

Emerging Market Real Economy Sustainable Bonds – current and potential issuance

Country focus: Egypt, Ghana, Morocco, Nigeria, South Africa
Sector analysis: Power, Transport, Agribusiness



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Contents

Executive summary	9
Introduction	11
Sectors	17
Global power sector	19
Global agribusiness sector	25
Global transport sector	29
Country focus	
Nigeria	35
South Africa	45
Egypt	56
Morocco	65
Ghana	74
Glossary	84

List of Figures

Figure 1: Global sustainable bonds by issuer type	12
Figure 2: Annual issuance of sustainable bonds	12
Figure 3: Use of proceeds breakdown of bonds issued in 2021 by value	17
Figure 4: Sustainable Bond Funding – 2021	18
Figure 5: Renewable energy Use of Proceeds issuer type – value (\$M)	21
Figure 6: Power and Energy Regional Sustainable Bond Issuance - value (\$M)	23
Figure 7: Sustainable Bond Label - Share of value (\$M)	26
Figure 8: Agribusiness Sector Sustainable Bond Issuance - Country Value (\$M)	27
Figure 9: Clean Transport UoP - Issuer type % share of value (\$M)	31
Figure 10: Nigeria - Bond Issuance 2007-2021	35
Figure 11: South Africa - Bond Issuance 2007-2021	45
Figure 12: Egypt - Bond Issuance 2007-2021	56
Figure 13: Morocco - Bond Issuance 2007-2021	65
Figure 14: Ghana - Bond Issuance 2007-2021	74

List of Tables

Table 1: Regional breakdown of sustainable bonds issuance	11
Table 2: Sustainable bonds with the “renewable energy” use of proceeds or KPI	20
Table 3: Issuer type – green and sustainability bonds with renewable energy as the use of proceed	20
Table 4: Power sector specific bonds	20
Table 5: Power - real economy issuers	20
Table 6: Power sector specific bonds – region	21

Table 7: Power sector specific bonds – country	22
Table 8: Power sector specific bonds – market	22
Table 9: \$1bn+ Power sector bonds	24
Table 10: Agribusiness sector specific bonds – bond label	26
Table 11: Top 5 Food and beverage sustainable bonds	28
Table 12: Agribusiness sustainable bonds	28
Table 13: Sustainable bonds with the “Clean Transportation” use of proceeds or KPI – bond label	30
Table 14: Issuer Type – green and sustainability bonds with clean transportation as the use of proceed	30
Table 15: Transport sector bond issuance – bond label	31
Table 16: Issuer type – transport sector	31
Table 17: Transport sector issuers – transport type	32
Table 18: Geography – transport sector issuers	32
Table 19: Geography – transport sector issuers – country	32
Table 20: \$1bn+ transport sector bonds	33
Table 21: EM (ex China) transport sector bonds	33
Table 22: Nigeria – sustainable bond details	38
Table 23: Nigeria – power sector real economy bonds 2007-2021	40
Table 24: Nigeria – agribusiness sector real economy bonds 2007-2021	42
Table 25: Nigeria – transport sector real economy bonds 2007-2021	44
Table 26: South Africa – sustainable bond details	49
Table 27: South Africa – power sector real economy bonds 2007-2021	51
Table 28: South Africa – agribusiness sector real economy bonds 2007-2021	53
Table 29: South Africa – transport sector real economy bonds 2007-2021	55
Table 30: South Africa – Government agency issuers	55
Table 31: Egypt – sustainable bond details	59
Table 32: Egypt – transport sector real economy bond issuance 2007-2021	63
Table 33: Morocco – sustainable bond details	68
Table 34: Morocco – power sector real economy bonds 2007-2021	69
Table 35: Morocco – agribusiness sector real economy bonds 2007-2021	71
Table 36: Morocco – transport sector real economy bonds 2007-2021	73
Table 37: Ghana – power sector real economy bonds 2007-2021	79
Table 38: Ghana – Agribusiness sector real economy bonds 2007-2021	81
Table 39: Ghana – Transport sector real economy bonds 2007-2021	83

Abbreviations and acronyms

CBI	Climate Bonds Initiative	GDP	Gross Domestic Product
COP	Conference of the Parties (United Nations Climate Change Conference)	GSSS bonds	Green, Social, Sustainability, Sustainability-linked bonds
DM	Developed Markets	ICMA	International Capital Markets Association
EBRD	European Bank for Reconstruction and Development	IFC	International Finance Corporation
EGO	Emerging Green One	IMF	International Monetary Fund
EM	Emerging Markets	NDC	Nationally Determined Contributions
ESG	Environmental, Social, Governance	PPP	Public Private Partnership
EV	Electric Vehicles	REGIO	Real Economy Green Investment Opportunity Fund
FDI	Foreign Direct Investment	SDGs	Sustainable Development Goals
FAO	Food and Agriculture Organisation of the United Nations	SME	Small and Medium-sized Enterprises
		TAF	Technical Assistance Facility



Executive summary

There was dramatic growth in sustainable bond issuance globally in 2021, reaching \$1.03 trillion, 69% higher than 2020 issuance. This growth predominantly occurred in developed markets, with 9/10 sustainable bonds issued by developed market issuers.

Real economy¹ issuers have increased their share of sustainable bond issuance to 37% in 2021, up from 26% in 2020.

The five focus countries of Egypt, Morocco, Ghana, Nigeria, and South Africa have issued 20 sustainable bonds of which South Africa is responsible for 11/20 and Ghana is yet to see its first sustainable bond issued. There are 6 real economy sustainable bonds, three sovereign, two government agency, two municipal and 7 financial institutions. There are challenges and opportunities in each country for future sustainable bond issuance.

Globally real economy sustainable bond issuers are active in the three focus sectors of power, agribusiness, and transport:

- Power – 638 bonds with a value of \$290bn
- Agribusiness – 56 bonds with a value of \$25bn
- Transport – 204 bonds with a value of \$88bn

The three focus sectors are crucial to the development of emerging market economies and sustainable bond

issuance could play a key role in financing sustainability and growth. There are projects which could be eligible for sustainable bond issuance with clear sustainable use of proceeds in each sector.

The high potential for sustainable bond issuance in each country and sectors is supported by encouraging government policies and high global appetite for sustainable bonds amongst investors but tempered by systemic and structural sector and capital market challenges.

On the supply side the fragmented nature of the agribusiness and transport sectors and the dominance of public companies in the power sector reduces the number of real economy companies with eligible projects large enough to warrant sustainable bond issuance.

On the demand side sustainable bond investors are commonly large institutional investors who have low tolerance for risk, high bond size expectations and strict fiduciary duties which decrease the appeal of emerging market, real economy sustainable bonds.

There are additional challenges surrounding bond currency, market liquidity, reporting infrastructure, project availability, and human capital and sustainable debt knowledge gaps in emerging market real economy companies.

¹ Real economy companies are defined as companies directly involved in a sector - I.e., corporations or government agencies. It does not include government ministries/departments, municipalities or financial institutions



Introduction

This report will examine the potential for sustainable bond issuance in five countries focussing on three key sectors. The structure of this report is as follows:

The report begins with this introductory chapter outlining the scope of the report and the wider market context. This is followed by three sector benchmark chapters examining each target sector on a global scale. These chapters are structured to provide an overview of the sector make up, sustainability drives in the sector and emerging market (EM) unlabelled (vanilla) fixed income debt. There are deep dives into sustainable bond issuance assessing total market size, region, issuer type, and top issuers with focus on emerging market potential. There will be brief insights into alternate sustainable debt such as green and sustainability-linked loans and a brief outlook for sustainable bond issuance in the sector.

Finally, there are five country analysis chapters. The structure of each country analysis begins with a brief overview of the macro-economic situation, a summary of regulations and government policy regarding sustainable debt or sustainability targets and details on any sustainable bond issuance. Each country sector summary provides an overview of the sector and sector structure, a list of leading real economy companies, total bond issuance in the sector, both sustainable and unlabelled vanilla from all issuers, and a conclusion on the outlook for sustainable bond issuance in the country sector.

Emerging markets

This report focuses on the potential for sustainable bond issuance in emerging markets. There is analysis of 5 African countries: Egypt, Morocco, Ghana, Nigeria and South Africa with macro financial market and sector assessment.

Emerging market issuers make up approximately 1/10 sustainable bonds issued (by number of issuances) however emerging markets are arguably in most need of capital for sustainable development and many emerging market countries are vulnerable to the effects of climate change.

Table 1: Regional breakdown of sustainable bonds issuance

Region	2021 Value (\$M)	Share	2007-2021 (\$M) ²	Share
East Asia and Pacific	129,058.77	13.03%	363,377.19	14.30%
Europe and Central Asia	470,389.66	47.50%	1,145,025.59	45.05%
Latin America and Caribbean	45,828.08	4.63%	86,970.92	3.42%
Middle East North Africa	9,821.03	0.99%	19,466.00	0.77%
North America	167,174.20	16.88%	487,509.35	19.18%
South Asia	9,045.29	0.91%	21,729.65	0.85%
Sub Saharan Africa	3,229.30	0.33%	5,811.60	0.23%
Supranational	155,766.34	15.73%	412,042.90	16.21%

Source: Environmental Finance Data

Real economy

This report will concentrate on the current and potential market for “real economy” issuers, namely private corporate and government agency issuers in emerging markets.

Figure 1 shows global sustainable bond issuance by issuer type from 2017-2021. There has been an overall increase in corporate issuers with the corporate share of issuance value rising to 37% in 2021 from 26% in 2020.

Sustainable bonds

According to figures from *Environmental Finance Data*, total global sustainable bond issuance reached \$1.03 trillion in 2021 – more than 69% higher than the \$606 billion in 2020, and more than triple the \$326 billion issued in 2019.³

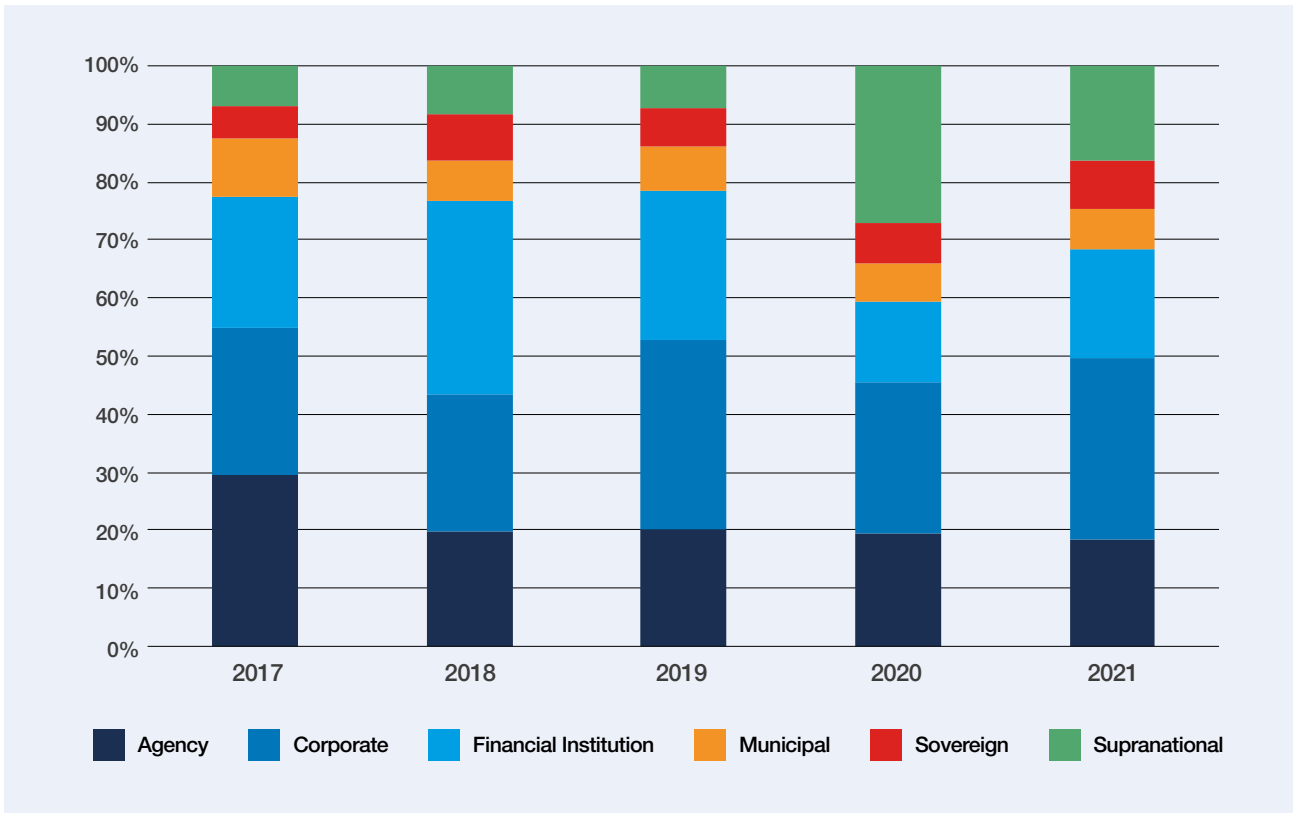
Sustainable bonds represented 10% of total global bond issuance in 2021, up from less than 7% in 2020.⁴ As figure 2 outlines the majority of sustainable bond issuance were

² The date range 2007-2021 is used throughout the report as the first sustainable bond was issued in 2007

³ *Environmental Finance Data*

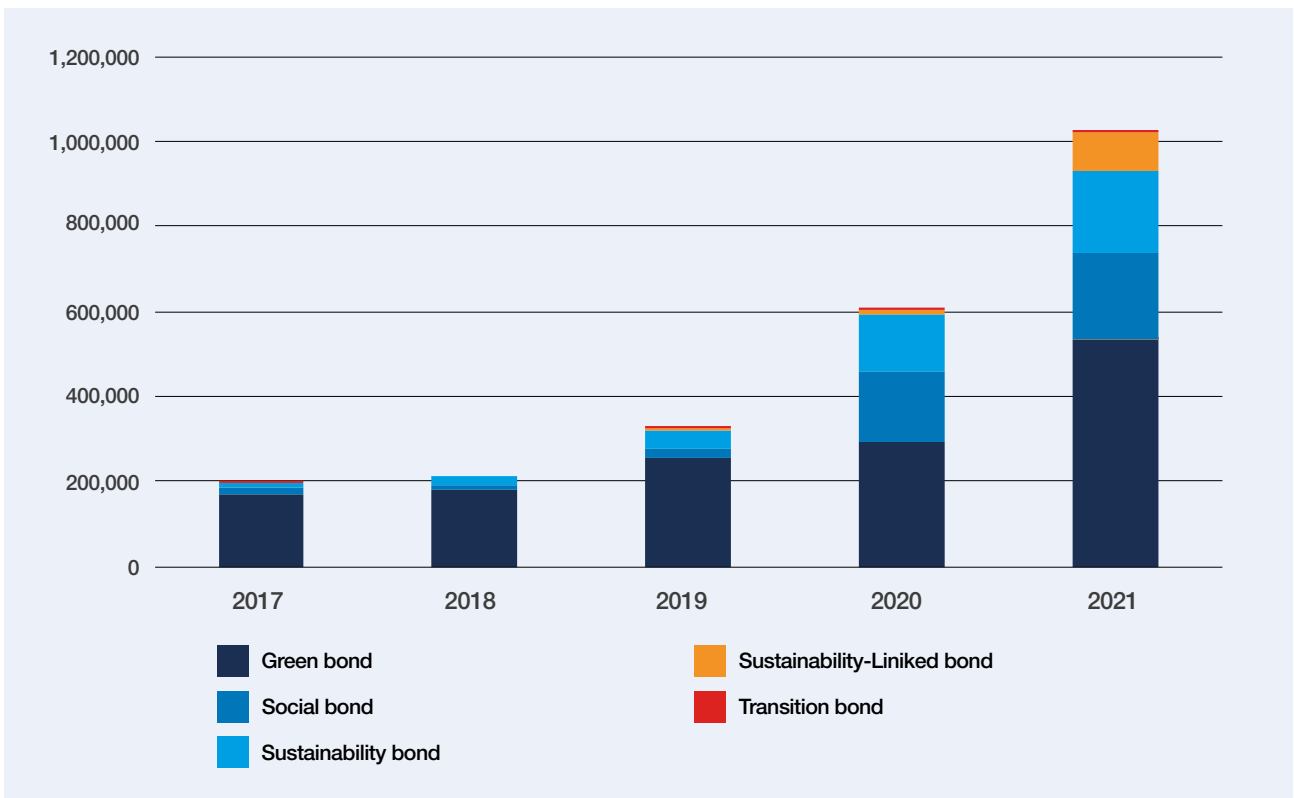
⁴ “Sustainable bonds to exceed the trillion-dollar barrier in 2022 for second consecutive year”, *Environmental Finance*, February 2022

Figure 1: Global sustainable bonds by issuer type



Source: Environmental Finance Data

Figure 2: Annual issuance of sustainable bonds



Source: Environmental Finance Data

Sustainable bonds

Bonds offer investors relatively stable, lower risk returns, and long-term maturities. This makes bonds attractive to institutional investors and suitable for the financing or refinancing of large-scale projects.

The term “sustainable bonds” encompasses bonds that are labelled green, social, sustainability or sustainability-linked, collectively referred to as GSSS bonds. There is also a “transition bond” label within sustainable bonds, which can provide access to sustainable finance for carbon intensive sectors and organizations. Transition bonds are not universally accepted by sustainable investors and there have been relatively few issued (18 bonds between 2017-2021).⁵

Green, social and sustainability and transition bonds follow the use of proceeds structure where the capital raised in the bond has specific uses outlined that align with green or social projects (sustainability bonds have a mix of green and social use of proceeds).

Sustainability-linked bonds follow a different structure; there are not specific use of proceeds for the funds raised, they can be used for any general corporate purposes. Instead, the issuer commits to a key performance indicator (KPI) for the company’s overall sustainability performance. These KPIs can be very specific to a company, covering a wide array of sustainability indicators. There can be multiple KPIs per bond, the most common usually involve a set reduction in carbon or GHG emissions or achieving a certain score or ranking from an ESG rating agency. There are scheduled coupon rate step ups or downs based on fulfilling the KPI or not.

Whilst making sustainable finance more accessible to different sectors and companies; sustainability-linked bonds are not universally accepted by sustainable investors. There are concerns that the structure allows too much room for greenwashing if the KPIs are not ambitious enough or represent business as usual. The lack of transparency on the use of proceeds in the sustainability-linked bond format could lead to the funds being used for non-sustainable activities.

The International Capital Markets Association (ICMA) provides principles for green, social, and sustainability-linked bonds.⁶ These are voluntary process guidelines which around 97% of all GSSS bonds are aligned to. The principles provide information for issuers regarding the issuance, appropriate use of proceeds, and impact reporting. Alignment to the principles provide investors with some reassurance that the bond is sustainable, and impact or allocation reporting will be followed.

⁵ *Environmental Finance Data*

⁶ www.icmagroup.org/sustainable-finance

labelled green but social and sustainability-linked bonds have grown significantly over the past two years.

The COVID-19 pandemic prompted an increase in social bond issuance from less than \$20bn in 2019, to over \$164bn in 2020 and \$205bn in 2021. Some forecasts predict a slow down or even slight contraction in social bond issuance in 2022 as projects combating the pandemic decrease in size and value.⁷

Overall, the sustainable bond market is predicted to grow even further in 2022 with some analysts expecting a 50% jump in green bond issuance driven by large sovereign and supranational issuances pushing the total sustainable bond market to around \$1.4 trillion.

⁷ *Environmental Finance Data*

Sustainable bonds in emerging markets

Global emerging market sustainable bond issuance, excluding supranational issuance, totalled \$136 billion in 2021 (13% of global issuance), more than double the previous record \$51 billion issued in 2020. Green bonds were the most common sustainable bond issued in emerging markets representing 58% of issuance (\$79 billion).⁸

Sustainability-linked bonds have emerged as viable sustainable instruments for many emerging market issuers. Issuance climbed to \$19 billion in 2021 from just under \$2 billion in 2020.

⁸ “Sustainable bonds to exceed the trillion-dollar barrier in 2022 for second consecutive year”, *Environmental Finance*, February 2022



Challenges of emerging market sustainable bond issuance

There is a lot of potential for sustainable bond issuance in emerging markets, with a well-documented need for investment in large scale sustainable development and encouraging government sustainability policies and targets. There are also significant barriers to real economy sustainable bond issuance in emerging markets:

- **Underdeveloped capital markets and regulatory frameworks** – hampers the issuance of sustainable bonds and appetite of sustainable investors.
- **Currency** – issuers in emerging markets, particularly the MENA region and Sub-Saharan Africa, tend to issue bonds in local currencies. International investors have shown preference for bonds in mainstream currencies such as Euros and US Dollars for stability.
- **Liquidity** – the high liquidity in emerging market private companies makes traditional loans more attractive than issuing bonds as they are shorter term, more straight forward to raise and currently offer low interest rates.
- **Human capital and knowledge gap** – the issuance and reporting of sustainable bond allocation and impact requires a level of market knowledge at board level and beyond.
- **Government dominance of sustainable sectors and bond issuance** – sustainable bonds require eligible projects of a certain size for green and social use of proceeds. In emerging markets, projects that fulfil these criteria are less common and dominated by government agencies and affiliate companies, limiting real economy company involvement. Sustainable bonds are regularly used for refinancing of sustainable projects; the relative lack of existing private sector sustainable projects in EM also reduces the potential for sustainable bond issuance.
- **Data and impact reporting infrastructure** – the sustainable bond post issuance requirements put onus on issuers to provide impact and proceeds allocation reports. Impact reports require strong internal data infrastructure which many emerging market corporates do not currently have.

- **Risk averse investors** – many of the investors in sustainable bonds are large institutional investors such as pension funds and insurers. These investors have a fiduciary duty and a low risk tolerance for their investments. This makes emerging market issuers with lower credit ratings less attractive. The large-scale institutional investors also manage multi-billion-dollar portfolios and tend to invest in larger sized bonds which are not commonly feasible for most EM real economy issuers.

- **The conservative nature of some regional (e.g. Sub Saharan Africa) investors** - increases the appeal of sovereign bonds with lower risks and relatively higher yields. Regional investors are tightly regulated and have strict criteria for the types of assets they can hold. Many regional institutional investors do not have formal processes to assess sustainable impact of investments when comparing sustainable bonds with vanilla bonds. Typically, regional investors buy to hold which reduces the activity and liquidity of the secondary bond market.

The development of emerging market focussed funds such as the IFC supported Amundi Emerging Green One (EGO) and HSBC Real Economy Green Investment Opportunity (REGIO), as well as new funds from Blackrock and KfW offer some support for the challenges facing potential emerging market sustainable bond issuers. Sustainable bond funds can offer issuers guidance and support on issuance and reporting and provide investors with emerging market exposure, do the due diligence and research leg work in selecting and verifying issuers and bonds and large enough investment opportunities for large scale investors.

Funds are also able to provide credit enhancements mechanisms to offer the investment grade of BBB+ to its investors, despite holding bonds with a lower credit rating.

There are also Technical Assistance Programs and Facilities (TAP/Fs) which are helping bridge sustainable finance knowledge gaps for emerging market real economy issuers and providing support in the creation of sustainable bond frameworks, issuance, and reporting.

There is great potential in emerging markets for sustainable bond issuance. Many emerging market governments have set out sustainable frameworks for bond issuance and ambitious sustainable goals which sustainable bonds could fund.



