ Ensuring UAE regulators implement a framework for financial services firms to incorporate climate risk into their risk management and corporate governance frameworks.
- ➡ Assisting in the creation of a green taxonomy in the UAE.

3.6 Developing the UAE Sustainable Finance Framework (UAE)

Description

The [UAE Sustainable Finance Framework \(2021-2031\)](#) provides a list of recommendations to mitigate the private sector's risks and to incentivize sustainable finance products and initiatives. The prioritized action theme of the Framework is to improve the supply and demand of sustainable finance products and climate and green investment projects. The framework also looks at the capacity building of sustainable finance professionals across the UAE. Key policies aimed under the framework include :

- Embed sustainability considerations into existing policies, legislations and directives pertaining to public and private financial activities
- Establish regulatory guidelines for the assessment and management of ESG and climate-related risk exposures in lending and investment activities of financial institutions
- Propose standardized guidance on ESG and climate-related reporting and disclosure, in alignment with the Task Force on Climate-related Financial Disclosures (TCFD) Recommendations.
- Incentivize financial institutions to develop and market sustainable products and services, such as green deposits, green mortgages, green bonds/sukuk and green insurance.

The development of the Framework has benefitted from the inputs of experts from key institutions in the sustainable finance space, including Abu Dhabi Security Exchange (ADX), Dubai Financial Services Authority (DFSA), Abu Dhabi Global Market (ADGM), BNP Paribas, Clean Energy Business

Council, Dubai Islamic Bank, Emirates Nature – WWF, Etihad Airways, First Abu Dhabi Bank (FAB), HSBC Middle East, Invesco Asset Management, RAKBANK (the National Bank of Ras Al Khaimah) and Standard Chartered.

Challenges and opportunities

Challenge(s)

While corporate attention towards sustainability has grown significantly in recent years, the level of alignment of sustainability considerations with overall business strategies remains varied. On average, there has been only partial integration in activities such as capital allocation, budgeting and the setting of KPIs with sustainability considerations. The barrier that has been overwhelmingly identified by relevant stakeholders was the lack of high-quality data, particularly related to activities such as risk management and the application of minimum eligibility requirements for investment evaluation and selection. Looking specifically at the investing function of financial institutions, there is certainly a growing demand for more green financial instruments; however, there are limited definitions and differences between terms such as responsible, environmental, impact, sustainable and green investing, etc. Lastly, in terms of ESG-related reporting and disclosure, there remains a lack of clarity and understanding of the requirements involved.

Opportunity(ies)

The Framework presents a set of recommendations to mitigate the private sector's exposure to climate-related risks and to incentivize sustainable finance products and initiatives. Furthermore, the improved supply and demand of sustainable finance products, and climate and green investment

projects are also prioritized as a key action theme of the Framework. Lastly, as a forward-looking recommendation, the provision of capacity building to existing and future sustainable finance professionals is highlighted through the development of accreditation schemes for sustainable finance training programmes, promotion of entrepreneurship and innovation in sustainable sectors, as well as the launch of relevant university curricula to promote continuous innovation and growth in the UAE sustainable finance sector.

Accordingly, the three main pillars of the Sustainable Finance Framework are as follows:

Pillar 1: Mainstream sustainability in financial decision-making and risk management

Pillar 2: Enhance supply and demand for sustainable finance products and green investment projects

Pillar 3: Strengthen the enabling environment that promotes sustainable finance practices through collaboration between financial and real sector stakeholders

Impact

The Sustainable Finance Framework supports the mobilization of private capital towards low-carbon, environmentally sustainable, and climate-resilient investments. The three pillars of the Framework were designed to deepen cooperation between the public and private sectors and seek to create an improved enabling environment to mainstream sustainable finance practices, resulting in greater volumes of climate and green investments within the UAE. Enhancing the supply and demand for sustainable finance products and green investment projects has been prioritized as a key action theme of the Framework, along with strengthening the enabling environment to promote sustainable finance activities. Government support of the development of a domestic market for green financial instruments presents significant near-term opportunities by not only allowing for higher volumes of green investments but also in further establishing the UAE's status as a regional hub for sustainable finance. Strengthened in-country capacity through the promotion of sustainable finance training for youth, young professionals and entrepreneurs will also bolster the competitiveness of the UAE's green economy.

4. Disclosure and accreditation

4.1 UK Introducing TCFD requirements to pension measures (UK)

Background

Following the UK legislating for net-zero emissions by 2050, HM Treasury undertook an important review of the costs of the transition and how they will be distributed. This underpins how the UK evaluates and assesses the range of available policy levers, including those for mobilising finance for net zero. The UK Treasury [published](#) this review in

October 2022. The report found that multiple policy instruments – both price and non-price – would be needed to address the market failures associated with climate change, as businesses and households transition from high- to low-carbon technologies.

Introducing TCFD requirements to pension measures

In 2021, the UK Department for Work and Pensions (DWP) introduced Taskforce for Climate Related Financial Disclosures (TCFD) regulations to make occupational pension schemes consider, assess and report on the financial risks of climate change within their portfolios. These requirements were introduced proportionately – in October 2021 for occupational pension schemes with assets of £5bn (USD 5.4 billion) or more and from 1 October 2022 for schemes with assets of £1bn (USD 1.08 billion) or more. This was an important step in the policy-making process, allowing the DWP to understand what businesses were being asked to do, assess the impact of the policy and how best to implement it proportionally. Since the introduction of the requirements, over 70% – or around £1.4 trillion (USD 1.5 trillion) – of occupational pension assets are subject to climate disclosure. Over 80% of scheme members now have access to their pension schemes disclosures on climate risks and see how they are being managed – for the first time.

The Pensions Regulator (TPR) is currently reviewing occupational pension schemes' TCFD reports. TPR published its preliminary findings in March, to provide schemes with examples of good practice and what could be improved in future years. So far, TPR has found that most reports were published on time, and almost all were substantial documents showing trustee engagement with the requirements even if more context on the scheme and governance processes would be useful going forward.

We know that once pension schemes disclose climate risks, behaviour change happens as savers care about climate impacts. We have since seen ambitious decarbonisation plans through disclosure and the outside scrutiny that brings. This measure has been

effective in part due to the way it has been implemented. Disclosures must be published on the pension scheme's website and TPR will issue a penalty in cases where schemes fail to publish.

However, the ambition of sustainable pension investments did not stop with climate risk requirements. In October 2022, DWP introduced a new requirement following updated TCFD recommendations. This saw pension schemes measure and report on the extent to which their investments *align* with the Paris Agreement by measuring the "implied temperature rise" of their investments. Paris Alignment reporting is impactful for communicating a scheme's progress in transitioning to net zero and encouraging action. It is a powerful tool for helping savers understand their pension scheme's progress in becoming aligned with a 1.5-degree increase – something that we know savers care about.

To help pension schemes with implementation, DWP and TPR issued guidance alongside these requirements to assist trustees. They also committed to revisiting this guidance later this year following a review of the first completed disclosures. This phased cycle of introduction, guidance, evaluation and improvement has helped to smooth the implementation of these requirements, ensuring the government is working effectively with the industry. It is still early on in terms of monitoring the impact of this measure, considering this is the first year of the reporting cycle. However, we know that transparency through disclosures is a powerful mechanism for re-directing investment into sustainable assets and the additional data can be used to influence the wider governance of the scheme.

Delivering TCFD requirements as part of pension measures is part of a wider approach taken by the UK government.

In November 2020, the UK became the first country to commit to making disclosures aligned with the TCFD fully mandatory across the economy. A year later the government announced that the UK will move towards making it mandatory for firms to publish net zero transition plans. Last year, the FCA updated their rules for asset managers and

listed companies to comply with or explain requirements to publish transition plans, and these are now in force.

The UK also launched the Transition Plan Taskforce – or TPT – in May 2022 to create the gold standard for transition plans. The TPT's consultation on its recommendations and guidance closed in February and it will publish a final framework later this year.

5. Country Spotlight

5.1 Morocco

The green transition and sustainable development have become a top priority for the Moroccan Government as it represents an essential pillar for inclusive and resilient growth. Being aware of the climate change growing threats and sustainable development requirements, the Moroccan authorities have undertaken many measures to promote a low-carbon economy, and sustainable investment and facilitate the mobilization of capital for green and sustainable activities.

In this regard, the government has adopted a mixed approach that combines different non-pricing policy levers, which include sectoral policies and regulations, diversification of financial green instruments and tax incentives among other tools.

It should be stressed that the measures presented in this paper are not exhaustive but are considered some of the main actions taken in recent years.