Sectors

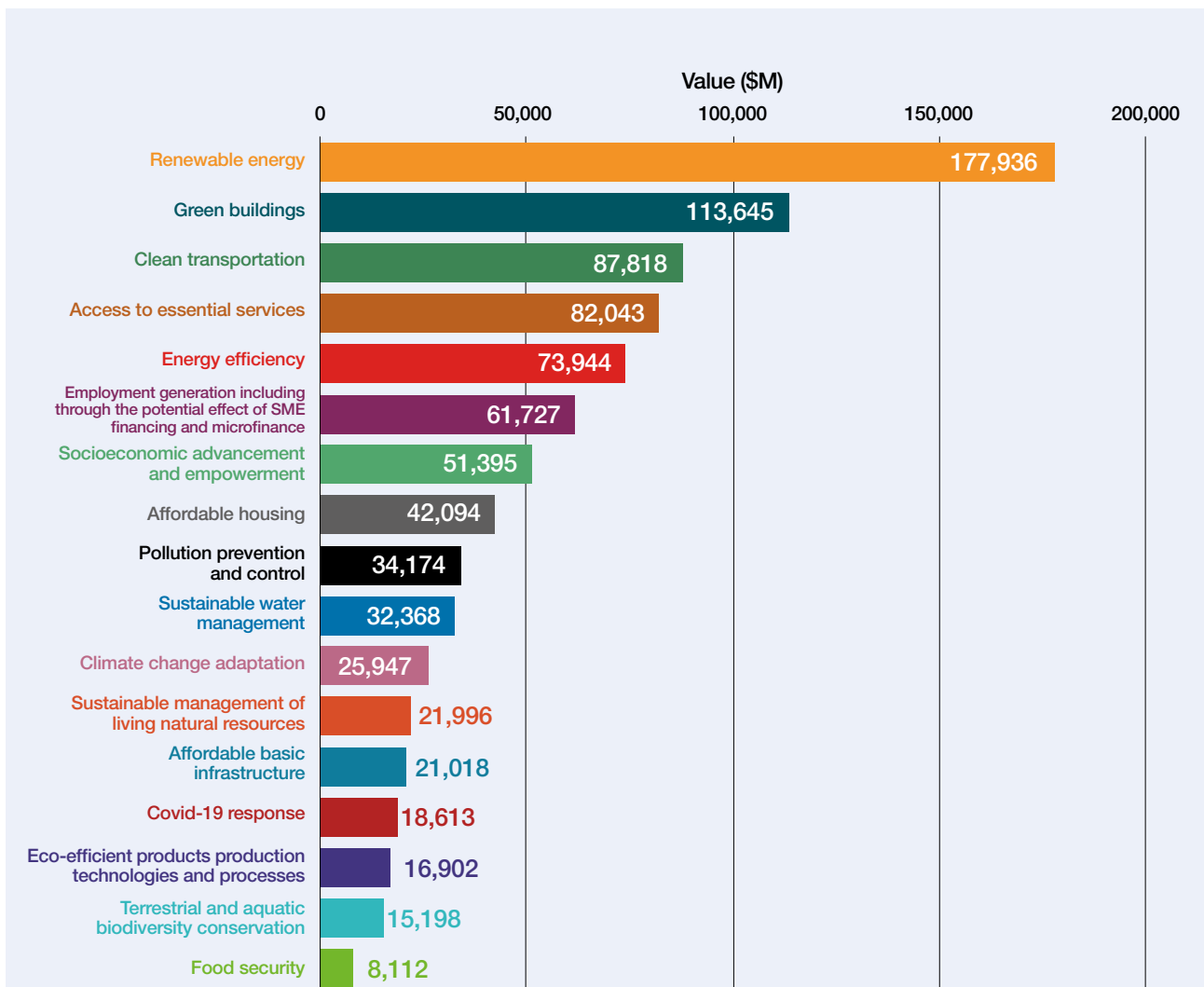
This report will focus on three key sectors for sustainable bond issuance. Power, transport and agribusiness. These sectors are key to many emerging market economies and have projects that could be eligible for sustainable bond issuance.

There are clear use of proceeds linked to the power and transport sectors. In 2021 renewable energy and clean

transportation were two of the three most popular (or most allocated) use of proceeds in sustainable bond issuance (see figure 3).

Food security, terrestrial and aquatic biodiversity conservation, job creation, sustainable management of living natural resources and sustainable water management can all be applied to the agribusiness stuff sector.

Figure 3: Use of proceeds breakdown of bonds issued in 2021 by value



Methodology: the value of each bond is divided up by the amount of Use of Proceeds it covers and allocated equally amongst them.

Figure 4: Sustainable Bond Funding – 2021



Source: Environmental Finance Sustainable Bond Insight 2021

There is a strong alignment of sustainable bond use of proceeds with the United Nations Sustainable Development Goals (UN SDGs), especially those related to the power and transportation sectors.

The top 3 most funded SDGs in 2021 - which included Goal 7: Affordable and clean energy, Goal 11: Sustainable cities and communities and Goal 13: Climate action – accounted for 46% of SDGs funded by GSSS bonds and all of which are associated with green projects.

Goal 2: No hunger was one of the least well-funded goals and has a lot of potential for further allocation. Green projects in the agribusiness sector can be highly relevant to this SDG.

The current and potential markets for each sector are examined in the global sector benchmark chapters.

Global power sector

Sector make up

The power sector encompasses energy production, renewable energy, and power generation and transmission.

Electricity generation is set to become the core of the energy sector as technologies and habits change with the electrification of vehicles and buildings.

According to the International Energy Agency (IEA) global energy demand increased by 4.6% in 2021, more than offsetting the 4% contraction in 2020 and pushing demand 0.5% above 2019 levels. Almost 70% of the projected increase in global energy demand is in emerging markets and developing economies, where demand is expected to rise to 3.4% above 2019 levels. Energy use in advanced economies is on course to be 3% below pre-Covid levels.⁹

Electricity demand is due to increase by 4.5% in 2021, or additional capacity of 1000 TWh. This is almost five times greater than the decline in 2020, electricity's share in final energy demand will be over 20%. Almost 80% of the projected increase in demand in 2021 is in emerging markets and developing economies, with China alone accounting for half of global growth. Demand in advanced economies remains below 2019 levels.¹⁰

World electricity generation is currently dominated by fossil fuels with coal (36.7%), natural gas (23.6%) and oil (2.8%) accounting for 63.1% of global electricity generation. Renewable generation covering nuclear (10.7%), hydro (15.7%) and non-hydro renewables (10.8%) was responsible for the remaining 36.9% of global electricity generation in 2019.¹¹

Demand for renewables grew by 3% in 2020 and is set to increase across all key sectors – power, heating, industry, and transport – in 2022. The power sector leads the way, with its demand for renewables on course to expand by more than 8%, to reach 8300 TWh, the largest year-on-year growth on record in absolute terms. Solar and wind are set to contribute two-thirds of renewables growth.¹²

⁹ [Global Energy Review 2021, International Energy Agency \(IEA\), April 2021](#)

¹⁰ [Global Energy Review 2021, International Energy Agency \(IEA\), April 2021](#)

¹¹ [Global share of electricity generation, International Energy Agency \(IEA\), 2019](#)

¹² [Global Energy Review 2021, International Energy Agency \(IEA\), April 2021](#)

Sustainability and power

As one of the top emitting sectors, the power sector has a key role to play in improving global sustainability. To reach net zero emissions by 2050, annual clean energy investment worldwide will need to more than triple by 2030 to around \$4 trillion.¹³

The power sector covering upstream, generation and transmission has a lot of potential sustainability projects and gains. The most obvious is moving power generation capacity away from fossil fuels and into renewable energy sources. This will require a lot of investment in renewable energy which could potentially be funded by sustainable bonds.

There are also energy and process efficiency projects within the highest emitting power generation methods which could significantly improve their sustainability, such as carbon capture and hydrogen-based power generation.

Power sector sustainable debt

The power sector is one of the largest issuers of sustainable bonds. The projects and company size lends itself to bond issuance and the clear sustainable use of proceeds of clean(er) energy and power and positive environmental impact is clear to investors.

Renewable energy is the most common use of proceeds for green bonds (see figures 3 and 4). The issuance of sustainable bonds for renewable energy and power projects is well established with clear use of proceeds and impact reporting metrics.

Green bonds dominate the power sector for sustainable bond issuance with 588/638 labelled green. There is growing issuance of sustainability-linked bonds in the sector, Italian power company Enel issued the first ever sustainability-linked bond in 2019 with a KPI covering renewable energy capacity increase by 2021 (this KPI was fulfilled). The issuance garnered some criticism for the KPIs as representing business as usual and lacking ambition, however it was an important moment in sustainable finance and spawned the ever-growing sustainability-linked bond label.

¹³ [Net Zero by 2050, International Energy Agency \(IEA\), May 2021](#)

There is some debate over the role of sustainable debt in financing the transition of some of the largest emitting companies and industries. The power sector is one of the highest emitting sectors¹⁴ and there is a clear need to improve the sustainability of the sector. Sustainable finance could help finance the transition away from the highest emitting power generation methods however there is a real concern about greenwashing and financing high emitting sectors and companies.

The transition bond label is designed to provide access to sustainable finance for high emitting companies with clear strategies to improve their sustainability. There has been some take up of this label with 18 bonds issued since the first in 2017 however the popularity of sustainability-linked bonds has curtailed transition bond issuance. The KPI structure of sustainability-linked products appeals to high emitting companies as they do not need to follow the more rigorous and specific use of proceeds and project model of other sustainable bonds.

There are two angles to judge power related sustainable bond issuance. Firstly, there is the use of proceeds category “renewable energy” included in ICMA’s Green Bond Principles (GBPs). This use of proceeds can be cited by any issuer type and sector with projects relating to renewable energy, common metrics include renewable energy capacity financed (KW) and renewable energy generation financed (KW/h). Bonds can have more than one use of proceeds so there is potential for double counting when comparing the overall number and value of bond use of proceeds.

The second gauge is sustainable bonds issued by power sector companies, these bonds could have a variety of use of proceeds, not solely covering renewable energy. Both are examined below:

Table 2: Sustainable bonds with the “renewable energy” use of proceeds or KPI

Sustainable bond L.#label	Number of bonds	Value (\$M)	% Share of value
Green	1,923	854,586.44	94.98%
Sustainability	69	30,400.90	3.38%
Sustainability-linked	32	14,181.94	1.58%
Transition	3	623.26	0.07%
Total	2,027	899,792.54	

Source: Environmental Finance Data – date range 2007-2021

Table 3: Issuer type – green and sustainability bonds with renewable energy as the use of proceed

Issuer type	Number of bonds	Value (\$M)	% Share of value
Agency	291	110,445.68	12.24%
Corporate	906	339,299.57	37.61%
Financial Institution	474	207,001.49	22.95%
Municipalities	122	33,547.43	3.72%
Sovereign	58	151,122.26	16.75%
Supranational	175	60,637.15	6.72%

Source: Environmental Finance Data – date range 2007-2021

Corporate issuers are by far the most numerous with more than twice as many bonds as any other issuer type. Financial institutions are the second most numerous and have a much higher value to volume than corporate issuers. Financial institutions commonly issue green bonds with renewable energy use of proceeds then package out the funds into green loans and other instruments for smaller renewable energy companies.

There have been relatively few sovereign bonds with renewable energy use of proceeds. The majority of countries have government agencies or affiliated corporations for the energy sector and most of the sustainable bonds related to government renewable energy projects are issued through these companies.

Table 4: Power sector specific bonds

Sustainable bond label	Number of bonds	Value (\$M)	% Share of value
Green	588	246,272.74	84.96%
Social	2	1,980.30	0.68%
Sustainability	14	6,597.52	2.28%
Sustainability-linked	25	29,788.97	10.28%
Transition	8	5,236.34	1.81%
Total	638	289,875.86	

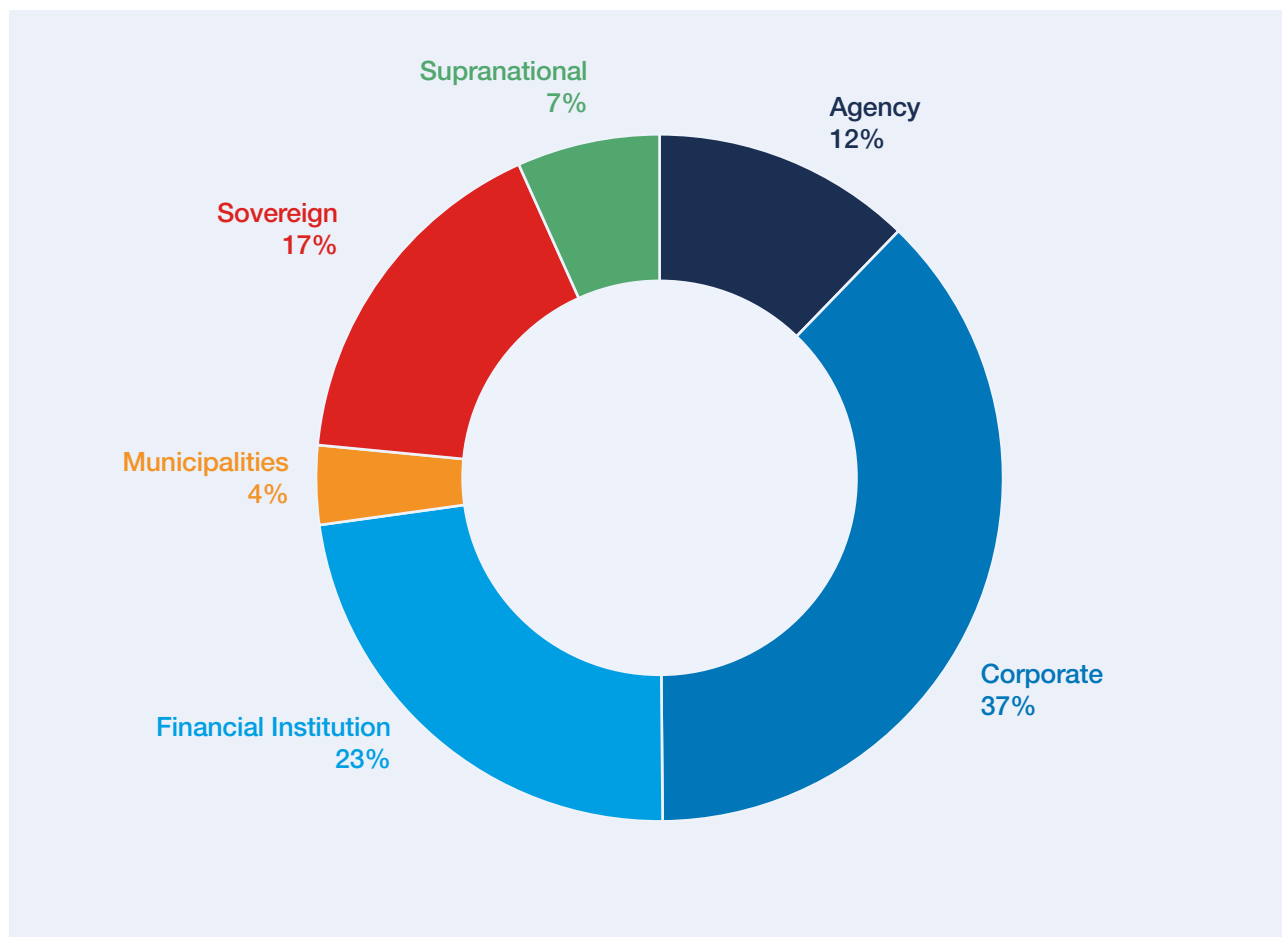
Source: Environmental Finance Data – date range 2007-2021

Table 5: Power – real economy issuers

Issuer Type	Number of bonds	Value (\$M)
Agency	21	8,959.49
Corporate	617	1,980.30

Source: Environmental Finance Data – date range 2007-2021

Figure 5: Renewable energy Use of Proceeds issuer type – value (\$M)



Source: Environmental Finance Data – date range 2007-2021

Green bonds are the most issued sustainable bonds in the power sector (588/638), however sustainability-linked bonds have the largest average bond size of \$1.2 billion, more than double the average size of green bonds (\$419 million). The ability to use sustainability-linked bonds for general corporate purposes rather than a specific green use of proceeds facilitates the issuance of larger bonds.

Table 6 : Power sector specific bonds – region

Region	Number of bonds	Value (\$M)	% Share of value
East Asia and Pacific	151	40,961.84	14.13%
Europe and Central Asia	309	168,472.22	58.12%
Latin America and Caribbean	26	8,989.20	3.10%
Middle East North Africa	3	2,111.20	0.73%
North America	119	57,275.22	19.76%
South Asia	27	12,001.72	4.14%
Sub Saharan Africa	2	64.45	0.02%

Source: Environmental Finance Data – date range 2007-2021

Table 7: Power sector specific bonds – country

Country	Number of bonds	Value (\$M)
US	101	51,483.98
Italy	44	41,017.49
France	32	31,354.91
China	76	25,437.41
Spain	51	19,143.71
Netherlands	24	19,066.94
Germany	28	17,563.60
India	28	12,001.72
UK	18	8,087.14
Portugal	10	7,523.68
Denmark	14	6,788.95
Canada	18	5,791.25
Korea	10	3,733.60
Mexico	6	3,340.09
Sweden	19	3,296.30
Chile	6	3,092.80
Norway	30	2,418.47
Finland	6	2,260.84
Greece	4	2,116.20
Philippines	7	1,882.38
Japan	20	1,795.51
Indonesia	2	1,690.00
Taiwan	8	1,636.81
Singapore	7	1,560.62
Austria	4	1,463.31
Ireland	4	1,366.39

Country	Number of bonds	Value (\$M)
Saudi Arabia	1	1,300.00
Hong Kong	5	1,266.40
Ukraine	2	1,185.80
New Zealand	6	936.84
Brazil	6	931.65
Peru	3	804
Turkey	1	750
Belgium	1	711.99
UAE	1	707.7
Guatemala	1	700
Lithuania	2	690.58
Switzerland	4	630.19
Malaysia	6	539.85
Iceland	3	430
Thailand	3	325.43
Luxembourg	2	288.25
Latvia	3	167.52
Australia	1	157
Colombia	3	105.67
Morocco	1	103.5
Russia	1	90.57
Estonia	1	58.35
Kenya	1	41
Nigeria	1	23.46
Panama	1	15
Romania	1	1.05

Source: Environmental Finance Data – date range 2007-2021

Table 8: Power sector specific bonds – market

Market	Number of bonds	Value (\$M)
Agency	21	8,959.49
Corporate	617	1,980.30

Source: Environmental Finance Data – date range 2007-2021

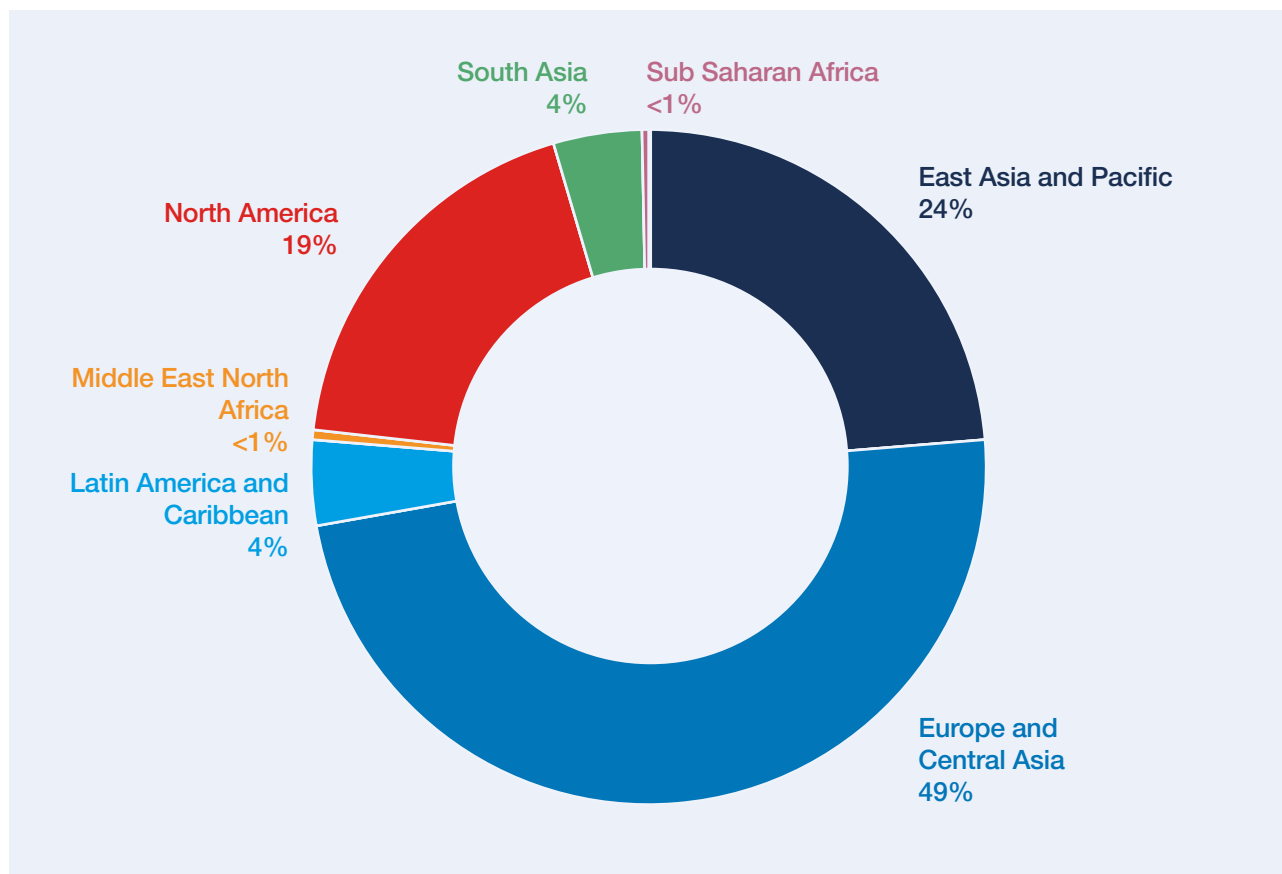
The US is the largest issuer of power sector sustainable bonds with almost twice as many bonds as any other country by number and value of bonds. Regionally Europe dominates with double the number of bonds and almost three times the value of bonds than any other region.

The emerging markets had a 26% share of the number of bonds issued and 19% of the total value of power sector bonds. This is a higher proportion than most sectors and shows that power sector issuers in emerging markets have attracted investors and had success in raising capital through sustainable bond issuance. Excluding

China and India the emerging market sustainable bond issuance in the power sector drops significantly to 47 bonds valued at \$13.52bn. There are notable issuances from Chilean companies (4 bonds valuing \$2.65bn) and Filipino companies (10 bonds valuing \$10.88bn).

There are relatively few power sector sustainable bonds issued from Sub-Saharan Africa, Latin America and the MENA region due to the sector make up in those markets. The domination of government agencies in the utilities sector coupled with the low proportion of renewable energy generation reduces the number of eligible projects in the private sector in these regions. Corporate issuers dominate the 36 largest and \$1bn+ bonds issued. There are three emerging market issuers from China, India and Chile amongst the largest issues. Europe leads the way with French giants Engie (6) and EDF (5) featuring highly alongside Italian Enel (6) and Spanish Iberdrola (6).

Figure 6: Power and Energy Regional Sustainable Bond Issuance - Value (\$M)



Source: Environmental Finance Data – date range 2007-2021

Despite being the largest issuer of power sector sustainable bonds, the US have only 3 bonds larger than \$1bn. This highlights the competitive nature of the US power market with more issuers issuing smaller bonds.

Power sector – green and sustainability-linked loans

In addition to the large volumes and values of sustainable bond issuance the power sector companies are also active in the green and sustainability-linked loan market. There have been at least 79 green loans totalling over \$37bn and 71 sustainability-linked loans of over \$114bn.

The size of the loans is larger than most sectors with at least 31 loans over a \$1bn. There have been large green loans for Iberdrola and Triton Koll and large sustainability-linked loans for Enel, Shell, Iberdrola, Engie, EDF, and E.on.

Power sector – sustainable bond issuance outlook

The outlook for future sustainable bond issuance in the power sector is very good. There is a clear need to improve the sustainability of the sector. Clean power generation through renewable energy projects offer a clear path to improving sustainability through large scale projects. Power demand is set to grow globally, especially in emerging markets, as the electrification of buildings and transport gathers pace.

The issuance of sustainable bonds for clean energy projects is well established and many of the leading global power producers have issued numerous vanilla and sustainable bonds.

Sustainable bonds, especially transition and sustainability-linked bonds can play a key role in financing the transition away from fossil fuels and the highest emitting forms of power generation.