Morocco's Low Carbon Strategy

By the end of 2021, the Government of Morocco submitted the low carbon

strategy 2050. This strategy aims to achieve an integrated, common and shared vision, establishing the main orientations of the Moroccan economy and society between 2020 and 2050, and envisaging deep economic and social transformations in a carbon-neutral world. This strategy will be broken down into sectoral decarbonization action plans based on modelling work for key sectors such as energy, industry, construction and transport.

Nationally Determined Contribution Update

In June 2021, Morocco published its updated NDC increasing its decarbonization ambition. The updated NDC covers many sectors including energy production, waste, industry, forestry and land use, agriculture, transportation, residential and is now including new industrial sectors.

The NDC target heavily relies on emission reduction in the energy sector, which would reduce Morocco's dependence on imported energy sources and significantly increase renewable energy generation, reaching 52% by 2030. Energy efficiency is also seen as key, as measures will be implemented across various sectors.

The adaptation section of Morocco's NDC builds off Morocco's National Adaptation Plan, referencing new sectors and more comprehensive targets compared to the 2015 NDC. The sectors covered by Morocco's adaptation component include agriculture, water, fisheries, forestry and health, among others.

Regulations

In terms of regulation, Morocco has developed several laws regarding sustainable activities. These regulations include notably, the National Environmental and Sustainable Development Charter, Law on environment protection, Waste Management and Disposal Act, Law on energy efficiency, Law on self-production of electric power.

As for financial regulations, the Government has also prepared during COP22 a roadmap for green finance aimed at aligning the financial sector with the requirements of sustainable development. Indeed, this roadmap has made it possible to achieve progress in particular with regard to the establishment of a regulatory framework and incentives for the development of funding solutions tailored to the needs of green investment and climate-friendly activities. This includes, in particular, the publication of a number of guides and legal texts: guide on green bonds, capital market authority and Central bank regulations regarding ESG disclosure and monitoring of climate/environmental risks in the financial sector.

Financial Green instruments

Many mechanisms have been put in place to mobilize green funding and promote, incentivize and de-risk green investments. Green and sustainable credit lines have been offered by MDBs to local banks in order to facilitate access to funding for businesses aiming to make green investments (Green

Economy Funding Facility, Green Value Chain), notably for SMEs.

The Ministry of Economy and Finance has also implemented co-funding mechanisms that feature funding from commercial banks and the national guarantee fund in order to support green investments. Many of these investments can benefit also from guarantee schemes offered by the national guarantee fund.

The public authorities have also set up programs (Tatwir green growth) to support the decarbonization of Very Small, Small and Medium Industrial Enterprises using mainly subsidies. It aims to support industrial SMEs in their efforts to develop decarbonized processes and products and to support the emergence of new competitive green industrial sectors and the reduction of industrial pollution. Many of these programs feature technical expertise to businesses who benefit from the program especially SMEs in order to help them decarbonize their activities.

To pursue green finance promotion efforts, the Ministry of Economy and Finance has launched studies in cooperation with its international partners, in order to identify gaps in terms of supply and demand of green financial instruments with a focus on SMEs and to design consequently, new instruments that can meet the needs of this segment of enterprises. The Ministry is also committed to encouraging the greening of other financial instruments, such as collective investment vehicles (Green funds), which could play a key role in channelling savings towards green investments.

Tax measures

Regarding fiscal subsidies, the Moroccan General Tax Code for the year 2022 (accepted under the framework of the Finance Law), included several new measures many of which were focused

on supporting the sustainable and low-carbon development of Moroccan SMEs. The main “greening” and innovation-focused tax measures are, for example: i) Exemption from VAT for some materials that use renewable energy in the agricultural sector, ii) Reduced VAT rate on sales of electrical energy, iii) Tax exemption for vehicles with electric and hybrid engines.

Overall, the national framework law (n° 69-

19) established in 2021, which outlines the provisions of the tax reform, regards the sustainable development issue as a top priority. This reform, which is a structuring lever for the financing of the national economy, would be implemented gradually over five years in accordance with national priorities. Some of the tax measures enacted by this law would help accelerate sustainable development in Morocco.

5.2 South Korea

Building Infrastructure for Investments

1) K-Taxonomy

➔ Korea established a national green taxonomy to prevent greenwashing and drive private capital into green sectors. The so-called “K-taxonomy” includes nuclear power, modelling after EU and other country cases.

➔ A total of 640 billion won (USD 483 billion) worth of green bonds were issued through its pilot project in 2022.