Table 9: \$1bn+ Power sector bonds

Issuer	Label	Currency	Dollar value (M)	Issuer type	Country	Settlement date
China Three Gorges	Green bond	CNY	2,977.76	Corporate	China	11/04/2019
EDF	Green bond	EUR	2,837.86	Corporate	France	14/09/2020
EDF	Green bond	EUR	1,970.90	Corporate	France	29/11/2021
EDF	Green bond	EUR	1,962.15	Corporate	France	13/10/2016
EDF	Green bond	EUR	1,895.75	Corporate	France	27/11/2013
Engie	Green bond	EUR	1,780.06	Corporate	France	19/05/2014
Engie	Green bond	EUR	1,643.14	Corporate	France	19/05/2014
NextEra Energy	Green bond	USD	1,500.00	Corporate	United States	08/06/2021
Enel	Sustainability-Linked bond	USD	1,500.00	Corporate	Italy	10/09/2019
Enel	Green bond	EUR	1,499.13	Corporate	Italy	16/01/2018
Enel	Green bond	EUR	1,315.84	Corporate	Italy	09/01/2017
EDF	Green bond	USD	1,250.00	Corporate	France	13/10/2015
Iberdrola	Green bond	EUR	1,204.70	Corporate	Spain	09/02/2021
Iberdrola	Green bond	EUR	1,204.70	Corporate	Spain	09/02/2021
Interchile	Green bond	USD	1,200.00	Corporate	Chile	26/07/2021
Engie	Green bond	EUR	1,195.75	Corporate	France	11/01/2018
Iberdrola	Green bond	EUR	1,172.96	Corporate	Spain	15/11/2017
TenneT	Green bond	EUR	1,159.00	Corporate	Netherlands	16/11/2021
TenneT	Green bond	EUR	1,147.52	Corporate	Netherlands	22/07/2020
Enel	Green bond	EUR	1,146.10	Corporate	Italy	21/01/2019
Engie	Green bond	EUR	1,140.08	Corporate	France	28/01/2019
EDP	Green bond	EUR	1,136.03	Corporate	Portugal	30/01/2019
Iberdrola	Green bond	EUR	1,128.00	Corporate	Spain	21/04/2016
E.on	Green bond	EUR	1,110.90	Corporate	Germany	09/01/2020
Enel	Sustainability-Linked bond	EUR	1,097.27	Corporate	Italy	17/10/2019
Enel	Sustainability-Linked bond	EUR	1,097.27	Corporate	Italy	17/10/2019
TenneT	Green bond	EUR	1,060.03	Corporate	Netherlands	12/04/2017
Iberdrola	Green bond	EUR	1,059.98	Corporate	Spain	07/03/2017
Iberdrola	Green bond	EUR	1,027.67	Corporate	Spain	07/04/2014
Engie	Green bond	EUR	1,016.79	Corporate	France	30/11/2020
National Grid	Green bond	EUR	1,009.65	Corporate	United Kingdom	01/09/2021
Innogy SE	Green bond	EUR	1,004.98	Corporate	Germany	12/10/2017
Engie	Green bond	EUR	1,001.05	Corporate	France	24/10/2019
AES Corporation	Green bond	USD	1,000.00	Corporate	United States	04/12/2020
Dominion Energy	Green bond	USD	1,000.00	Corporate	United States	12/08/2021
Greenko	Green bond	USD	1,000.00	Corporate	India	13/12/2021

Source: Environmental Finance Data – date range 2007-2021

Global agribusiness sector

Agribusiness is a crucial sector globally and plays a major role in emerging market economies and employment. As a prominent land user and employer, it is a sector which is particularly susceptible to climate change and participants in the agribusiness sector can play a key role in building a sustainable future. There is potential for sustainable bonds to help finance the necessary adaptations in the sector.

Sector make up

It can be challenging to define the agribusiness sector as it can encompass many facets including supply chains, inputs such as fertilisers, a wide variety of farms and farming, different forms of livestock and many different food stuffs. The sector can also include forestry and fisheries, further diversifying the demographic of activities and companies included.

The sector is easier to map in developed countries with more cohesive industries and more readily accessible data. In many countries, both developed and emerging, agriculture and farming can be extremely fragmented with numerous small, family-based producers. This makes data gathering difficult and reduces the options for sustainable finance.

It is therefore not straightforward to define the sector size or outline activities and projects eligible for sustainable finance.

According to the Food and Agriculture Organisation of the United Nations (FAO), the global agricultural industry value added in 2020 was estimated to be \$3.4 trillion which is up 68% from 2000. The agricultural sector contributes 4% of global GDP, rising to nearly 25% of GDP for some emerging markets.¹⁵

Agriculture is estimated to have employed over a billion people worldwide in 2020 up from 884 million in 2019.¹⁶

Sustainability and agriculture:

In farming alone, there has been a 16% increase in GHG emissions from 2000-2017.¹⁷ Environmental

improvements in agricultural activities are crucial to maintaining biodiversity, reducing deforestations, improving water quality, and using land responsibly. Additionally, carbon emissions from production and processing can be reduced, renewable source can be used for energy supply, and water can be recycled.

Socially, agribusiness operations are the cornerstones to reducing world hunger and the agricultural industry can play a key role in reducing unemployment and poverty in developing countries. The industry can also contribute to improvements in gender equality and reducing inequality.

The agriculture, food and forestry sectors need an estimated \$7bn-\$7.6bn per year in finance for climate change adaptation.¹⁸

¹⁹ The FAO define the agriculture relevant UN SDGs (United Nation Sustainable Development Goals) as:

- Sustainable Development Goal 1: No poverty
- Sustainable Development Goal 2: Zero hunger
- Sustainable Development Goal 5: Gender equality
- Sustainable Development Goal 6: Clean water and sanitation
- Sustainable Development Goal 10: Reduced inequalities
- Sustainable Development Goal 12: Responsible consumption and production
- Sustainable Development Goal 14: Life below water
- Sustainable Development Goal 15: Life on land

Emerging market agriculture and food and beverage sectors in fixed income debt

Since the first green bond was issued in 2007 there have been 248 unlabelled (vanilla) bonds issued by agriculture market participants in emerging markets with a cumulative value of over \$104.47 billion.²⁰ There were bonds issued by companies in 25 different countries with significant issuances from Brazil, China, Indonesia, Mexico, and Ukraine.

¹⁸ www.climatebonds.net/standard/agriculture, (Accessed January 2022)

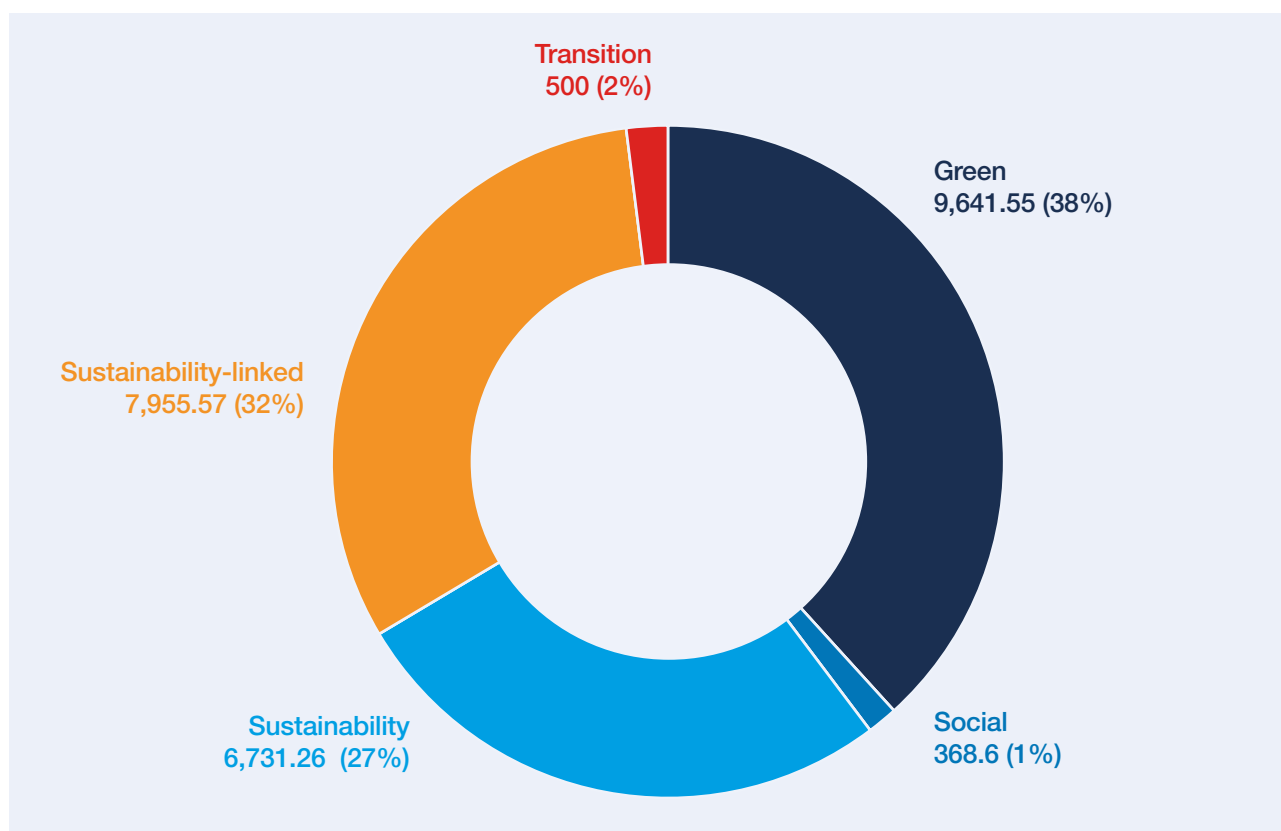
¹⁹ [Tracking progress on food and agriculture-related SDG indicators 2021: A report on the indicators under FAO custodianship, FAO, 2021](#)

²⁰ Data source – Dealogic

²¹ [Climate Investment Opportunities: Climate-Aligned Bonds & Issuers 2020, Climate Bonds Initiative \(CBI\), 2020](#)

^{15, 16, 17} [World Food and Agriculture - Statistical Yearbook 2021, Food and Agriculture Organization of the United Nations \(FAO\), 2021](#)

Figure 7: Sustainable Bond Label - Share of value (\$M)



Source: Environmental Finance Data

The Climate Bond Initiative (CBI) analysed in 2020 that “climate aligned bonds” (unlabelled bonds that finance climate related activities of projects) and “land use and agriculture” represented \$17bn or 2% of climate aligned bonds issued since 2012.²¹

In short, the agribusiness sector does not have a strong precedent in using the bond market to raise capital.

Agribusiness sector sustainable debt

Agriculture has a key role to play in sustainability improvements and a move towards lower global warming scenarios. There are numerous use of proceeds in ICMA Green Bond Principles and Social Bond Principles which could be applied to eligible agricultural companies and projects. Including: Terrestrial and aquatic biodiversity conservation, climate change adaptation, sustainable management of living natural resources, eco efficient products, production technologies and processes, food security, and socioeconomic advancement and empowerment.

²² www.climatebonds.net/standard/agriculture (Accessed January 2022)

The CBI offers certification on green bonds and have developed criteria for the agricultural sector for assessing the greenness of agricultural activities and identifying appropriate use of proceeds for agricultural sector green bonds.²²

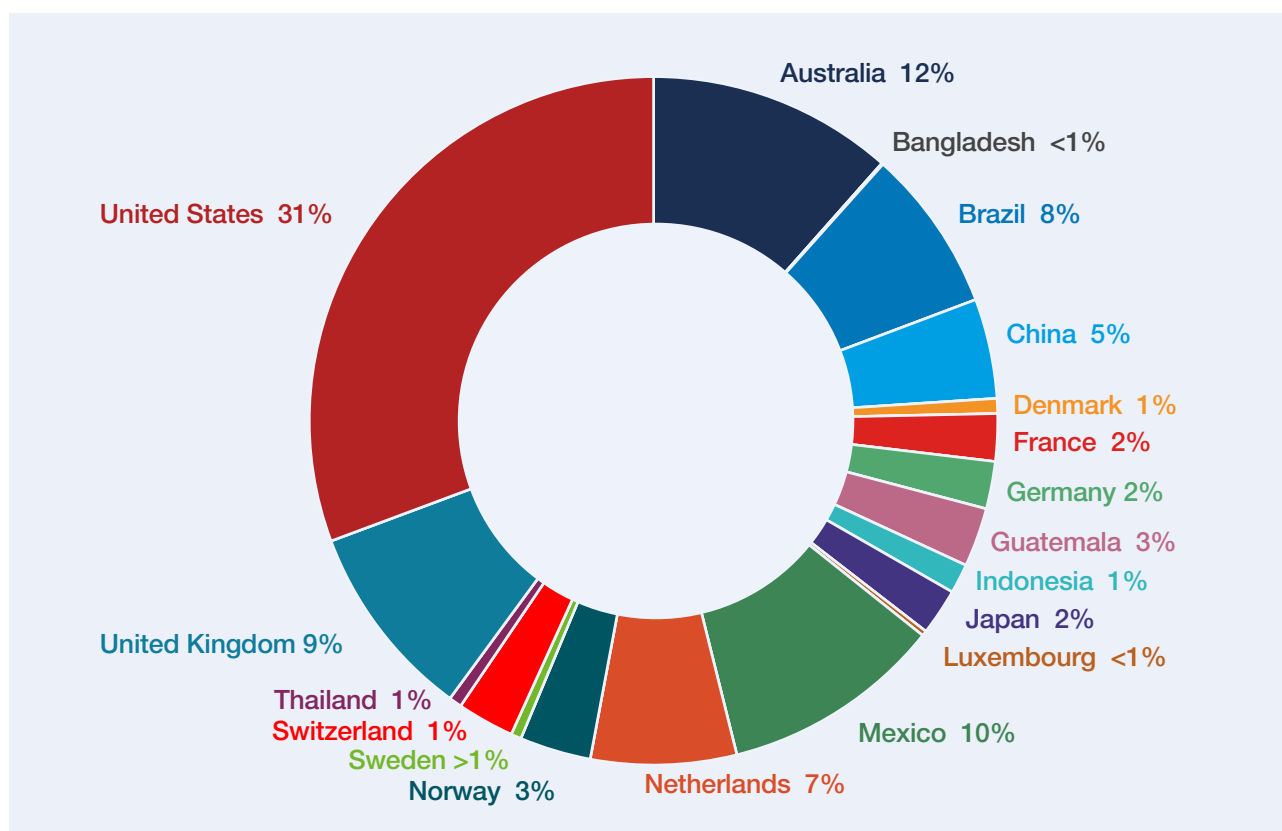
There have been 56 sustainable bonds issued by agribusiness, fisheries and food and beverage market participants between 2014-2021 totalling \$25.9bn.

Table 10: Agribusiness sector specific bonds – bond label

Sustainable bond label	Number of bonds	Value (\$M)	% Share of value
Green	26	9,641.55	38.26%
Social	1	368.60	1.46%
Sustainability	14	6,731.26	26.71%
Sustainability-linked	14	7,955.57	31.57%
Transition	1	500.00	1.98%
Total	56	25,196.97	

Source: Environmental Finance Data – date range 2007-2021

Figure 8: Agribusiness Sector Sustainable Bond Issuance - Country Value (\$M)



Source: Environmental Finance Data

Whilst green was the most prevalent label by number of issuances with 26/56 sustainable bonds labelled green, the value of sustainability-linked bonds was only \$1.6bn less than green bonds. The appeal of the sustainability-linked bond structure, which is based on broad company-level KPIs rather than specific use of proceeds, can appeal to agribusiness and food and beverage sector issuers. The reporting requirements are less onerous, and the proceeds can be used for general corporate purposes rather than specific sustainable projects.

It is of note that despite the potential for social projects and impact in the agricultural sector, only one social bond has been issued in the sector globally, by the French multinational food company Danone in 2018. The Danone social bond use of proceeds covered research and innovation for advanced medical nutrition, social inclusiveness, responsible farming and agriculture, entrepreneurship financing and quality healthcare and parental support.

In addition to the green, social, sustainability and sustainability-linked bonds from agricultural issuers there was also a transition bond issue in 2019 by Marfig Global Foods. The bond use of proceeds was to be used

to purchase Amazonian cattle only from suppliers which conform to Marfig’s framework. The use of proceeds had two environmental objectives (conservation of biodiversity and protected areas and halting deforestation) and two social objectives (eradication of forced labour and slavery and protection of indigenous rights).

The Marfig bond has proved to be controversial and drew some criticisms for funding business as usual and for the lack of supply chain audit.²³ Sustainable investors generally excluded bonds from cattle farming in the Amazon, this bond was labelled transition and Marfig was able to secure the capital at a relatively low coupon rate.

Geography – agribusiness sector issuers

All sustainable bonds issued in the agricultural sector were from corporate issuers. By region, North America

²³ “Beef giant issues controversial Sustainable Transition Bond Framework”, *Environmental Finance*, July 2019

Table 11: Top 5 Food and beverage sustainable bonds

Issuer	Label	Currency	Dollar value (M)	Settlement date	Country
Mondelez International	Green bond	EUR	2370.79	09/09/2021	United States
FEMSA	Sustainability-Linked bond	EUR	1449.3	28/04/2021	Mexico
PepsiCo	Green bond	USD	1000.00	15/10/2019	United States
Starbucks	Sustainability bond	USD	1000.00	13/05/2019	United States
Tesco	Sustainability-Linked bond	EUR	974.70	21/01/2021	United Kingdom

Source: *Environmental Finance Data* – date range 2007-2021

Table 12: Agribusiness sustainable bonds

Issuer	Label	Currency	Dollar value (M)	Settlement date	Country
Amaggi	Sustainability bond	USD	750.00	21/01/2021	Brazil
Wesfarmers	Sustainability-Linked bond	EUR	695.80	14/10/2021	Australia
Agrisolutions	Green bond	USD	550.00	03/12/2020	Brazil

Source: *Environmental Finance Data* – date range 2007-2021

represents 30% of global issuance, Europe and Central Asia 28%, East Asia and Pacific 21%, and Latin America and the Caribbean 21%, there were no agribusiness bonds issued in Sub Saharan Africa or MENA regions. The largest issuers were the US, Australia, Mexico, and the UK.

The emerging market represents 24% of sustainable bond issuance in the agribusiness and food and beverage sectors, with the majority (over 87%) of that figure contributed by Mexico and Brazil.

The largest bonds issued in the sector are the \$2.4bn Mondelez International green bond and FEMSA sustainability-linked bond. Large corporations dominate the sustainable bonds issued in the sector as they have the internal structures and capabilities to issue and report as well as large eligible projects and project pipelines.

Agribusiness – green and sustainability-linked loans

In addition to the sustainable bonds issued by agricultural companies there have also been notable uptake of green and sustainability-linked loans.

From 2017-2021 *Environmental Finance Data* tracked 3 green loans and 31 sustainability-linked loans from agribusiness sector companies totalling \$20.6 bn and a further 5 green and 41 sustainability-linked loans from food and beverage companies totalling \$41.3bn.²⁴

Agribusiness – sustainable bond issuance outlook

For context, in 2021 the \$12.4bn of sustainable bonds issued by the agribusiness sector represented 1.17% of total sustainable bond issuance (\$1.03 trillion).

There is a lot of potential for the agribusiness and food and beverage sector to access capital from the sustainable debt market as many of the projects and activities could be eligible for green and social use of proceeds or KPI structured bonds.

The main challenges to accessing the sustainable bond market is the fragmented nature of the industry, the challenges in impact data collection and the financial infrastructure in emerging markets.

²⁴ NB The loan data is taken from *Environmental Finance Data* which tracks publicly announced green and sustainability-linked loans, it must be noted that many green and sustainability-linked loans are largely private and the details are not publicised so this data is not exhaustive or necessarily representative of the entire green and sustainability-linked loan markets.

Global transport sector

As one of the highest emitting industries, the transport sector requires investment to create more sustainable operations. Sustainable bonds can play an important part in funding the necessary evolution. The scale of many transport sector projects and the clear environmental and social benefits of improved public transport infrastructure lend themselves to sustainable bond issuance.

Sector make up

The global transportation industry was estimated to be worth \$6.2 trillion in 2020²⁵ with predictions of over \$7.8 trillion by 2027. The transport sector directly employs around 10 million people and accounts for about 5% of the global GDP.²⁶

The transport sector encompasses passenger and freight across different forms of transport, including air, road, rail and maritime. It also includes large infrastructure projects such as rail, road, ports, and airports.

Public sector companies commonly dominate the infrastructure element of the transport sector and can include private and corporate companies through public-private partnerships (PPP).

Sustainability and transport

Transport has the highest reliance on fossil fuels of any sector and accounts for 37% of CO₂ emissions from end-use sectors. Road transportation for passengers and freight remains the primary source of emissions in the sector, responsible for 73% of CO₂ emissions from all transport. The Net Zero Emissions by 2050 Scenario requires transport sector emissions to fall by 20% to 5.7 Gt by 2030.²⁷

According to the IEA, CO₂ emissions from the global transport sector fell by over 10% in 2020, at 7.2 Gt CO₂ in 2020, down from nearly 8.5 Gt in 2019. The drop was predominantly a consequence of global lockdown

measures due to the COVID-19 pandemic. Road transport in regions with lockdowns in place dropped between 50% and 75%, with global average road transport activity almost falling to 50% of the 2019 level by the end of March 2020. Air transport is expected to take even longer to return to pre-pandemic levels.²⁸

Sustainability drivers in the transport sector depend on government policies encouraging and facilitating a modal shift to the least carbon-intensive travel options, and operational and technical energy efficiency measures to reduce the carbon intensity of all transport modes.

The improvement of rail and other public transport is a clear option to support the modal shift and business policies supporting electric vehicles can aid energy efficiency improvements. Green buildings can play a role in airports and train stations, with some notable green projects and finance being raised for airport construction and retrofitting.

Some sustainable investors exclude airport and airline related bonds on the grounds they support a carbon intensive industry.

The nature and size of many transport and infrastructure projects make them eligible for the use of proceeds structure of sustainable bonds. There are relatively clear sustainable use of proceeds for many projects, especially public transportation, and the sustainable impacts can be clearly gauged and reported.

Electric vehicles (EV) and associated battery and infrastructures have attracted issuers to the sustainable bond market. Major automotive companies such as Ford, Toyota, Honda, Daimler, Kia, Porsche, Tesla and Volkswagen have issued sustainable bonds to help fund the shift towards more efficient and electric vehicles. South Korean conglomerate SK Innovation have issued a green bond to finance an EV battery plant.

There were more than 10 million electric vehicles on the roads in 2020 and by 2030 it is predicted that global EV sales will be around 28.2 million vehicles per year²⁹ (6.75 million were sold in 2021) with 60% of all vehicles

²⁵ [Global Transportation Services Industry, Report Linker, April 2021](#)

²⁶ [Transport Sector Economic Analysis, European Commission, \(Accessed January 2022\)](#)

²⁷ [Transport Improving the sustainability of passenger and freight transport, International Energy Agency \(IEA\), \(Accessed January 2022\)](#)

²⁸ [Transport Improving the sustainability of passenger and freight transport, International Energy Agency \(IEA\), \(Accessed January 2022\)](#)

²⁹ [Electric Vehicle Outlook 2021, BloombergNEF, 2020](#)

³⁰ [Global EV Outlook 2021, International Energy Agency \(IEA\), April 2021](#)

sold needing to be EVs³⁰ if net zero targets are to be met. Sustainable bonds could play a prominent role in financing the growth of EVs and related infrastructure.

Transport sector – emerging market fixed income debt

Historically “rail bonds” and other transport sector debt has been raised using fixed income products, bonds are a common instrument for the sector.

Since 2007 and the first green bond, there have been 597 emerging market transport industry unlabelled (vanilla) bonds for a total of over \$190.13bn.³¹ The majority of the bonds were issued by sovereign/public (357 bonds with a combined value of \$112.34bn) with corporate issuers contributing 240 bonds valuing \$77.88bn.

Transport sector - sustainable bonds

There are two angles to judge transport related sustainable bond issuance. Firstly, there is the use of proceeds “clean transportation” included in ICMA’s Green Bond Principles (GBPs), This use of proceeds can be used by any issuer type or sector with projects relating to clean transportation. Bonds can have more than one use of proceeds so there is potential for double counting when comparing the overall number and value of bond use of proceeds.

The second gauge is sustainable bonds issued by transport sector companies these bonds could have a variety of use of proceeds, not solely covering clean transportation. Both are examined below:

Sustainable bonds with the “Clean Transportation” use of proceeds or KPI

The majority of the sustainable bonds issued are labelled green (1013/1068). Whilst there are social use of proceeds which could be applied to the transport sector, such as affordable basic infrastructure, the most commonly used use of proceeds is “clean transportation”. Metrics can include km of rail, number of passengers on green transportation per year, emissions reductions and number of green vehicles/green vehicles infrastructure.

Table 13: Sustainable bonds with the “Clean Transportation” use of proceeds or KPI – bond label

Sustainable bond label	Number of bonds	Value (\$M)	% Share of value
Green	1,013	551,804.10	95.80%
Sustainability	43	18,695.89	3.25%
Sustainability-linked	8	3,434.42	0.60%
Transition	7	2,067.51	0.36%
Total	1,068	576,001.91	

Source: Environmental Finance Data – date range 2007-2021

Table 14 : Issuer Type – green and sustainability bonds with clean transportation as the use of proceed

Issuer Type	Number of bonds	Value (\$M)	% Share of value
Agency	96	64,735.03	11.24%
Corporate	379	153,158.06	26.59%
Financial Institution	291	131,497.11	22.83%
Municipalities	131	46,720.23	8.11%
Sovereign	53	140,341.15	24.37%
Supranational	107	39,530.28	6.86%

Source: Environmental Finance Data – date range 2007-2021

Corporate issuers were the most common in terms of the number of bonds issued (379) and the value of the bonds (\$153.2bn). Financial institutions (291 bonds and \$131.5bn in value) regularly issue green bonds with “clean transportation” use of proceeds and then use the capital for loans and financing of low carbon vehicles, new rail infrastructure, and EV production and infrastructure.

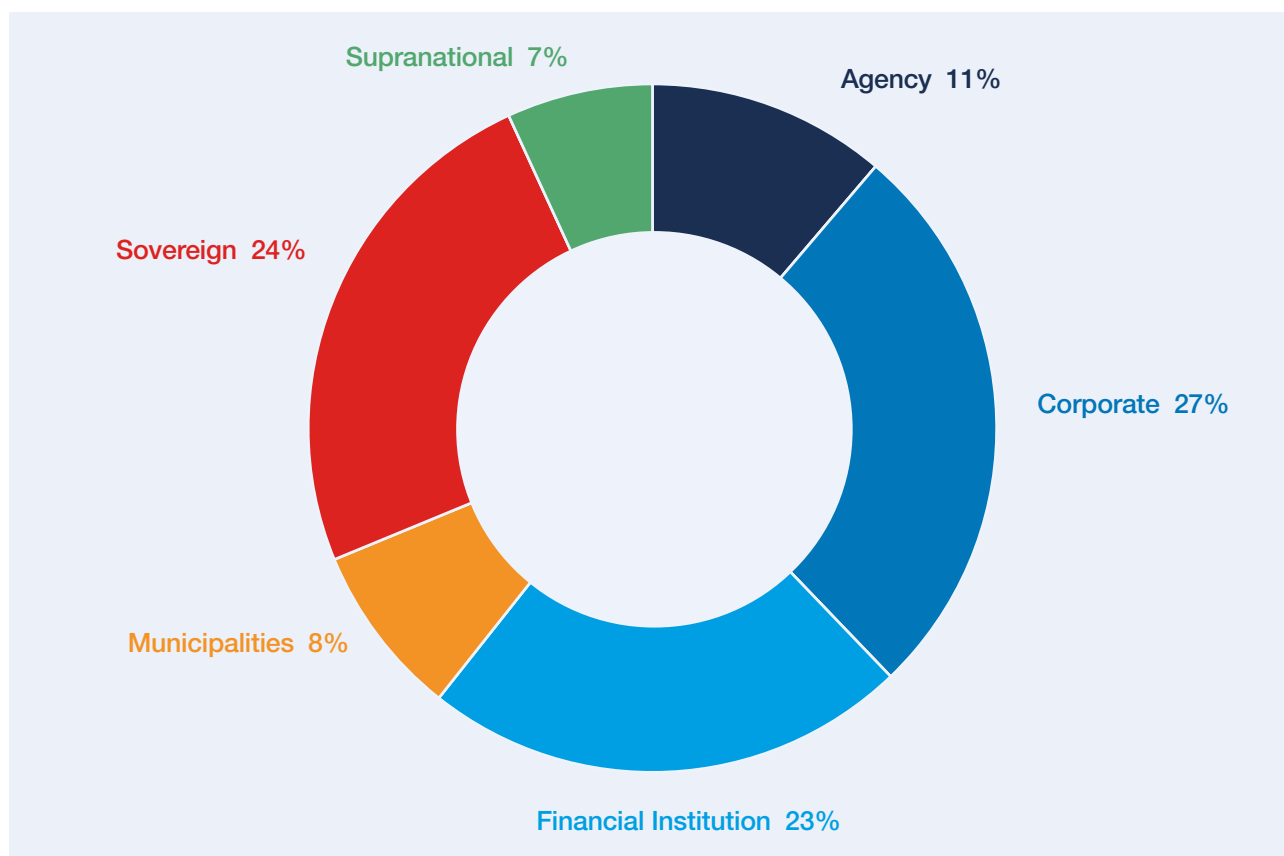
Transport sector - sustainable debt

The issuance from transport sector specific companies is smaller than the general “clean transportation” use of proceeds and can incorporate other use of proceeds for the bonds. For example, a transport sector company could issue a bond with the “green building” use of proceeds if they are making their facilities more sustainable.

Table 15 covers bonds issued by real economy transport sector participants only.

31 Source - Dealogic data

Figure 9: Clean Transport UoP - Issuer type % share of value (\$M)



Source: Environmental Finance Data

Table 15: Transport sector bond issuance – bond label

Sustainable bond label	Number of bonds	Value (\$M)	% Share of value
Green	187	83,633.61	90.49%
Social	5	1,018.49	1.10%
Sustainability	21	3,746.04	4.05%
Sustainability-linked	8	2,907.50	3.15%
Transition	5	1,114.16	1.21%
Total	226	92,419.8	

Source: Environmental Finance Data – date range 2007-2021

Green bonds were the most commonly issued sustainable bond in the transport sector (187/226). Four of five social bonds issued by the sector have use of proceeds “affordable basic infrastructure” and funded expressway projects in Japan. All three sustainability-linked bonds were from airport or airline issuers and have KPIs linked to carbon emissions reductions or ESG ratings.

Table 16: Issuer type – transport sector

Issuer Type	Number of bonds	Value (\$M)
Agency	55	44,983.86
Corporate	171	46,901.12

Source: Environmental Finance Data – date range 2007-2021

Transport sector specific issuers are either agency (government affiliated) or corporate. Whilst the value to the bonds were similar at around \$45 bn, the number of bonds issued by corporate issuers (171) were significantly higher than agency (55). This illustrates the size of bonds and projects from agency issuers are generally much larger than corporates.

Sustainable bond issuance from real economy companies is limited by the domination of government and agency projects. The majority of large-scale infrastructure projects are executed by public companies which reduces the size of private projects.

Table 17: Transport sector issuers – transport type

Transport Type	Number of bonds	Value (\$M)	% Share of value
Rail	152	66,138.43	73.28%
Air	17	11,939.47	13.23%
Road	29	5,219.48	5.78%
Maritime	22	4,206.60	4.66%
Other	6	2,746.61	3.04%
Total	226	92,419.8	

Source: Environmental Finance Data – date range 2007-2021

Rail dominates the transport type of the bonds issued by transport sector participants, 152/226 and \$66.1bn/\$92.4bn of bonds issued.

Sustainable bond issuance is common for rail projects because there are clear sustainable benefits of the modal shift from road vehicles to rail for both passengers and freight. The environmental and social impact can be tracked, and the bonds can deliver quantifiable impact. The size of rail projects also lends itself to sustainable bond issuance.

Table 18: Geography – transport sector issuers

Region	Number of bonds	Value (\$M)
East Asia and Pacific	98	20,445.129
Europe and Central Asia	108	58,070.91
Latin America and Caribbean	5	6,781.35
Middle East North Africa	1	600.00
North America	12	5,037.62
South Asia	2	950.00
Sub Saharan Africa	0	0

Source: Environmental Finance Data – date range 2007-2021

Table 19: Geography – transport sector issuers - country

Country	Number of bonds	Value (\$M)
France	41	39,265.58
China	33	9,321.95
Japan	44	7,573.60
Mexico	2	6,000.00
Spain	20	4,288.57
Switzerland	14	3,895.23
Italy	5	3,652.41
Hong Kong	16	3,063.09
US	4	2,746.07
Canada	7	2,291.55
Netherlands	3	1,989.08
Russia	5	1,650.92
Germany	3	1,030.58
India	2	950
Sweden	10	760.92
UAE	1	600
Denamrk	1	565.6
Brazil	1	500
Georgia	1	500
Norway	5	472.02
Thailand	1	190.86
Bermuda	1	150
Colombia	1	131.35
Korea	1	127.49
Taiwan	2	101.273
Australia	1	66.87

Source: Environmental Finance Data – date range 2007-2021

France is the largest transport sector sustainable bond issuer by value (\$439bn) and second largest by number of bonds (41), Asia had marginally fewer bonds issued (98) than Europe (108) however the value of the bonds issued in Europe were more than double those issued in Asia. There were very few transport sector sustainable bonds issued from the MENA region or Oceania and the South/Central American issuance is dominated by large issuances (\$6.6bn) from only 4 issuers.

Emerging markets (ex-China) represent 8 bonds and a little over \$8bn of the issuance. There is a lot of potential for further investment in sustainable transport in emerging markets which require investment to improve poor rail and road infrastructure.

Table 20: \$1bn+ transport sector bonds

Issuer	Currency	Dollar value (M)	Issuer type	Country	Settlement date	Transport type
Société du Grand Paris	EUR	7,065.32	Agency	FR	07/10/2020	RAIL
Mexico City Airport	USD	4,000.00	Agency	MX	20/09/2017	AIR
Société du Grand Paris	EUR	2,725.02	Agency	FR	18/02/2020	RAIL
Société du Grand Paris	EUR	2,417.60	Agency	FR	10/05/2021	RAIL
Société du Grand Paris	EUR	2,248.02	Agency	FR	20/03/2019	RAIL
Société du Grand Paris	EUR	2,008.00	Agency	FR	22/10/2018	RAIL
Mexico City Airport	USD	2,000.00	Agency	MX	22/09/2016	AIR
Société du Grand Paris	EUR	1,999.70	Agency	FR	26/11/2021	RAIL
Société du Grand Paris	EUR	1,769.70	Agency	FR	02/09/2021	RAIL
SNCF Reseau	EUR	1,704.80	Corporate	FR	04/07/2019	RAIL
Société du Grand Paris	EUR	1,625.10	Agency	FR	07/05/2020	RAIL
Société du Grand Paris	EUR	1,428.35	Agency	FR	26/11/2021	RAIL
Los Angeles County Metropolitan Transportation Authority	USD	1,356.10	Agency	US	27/08/2020	ROAD
SNCF Reseau	EUR	1,350.33	Corporate	FR	07/04/2020	RAIL
Île-de-France Mobilités	EUR	1,222.40	Corporate	FR	28/05/2021	ALL
MTR Corporation Limited	USD	1,200.00	Corporate	HK	19/08/2020	RAIL
Ferrovie Dello Stato Italiane	EUR	1,192.00	Corporate	IT	25/03/2021	RAIL
Société du Grand Paris	EUR	1,117.90	Agency	FR	03/06/2019	RAIL
SNCF Reseau	EUR	1,080.00	Corporate	FR	30/03/2017	RAIL
LISEA	EUR	1,035.85	Corporate	FR	08/01/2019	RAIL

Source: Environmental Finance Data – date range 2007-2021

All the \$1bn+ bonds issued by the transport sector were labelled green. Société du Grand Paris and Mexico City Airport dominate the largest sustainable bonds issued in the transport sector.

The nature of the transport sector with large infrastructure projects has led to very large single issuances and a high number of \$1bn plus (20).

Table 21: EM (ex China) transport sector bonds

Issuer	Label	Currency	Dollar value (M)	Issuer type	Country	Settlement date	Transport type
Rumo	Green bond	USD	500.00	Corporate	Brazil	10/07/2020	RAIL
Bogota's Sustainable Mass Transit	Sustainability bond	USD	131.35	Agency	Colombia	27/06/2019	RAIL
JSC Georgian Railway	Green bond	USD	500.00	Corporate	Georgia	17/06/2021	RAIL
Delhi International Airport	Green bond	USD	450.00	Corporate	India	19/03/2021	AIR
Indian Railway Finance Corporation	Green bond	USD	500.00	Corporate	India	06/12/2017	RAIL
Mexico City Airport	Green bond	USD	4000.00	Agency	Mexico	20/09/2017	AIR
Mexico City Airport	Green bond	USD	2000.00	Agency	Mexico	22/09/2016	AIR
Bangkok Expressway & Metro	Green bond	THB	190.86	Corporate	Thailand	28/04/2021	RAIL

Source: Environmental Finance Data – date range 2007-2021



\$6bn of the \$8bn emerging market transport sector bonds were issued by Mexico City Airport with Delhi International Airport also issuing a \$450 million green bond. The other 5 emerging market real economy sustainable bonds were issued for rail projects in India, Georgia, Colombia, Thailand, and Brazil.

Green and sustainability-linked loans

In addition to the sustainable bonds issued by transport sector participants, there has also been some activity in the sustainable loan market.

There have been at least 14 green loans totalling over \$5.2bn with two large \$1bn plus loans borrowed by Italian rail company Italo. Additionally, at least 13 sustainability-linked loans have been taken out by transport companies totalling more than \$10.5bn, with \$1bn plus loans for Heathrow airport and almost \$4bn for SNCF Réseau.³²

32 NB The loan data is taken from the *Environmental Finance Database* which tracks publicly announced green and sustainability-linked loans, it must be noted that many green and sustainability-linked loans are largely private and the details are not publicised so this data is not exhaustive or necessarily representative of the entire green and sustainability-linked loan markets

Transport sector sustainable bond issuance outlook
Improving the sustainability and energy efficiency of the transportation sector has clear sustainable benefits and can incorporate many sustainable bond eligible projects. As one of the top emitting sectors the need for a cleaner and greener sector is well established and sustainable bonds could be used to raise capital.

As corporate issuers need to have large projects and project pipelines to issue a sustainable bond for transport infrastructure, only the largest corporates or government agencies can do so.

The rail industry was the most common issuer, but poor rail infrastructure in emerging countries offers both a barrier and an opportunity for sustainable bond issuance and will be reliant on coherent government policy and encouragement.

The forecasted growth in clean transport such as EVs and more energy efficient air and rail transport could potentially be funded by sustainable bonds. There is a clear use of proceeds and impact reporting would be relatively straight forward.

Country focus: Nigeria

Country: Nigeria

Population: 206 million (World Bank, 2020)

GDP: \$432 billion (World Bank, 2020)

Fixed income debt market total issuance 2007-2021: \$46.03 billion (Bloomberg)

Real economy bond issuance 2007-2021: \$2.35 billion (Bloomberg)

Sustainable bond issuance 2007-2021: \$136 million (*Environmental Finance Data*)

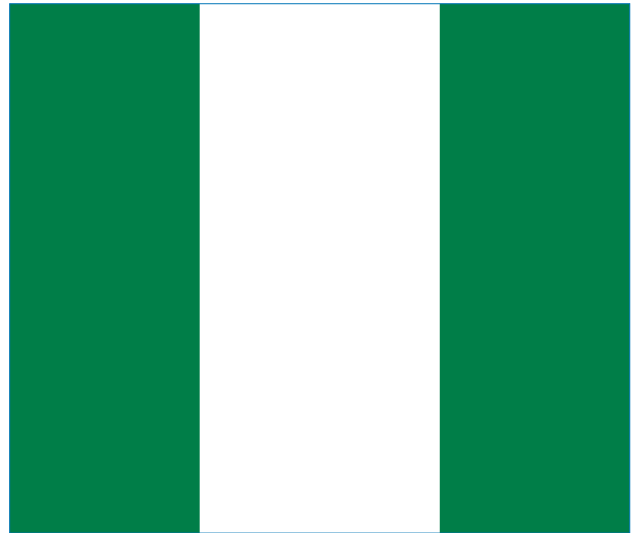
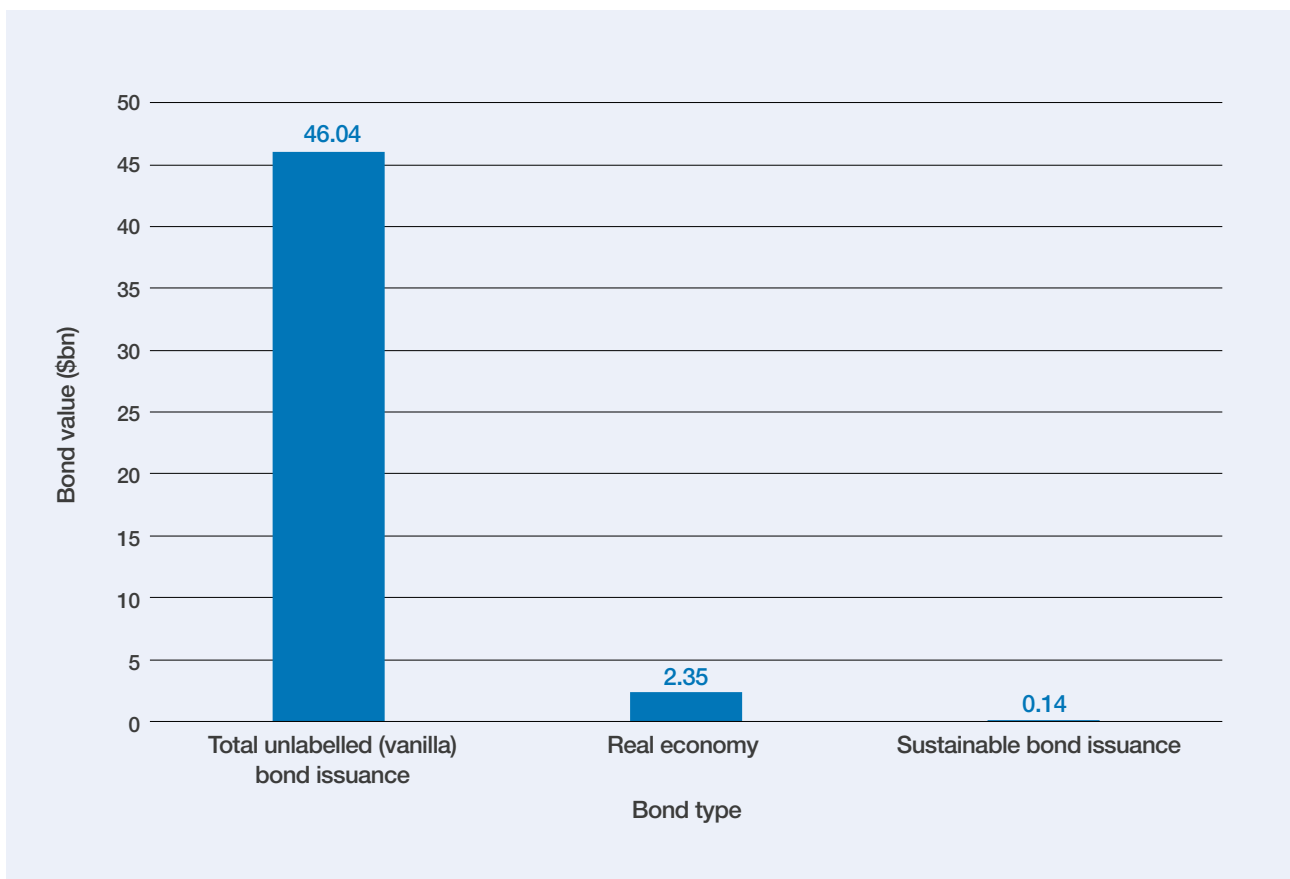


Figure 10: Nigeria - Bond Issuance 2007-2021



Source: Bloomberg and Environmental Finance Data – date range 2007-2021



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Macro-economic overview

Nigeria is endowed with abundant resources and offers sizable market opportunities. With a GDP of over \$432 billion, it is in many ways Africa's economic juggernaut with vast amounts of potential both in terms of industrial and economic growth. It boasts the continent's largest population at over 206 million people, more than half of which are between ages of 15–29.³³

Despite being a lower-middle income country and recently classified as fragile-conflict affected (FCS) due to the rising insecurity in certain parts of the country, Nigeria has strong growth potential with investment opportunities across sectors including digital economy, agribusiness, manufacturing, and financial services. Realizing these opportunities remains difficult due to the weak macroeconomic framework, poor governance, distortionary trade policies, weak competition and anti-monopoly policies and significant infrastructure gaps.³⁴

Growth has steadily resumed in 2021 thanks to government policy support, rising oil prices and international financial assistance. However, fiscal pressures have intensified on the back of rising expenditures (subsidies, security, debt servicing costs) as well as limited access to foreign exchange continues to hamper private sector activity. Foreign Direct Investment (FDI) inflows to Nigeria remain considerably lower than other emerging markets, averaging around \$2.5 billion since 2015. FDI dropped to approximately \$699 million in 2021, the lowest level in over a decade, and compared to around \$1 billion in 2020. The lingering impacts of the 2020 recession has also exacerbated inequality and poverty. According to the World Bank, an additional 12 million Nigerians will fall into poverty between 2019–23, adding to the 39% of the population living below \$1.9 per day.³⁵

The banking sector overall has weathered the crisis effectively and remains well capitalized with the exception of smaller banks. Non-performing loans have been broadly stable, attributable to the banks' conservative lending policies, regulatory forbearance and CBN credit intervention programs. Profitability has also held up despite increasing funding costs as e-banking revenues have grown. Continued monitoring and assessment of risks will be critical to better manage

systemic and cyclical risks as well as ensure expansion of financial inclusion.

As the country seeks to diversify and pursue a more sustainable growth path, there is an opportunity to scale up sustainable bond investments. Green, energy efficient, and sustainable projects that offer alternative energy supplies, tap into under-resourced geographies, and help to strengthen Nigeria's infrastructure and enhance manufacturing capabilities by integrating green policies could bring direct investments that are drastically needed. Sustainable bonds could be the instruments to facilitate this investment.

Regulations and government policy regarding sustainable debt or sustainability targets

In 2016 Nigeria became one of the 196 nations that ratified the Paris Climate agreement, committing to reducing greenhouse gas emissions by 20% and agreeing to take drastic steps to change national habits including the ceasing of gas flaring and investing in green buildings and smart agriculture.³⁶

In December 2017, Nigeria became the first African nation to issue a sovereign green bond (and the fourth to do so globally) worth \$25.69 million. The bond was well received within Nigeria's investment community and was oversubscribed at \$25.9 million. Investors included pension fund administrators, commercial banks, high net worth individuals, custodians, asset management firms and retail investors. The bond use of proceeds focused on renewable energy, afforestation, and energising education.³⁷

The Nigeria government put in place a framework to support the issuance of corporate green bonds, and in 2018, the Federal Ministry of Environment issued the National Green Bond Guidelines and Principles. The FMDQ Securities Exchange (FMDQ), Climate Bonds Initiative (CBI) and Financial Sector Deepening, Africa (FSD Africa), formalised a partnership through the execution of a Cooperation Agreement, to support the development of the Nigerian green bond market. Consequently, the Nigerian Green Bond Market Development Programme was established.³⁸

33 [Nigeria Population 2021, World Population Review. \(Accessed January 2022\)](#)

34 [Nigeria Economy, Nigeria Consulate Frankfurt. \(Accessed January 2022\)](#)

35 [Nigeria MPO, The World Bank, April 2021](#)

36 ["Buhari ratifies Paris agreement on climate change" The Guardian Nigeria News, March 2017](#)

37 [Green Bonds FAQ, Government of Nigeria, February 2019](#)

38 [Green bonds Development programme report 2019, Climate Bond Initiative \(CBI\), 2019](#)

Table 22: Sustainable bond details

Issuer	Currency	Value (M)	Dollar value (M)	Issuer type	Bond label	Settlement date	Maturity date
Federal Government of Nigeria	NGN	15000	41.36	Sovereign	Green bond	13/06/2019	13/06/2026
Federal Government of Nigeria	NGN	10690	29.72	Sovereign	Green bond	22/12/2017	22/12/2022
North South Power	NGN	8500	23.46	Corporate	Green bond	28/02/2019	28/02/2034
Access Bank	NGN	15000	41.49	Financial Institution	Green bond	18/03/2019	18/03/2024

Source: Environmental Finance Data – date range 2007–2021

The Programme outlined the following objectives:

- To facilitate the establishment and development of a green bond market in Nigeria
- To support development of guidelines and listing requirements for green bond in Nigeria
- Develop a pool of Nigeria-based licensed verifiers to support issuers
- Develop a pipeline of green investments and facilitate engagement with potential investors
- Support broader debt capital markets reforms that have an impact on non-government bond markets in Nigeria

According to the 2018 Nigerian Sustainable Finance Roadmap Report developed by the United Nations Environment Programme (UNEP) Inquiry, in collaboration with market stakeholders, Nigeria requires an annual estimated sustainable/green finance

investment of up to \$92 billion between now and 2030.³⁹ The IFC estimates that Nigeria’s climate smart investment potential is over \$104 billion from 2016–2030 in selected sectors.⁴⁰

Sustainable bond issuance

Following the implementation of this framework, Nigeria has seen the issuance of one “real economy” green bond.

The only real economy bond was issued by the North South Power Company, issued at a value of \$23 million with the proceeds being used for the development of solar and hydroelectric power.⁴¹

There is also a green bond issued by the financial sector. In June 2018 Access Bank raised \$41 million with use of proceeds to finance projects covering agriculture irrigation, renewable energy and flood defence.

³⁹ [Climate Investment Opportunities in Emerging Markets, IFC, December 2016](#)

⁴⁰ [The Nigerian Green Bond Market Development Programme, Climate Bond Initiative \(CBI\), November 2019](#)

⁴¹ [Green Bond Fact Sheet, North South Power Company, Climate Bond Initiative \(CBI\), April 2019](#)

Sector deep dives

Power

Overview

Originally a public monopoly first formed under the name of NEPA (National Electric Power Authority) in 1972, Nigeria's power market has been plagued with infrastructure and supply challenges for several decades.