2) Guidelines for Issuing Korean Green Bonds

➔ The Green Bond Guidelines have been released to make bond issuance more convenient and to prevent greenwashing. They provide the procedure and standards for issuing green bonds in Korea, stipulating the process for project evaluation and selection, external reviews, and reports.

Encouraging Private Finance Mobilization through De-risking Facilities and Incentives

1) Interest Subsidy for Issuing Green Bonds

➔ The government financially supports companies that issue taxonomy-aligned green bonds by partially subsidizing interest expenses, which incentivizes the

issuance of Korean green bonds and cuts down financing costs for green industries.

➔ Green bonds that have been and are planned to be issued in 2023 are expected to total around 3.9 trillion won (USD 2.9 billion) with such support in place.

2) Public-Private Partnership Fund

➔ This fund invests in startups that are social enterprises or from industries contributing to net zero, financed by both the government and private sector to reduce risks for private investors.

Increasing Access to Private Investment

1) Listing Fee Exemptions for Socially Responsible Investment (SRI) Bonds

➔ This fee waiver program for SRI bonds (e.g. green bonds, social bonds, sustainable bonds) exempts listing commissions and annual fees, further promoting listing and private investment.

2) Website for SRI Bonds

➔ Investors can easily keep track of SRI bond data by visiting a dedicated website (<http://sribond.krx.co.kr>) and save time and money in finding relevant information.

3) Private Investment Seminar for Green Industry and Technology

- ➡ The Korean government organized a seminar for private investors aiming to attract private sector investment to

green startups and help them grow.

- ➡ Green startups were able to conduct IR activities for private investors, as well as receive education on IR presentations and follow-up assessments.

5.3 Russia

To promote sustainable investment in line with broader economic goals, Russia is actively implementing market-based and risk-oriented support mechanisms. On 15th April 2023, Resolution No. 603 of the Government of the Russian Federation 'On approval of priority areas for technology sovereignty and structural economic modernization projects' (hereinafter – Taxonomy) created a dedicated framework for raising funds for projects in critical sectors that contribute to the structural transformation of the country's economy. The document was developed jointly by the Ministry of Economic Development, the Bank of Russia and VEB.RF, Russia's national economic development institution.

The list of eligible projects includes a range of activities including 'green' or transitional, i.e. production of electric cars, electric-powered robotized platforms and other vehicles based on the use of alternative propulsion systems (hydrogen fuel etc.); construction of power plants operating on renewable energy sources; production of equipment for solid waste sorting; modernization services for vessels and aircraft aimed at converting them to sustainable fuel sources. For a project to comply with selection criteria, at least 50% of its revenues should be generated from the stipulated activities.

The mechanism combines government support measures (interest rate subsidies), and guarantee provisions from VEB.RF and smoothing regulation on the part of the Bank of Russia. In particular, to boost lending

potential to transform the economy, the Bank of Russia intends to implement risk-sensitive incentive-based banking regulation for projects included in the Taxonomy without undue risks to the financial system. Subject to certain conditions, banks will be allowed to apply decreasing coefficients when estimating credit risks. The extent of the stimulus will depend on the level of associated risks and the importance of the project.

On the macroprudential bank regulation side, the Bank of Russia's primary focus is on the bank's ability to assess and report its exposure to climate risks. Currently, they are reviewing the approaches to identify and measure climate risks in various areas, including credit risk, operational risk, strategic risk, and other business risks. Thus, at the end of 2022, the Bank of Russia published a consultation paper "Climate risks in changing economic environment" to discuss approaches to climate risk management in financial institutions. Following public consultations, the Bank of Russia will develop recommendations for financial institutions on embedding climate risks into a risk-management framework (expected to be published in 2023-2024).

Bank of Russia is also assessing the need to introduce any policy levers to encourage the banks to finance sustainable investments, but no such mechanisms have been implemented yet.

Private sector actors are also spearheading initiatives aimed at creating a conducive environment for sustainable investing. Corporations may enjoy reputational gains

from being included in ESG rankings. As the demand for them from ESG investors grows, there is a need to ensure that the process of the development and the assignment of ESG ratings should be clear, transparent and comparable. Therefore, at the beginning of 2023, the Bank of Russia published a consultation report with a proposal to introduce a uniform definition of an ESG rating, identify a minimum set of rating factors, and adopt a single rating scale. In furtherance of this work, they plan to publish recommendations aimed at harmonization of ESG ratings in 2023.