Despite being one of the continent's top energy producers, over 50% of the population do not have access to electricity, and for the remainder, power supply from the grid rarely amounts to more than a few hours per day.⁴² According to the World Bank, power shortages in Nigeria amount to an economic cost of over \$28 billion (approximately 2% of total GDP) and 41% of Nigerian businesses generate their own power to supplement the general power supply.⁴³ Despite the current shortcomings of the sector, Nigeria currently supplies electricity to the Republic of Benin, Togo and Niger.

In 2013 to remedy the infrastructure challenges of NEPA Nigeria's power supply was privatised and broken up into eleven distributing companies and six generating companies. Some of the major power generating companies include Transcorp Power, Egbin Power, and Seplat Energy; and some of the major transmission and distribution companies include Transmission Company of Nigeria and Abuja Electricity Distribution Company.

⁴⁴

Leading companies:

1. [Egbin Power](#): Egbin Power (owned by the Sahara Group) is in Lagos state and is the largest power plant in Nigeria, generating over 16% of the total power contribution to the National Grid. The company has over 350 employees and an installed generating capacity of 1320 MW. The Egbin Thermal Power Plant is a gas-fired plant with six 220MW independent boiler turbine units. It can also run on High Pour Fuel Oil, commonly called HPFO.

2. [Transcorp Power and Transafam Power Nigeria](#):

Transcorp is a multi-faceted conglomerate with business units that span power, hospitality, and energy. Transcorp power owns three power plants in the east of Nigeria: Afam Power plant, Afam three fast power and a 72MW-capacity power plant in Ugheli, Delta State.

3. [Nigeria Delta Power Holding Company \(NDPHC\)](#):

Incorporated in 2007 by the Nigerian Government, the NDPHC was formed to serve as the legal vehicle to hold the NIPP (an originally government owned consortium of 7 power stations) assets using private sector-orientated best business practices.

4. [Seplat Energy](#): Formed in 2010, Seplat's energy business of hydrocarbon production in the Niger Delta, exporting oil that supports Nigeria's economy and delivering gas to power its homes and businesses. In 2019 they became the first Nigerian company to acquire a UK-listed peer, Eland Oil & Gas Limited, to strengthen their portfolio. In 2021, they were publicly directed by their executive board to explore ways to drive Nigeria towards renewable energy.

It is worth noting that despite all these firms relying heavily on hydrocarbon-based power plants for energy distribution, each of these companies have openly published sustainability initiatives and have committed to reducing their carbon footprint.

The NDPHC have set up a renewable energy department, focussed on facilitating its venture into power generation, aimed at achieving a 30 per cent contribution to the national energy mix (Vision 30-30-30), by 2030. The renewable energy department will focus on using on-grid and off-grid renewable energy sources to provide efficient, clean, affordable access to electricity for more Nigerians.

There are also several local clean power companies emerging like the winners of the annual Nigerian "Off grid energy challenge" a scheme offered by the United State African Development Foundation ([USAID](#)) in partnership with All On.⁴⁵

⁴² "Nigerian Power Sector: A General Overview", Nigerian Finder. (Accessed January 2022)

⁴³ Nigeria to Keep the Lights on and Power its Economy. The World Bank. June 2020

⁴⁴ Nigeria Power Market - Industry Share, Size, Growth, Mordor Intelligence. 2022

⁴⁵ "13 start-ups win \$100,000 in All On/USAID off-grid energy challenge". [Businessday NG](#), January 2022

Table 23: Power sector real economy bonds 2007-2021

Issuer Name	Currency	Value (M)	Dollar Value (M)	Settlement Date	Maturity Date	Settlement date	Maturity date
GEL Utility	NGN	35.82501	0.1	28/08/2019	28/08/2034	13/06/2019	13/06/2026
North South Power	NGN	15.477591.25	0.4	15/04/2021	15/04/2031	22/12/2017	22/12/2022
North South Power	NGN	23.480655	0.7	27/2/2019	27/2/2034	28/02/2019	28/02/2034

Source: Bloomberg – date range 2007-2021

Power sector unlabelled (vanilla) bond

There is some precedent for bond issuance in the Nigerian power sector. There has been \$1.2 million worth of corporate bonds issued in this market over the past five years with prominent issuance from market leaders GEL Utility and North South Power. This familiarity with bond issuance could encourage power sector companies to build upon the green bond issued by North South Power and seek to issue sustainable bonds to refinance existing sustainable projects or finance future projects.

Outlook for real economy sustainable bond issuance

The Nigerian power sector is one of the few analysed country sectors with a corporate sustainable bond issued, the North South Power \$23.5m green bond from 2019 (see table 23).

There are tailwinds in the Nigerian power sector supporting potential sustainable bond issuance. Government policies encourage the diversification of the power sector and the growth of renewable energy generation which could be funded by sustainable bond issuance.

Whilst some investors have exclusionary criteria which preclude fossil fuels there is investor appetite to fund the sustainable improvements and transition of fossil fuel companies. Sustainable bonds issued from some of the larger power companies in Nigeria could be feasible.

Agribusiness

Overview

The agribusiness industry in Nigeria can be roughly divided into four sectors: livestock, fishing, forestry, and crop production. Crop production remains the largest component of the industry and makes up approximately 87% of the sector's output. This is followed by livestock (8.1%), fishing (3.2%) and forestry (1.1%).⁴⁶ The sector is also the largest employer in the country and employs over 36% of the labour force.

Production is extremely fragmented and more than 80% of Nigeria's farmers are smallholders with this group supplying almost 90% of all national agricultural produce. There is also a lack of skills and capacity to fulfil the manufacturing and processing requirements of food production and a large deficit between the demands of feeding Nigeria's large 200 million consumers and the capacity of its domestic agricultural sector.

As a result, Nigeria relies on \$10 billion of imports per year to meet its food and agricultural production shortfalls (mostly wheat, rice, poultry, fish, food services, and consumer-oriented foods). Europe, Asia, the United States, South America, and South Africa are all major sources for agricultural imports.

The Government of Nigeria has initiated agricultural programs such as the Anchor Borrowers Program (ABP) to diversify its economy away from oil. At the Council on Agriculture and Rural Development Regular meeting the Nigerian government approved the implementation of a new Agricultural policy named "National Agricultural Technology and Innovation Plan" (NATIP). The four-year blueprint designed to help Nigeria's COVID-19 economic recovery. This policy will replace the Agriculture Promotion Policy (APP) that was launched in 2016 but terminated in December 2020.⁴⁷

Leading companies:

1. **Dangote group:** Dangote Group is a multi faceted business conglomerate that spans several industries including logistics, mining, real estate and cement. Dangote's food interests lie in tomato farming, rice farming, sugar refinery, and flour mills.
2. **Seedco Group:** Seedco is a seed production and distribution company that has made a huge impact. They develop and market certified crop seeds, like hybrid maize seed, cottonseed, wheat, soya bean, barley, sorghum and more. These seeds are designed to add real and consistent value, giving farmers the opportunity to have food surplus, resulting in a good standard of living.
3. **Flour Mills of Nigeria:** Flour Mills of Nigeria was incorporated in 1960, as a limited liability company and pioneer wheat miller in Nigeria. Flour Mills of Nigeria has operations in food, sugar, agro-allied, and support services. The company made substantial investments in the primary processing of locally grown soybean, palm fruit, cassava, maize, sugar cane, sorghum, and the storage, aggregation, and distribution of locally sourced grain.

Agribusiness sector unlabelled (vanilla) bond issuance

Total unlabelled (vanilla) bond issuance in the Nigeria Agricultural sector overall total close to \$1.4 million issued by three corporate entities (see table 24).

The majority of these were issued by Flour Mills of Nigeria who issued almost \$1.2 million dollars alone. Although this is a small amount of capital raised in this large and fragmented sector, Nigeria to consider utilizing sustainable bonds for similar debt raising going forward.

⁴⁶ [Nigeria Power Market - Industry Share, Size, Growth, Mordor Intelligence, 2022](#)

⁴⁷ [Nigeria - Agriculture Sector, International Trade Administration \(ITA\), October 2021](#)

Table 24: Agribusiness sector real economy bonds 2007-2021

Issuer Name	Number of bonds	Currency	Value (M)	Dollar value (M)	Settlement date	Maturity date
Flour Mills of Nigeria	7	NGN	435.24	1.20	2010-2020	2015-2027
Dufil Prima Foods	1	NGN	27.93	0.08	31/08/2017	01/09/2022
Chellarams	2	NGN	13.27	0.04	2011-2012	2016-2019
La Casera Co	1	NGN	18.75	0.05	18/10/2013	18/10/2018

Source: Bloomberg – date range 2007-2021

Outlook for real economy sustainable bond issuance

The government’s outlined objectives for the agricultural sector, illustrated by the Federal Ministry of Agriculture and Rural Development’s (FMARD) ‘Agriculture Promotion Policy’ document and their LIFE program outline pathways to build a more integrated and sustainable agricultural industry.

Capital is required to fund these plans and there are companies and projects which could issue sustainable bonds. Whilst sustainable bond issuance is not common practice for agricultural companies globally; there are numerous use of proceeds options for agricultural sector issuers (see agriculture chapter). There are potentially

eligible projects and public-private partnerships with the FMARD and corporations such as SEEDCO which empower small independent farmers with the tools and finance to build their businesses and increase their crop production in a sustainable way.

The fragmented nature of the agricultural sector limits the possibility of real economy sustainable bond issuance. Larger corporations such as those outlined above could potentially have eligible projects and project pipelines of the necessary size however smaller real economy agricultural companies are more likely to utilise loans to raise debt. Financial institutions in Nigeria could feasibly issue sustainable bonds with the proceeds being repackaged into loans for agricultural sector SMEs.

Transport

Overview

Nigeria's transport market has grown rapidly over the past decade to accommodate the rapidly growing population. The sector is valued at \$6.25 billion contributing approximately 1.8% of GDP in 2020.

Transport activity in Nigeria is overseen by the Federal Ministry of Transport, which includes dedicated bodies such as the Nigerian Airspace Management Agency, Nigerian Ports Authority (NPA), Nigerian Railway Corporation (NRC), Nigerian Civil Aviation Authority, Nigerian Shippers' Council and the Federal Airports Authority of Nigeria (FAAN). Development plans for the sector are incorporated into the Nigeria Integrated Infrastructure Master Plan (NIIMP), a 30-year roadmap established in 2014. It laid out specific objectives to be met, including airport upgrades, highway refurbishment, and the expansion and rehabilitation of railway lines.⁴⁸

The majority of travel embarked upon by the population takes place in private cars, small privately operated minibuses (known as Danfo) and a small number of traditional large public buses⁴⁹ resulting in high levels of congestion and air pollution across Nigeria's major cities.⁵⁰

Roads: The biggest transportation sector in the country are the roads and highways, and according to the NIIMP, over 90% of travel in the country is supported via these routes, a network of roughly 200,000km made up of federal, state, and local government roads.

Aviation: The Federal Airports Authority of Nigeria (FAAN) operates 5 main international airports in Abuja, Lagos, Kano, Enugu and Port-Harcourt as well as 18 domestic ones. Nigeria has a busy and oversubscribed domestic aviation industry, with several local airline operators, but the sector is plagued with safety challenges, as well as a need to improve management practices, maintenance, and workforce training.

Rail: Rail infrastructure in Nigeria needs significant investment, many of the railways built in the country during colonial times are now defunct and/or underused.

Freight volumes have declined from 3 million tonnes in 1960 to 15,000 tonnes in 2020, lower than the already modest levels of other African nations.

Leading companies:

1. **BHN Logistics:** BHN is a haulage and logistics company formed in 1948 as a subsidiary of Blackwood Hodge UK. Now owned by Singapore based Tolaram group, the business focuses on servicing consumer goods deliveries across Nigeria.
2. **ABC Transport:** Founded in 1993, ABC is a road transport company consisting of a network of passenger buses covering over 20 inter-city routes across the country.
3. **Arik Air:** Arik Air is a domestically owned Nigerian aviation company operating out of Lagos's Murtala Mohammed Airport. The company operates several regional and mid haul destinations within Africa.

Transport sector unlabelled (vanilla) bond issuance

Total bond issuance in the Nigerian transport sector since 2007 is minimal, with overall totals \$160,000 dominated by investment into the aviation sector. There is little precedence but some potential for bond issuance in the sector.

Outlook for real economy sustainable bond issuance

In many ways due to the fragmented and highly underdeveloped nature of transport in Nigeria this sector will be the most challenging to identify potential sustainable finance opportunities and sustainable bond issuers. Aside from the busy passenger led aviation sector, the over reliance on road haulage signifies the lack of vision and policies from the government to fulfil more green ready transportation modes such as rail.

⁴⁸ [Multi-modal transport links to boost Nigeria's competitiveness, Oxford Business Group, 2022](#)

⁴⁹ [Sustainable Road Transportation Practices in Nigeria. \(ijser.org\)](#)

⁵⁰ [National-Intergrated-Infrastructure-Master-Plan, International Journal of Scientific & Engineering Research, Volume 6, Issue 10, October 2015 p.24-25](#)

Table 25: Transport sector real economy bonds 2007-2021

Issuer Name	Number of bonds	Currency	Value (M)	Dollar value (M)	Settlement date	Maturity date
TSL SPV	1	NGN	31.18	0.09	06/10/2020	06/10/2030
Nigerian Aviation Handling Co	2	NGN	26.34	0.07	2011-2013	2016-2020

Source: Bloomberg – date range 2007-2021

The power constraints mentioned earlier in this chapter precludes implementation of electric vehicles and buses without a much-improved power sector. This challenge is further compounded by the lack of sufficient prioritisation by the government in this sector, which despite the outlined goals in the NIIMP is currently investing less than half of the required \$28 billion per year needed to improve the transport facilities and infrastructure.

Projects that aid investment into improving public transportation and green vehicles will have a welcome and dramatic impact on the sector. Proposals from the private sector that build upon government projects such as the [Bus Rapid Transit Scheme](#) implemented in Lagos by [Integrated Transport Planning](#) under the guidance of the Lagos Metropolitan Area Transport Authority have been successful in aiding the reduction of private vehicles in this busy city and provides a great blueprint for similar projects in the region.

Most sustainable bond issuers in the transport sector are for rail projects (see transport chapter) which are not realistically feasible in Nigeria due to the poor rail infrastructure. The successful issuance of green and sustainability-linked bonds by airlines and airports

could provide an example for Nigerian airlines to issue sustainable bonds. There is also some precedence in the sector for sustainable bonds issued by government agencies, municipalities, and real economy corporates to improve road infrastructure, with the correct PPPs there could be eligible road infrastructure projects funded by sustainable bonds.

Conclusion

The Nigerian government has strong ambitions to use sustainable finance to help address its developmental challenges. However, as with all emerging markets, there are still significant challenges ahead for real economy issuers, including a great need for market education around what is needed to meet investor demand as well as better resources to help fulfil post issuance compliance and reporting.

There is also the issue of significant political and security risks in the most promising sectors, with both the agriculture and power sectors experiencing recent challenges from militant groups in the Niger-delta region and increasingly violent Boko Haram insurgency in the north.⁵¹ All of which may fail to instil the necessary trust and stability needed to encourage bullish investment.

⁵¹ [The Current Situation in Nigeria, United States Institute of Peace, August 2021](#)

Country focus: South Africa

Country: South Africa

Population: 59 million (World Bank, 2020)

GDP: \$335 billion (World Bank, 2020)

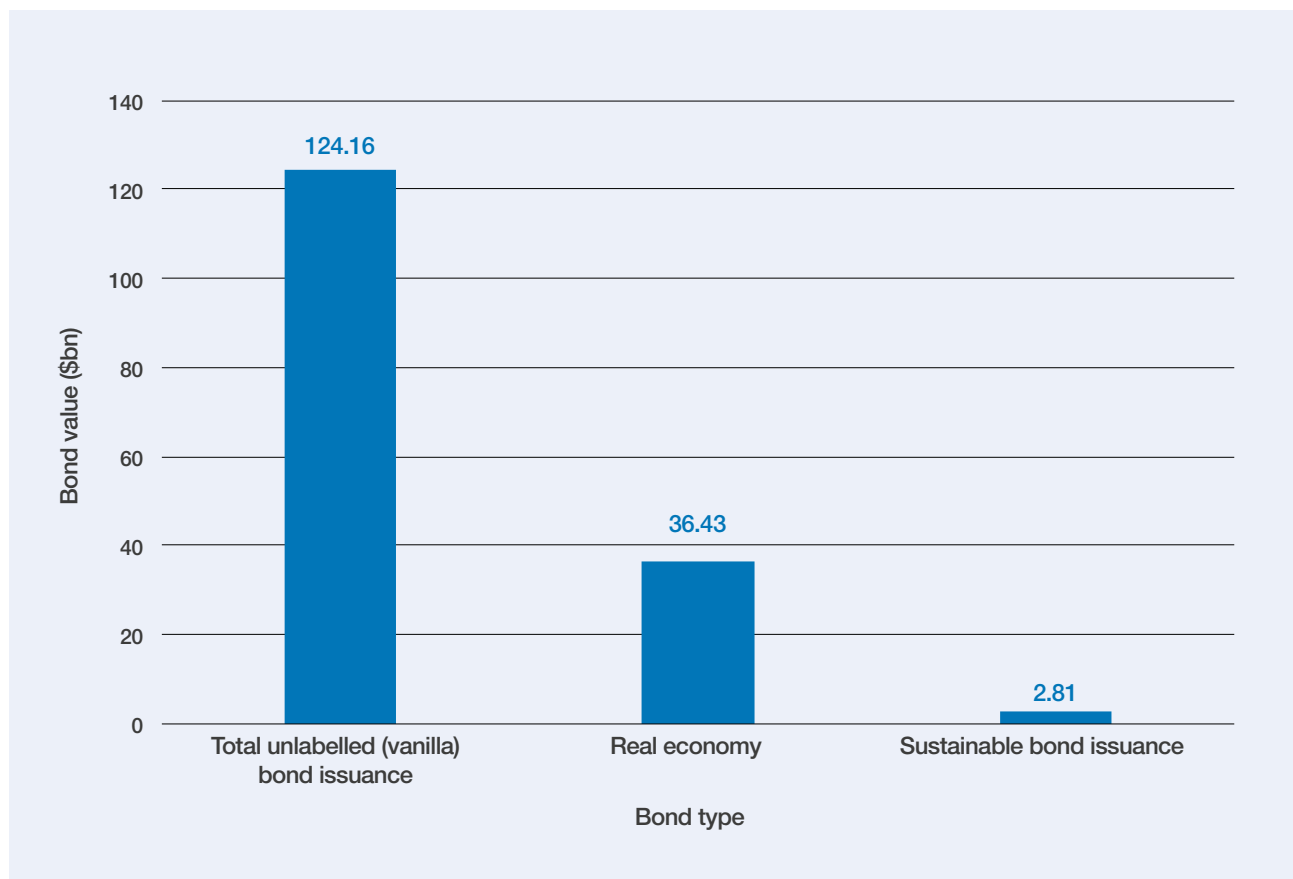
Fixed income debt market total issuance 2007-2021: \$124.16 billion (Bloomberg)

Real economy bond issuance 2007-2021: \$36.43 billion (Bloomberg)

Sustainable bond issuance 2007-2021: \$2.81 billion (Environmental Finance Data)



Figure 11: South Africa - Bond Issuance 2007-2021



Source: Bloomberg and Environmental Finance Data – date range 2007-2021



Macro-economic overview

Despite being the second largest economy on the continent, South Africa is arguably the most developed. It possesses a highly diversified economic structure and is home to three quarters of Africa's largest companies.⁵² Johannesburg is the most densely populated city in with just over 4.4 million residents. As with most of Africa, the median age is young (27), with a large labour force of approximately 22 million. Population growth is expected to continue (although at a slower rate in the next few decades) and the nation is expected to have over 64 million people by 2030.⁵³

The economy is classed as upper middle income, and accounts for almost 24% of Africa's total GDP with foreign exchange reserves of almost \$50 billion. It is also ranked as the 37th largest export economy in the world. The well-established mining sector accounts for a large proportion of this (25%), producing leading export goods such as gold, platinum, diamonds and other metals and minerals.⁵⁴

The South African economy with structural constraints such as electricity shortages and transport and logistical bottlenecks has been hit with several challenges over the past decade. These challenges include stagnant growth, corruption, and economic bailouts for indebted state companies and have eroded South Africa's previous reputation as one of the most prudent treasuries on the continent.⁵⁵

These challenging conditions were further compounded by the COVID-19 pandemic, and the measures enforced to stop the spread of the virus. In 2020 South African GDP contracted by 6.4%, illustrating a decline in mining, transport, communication, and manufacturing.

These economic weaknesses prompted the three major credit rating agencies to downgrade South Africa's local and foreign currency credit rating to sub investment grade.⁵⁶

Social indicators are likely to remain weak due to the severity of the pandemic and legacy issues of low human development. About 2.6 million people have lost their jobs since March 2020 and unemployment is at its highest since 2008, at 34.9 percent in the third quarter of 2021.

⁵³ [South Africa Population 2022, World Population Review \(Accessed January 2022\)](#)

⁵⁴ [South Africa Exports - January 2022 Data, Trade Economics, \(Accessed January 2022\)](#)

⁵⁵ ["South Africa's economy is 'dangerously overstretched", Financial Times, 2022](#)

⁵⁶ ["South Africa downgraded to full junk status", Business Tech, March 2020](#)

Despite the pandemic, the South African banking sector remains sound, with a capital ratio of 16.3%, which is above the 10% regulatory requirement. According to the World Bank, domestic credit to private sector reached \$280 billion in November 2020, an increase of 3.5% from December 2019, when it was 139% of GDP.⁵⁷

In South Africa, economic growth rebounded by 4.6% in 2021, following a 6.4 contraction in 2020. However, economic growth will moderate to 2.1% in 2022 and 1.5% in 2023 as the structural constraints such as electricity shortages and transport/logistical costs and bottlenecks, continue to weigh on economic activity going forward.

A continuation of the reform momentum is expected to stimulate private investment and foster job creation, thus supporting economic recovery in the medium term.

Regulations and government policy regarding sustainable debt or sustainability targets

South Africa ratified the Paris Agreement on Climate Change in November 2016. It has set an ambitious target as part of its first nationally determined contributions (NDC) at 42% below business as usual by 2025. The Treasury is working on a Carbon Tax Bill, under which subjected emitters will have to report greenhouse gas (GHG) emissions and pay a carbon tax.⁵⁸

The South African government has outlined a series of plans and mandates since 2020 that illustrate the need for a path back to more prosperity and economic growth. The *South African National Development Plan* proposes a set of strategies that will help the nation to eradicate poverty and reduce inequality by 2030.

A key component of this is the recognition that climate change must be addressed to safeguard South Africa's future. The plan acknowledges that South Africa is particularly vulnerable to the effects on climate change and its ability to effect health, water, food, and livelihoods, with a disproportionate impact on women and children from poor backgrounds. The plan estimates that over

⁵⁷ [South Africa Economic Outlook, African Development Bank, \(Accessed January 2022\)](#)

⁵⁸ [SBN Country Progress Report - South Africa, IFC, February 2021](#)

870 billion rand (\$57 billion) of financing will be needed over the next three years to support infrastructure investment in energy, clean water transportation, waste management and climate adaptation.⁵⁹

South Africa has had clear government backed initiatives around sustainability and promoting a green economy since 2011, when it launched its [Green Economy Accord](#) in 2011 at COP17 in Durban.

The Accord outlines a comprehensive social pact to build a partnership to create 300,000 new jobs for South Africans across sectors such as eco-tourism, energy, carbon emission, environmental management, and farming.⁶⁰

The Accord set the tone for a government that was very open to promoting and supporting a wide range of green finance options. Shortly after this in 2012 the National Green Fund was launched by the National [Department of Environment, Forestry, and Fisheries](#) and is managed by the Development Bank of South Africa (DBSA).

The Integrated Resource Plan (IRP) 2019 sets out the electricity capacity expansion plan up to 2030, reducing the share of fossil fuel in its primary energy mix, scaling up of renewable energy and optimizing the nexus between energy and water. Government has also developed its first Low Emissions Development Strategy (LEDS). It focuses on energy; industry; agriculture, forestry and other land uses (AFOLU); and waste, as well as the nexus between water, energy and land use. It promotes an economy-wide approach, ownership at all levels of government and society to ensure policy alignment, stresses the need for close coordination among agencies and partners, data and knowledge sharing, and adequate resource mobilization to support actual implementation on the ground.

Other important milestones include the August 2021 amendment of the Electricity Regulation Act (2011) on new generation capacity, partly opening up the electricity market by allowing 100MW of embedded generation by the private sector and municipalities; and inclusion of energy storage in the list of technologies which can be procured from IPPs, potentially opening this technology for private sector participation through battery or other storage technologies.⁶¹

59 [“The role of Exchanges in accelerating the growth of the Green Bonds Market: the South African case”, Johannesburg Stock Exchange \(JSE\), 2017](#)

60 [South Africa's Green Economy Accord, South African Government, November 2011](#)

61 South Africa: Country Climate and Development Report – December 2021

In February 2021 ESKOM announced plans to decommission their coal-fired power plants in line with its net-zero by 2050 pledges. In September 2021, the National Climate Change Bill set out aggressive GHG mitigation targets.

Government commitments to GHG mitigation are comprehensive. Under the Paris Agreement, the government has committed (through the NDC Update) to a declining trajectory for GHG emissions beginning in 2025 (up from 2035 in the initial NDC) and a 2030 mitigation target range (350-420 Mt CO₂-eq, updated from 398-614 Mt CO₂-eq under the initial NDC).⁶²

In November 2021 on the side lines of COP-26 in Glasgow South Africa secured a green transition finance package with international donors for \$8.5 billion over the next three to five years.

Climate transition investment opportunities are estimated to reach \$588 billion by 2030.⁶³ Sustainable bonds could play a part in financing the transition.

Sustainable bond issuance

In 2014, the JSE listed the country's first green bond issued by the City of Johannesburg. Initial uptake following the issue of this first bond was strong, and although it was not the first African nation to issue a green bond, it was the first to issue a green bond for private investors. The country now boasts the highest number of sustainable bonds on the continent, a total of 11 bonds valued at around \$1.6 billion. These are a mix of green (6), social (1), sustainability (1) and sustainability linked bonds (3), with issuer types from municipal governments, financial institutions, and corporates.

Details of the five real economy issuers are listed below:

[Growthpoint Technologies](#): is an international property company who own and manage properties in the retail, office and industrial sectors. They have delivered several iconic, sustainable buildings to the market. Growthpoint owns a 50% stake in the V&A Waterfront and a majority stake in the country's first healthcare property fund. The proceeds of the bonds will be used exclusively to finance or refinance Growthpoint's new and existing sustainable green properties and its projects which reduce environmental impact.

62 [South Africa's First Nationally Determined Contribution under the Paris Agreement, Government of South Africa, Updated 2021](#)

63 [Climate Investment Opportunities in Emerging Markets: An IFC Analysis, International Finance Corporation \(IFC\), 2016](#)

Table 26: Sustainable bond details

Issuer	Currency	Value (M)	Dollar value (M)	Issuer type	Bond label	Settlement date	Maturity date
City of Johannesburg	ZAR	1460	137.82	Municipal	Green bond	09/06/2014	09/06/2024
City of Cape Town	ZAR	1000	73.83	Municipal	Green bond	17/07/2017	17/07/2027
Growthpoint	ZAR	1100	97.30	Corporate	Green bond	09/03/2018	09/03/2023 – 09/03/2028
Nedbank	ZAR	1662	116.74	Financial Institution	Green bond	30/04/2019	30/04/2022 – 03/04/2026
Standard Bank Group	ZAR	200	200.00	Financial Institution	Green Bond	02/03/2020	Private placement
Urban Ubomi 1	ZAR	609	41.20	Corporate	Social bond	23/03/2021	15/05/2043
Redefine Properties Limited	ZAR	1000	68.90	Corporate	Sustainability-Linked bond	26/07/2021	26/07/2024
Nedbank	ZAR	125	8.42	Financial Institution	Green bond	29/07/2021	29/07/2028
Fortress REIT	ZAR	900	62.83	Corporate	Sustainability-Linked bond	05/08/2021	05/08/2024 – 05/08/2026
Standard Bank Group	ZAR	2000	134.27	Financial Institution	Sustainability bond	19/08/2021	19/08/2024 – 19/08/2024
Equites Property Fund	ZAR	10000	668.90	Corporate	Sustainability-Linked bond	08/10/2021	08/10/2024

Source: Environmental Finance Data – date range 2007-2021

It will be mainly used to refinance funding for the green office buildings in the new Growthpoint THRIVE Portfolio and specifically the THRIVE Platinum Portfolio, which includes its top, green-rated office properties. Buildings in this portfolio have a South African Property Owners Association (SAPOA) Premium - or A-grade rating.

Redefine Properties Limited: is a property company with a portfolio of retail, commercial and industrial properties in South Africa, Poland, and Australia. They are a member of the Green Building Council of South Africa and Green buildings form a core part of their remit. The funds from the bonds will be used to refinance upcoming bond maturities which will allow Redefine to measurably increase the use of solar energy in the South African portion of its portfolio, facilitating a reduction in greenhouse gas emissions and significantly enhancing water efficiency solutions.

Urban Ubomi 1: is a provider of residential commercial property finance and part of TUHF Limited. Advised by Webber Wentzel, they launched the first social impact bonds in the country. The bonds were issued by Urban Ubomi 1 (RF) Limited, as asset-backed

structure administered by TUHF and listed on the JSE Sustainability Segment. The use of proceeds for the social bond issued in 2021 focus on the employment generation from providing SMEs with microfinance.

Fortress REIT (Real Estate Investments): is a South African hybrid fund that invests in direct properties and other publicly traded real estate firms. They have issued a total of \$61.5 million in sustainability-linked bonds. The bonds will be used to increase the company's renewable energy output and provide additional solar energy to the national grid. Although there are no explicit use-of-proceed restrictions for the bonds, the cash will help Fortress with the continuing installation and expansion of solar energy in South Africa throughout its retail and logistics sectors.

Equites Property Fund: specialises in owning and managing real estate assets located in the Western Cape province. It has a defined focus on being a market leader in the logistics property market by developing and acquiring A-grade, modern logistics facilities in prime locations in South Africa and the United Kingdom. The sustainability-linked bond of 2021 has KPIs covering carbon emissions, green buildings and renewable energy.

Sector deep dives

Power

Overview

The South African power generation sector is dominated by coal which constitutes roughly 69% of the primary energy supply, followed by crude oil with 14% and renewables with 11%. Nuclear contributed 3% (the country has just one nuclear power station).⁶⁴

Despite environmental concerns, coal will continue to provide the majority of South Africa's power for the next decade, although the share from renewables will grow rapidly. South Africa is the world's 14th-largest emitter of greenhouse gases and seeks to improve its poor environmental performance. After a sharp fall in 2020 because of the coronavirus (COVID-19) pandemic, energy consumption is expected to recover, with an average annual rate of growth of 0.3 % over the forecast period (2021-30) according to The Economist's report in March 2021. The modest pace of expansion will reflect improvements in energy efficiency, as well as continued sluggish growth in the South African economy.

Eskom, the vertically integrated, state-owned power company, generates approximately 95% of electricity used in South Africa, as well as a substantial share of the electricity generated on the African continent. It sells to Botswana, Lesotho, Mozambique, Namibia and Zimbabwe. South Africa has an electrification rate that is amongst the highest on the continent, with rural electrification around 66%, while electrification in urban areas is approximately 93%.

Despite boasting superior efficiency in comparison to its fellow sub-Saharan peers, Eskom has faced major financial, operational, and structural challenges over the past decade, with maintenance of power stations falling below necessary levels and a series of rolling blackouts becoming the new norm for many South Africans. Eskom's debt and financing issues are well documented, and its total debt amounts to approximately 484bn rand (\$32bn). This is due to much debated corruption and mismanagement, huge cost blowouts and major delays with its two coal megaprojects (Medupi and Kusile). Eskom is a frequent bond issuer, its Domestic Multi Term Note (DMTN) programme is guaranteed by the Government of South Africa. It also issues USD bonds periodically, a total of \$2.25bn issued in international markets since 2013.⁶⁵

The South African government announced plans to unbundle Eskom into three separate entities responsible for generation, transmission, and distribution.

The issue of ageing network infrastructure remains a concern for the distribution network as it compounds the supply and limits South Africa's ability to expand electricity access. The South African Department of Energy has completed a study to estimate the backlog, and work is currently underway to determine the most effective way to fund the rehabilitation of these networks and assets going forward. Eskom estimates that it will need 8,000km of transmission infrastructure by 2030 to bring more renewable energy online. To finance its improvements and overhaul, Eskom is relying on domestic bond markets, the government, and multilateral lenders for a substantial part of its funding. Its ability to raise funds has also been affected by the decision in August of Moody's, the credit rating agency, to downgrade its bonds. Analysts suggest that the decline of the rand, which has lost more than a third of its value against the dollar, has also added to the company's costs.⁶⁶

The current overhauls taking place within the South African power sector have created an environment that is amenable to investment and sustainable energy projects and non-hydropower renewables will be the fastest growing source of electricity generation in South Africa between 2019 and 2028. Struggling thermal capacity at Eskom and the government's commitment to REIPPPP contracts suggest good growth opportunities. Wind power will be the primary source, accounting for 60% of renewables output by 2028. The large presence of the coal power sector means renewables' contribution to total electricity output will remain below 10% during this time.⁶⁷

Leading companies:

1. **Eskom**: Formed in 1923, Eskom owns the majority of power stations in South Africa and accounts for 95% of the country's electricity and 45% of the electricity produced across all of Africa. As previously

⁶⁵ [Green Bonds in South Africa How Green Bonds Can Support South Africa's Energy Transition, Climate Bonds Initiative \(CBI\), August 2021](#)

⁶⁶ ["Eskom cancels plans to build nuclear plant", Financial Times, \(Accessed January 2021\)](#)

⁶⁷ [South Africa – Energy, International Trade Administration \(ITA\), September 2021](#)

⁶⁴ [South African Energy Sector Report, Department of Energy, 2019](#)

Table 27: Power sector real economy bonds 2007-2021

Issuer Name	Number of bonds	Currency	Value (M)	Dollar value (M)	Settlement date	Maturity date
CPV Power Plant	1	ZAR	111.13	8.42	2013	2029
Eskom Holdings SOC	18	ZAR	12,583.12	953.29	2007-2019	2015-2037
Eskom Holdings SOC	11	USD	11,500	11,500.00	2011-2021	2021-2028
Exxaro Resources	3	ZAR	139.85	10.59	2014-2019	2017-2024

Source: Bloomberg – date range 2007-2021

mentioned, the state-owned utility generates, transmits and distributes electricity to industrial, mining, commercial, agricultural and residential customers and redistributors.

2. **Sasol**: Sasol’s history dates to midway through the 20th century and it remains to this day one of South Africa’s largest chemicals and energy companies. The firm has more than 30,000 employees working in 30 countries around the globe and is listed on both the Johannesburg and New York stock exchanges. As of 2014, Sasol comprises two upstream business units, three regional operating hubs and four customer-facing strategic business divisions. Its various products include liquid fuels, low-carbon electricity, and a plethora of chemicals.
3. **Exxaro**: Based in Pretoria West, Exxaro specialises in coal mining and heavy mineral extraction, and was formerly known as Kumba Resources Limited before it changed its name in late-2006. Its wide-ranging assets include coal operations and investments in iron ore, pigment manufacturing, renewable energy (wind) and residual base metals in countries around Europe and the US as well as South Africa.

Power sector unlabelled (vanilla) bond

Total unlabelled (vanilla) bond issuance in the South African power sector is over \$12.5 billion issued by just three corporate entities (see table 27).

The vast majority of these were issued by Eskom who have been clear about their intentions to utilize bonds to fund much of their improvement and development in the next few years and their devolution towards a more carbon neutral South Africa. In many ways, despite the challenges that Eskom faces with financing and distribution, the fact that the state-owned utility has made it clear that it wishes to overhaul its practices and structure presents potential opportunities for sustainable projects and sustainable bond issuance.

Outlook for real economy sustainable bond issuance

The reliance of the leading power companies on coal and other fossil fuels may reduce the appeal of any future sustainable bonds. They could attract investors interested in funding the transition to a more sustainable power sector and maximise the additionality and impact of their investment.

Reviewing Eskom’s [Just Energy Transition Vision](#) which illustrates their 50-year plan to decommission South Africa’s coal plants could help reassure potential sustainable bond investors. A sustainable bond issued by Eskom would offer the opportunity to fund the government backed plan to overhaul and clean up the country’s faltering energy sector.

68 “Profiling five of the top energy companies in South Africa”, NS Energy, May 2019

Agribusiness

Overview

South Africa's agribusiness sector is one of the world's most diverse, consisting of corporate and private intensive and extensive crop farming systems, including vegetable, fruit, nuts, and grain production.

The well-developed commercial farming sector in South Africa is the backbone to the country's agricultural economy and in 2020 showed the best growth rate of all economic sectors at 13.1%. In comparison to most of its African peers, the agricultural portion of the South African economy is much more mature, consolidated, and productive.

According to a recent report by the American International Trade Administration, there are approximately 32,000 commercial farmers in the country, 5,000 of which produce over 80% of the country's agricultural output. The country can be divided into distinct farming regions, and farming activities range from intensive crop production in winter rainfall and high summer rainfall areas, to cattle ranching in the bushveld and sheep farming in the more arid regions.⁷⁰

South Africa's population is growing at almost 2% per year and food production or imports must more than double to feed the expanding population. This production also needs to increase using the same or fewer natural resources. In addition, the demand for certain food types will shift as more people become wealthier as South Africa's middle class continues to grow rapidly.

Current agricultural practices in the country are based on a high dependence and use of artificial fertilisers and chemicals to increase productivity and reduce pests and diseases. A type of intensive farming called monoculture also decreases long-term soil productivity; creates soil erosion; affects the availability and quality of water; and contaminates delicate ecosystems.⁷¹

The South African government exempted the agricultural sector from carbon tax for the period between 2019-2022⁷² but it has outlined a strong desire to support and

revamp its agricultural sector and to weave its green economy plans into the agricultural sector. Agriculture, food production, forestry, resource conservation and management are all key pillars named in the [South African Green Economy Report](#) which outlines a bio-economy strategy calling for innovation across the agricultural sector to help drive improvements in food security, health, job creation and intensify sustainable farming practices.⁷³

Leading companies:

1. [Tongaat Hulett](#): Tongaat Hulett was formed through a merger between the Hulett Corporation Limited and the Tongaat Group Limited, with both their operations dating back to the 1800s. It has had a primary listing on the Johannesburg Stock Exchange since 1952 and is a leading agri-business in sugar, ethanol, animal feeds and cattle.
2. [Tiger Brands](#): Tiger produces a wide range of food and beverage products, which include milling and baking, confectionaries, edible oils, and general foods.
3. [Pioneer Food Group](#): Pioneer Foods is one of the largest South African producers and distributors of a range of branded food and beverage products. The group operates mainly across South Africa, providing wholesale, retail, and informal trade customers with products of a consistently high standard. Pioneer Foods exports to more than 80 countries across the globe.

South Africa has several well-established farming co-operatives who offer their members several services and credit lines for South African agribusiness and farmers, and who have a wide-ranging member base. The coalescing of smaller farmers into co-ops could help facilitate sustainable bond issuance and increase the pool of sustainable projects.

⁷² [Agricultural Policy Monitoring and Evaluation 2021 : Addressing the Challenges Facing Food Systems, Organisation for Economic Co-operation and Development \(OECD\), 2021](#)

⁷³ [Green Economy Policy Review of South Africa's Industrial Policy Framework, Government of South Africa and the UN Environment Programme, 2020](#)

⁷¹ [Sustainable agriculture, WWF South Africa, \(Accessed January 2022\)](#)

Table 28: Agribusiness sector real economy bonds 2007-2021

Issuer	Currency	Value (M)	Dollar value (\$M)	Settlement date	Maturity date
SABSA Holdings	ZAR	232.845	33.40	19/07/2007	19/07/2012

Source: Bloomberg – date range 2007-2021

Names of leading co-ops include:

- I. Sentraal-Suid Koöperasie
- II. [The CO-OP Die Kooperasie](#)
- III. Oos Vrystaat Kaap Kooperasie

Overall, the six major sources of credit for farmers are banks (56%), agricultural cooperatives and agribusinesses (9%), the Land and Agricultural Development Bank of South Africa (the Land Bank) (30%), private creditors (3%), and other creditors and financial institutions (2%).⁷⁴

Agribusiness unlabelled (vanilla) bond issuance

Total bond issuance in the South African agricultural sector is negligible. With only one company issuing a significant bond since 2017 (see table 28). This aligns with global trends, which illustrate that corporate fixed income debt is underutilised in this sector.

Outlook for real economy sustainable bond issuance

As the agricultural chapter of this report illustrates, there is a well-established trend of green bond finance within the agricultural sector with the emerging market representing 23.82% of sustainable bonds. The majority (over 87%) of that figure was contributed by Mexico and Brazil. It is worth noting that Brazil and South Africa have similar economies, dominated by well-developed mining, agricultural manufacturing and service sectors, there is strong potential for South African real economy agriculture sector participants to emulate their Brazilian peers and issue sustainable bonds to finance their sustainable growth.

⁷⁴ [Agriculture, land reform and rural development, South African Government, 2021](#)

Transport

Overview

South Africa's transport infrastructure is one of the most developed in Africa. Its physical infrastructure received a substantial boost from projects associated with the 2010 FIFA World Cup, the air and rail networks are the largest on the continent, and the major roads are in good condition. The South African government has set a series of infrastructure projects to be implemented over the coming years. These plans, valued at about \$135 billion, aim to make the economy more resilient, especially after the pandemic period that has deeply disrupted the global economy.⁷⁵

As with power and telecommunications, state owned enterprises play a significant role in the South African Transport sector, and much of the investment into this sector will need to be in line with government policy and strategy. Transnet is the Government owned transport company, and it oversees the vast majority of South Africa's rail, ports, and pipelines.

Key investments in infrastructure projects are expected to be funded by the "Infrastructure Fund" deployed by the government. The opening of Southern African Airways capital to private investors, the separation of the national ports authority from the SOE operations arm Transnet, and plans to open ports to private investment, are expected to drive private sector involvement and investment.

Roads: Approximately 19% of the national roads are toll roads. While 90% of the national network is in good to excellent condition, and metropolitan roads are in satisfactory condition, the provincial road network has deteriorated significantly over time. Despite increased funding for roads, resources allocated to road infrastructure remain inadequate for eliminating the huge backlogs in maintenance over the next five to ten years.

Aviation: South Africa has an excellent infrastructure of airports, with airports in all major cities. These include the three main international gateways of OR Tambo in Johannesburg with a capacity of 21 million passengers a year, Cape Town International Airport

(14.5 million) and King Shaka International Airport in Durban (7.5 million). Capacity is not a major issue within the South African air transport system and the state of infrastructure and associated services is good.

Rail: The country's rail infrastructure, which connects the ports with the rest of South Africa, represents about 80% of Africa's total. The country's rail system is significantly more developed than those in most other emerging market countries and more than two million people travel by train every day within South African cities.

South Africa's extensive rail network – the 14th longest in the world – connects with other networks in the sub-Saharan region and neighbouring Namibia, Botswana, Mozambique, Zimbabwe, and Swaziland.⁷⁶ The Gautrain, for example, a rapid passenger rail network linking Pretoria, Johannesburg and OR Tambo Airport that began operations in June 2010, is the largest infrastructure PPP (Public Private Partnership) in Africa. The PPP consists of the Gauteng Provincial Government and Bombela Concession Company, which has a 20-year concession agreement for construction, operation, and maintenance.⁷⁷

Leading companies:

1. **Transnet:** State owned Transnet consists of six business divisions covering rail, ports, engineering, pipelines, freight, and property. The company is headquartered in Johannesburg and is also responsible for ensuring that the country's transport industries operate according to world-class standards and that they form an integral part of the overall economy. Transnet is not only vital to South Africa's development, but it also combines forces with other businesses in order to expand transport operations across Africa and beyond.
2. **Barloworld Logistics:** Barloworld Logistics SAU provides supply chain services. The company offers supply chain management, freight forwarding, road transportation, warehousing, and distribution services. Barloworld Logistics serves customers worldwide.

⁷⁵ "SA's govt seeks infrastructure investment through green bond issuance", [Ecofin Agency, October 2020](#)

⁷⁶ [Africa Gearing Up – South Africa, PWC, 2013](#)

⁷⁷ "South Africa's transport infrastructure receiving significant boost in investment", [Oxford Business Group, 2016](#)

Table 29: Transport sector real economy bonds 2007-2021

Issuer Name	Number of bonds	Currency	Value (M)	Dollar value (\$M)	Settlement date	Maturity date
enX Corp	13	ZAR	214.39	16.24	2010-2020	2014-2022
KAP Industrial Holdings	10	ZAR	317.48	24.05	2014-2020	2017-2024
Steinhoff Services	28	ZAR	1,158.48	87.77	2011-2017	2013-2022
Transnet SOC	40	ZAR	7,377.65	558.93	2007-2021	2010-2040
Transnet SOC	2	USD	2,000.00	2,000.00	2012	2022
Unitrans Ltd/South Africa	10	ZAR	134.35	10.18	2008-2009	2009-2010
Mercedes Benz	86	ZAR	7,655.26	524.33	2008-2021	2008-2024

Source: Bloomberg – date range 2007-2021

Table 30: Government agency issuers

Issuer Name	Number of bonds	Currency	Value (M)	Dollar Value (\$M)	Issue date	Maturity
Industrial Development Corp of South Africa	17	ZAR	846.50	64.13	2010-2020	2017-2030
South African National Road Agency SOC	15	ZAR	5,082.16	385.02	2008-2019	2014-2034

Source: Bloomberg – date range 2007-2021

3. **DSV**: DSV is a global transport and logistics company covering air transport, sea and rail freight and road transport.

bond issuance. The sector is relatively mature and consolidated, there is strong precedence for bond issuance and numerous potentially eligible large scale infrastructure projects. Government policy encourages sustainable development of the sector, especially within the public transport and rail industries.

Transport sector unlabelled (vanilla) bond issuance

Bond issuance is a well-established debt instrument in the South African transport sector. Total bond issuance since 2007 is significant, with a value of over \$666 million.

The centralised nature of the transport sector creates challenges to real economy transport sector sustainable bond issuance and government involvement and engagement will be key to any large-scale projects funded by sustainable bond issuance.

Outlook for real economy sustainable bond issuance

The green bonds from municipal issuers City of Johannesburg issued in 2014 and City of Cape Town issued in 2017 (see table 26) both had “Clean Transportation” use of proceeds. Whilst not real economy issuers, it does show a precedent and appetite for transport sector green bonds in South Africa.

The developed nature of the South African transport sector is encouraging for potential sustainable

Conclusion

South Africa is well placed to feature future real economy sustainable bond issuance. The maturity of the private sector participants in the transport and agribusiness sectors provide potential eligible projects and there is strong government support for sustainable development.

In the power sector Eskom have the strategy and project pipeline to issue sustainable bonds to fund their transition towards renewable energy.