5.4 Saudi Arabia

Through its Vision 2030, launched in April 2016, the Kingdom of Saudi Arabia has initiated a comprehensive set of reforms in the public sector's operating model, the economy, and the society as a whole. The Kingdom also adopted the Circular Carbon Economy (CCE) approach, endorsed by G20 leaders in 2020, with a focus on the 4Rs (reducing, reusing, recycling, and removing emissions). In 2021, the Saudi and Middle East Green Initiatives were announced to implement the CCE approach as well as achieve broader environmental objectives (e.g., adaptation, adaptation with mitigation co-benefits, and ecosystem protection). The Saudi Green Initiative aims to achieve three overarching targets (emissions reduction, afforestation, and land and sea protection) through a series of initiatives that involve actors from the public and private sectors.

Saudi Arabia has implemented a variety of non-pricing policy measures within regulatory, soft and financial tools approaches that aim to enable the achievement of targets, implementation of initiatives, and foster a whole-of-society approach to sustainability. This country case study includes a non-exhaustive list of measures across these approaches as well as the impacts of these measures.

Another stimulus measure is the public recognition of companies' sustainable performance within the framework of regular annual report competitions. These events are organized by stock exchanges to identify the latest trends and share best practices in terms of content and structure of annual reports of issuers. Since 2022, the competition has included the nomination for the best sustainability report.

Regulatory Measures

- 1) Policies, targets, initiatives and implementation

Vision 2030 itself represents a set of regulatory non-pricing measures comprising national targets that cut across three pillars; A Vibrant Society (social elements), A Thriving Economy (economic elements), and An Ambitious Nation (governance and efficiency elements). Once targets have been set, Vision Realization Programs (VRPs) were designed to align activities within Saudi Arabia to targets through approved delivery plans guided by pre-defined objectives and KPIs tied to 5-year milestones. One example of VRPs is the Financial Sector Development Program (FSDP), which is directed by a board consisting of government and non-government representatives to achieve targets meant to strengthen the financial sector within the Kingdom.

Since the announcement of Vision 2030, the Kingdom has achieved progress on its national targets. Below are only a few examples of such progress:

- ➡ Example target: Non-oil government revenue from SAR 163 billion (USD 43 billion) to SAR 1 trillion (USD 266.5 billion) by 2030.

- ➔ Progress from 2016-2020: Non-oil revenues grew from SAR 166 billion to SAR 369 billion.
- ➔ Example target: Increase life expectancy from 74 to 80 years by 2030.
- ➔ Progress from 2016-2020: Life expectancy increased from 74.8 years to 75.3 years.
- ➔ Example target: Increase women's participation in the workforce from 22% to 30% by 2030
- ➔ - Progress from 2016-2021: Saudi female labour participation increased to 35.6%

2) Standards

The Kingdom of Saudi Arabia also deploys standards across a variety of industries, including, for example, energy efficiency standards for new plants within the Cement, Aluminum, and Steel sectors. The Kingdom's Saudi Energy Efficiency Program established in 2012 has displaced 425 thousand barrels of oil equivalent per day and led to a 51 MTPA of carbon emissions since its inception to 2021.

3) Sector Focus: Energy

Wider policies within the Energy sector include the target to increase the capacity share of renewable energy for electricity generation in the Kingdom's energy mix by up to 50% and coupling power generation plants with carbon capture capabilities. Such policy decisions are being implemented on the ground in a cooperative effort between the public and private sectors. Illustrating the impact of the Kingdom's non-pricing approach, a pipeline of renewable energy projects running up until 2030 is already in place with some projects currently operational. Another example of effective responses to policy signals includes the Carbon Capture and Storage Hub (CCS Hub)

which is under development in the Kingdom's Eastern Province and will be operational by 2027.

Soft Approaches

1) Awareness

The Saudi Green Initiative (SGI) forum is held annually to announce progress on targets and initiatives and convenes a wide array of industry and sustainability leaders as well as participation by youth. The SGI forum raises awareness of the climate and environmental priorities of the Kingdom and involves a wide range of stakeholders from the international community to foster dialogue and exchange as well.

The Kingdom deploys awareness measures through the labelling of products' energy efficiency in line with performance standards, providing consumers with the opportunity to reduce their energy consumption. It has also engaged in national campaigns on the reduction of energy usage, to raise awareness within Saudi society.