Country focus: Egypt

Country: Egypt

Population: 102 million (World bank 2020)

GDP: \$365 billion (World bank 2020)

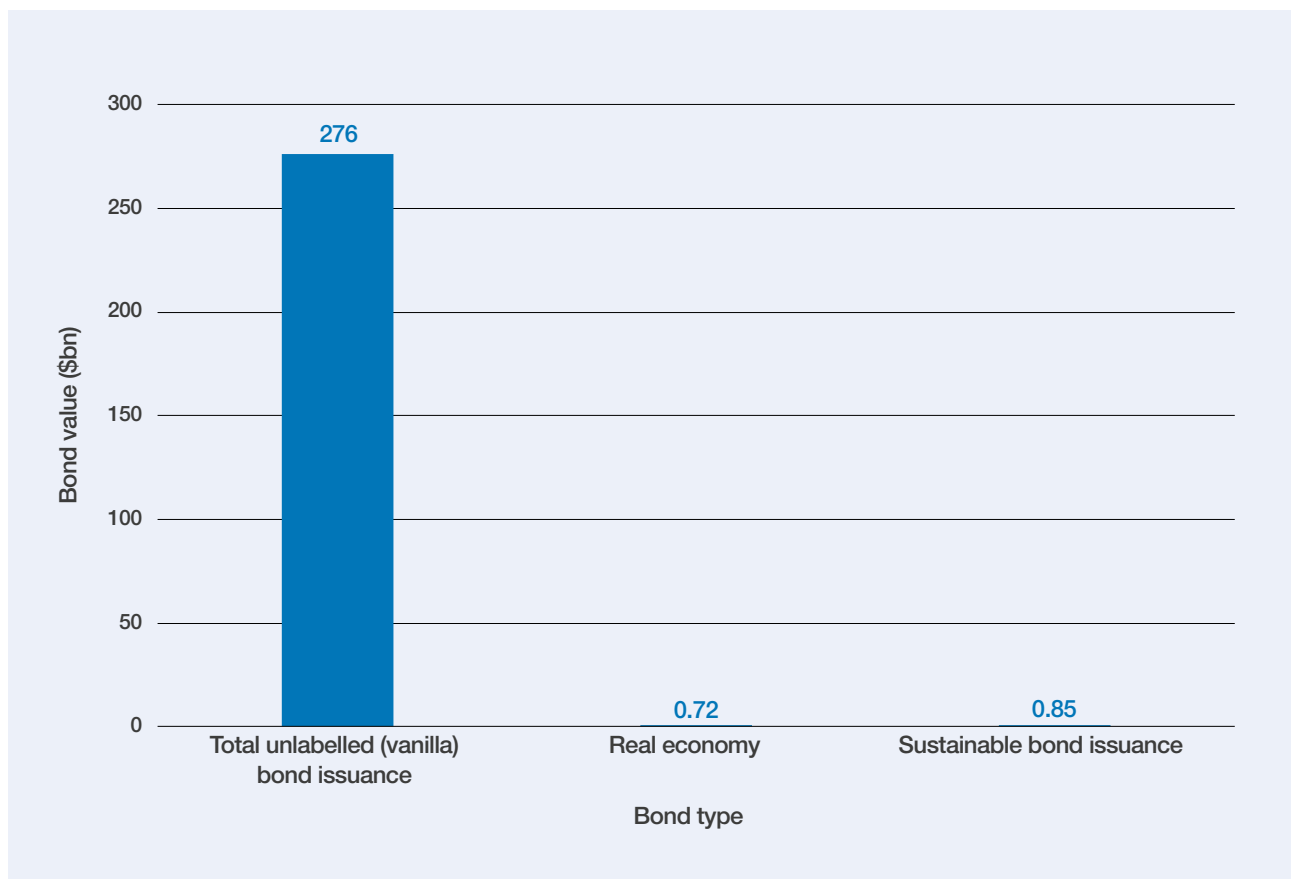
Fixed income debt market total issuance 2007-2021: \$276 billion (Bloomberg)

Real economy bond issuance 2007-2021: \$720 million (Bloomberg)

Sustainable bond issuance 2007-2021: \$850 million (*Environmental Finance Data*)



Figure 12: Egypt - Bond Issuance 2007-2021



Source: Bloomberg and Environmental Finance Data – date range 2007-2021



Macro-economic overview

The Egyptian economy can be described as lower middle income with well-developed energy, agriculture, textiles, manufacturing, and service sectors.⁷⁸ Oil and natural gas still account for over 30% of major exports, followed by food (12%) cotton and textiles (9%) and chemicals (7%).⁷⁹

The population growth is well above natural birth replacement levels and is expected to double by 2078. After Nigeria and Ethiopia, Egypt is the most densely populated country on the African continent and its citizens have an average age of 23 years (with 53% of the population under the age of 25).⁸⁰ Its three largest and most populated cities are Cairo, Alexandria, and Giza.

In 2016, Egypt launched a bold and important reform program to improve macroeconomic stability, restore confidence in the economy and enhance socioeconomic conditions. The exchange rate was liberalized, a sizable fiscal consolidation was undertaken, a series of new laws were adopted to improve the legislative framework and address long-standing challenges in the business environment.

Egypt is one of the few developing nations that was able to weather the storm of the COVID-19 pandemic successfully. Thanks to rapid actions taken by the government and ongoing IMF-sanctioned reforms, Egypt's GDP is projected to grow by 5.0% in 2022.⁸¹ The tourism sector has been impacted by the pandemic but has been gradually recovering. The banking sector has also shown great resilience to the pandemic, having entered the crisis with strong levels of liquidity. Banking activities have continued to expand, with assets, deposits and loans growing by double digits in 2020 amidst a supportive macroeconomic environment.⁸²

Regulations and government policy regarding sustainable debt or sustainability targets

The Egyptian government has made strides towards building an effective democracy and a strong and stable economic environment. It has also made clear and defined steps towards a more sustainable economy and was one of the 196 parties that signed the Paris Agreement in 2016.

The embodiment of Egypt's sustainability vision is outlined in [Egypt 2030](#), a roadmap to inclusive and sustainable development. The vision states that: *'By 2030, the new Egypt will achieve a competitive, balanced, diversified and knowledge-based economy, characterised by justice, social integration, and participation, with a balanced and diversified ecosystem, benefiting from its strategic location and human capital to achieve sustainable development for a better life to all Egyptians'*.

The plans are clear and extensive and outline the government's desire to weave sustainability and green projects into every facet of the environment. In addition, and most recently the Government of Egypt approved the National Climate Change Strategy 2050 (NCCS), which marks an important step for Egypt's climate policy, laying down priorities for action in mitigation and adaptation, supported by enabling goals on regulatory, financing, technology, and capacity constraints. It reflects Egypt's efforts of the past years to become a regional frontrunner for climate action in the region. The strategy builds on various other national articulations, which have helped make significant progress in climate change adaptation and mitigation action.

The favourable and stable growth environment that Egypt has created along with its clear and concise sustainability plans illustrate a positive outlook for corporate investment and sustainable finance over the next decade. In 2018, the Financial Regulatory Authority (FRA) issued green bond guidelines in alignment with the International Capital Market Association's Green Bond Principles.

78 [Egypt - Market Overview, International Trade Administration \(ITA\), September 2021](#)

79 [Egypt Fact Sheet, Economist Intelligence, February 2022](#)

80 [Egypt Population 2022, World Population Review, \(Accessed January 2022\)](#)

81 [The World Bank Macro and Poverty Outlook, The World Bank, October 2021](#)

82 [Egypt Economic Report, Bank Audi, March 2021](#)

83 [Egypt Vision 2030, The Green Growth Knowledge, \(Accessed January 2022\)](#)

84 ["Egypt's FRA approves amendment of regulation of capital market law regarding bonds, sukuk", Egypt Today, November 2021](#)

Table 31: Sustainable bond details

Issuer	Currency	Value (\$M)	Issuer type	Bond label	Settlement date	Maturity date
The Arab Republic of Egypt	USD	750	Sovereign	Green bond	07/10/2020	06/10/2025
Commercial International Bank (CIB)	USD	100	Financial	Green Bond	08/2021	08/2026

Source: Environmental Finance Data – date range 2007-2021

Sustainable bond issuance

In September 2020, Egypt issued its first sovereign green bond, a five year note worth \$750 million. The proceeds of the bond covered the financing of green projects and achieving sustainable development in the fields of clean transport and renewable energy. FRA is currently working to expand the list of eligible labelled instruments, namely Social Bonds, Sustainable Development Bonds, ESG Bonds, Gender Equality Bonds, and Women's Empowerment Bonds.⁸⁴

The government plans to issue more green bonds in 2022 as part of stepping up its efforts to add more green energy capacities in the build-up to the next UN Climate Change Conference of Parties (COP) 27 in November 2022 hosted in Sharm el-Sheikh.

Egypt's Commercial International Bank launched the country's first private sector green bond issuance

in August 2021. The US \$100m deal was privately placed with IFC, and proceeds will be used to help the CIB develop a pipeline of industrial energy efficient transactions down the line. However, given that the deal was not publicly listed, the impact on other players in the market and prospects for scaling green issuances remains uncertain.

At COP27 the Egyptian government has stated that it wished to bring to the forefront the devastating impact that climate change is having and is set to have on the African continent particularly in relation to water scarcity, land desertification, drought, and food security. Hosting the conference will bring further stimulus to the economy and encourage a surge of international interest in the opportunity to invest in Egypt. Investors will be keen to observe the increased activity and infrastructure development that is sure to take place in the lead up to the conference as the country prepares to host the international delegation.

Sector deep dives

Power

Overview

Two ministries share the main responsibility for the power sector in Egypt: The Ministry of Petroleum, which oversees the hydrocarbon sector and holds participation in state-owned oil and gas companies, and The Ministry of Electricity and Renewable Energy (MERE), which supervises several agencies, including the New & Renewable Energy Authority and the Nuclear Power Plants Authority.

The oil sector is dominated by national oil company EGPC (Egyptian General Petroleum Corporation). EGPC exercises control either directly or through different subsidiaries.

The state-owned power utility EEHC dominates power generation and has a monopoly over transmission and distribution. The power mix is dominated by gas (79%). Egypt is the second largest natural gas producer in Africa, after Algeria.

Egypt is working on increasing the supply of electricity generated from renewable sources to 20% by 2022 and 42% by 2035. Its strategy is supported by an ambitious action plan for green hydrogen production that the government is devising in 2022, the country's minister of petroleum and mineral resources Tarek El-Molla said in November 2021. El-Molla outlined the financing of projects as one of the main challenges to the transition to clean energy in the country.⁸⁵ This financing shortfall represents a potential opportunity for real economy companies to issue sustainable bonds to fund clean energy projects.

Egypt has inaugurated several solar parks and wind farms, including Benban Solar Park which was completed in 2019 with financing provided by the European Bank for Reconstruction and Development (EBRD), the International Finance Corporation (IFC), and other international financial institutions. Composed of 32 individual plants, each producing 20-50 MW, the park generates almost 1.5 GW of power and is currently the fourth largest solar power plant in the world and is on track to become the largest.⁸⁶

The Egyptian government also recently allocated around 7,845 square kilometres in the Gulf of Suez region and the Nile Banks for NREA to implement additional wind energy projects. The 262.5 MW Ras Ghareb wind farm project near the Gulf of Suez was inaugurated in December 2019. Executed by a consortium led by the French company Engie (Engie 40%, Toyota Tsusho 40%, and Orascom 20%), the farm will supply power to approximately 500,000 households. It is the first project in wind energy to follow the BOO (Build-Own-Operate) model. Engie is no stranger to the sustainable bond market with 13 green bonds valuing over \$17bn in total.⁸⁷

Leading power companies:

1. [Amea Power LLC](#) AMEA Power is a fast-growing developer, owner and operator of renewable and thermal power projects across Africa, the Middle East and Asia. It has built a strong pipeline of projects across various technologies and at various stages of development in frontier and emerging markets and is led by a highly experienced team with extensive and diversified international experience in project development, finance and operations, and a successful track record in project execution.
2. [Siemens Egypt](#) Siemens is a global technology conglomerate headquartered in Germany with products and services that span building technology, energy and healthcare. In 2021 Siemens began construction of a wind farm in West Bakr area in Ras Ghareb in the Gulf of Suez with a capacity of 250 megawatts.
3. [El Sewedy Electric Co](#) Elsewedy Electric is a global provider of energy, digital and infrastructure solutions with a turnover of 46.4bn EGP (\$2.95) in 2020. Listed on the Cairo stock exchange since 2006, they operate in five key business sectors: wire & cable, electrical products, engineering & construction, smart infrastructure, and infrastructure investments.

⁸⁵ ["Egypt to issue more green bonds in 2022" Renewables Now, January 2022](#)

⁸⁶ [Egypt - Renewable Energy, International Trade Administration \(ITA\), September 2020](#)

⁸⁷ Source: *Environmental Finance Data*



Power sector unlabelled (vanilla) bond issuance

Total real economy bond issuance in the Egyptian power sector is negligible, much of the power sector is dominated by government owned enterprises.

Outlook for real economy sustainable bond issuance
The government's ambitious plans to achieve 42% of its

energy from renewables by 2030 is based on a premise that much of this development will come from the private sector. EEHC has made it clear that it is keen to cooperate and coordinate with all local Egyptian firms and entities to maximize the local contribution in different planned electricity projects. This creates potential for sustainable bond issuance by private renewable energy companies.

Agribusiness

Overview

Agribusiness is a major component of the Egyptian economy, contributing 11.3% to GDP. The agricultural sector accounts for over 28% of all jobs, and over 55% of employment in Upper Egypt is agriculture related and it is the leading sector for female employment in Egypt.⁸⁸ Similar to the agricultural sectors in many African countries, the sector is dominated by small farms using traditional practices that do not meet modern international standards.⁸⁹

In 2019, Egyptian exports of agricultural products, valued over \$4.15bn (top products include: dates, sugar beets, olives, onions, and other fruits).^{90,91}

The state exercises strong, direct control over several agribusiness subsectors, which constrains efficient market functioning. To ensure sustained and affordable availability of key staples, the state controls certain strategic subsectors, particularly wheat, rice, and sugar. It is important to note that the country has been suffering water scarcity concerns with the construction of the Grand Ethiopian Renaissance Dam which has put downward pressure on rice production in the country. Egypt takes a broad view of food security, recognizing that with limited arable land and water resources, it will never be self-sufficient in grains, vegetable oil, and animal proteins – 40% of Egypt's imports are food and agricultural products.⁹²

The Egyptian government has stated that over \$542 million of investment has been pumped into green agribusiness projects over the last three years and has once again illustrated an openness to moving away from a centralised agricultural sector by calling for more local content and private sector investment in sustainable agriculture projects.

Leading companies:

1. **Wadi Group**: Wadi Group was launched in Egypt in 1984 with a small-scale poultry operation, they now operate in 12 subsidiaries with ten brands over three distinct sectors: Dawagen, Sina'at and Mazareh with a consolidated market share in all sectors of 19%.
2. **SSIC Egypt**: SSIC is a large food production company headquartered in Cairo focussed on sugar production and distribution.
3. **Farm Frites Egypt** : Farm Frites Egypt was the first to introduce the concept of desert cultivation and soil reclamation. The company introduced new planting, harvesting, and post harvesting techniques coupled with machinery integration. The business developed new varieties of potatoes, perfecting growing and harvesting methods.

Agribusiness sector unlabelled (vanilla) bond issuance

Total (real economy) bond issuance in the Egyptian agricultural sector is negligible and as with the power sector it is important to note that much of agriculture is dominated by government owned enterprises.

Outlook for real economy sustainable bond issuance

There are several large corporates in Egypt operating in the agribusiness sector that may have the capacity to issue sustainable bonds. There are favourable government policies encouraging sustainable projects in the sector and there is good precedent in the sustainable bond market for agricultural corporate issuance of green bonds.

88 [Agriculture in Egypt - statistics & facts, Statista, December 2020](#)

89 [Agriculture and Food Security Egypt, U.S. Agency for International Development \(USAID\), July 2020](#)

90 [Country Private Sector Diagnosis Creating Markets in Egypt, IFC, December 2020](#)

91 [Egypt: export value of major agricultural products, Statista, 2019](#)

92 [Egypt - Agricultural Sectors, Privacy Shield, 2018](#)

Transport

Overview

Egypt's transport infrastructure is in relatively good condition compared to that of its African peers. Transport routes in Egypt are mainly focused on Cairo and follow settlement patterns along the Nile. The road transport network is supplemented by good inland water connections with a well-developed port infrastructure as well as a good rail network.

The transport sector in Egypt faces numerous problems as well. Recent reports suggest fuel shortages are resulting in long queues of cars, taxis, and trucks. Most of Egypt's territory has been affected, but the problems are particularly severe in the south. Fuel could therefore become an increasingly serious issue over the next decade if these shortages cannot be addressed.

Egypt's roads carry the largest share of freight (53%), which increases the country's dependence on the maintenance of the road infrastructure, and the quality of Egypt's road network is considered good.

The Egyptian transport sector output is estimated to contribute 4.7% of the real GDP, and the government allocated \$15.55 billion of investments to the country's transport sectors between 2020-2021. The government acknowledged that enhanced infrastructure is key to improving the under-performing agricultural exports market in the country. Investments are also said to be geared towards reducing urban congestion and pollution.⁹³

Leading companies:

1. **Egyptian National Railway:** Egyptian National Railways is the first railway lines established in Africa and the Middle East, and the second in the world after the United Kingdom, where construction began in 1834, when the railway tracks were extended to Suez-Alexandria line. Today ENR spans eight different national transport companies: TransIT, ERIS, ERJet, ERMAS, ERMED, ERNST, ERNTRAC and EGFRAIL.
2. **EgyptAir:** Egypt's national airline carries out both national and international passenger and freight services to more than 75 destinations worldwide.
3. **Ghabbour Auto:** The Ghabbour Group is an Egyptian manufacturer of automobiles, buses, trucks and motorcycles located in Cairo. Their lines of business include passenger cars, commercial vehicles and construction equipment.

Transport sector unlabelled (vanilla) bond issuance

There has been one bond issued in the Egyptian transport sector since 2007. The bond was listed by Ghabour Auto (\$32.6million), one of the leading companies outlined above. It is unsurprising that corporate bond activity in the transport sector has come from automotive as this sub sector represents a large portion of private transport business in Egypt.

Overall bond issuance in the Egyptian transport sector lags far behind global trends. Since 2007 and the first green bond there have been 242 transport industry bonds for a total of over \$78 bn globally, with 149 of these having been issued by large corporates.

Table 32: Transport sector real economy bond issuance 2007-2021

Issuer	Currency	Value (M)	Dollar value (M)	Settlement date	Maturity date
Ghabbour Auto	EGP	179.95	32.60	03/05/2010	31/12/2014

Source: Bloomberg – date range 2007-2021

93 [Egypt Transport & Logistics Research & Analysis, Oxford Business Group, 2020](#)



Outlook for real economy sustainable bond issuance

The centralised nature of the Egyptian economy creates challenges for real economy issuance however the Egyptian transport sector has the potential to support real economy sustainable bond issuance. The developed rail infrastructure and a power and automotive sector capable of maintaining electric vehicles could provide eligible projects for sustainable bond issuance.

Conclusion

Egypt is well placed for additional sustainable bond issuance. There are encouraging government policies regarding renewable energy and agriculture, some market precedence for sustainable bond issuance and increased scrutiny on sustainability in the lead up to COP 27 in Sharm El-Sheikh.

Country focus: Morocco

Country: Morocco

Population: 37 million (World bank 2020)

GDP: \$114 billion (World bank 2020)

Fixed income debt market total issuance 2007-2021: \$42.84 billion (Bloomberg)

Real economy bond issuance 2007-2021: \$9.01 billion (Bloomberg)

Sustainable bond issuance 2007-2021: \$420 million (*Environmental Finance Data*)

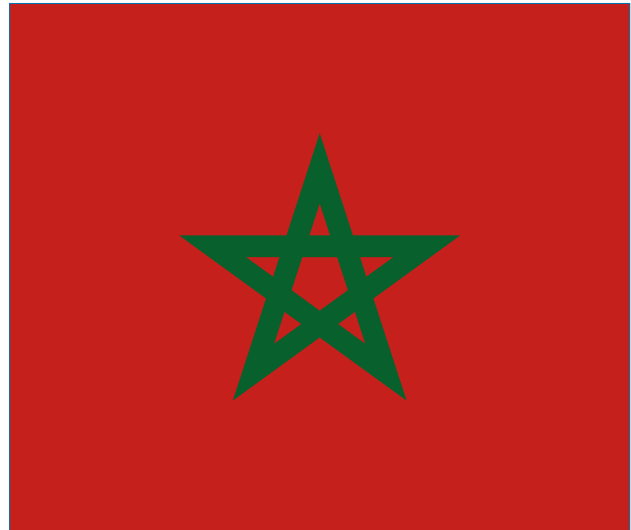
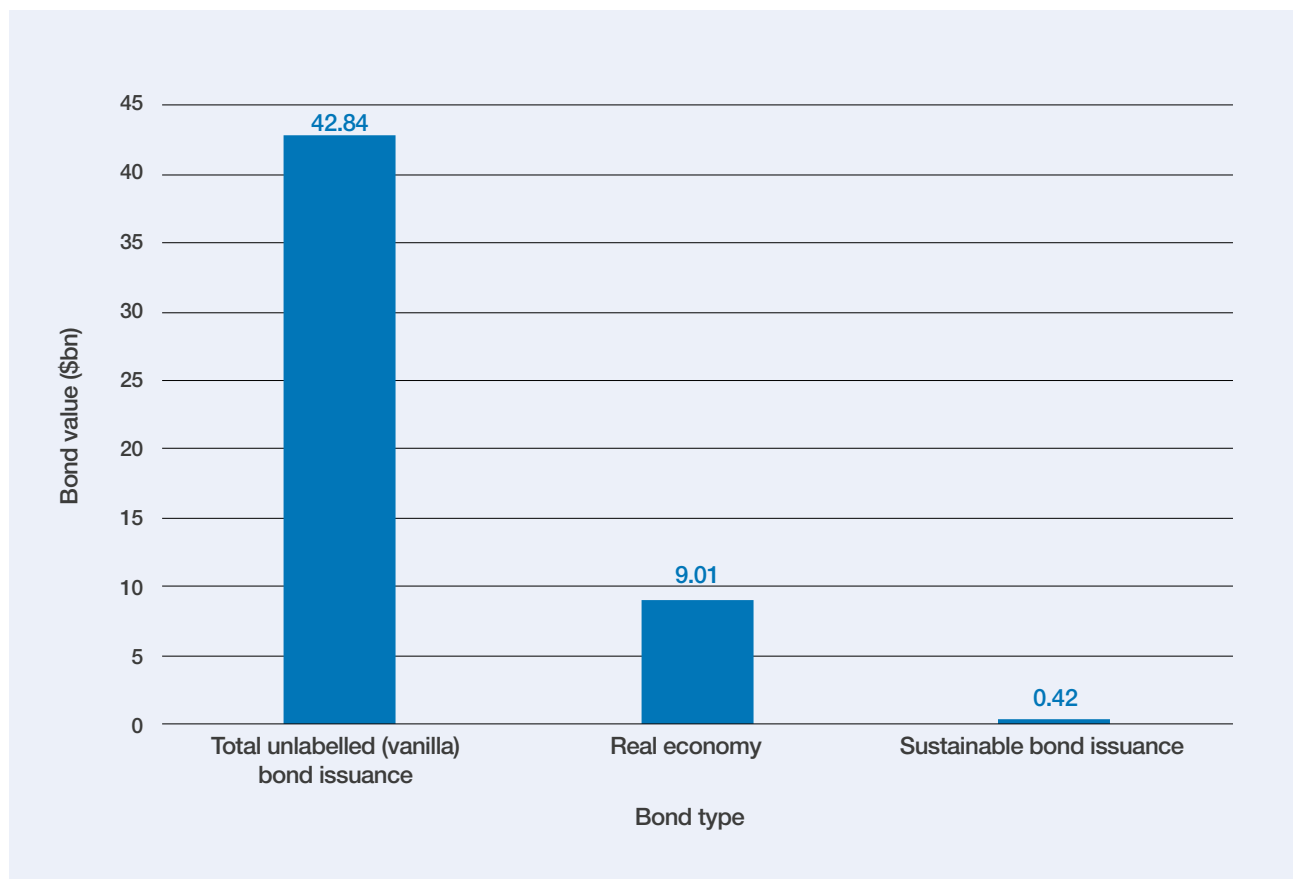


Figure 13: Morocco - Bond Issuance 2007-2021



Source: Bloomberg and Environmental Finance Data – date range 2007-2021



Macro-economic overview

Morocco is the fifth largest economy in Africa and has significant political ties and influence in both the Middle East and Africa.

It is demographically a young country with a median age of 29.5. The population is set to continue to grow, although not as rapidly as other African countries as it will be hampered by negative net migration of about 50,000 people per year.⁹⁴

Morocco has used its proximity to Europe and relatively low labour costs to work towards building a diverse, open, market-oriented economy. Key sectors include agriculture, tourism, aerospace, automotive, phosphates, textiles, and clothing. It has also increased investment in its port, transportation, and industrial infrastructure to position itself as a centre and broker for business throughout Africa. Industrial development strategies and infrastructure improvements, such as the new port and free trade zone near Tangier, are also helping improve Morocco's economic competitiveness.⁹⁵

The services sector accounts for just over half of GDP and gives employment to 43.6% of the workforce. It is spearheaded by real estate and tourism, which has been very dynamic in the years preceding the outbreak of COVID-19 (accounting for around 11% of GDP and hitting a record of nearly 13 million arrivals in 2019). Next to this, the agricultural sector also remains an important contributor to the economy, averaging 13-14% since 2000, although the high dependence on natural rain has made its output highly variable.

Morocco experienced economic hardship due to the COVID-19 pandemic. Stringent travel restrictions in early 2020 decreased tourism revenues, and an agricultural shock impacted by drought contributed to a recession. However, the government response to the crisis has been comprehensive and vast, including the launch of an ambitious reform agenda, and has set the stage for a solid recovery. According to the World Bank, real GDP growth is expected to reach 3.2% in 2022, from 5.3% in 2021 (one of the highest in the region), although the outlook is subject to significant uncertainty.⁹⁶

94 [Morocco Population 2022, World Population Review, \(Accessed January 2022\)](#)

95 [Morocco - The World Factbook, Central Intelligence Agency \(CIA\), March 2022](#)

96 [Morocco Economic Monitoring Report, IFC, Autumn 2021](#)

Regulations and government policy regarding sustainable debt or sustainability targets

Morocco is a signatory of the Paris Climate Agreement. In 2017, Morocco passed a National Sustainable Development Strategy to enable the transition to a green and inclusive economy. This strategy contains 137 specific targets in seven areas: governance, green economy, biodiversity, climate change, sensitive areas, social cohesion, and culture.⁹⁷

In the build-up to COP-26 in Glasgow in 2021 the government renewed its climate ambitions and revised the NDC with an overall target reduction of 45.5% of GHG emissions by 2030 when compared to business-as-usual scenario.⁹⁸

The National Adaptation Plan and National DRM strategies were updated and adopted in 2020 with focus on adaptation and resilience regarding droughts, floods and sea level rises.