On the water management end, the Ministry of Environment, Water and Agriculture of Saudi Arabia (MEWA) launched the National Water Strategy. The strategy includes a focus on water conservation, water efficiency, and water reuse, with a vision to create "A sustainable water sector, safeguarding the natural resources and the environment of the Kingdom and providing cost-effective supply and high-quality services", MEWA also launched MEWA Water Conservation Awareness program, which aims to raise awareness about the importance of water conservation, launch initiatives that promote water conservation and improve water-use efficiency throughout the country. MEWA has also launched Environment Week, which is an annual week to raise individual awareness

and responsibility and to achieve a conscious society specifically targeting topics related to desertification, waste management, pollution, and environmental protection.

2) International Cooperation

Saudi Arabia has also taken steps to increase regional and international cooperation and policymaking through the establishment of the Middle East Green Initiative, which has set regional emissions reduction and tree planting targets and several regional initiatives to implement the Circular Carbon Economy approach. Furthermore, it has signed on to the Global Methane Initiative, and is a member of the Clean Energy Ministerial, the Net Zero Producers Forum, and the Network for Greening the Financial System. Saudi Arabia has also adopted and ratified the United Nations Framework Convention on Climate Change in 1992 as well as its Paris Agreement in 2015 and implements its obligations under both agreements as part of the global effort to address climate change.

3) Non-Government

Non-government actors have been engaged in developing soft approaches, aimed at assisting stakeholders to contribute to Vision 2030 and SGI targets within the CCE approach. Examples include the Saudi Stock Exchange's voluntary ESG guidelines for listed companies and Saudi think tank the King Abdullah Petroleum Studies and Center's (KAPSARC) CCE Index designed to assist users in assessing their alignment with the CCE framework.

Financial Tools:

1) Public Investment Fund (policy, direct funding, and asset transfers)

The Public Investment Fund (PIF) is the Sovereign Wealth Fund of the Kingdom of Saudi Arabia and operates as a global

impactful investor with a world-class investment portfolio with a focus on sustainable investments, both domestically and internationally. The government supports the PIF through policy measures and funding as well. On the policy side, the Public Investment Fund Program was established under Vision 2030 to enhance the role of the PIF and enable it to become the active engine behind the diversification of Saudi Arabia's economy. On the funding side, government cash injections and asset transfers represent two of the four funding sources of the PIF. The other two funding sources for the PIF are loan and debt instruments (including recently issued Green Bonds) and retained earnings from investments.

Since the announcement of the Public Investment Fund Program in 2017, the PIF established 30+ companies across 30+ sectors including entertainment, tourism, and renewable energy and refinancing. It has also doubled the total shareholder return from around 3% between 2014-2016 to 8% between 2018-2020. Assets under management almost tripled within 2016-2020, to around USD 400 billion.

2) Investment in Emerging Critical Technologies (grants for research and development)

In line with the CCE approach, the government of Saudi Arabia is investing in the research, development and piloting of Carbon Dioxide Removal technologies (e.g., Direct Air Capture) as part of its emissions removal strategy.

3) Incentive schemes

The Ministry of Energy of Saudi Arabia launched an incentives program for renewable energy (National Renewable Energy Program) that provides industrial sites, stable interest rates, and long-term financing options for renewable energy projects targeting the private sector.

4) National Development Fund (development funding, development banks, and financial tools)

Established by Royal Decree in 2017, the National Development Fund (NDF) aims to advance the performance of development funds and banks to empower them to better fulfil development priorities and economic obligations related to Vision 2030. The NDF has five main functions; to enhance development funds and banks' performance; align objectives with Vision 2030 aspirations; minimize overlap between development funds and banks; foster coordination between development funds and banks; and empower development funds and banks to realize objectives. Development funds and banks that are under the supervision of the NDF contribute to the achievement of Vision 2030 by offering a wide range of financing options for various sectors including e.g., grants, subsidies, concessional loans, and investments.

The NDF oversees 11 specialized development funds and banks across a variety of sectors ranging from Real Estate to Tourism that contribute to the economic growth and diversification of the Kingdom as well as social and sustainability priorities. The Real Estate Development Fund (REDF), for example, aims to provide and innovate various and balanced financing programs suitable for all segments of society to obtain housing. The REDF started with SAR 250 million (USD 66 million) of capital, which has since grown to over SAR 190 billion (USD 50.6 billion), further enabling the fund to provide financing solutions, products, and support to provide affordable housing solutions within Saudi Arabia.