Climate action is currently under funded in the country, with on average only \$1.5 billion invested per year from 2011-2018 with the majority of investment supporting the energy and transport sectors.⁹⁹

The total cost of climate mitigation actions alone in Morocco's NDC is calculated to be around \$38 billion. Further sustainable finance sources will be required to fulfil the sustainable development goals of the NDC.

The country has made great strides to improve the lives of its citizens and has sought support from the UN, the IMF and the World Bank to ensure that its sustainable development strategy aligns with [UN SDG 2030](#) goals.

Marrakesh hosts the 2023 IMF World Bank Annual Meeting which will bring global attention and leaders to Morocco to discuss world economic outlook, global financial stability, poverty eradication, inclusive economic growth and job creation, climate change, and others. There could be sustainable bond issuance rhetoric or activity in the build-up to hosting the event. In addition, the Government's announced New Development Model, which aims to transform the economy and increase growth, can create new drivers of growth for sustainable bonds.

97 [Implementing the 2030 Agenda in Morocco, GIZ, April 2021](#)

98 Morocco's climate commitments policies and capacities, IFC, 2021

99 "Panorama of the Financing of Climate Action in Morocco 2011-2018", The Caisse de Dépôt et de Gestion (CDG) and the Institute for Climate Economics (I4CE), 2019

Table 33: Sustainable bond details

Issuer	Currency	Value (\$M)	Dollar value (\$M)	Issuer type	Bond label	Settlement date	Maturity date
Al Omrane Group	MAD	500	52.41	Financial Institution	Green bond	23/11/2018	23/11/2028
Casablanca Finance City	MAD	355	37.83	Agency	Green bond	24/09/2018	24/09/2033
BMCE Bank	MAD	500	48.17	Financial Institution	Green bond	21/11/2016	21/11/2021
Moroccan Agency of Sustainable Energy S.A (MASEN)	MAD	1150	103.50	Agency	Green bond	04/11/2016	04/11/2034
Banque Centrale Populaire	EUR	132	145.9	Financial Institution	Green bond	15/11/2016	15/11/2026

Source: Environmental Finance Data – date range 2007-2021

Sustainable bond issuance

In 2016, ahead of the country’s first green bond issuance, the Moroccan Capital Markets Authority (AMMC) published guidelines developed in partnership with the International Finance Corporation that set the ground rules and operational framework for green bonds. These guidelines outlined how issuers should identify and select applicable projects, have the projects independently reviewed, and secure necessary authorisations from the regulator. The document also outlined reporting requirements. In 2018 the AMMC published additional guidance on green bonds that updated the first guidelines and expanded the market financing opportunities available by introducing social and sustainability bonds. This was further broadened with the introduction of Gender Bond Guidelines in March 2021.¹⁰⁰

There have been five green bonds issued by Moroccan companies, two by financial institutions, two by government agencies and one by a bank (see table 33). There is yet to be a real economy sustainable bond issuer. The use of proceeds for the bonds covers green buildings, carbon emission initiatives and renewable energy projects.

All of the green bonds were issued in 2016-2018, the lack of recent activity implies that there are currently some barriers to sustainable bond, potentially on the supply side and a lack of eligible projects.¹⁰¹

¹⁰⁰ [Green financing attracts investors to Morocco's banking sector, Oxford Business Group, 2020](#)

¹⁰¹ Morocco's Climate Commitments, Policies and Capacities, IFC, 2021

Sector deep dives

Power

Overview

Morocco does not possess large reserves of fossil fuels and therefore its energy sector depends heavily on imported hydrocarbons. Currently, the country imports approximately 90% of its energy needs. The total primary energy consumption has increased by about 5% per year since 2004, but in 2016 Morocco pledged to decrease energy consumption by 15% from 2016 levels by 2030 through energy efficiency measures

During the 21st session of the UNFCCC's Conference of the Parties (COP 21), Morocco announced a further planned increase in renewables capacity to reach 52% of the total by 2030 (20% solar, 20% wind, 12% hydro). To meet the 2030 target, the country aims to add around 10 GW of renewable energy capacities between 2018 and 2030, consisting of 4560 MW of solar, 4200 MW of wind, and 1330 MW of hydropower capacity.¹⁰²

Ahead of COP 26 in November 2021, Morocco has renewed its level of ambition with an enhanced Nationally-Determined Contribution (NDC).

The revised NDC set an objective of 45.5% reduction of the nation's greenhouse gas emissions by 2030. This represents an overall increase of 3.5% in the mitigation objective from the previous version of NDC submitted in 2016.

The main government body responsible for managing the sector is the Ministry of Energy, Mining and the Environment (Ministère de l'Énergie, des Mines et de l'

Environnement, MEME), which is charged with overall policy making. The National Office of Hydrocarbons and Mines (Office Nationale des Hydrocarbures et des Mines, ONHYM) is tasked with handling the processing of contracts for mining and oil and gas exploration projects, as well as supporting international firms looking to enter the kingdom's energy sector.

The leading utilities company, the National Office for Electricity and Drinking Water (Office National de l'Électricité et de l'Eau Potable, ONEE), manages the production, transmission and distribution of electricity, and water access and infrastructure. According to ONEE, Morocco's electricity production comes from coal (68.5%), wind (12.4%), natural gas (8.5%), solar 4.5% and others (6.1%).¹⁰³

It is also interesting to note that in 2021, wind overtook solar power as the most used renewable source of power in Morocco.

Leading power companies:

1. **Afriquia Gas**: Afriquia Gaz is a Morocco-based company engaged in the business of distributing liquefied petroleum gas.
2. **MASEN**: Masen, the Moroccan Agency for Sustainable Energy, is a privately owned Moroccan company with public funding. It was created in 2010 to lead the Moroccan solar project to generate electricity from solar power by installing a minimum capacity of 2,000 MW by 2020.

Table 34: Power sector real economy bonds 2007-2021

Issuer	Currency	Value (M)	Dollar value (\$M)	Issuer type	Settlement date	Maturity date
SAMIR*	MAD	84.08	10.47	Corporate	31/12/2008	31/12/2015
SAMIR*	MAD	14.84	1.85	Corporate	31/12/2008	31/12/2015
Afriquia Gaz	MAD	64.60	7.4	Corporate	16/07/2010	21/07/2015
Afriquia Gaz	MAD	5.14	0.59	Corporate	16/07/2010	21/07/2015

*Not currently trading

Source: Bloomberg – date range 2007-2021

¹⁰² [Morocco Renewable Energy Target 2030, International Energy Agency \(IEA\), October 2019](#)

¹⁰³ [Morocco – Energy, International Trade Administration \(ITA\), October 2021](#)

3. [AKWA Group](#): Akwa Group S.A. is a Moroccan conglomerate company headquartered in Casablanca. The company is primarily engaged in the oil and gas industry, but operates also in the telecommunication, tourism, hotels, and real estate sectors.

Power sector unlabelled (vanilla) bond issuance

Private bond issuance in the Moroccan power sector is minimal, with just two private companies issuing bonds at a value of \$11.7 million.

Outlook for real economy sustainable bond issuance

There is limited precedence in the Moroccan power sector for real economy bond and sustainable bond issuance. The example set by the government agency MASEN green bond in 2016 for a solar project coupled

with the ambitious government renewable energy targets has not led to a significant additional investment in renewable energy projects through green bonds, despite the need for this to achieve the country's climate commitments. The dominance of public companies in the sector reduces the size of real economy participants and limits their ability to issue sustainable bonds.

The Confédération Générale des Entreprises du Maroc (CGEM, main union group for private power operators) released a white paper in October 2021. The paper reiterated their strong support for decarbonization of the sector and called for greater liberalization of the electricity market to allow greater real economy involvement and generation using renewable sources.

The success of public-private partnerships (PPPs) in the renewable energy projects provides a clear route to increased real economy participation in the sector and increases the potential for eligible projects and sustainable bond issuance.

Agribusiness

Overview

The Moroccan agribusiness sector employs nearly 33.2% of the workforce and has contributed to roughly 14% of the nation's GDP over the past decade.¹⁰⁴ Barley, wheat, citrus fruits, grapes, vegetables, argan, olives, livestock and wine are the country's main crops. In recent years, the government has focused on this sector, through its "Green Morocco Plan" and the Agricultural Development Fund.

The new strategy dubbed the "Green Generation 2020-2030", and the "Forests of Morocco" was launched in 2020 by King Mohammed VI.

The new strategy, meant to give a new momentum to the development of Moroccan farming, is developed in implementation of royal calls for the creation of jobs, promotion of income generating activities in the rural world and for the emergence of an agricultural middle class.¹⁰⁵

Leading companies:

1. **BL Agri:** BL Agri is a Moroccan company specialized in producing and exporting fresh fruits and vegetables to many countries around the world. Main products include seasonal fruits and vegetables such as clementine, melons, watermelons, oranges, lemons, tomatoes, peppers, zucchinis, green beans, cucumbers, potatoes and many other varieties collected directly from local orchards
2. **Setaxam:** Setaxam is a family-owned business established in 1960 with a view to producing Agar of the highest quality and consistency for food applications and pharmaceuticals.

3. **Danone Maroc:** formerly Centrale laitière, is a Moroccan company subsidiary of the French multinational Danone, specialised in dairy products. Danone (parent company) issued a social bond in 2018 for research and innovation for advanced medical nutrition, social inclusiveness, responsible farming and agriculture, entrepreneurship financing and quality healthcare and parental support.¹⁰⁶

Unlabelled (vanilla) bond issuance in the Moroccan Agriculture sector

Available data on corporate bond issuance in the Moroccan Agricultural sector shows just one bond issued by the above mentioned Setaxam for just over \$200,000.

Outlook for real economy sustainable bond issuance

Agriculture is a key sector in the Moroccan economy and is particularly vulnerable to the effects of climate change, as highlighted by recent droughts. The positive government rhetoric of the "Green Generation 2020-2030" should lead to favourable conditions for sustainable projects and growth which could use the sustainable bond market. There are potential real economy issuers with eligible activities with suitably sized projects to issue sustainable bonds.

Table 35: Agribusiness sector real economy bonds 2007-2021

Issuer	Currency	Value (M)	Dollar value (\$M)	Issuer type	Settlement date	Maturity date
Setaxam	MAD	1.81	0.22	Corporate	28/06/2007	28/06/2009

Source: Bloomberg – date range 2007-2021

¹⁰⁴ "Economic and political overview in Morocco", Credit Agricole, (Accessed January 2022)

¹⁰⁵ Morocco launches "Green Generation 2020-2030", a new farming development strategy, Medafrica Times, February 2020

¹⁰⁶ Source: Environmental Bond Database

Transport

Overview

Morocco's transport and logistics sector contributes around 4% to GDP and provides jobs to more than 1 million people. Increased public investments in the country's physical infrastructure has contributed to the expansion of the domestic transport and logistics sector. The construction of 1,800 km of new expressways, expansion of the already well-developed rail network, and the development of logistic and industrial zones has led to a sharp rise in the number of companies active in the transport and logistics business. Since 2000, public investments in infrastructure projects totalled MAD 300 billion (\$30.7bn), and the investments during 2012 – 2016 alone were MAD 166 billion (\$17.6 bn).¹⁰⁷

As a relatively cost-intensive sector, an increasing number of projects are being funded and executed through public-private partnership (PPP) models, following the passage of a 2014 law outlining their framework. Amendments to the law in 2019 enlarged the application of PPPs beyond government ministries to the level of local administrations and public entities. The 2019 amendments also created a commission under the auspices of the prime minister to help fast-track and supervise PPP contracts and provide technical support to administrations at the local level in writing contracts.¹⁰⁸

There have also been further amendments to the legislative framework including the establishment of a "National Public-Private Partnership Commission" who will be responsible for putting a national PPP strategy in place and adopting a national annual PPP program in favour of greater flexibility and access for all potential stakeholders.¹⁰⁹

Leading companies:

1. **DMG Transport:** DMG Transport is a global company headquartered in Istanbul which provides road and sea transportation. The company is a corporate international logistics company, which offers international road and maritime transportation and distribution services.
2. **Moroccan National Railways Office (ONCF):** ONCF is Morocco's publicly owned railway company, which exclusively manages all the country's 120 railway stations, serving passengers and freight.¹¹⁰
3. **Loadline MA:** LoadLine is a Moroccan freight forwarding and logistics company created in 2001. With offices in Casablanca, Tangier and Jorf, LoadLine has been steadily growing since its inception and is present in the main trade-lanes and has customers from the various business sectors of the Moroccan economy.

Transport sector unlabelled (vanilla) bond issuance

The Moroccan transport sector has issued a large amount of bonds over the past 5 years illustrating the government's strong desire to develop this key facet of the economy. There are three issuers listed, all from the national management road, port, and airport management companies.

Outlook for real economy sustainable bond issuance

There is precedence in the Moroccan transport sector for bond issuance and a number of projects which could be eligible for sustainable finance. The maturity of road and rail infrastructure and the growth of real economy sector participants could create a suitable environment and project pipeline for real economy sustainable bond issuance.

¹⁰⁷ [Morocco Freight and Logistics Market, Mordor Intelligence, 2021](#)

¹⁰⁸ [Upgrades to Morocco's transport and logistics infrastructure set to drive economic growth, Oxford Business Group, 2021](#)

¹⁰⁹ ["Law No. 46-18 on Public-Private Partnership contracts passed by the House of Representatives – MEF – Kingdom of Morocco", Ministry of Economy and Finance, Kingdom of Morocco, January 2020](#)

¹¹⁰ [Upgrades to Morocco's transport and logistics infrastructure set to drive economic growth, Oxford Business Group, 2020](#)

Table 36: Transport sector real economy bonds 2007-2021

Issuer	Number of bonds	Currency	Value (M)	Dollar value (\$M)	Issuer type	Settlement date	Maturity date
Office National Des Aeroports	1	MAD	228.65	27.06	Corporate	16/12/2010	16/12/2020
Office National Des Aeroports	1	MAD	8.72	1.03	Corporate	16/12/2010	16/12/2020
Societe Nationale des Autoroutes du Maroc	28	MAD	1,362.75	154.79	Agency	2008-2015	2018-2040
Tanger Med Port Authority SA	1	MAD	30.55	3.47	Agency	03/06/2013	03/06/2028

Source: Bloomberg – date range 2007-2021

Conclusion

Overall, the Moroccan economy has illustrated that it can offer great potential for sustainable development over the next decade. The current shortfall in climate action financing could be bridged using sustainable bond issuance.

Impressive advancements in rail and renewable energy

have paved the way for additional potential sustainable bond issuers to invest in government backed sustainability projects. Real economy companies are likely to play a prominent role in the sustainable development, with potential to utilize sustainable bonds to fund projects. In the short term, real economy sustainable bond issuance may be limited by a lack of available capacity and a need for more expertise, knowledge, and ability to create green bond projects.

Country focus: Ghana

Country: Ghana

Population: 31 million (World bank 2020)

GDP: \$69 billion (World bank 2020)

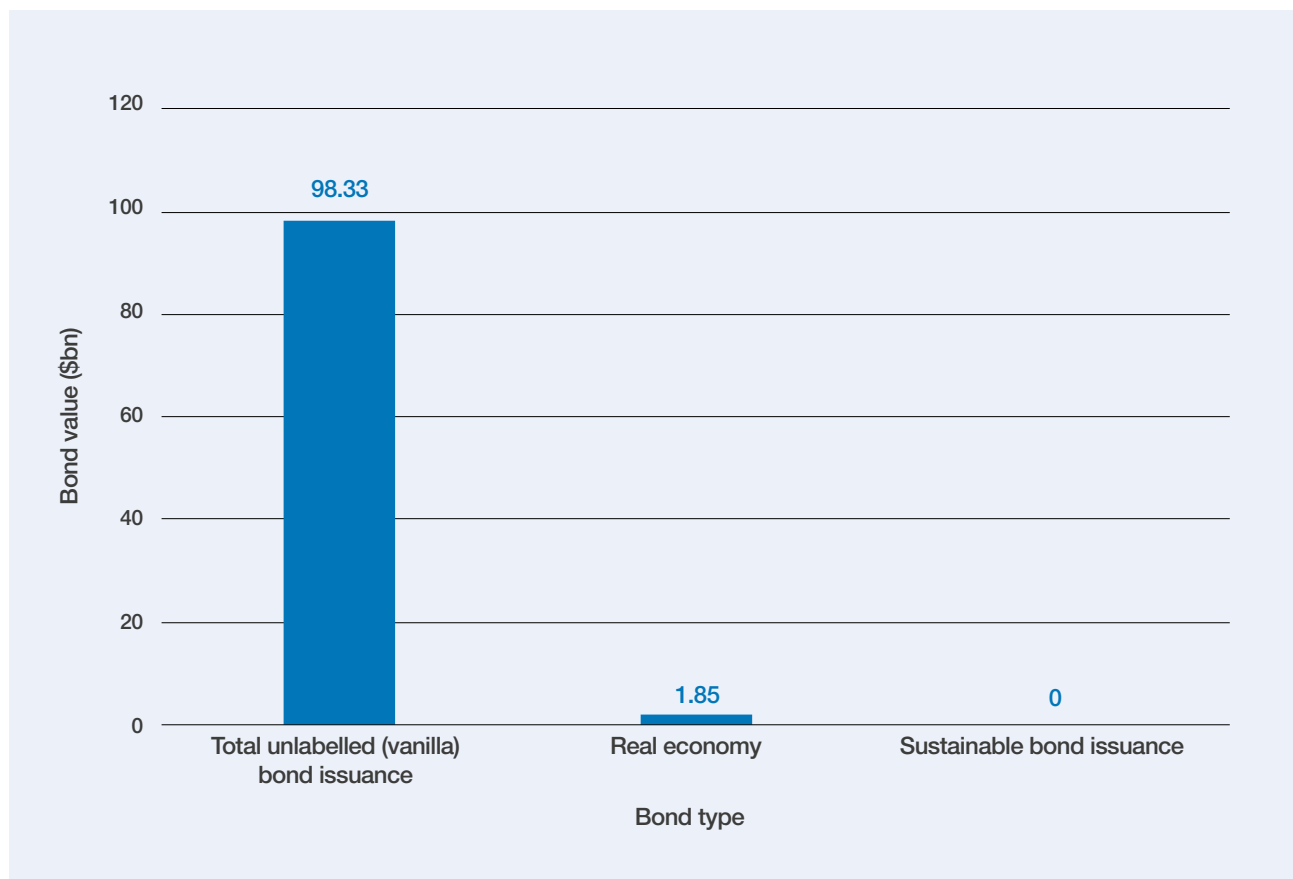
Fixed income debt market total issuance 2007-2021: \$98.33 billion (Bloomberg)

Real economy bond issuance 2007-2021: \$1.85 billion (Bloomberg)

Sustainable bond issuance 2007-2021: 0 (Environmental Finance Data)



Figure 14: Ghana - Bond Issuance 2007-2021



Source: Bloomberg and Environmental Finance Data – date range 2007-2021



Macro-economic overview

Ghana has a market-based economy with relatively few policy barriers to trade and investment. The economy was strengthened by two decades of a competitive business environment in the early 2000s and sustained reductions in poverty levels as a result.

Ghana has one of the fastest rates of poverty reduction in Africa although roughly 24% of the population still live below the poverty line.¹¹¹

Ghana achieved the first Millennium Development Goal (MDG) of halving poverty from 52.7 percent (1993) to 23.4 percent (2016) but poverty reduction has stagnated in recent years.

Spatial inequalities, a rural/urban divide, and exclusion from the benefits of economic growth are driving the stagnant poverty picture, despite robust GDP growth between 2012 and 2016. While overall inequality increased in recent years, the Gini coefficient of 0.42 compares favourably to other Lower Middle-Income Countries.

Ghana has a relatively young population, with a median age of 21. According to current projections, Ghana's population will continue to grow for the rest of the century, reaching 78.71 million people in 2099. This means that Ghana will more than double its current population of 31 million people over the next 80 years.¹¹² Economic experts state that Ghana is not currently equipped to manage the increased demands for water, sanitation, power, and food that a rapid increase in population would bring.

Ghana's economy is largely dependent on the export of commodities such as gold, cocoa, oil and gas, which makes it vulnerable to global economic slowdowns and fluctuations in commodity prices. The COVID-19 pandemic had a negative effect on Ghana's economic growth. Prior to the crisis, the economy grew rapidly, at an average 7% over 2017-2019, driven by agricultural production, extractive industries, and services. In 2020, GDP growth dropped to 0.4%, as the pandemic triggered a terms-of-trade shock (low oil and cocoa prices) and an external demand shock.

There are economic headwinds to contend with, investor confidence in Ghana is low and there is a high risk of

debt distress. The premium on Ghana's sovereign bond has doubled since September 2021, two rating agencies downgraded Ghana in 2022 and inflation and currency depreciation has accelerated in 2022.

The economy is projected to recover gradually over the medium term, thanks to commodity price growth and strong domestic demand supported by the Government CARES program which is expected to cost \$16 billion over 4 years.

Regulations and government policy regarding sustainable debt or sustainability targets

Ghana is one of the 196 countries to sign the 2015 Paris agreement and has made clear its intention to align its policies to limit global temperature increase by reducing greenhouse gas emissions and mobilise support for climate change mitigation and adaptation.¹¹³

Ghana has ambitious climate commitments, including under its NDC, which focuses on reducing emissions from the energy, forestry, and waste sectors and fostering adaptation in key areas. While this is supported by a relatively strong legal and policy framework, including a National Climate Change Policy (NCCP), some important legal building blocks of a robust climate enabling environment are missing. Public climate finance resource identification and mobilization is operationalized through Ghana's Climate Budget Tagging system and associated annual budget processes, but the NCCP does not outline an explicit climate finance strategy. Limited institutional coordination and capacities also pose constraints.

In 2021, following the economic impact of COVID-19, Ghana has expressed a desire to utilize sustainable bonds to help refinance domestic debt used for social and environmental projects, including loans taken to pay for the government's flagship free senior secondary school policy.

As articulated in its updated NDC submitted to the UNFCCC in November 2021, the country is committed to substantially reducing its emissions by 2030. Ghana plans to generate absolute GHG emissions reductions of 64 MtCO₂e by 2030, compared to the 2020-2030 cumulative emissions in a baseline scenario.

111 [Ghana - The World Factbook, Central Intelligence Agency \(CIA\), March 2022](#)

112 [Ghana Population 2022, World Population Review, \(Accessed January 2022\)](#)

113 [Paris Climate Agreement Countries 2022, World Population Review, \(Accessed January 2022\)](#)



To achieve this, the government aims to implement nine unconditional programs of action that would result in a 24.6 MtCO₂e emission reduction by 2030 and an additional 25 conditional programs of action that have the potential to achieve a further 39.4 MtCO₂e reduction by 2030, if financial support from the international and private sector is made available to cover the full cost for implementation.

The proposed mitigation actions focus predominantly on energy, forestry, and waste management. Emissions reductions from sustainable forest management and urban solid waste management each account for approximately one-third of the NDC emissions reduction target. An additional 20% is anticipated to come from a range of energy-related actions, including low-carbon electricity generation, cleaner cooking solutions and sustainable charcoal consumption, and energy efficiency.

Sustainable bond issuance

The government is looking to tap into a yet to be explored sustainable bond market in Ghana.¹¹⁴ Ghana would benefit from sustainable finance and there is a favourable government intention to utilise sustainable bonds to assist with Ghana's economic growth and post-pandemic recovery.

The Ministry of Finance tapped the sustainable loan market in 2021, with \$587.76 million in social loans with use of proceeds covering healthcare and vital infrastructure (road). The Government of Ghana also has a green loan for €35 million (\$41.7m) for a clean water project.

114 [“Ghana plans to issue Africa's first social bond”, African Markets, July 2021](#)

Sector deep dives

Power

Overview

Ghana's power supply sources come mainly from hydroelectricity, crude oil, natural gas and diesel, solar, and imports from Cote D'Ivoire. Ghana also exports power to Togo, Benin and Burkina Faso. Ongoing grid expansions would allow further opportunity for exports to other neighbouring countries in the sub-Saharan region.¹¹⁵

Like most of West Africa, Ghana's power supply is unreliable and costly, and the sector is in significant financial deficit. Ghana currently has over 5,300 MW of installed generation capacity, though actual availability rarely exceeds 2,400 MW due to changing hydrological conditions, inadequate fuel supplies and poor infrastructure. With a significant endowment of natural gas and renewable energy to generate electricity Ghana could overcome these constraints, but it will need to identify sources of sufficient investment and power development.¹¹⁶

In terms of structure, before the 1990s Ghana's power sector was a vertically integrated monopoly, with the Volta River Authority (VRA) generating and distributing power to every region in the country. Power sector reform in the late 1990s saw the VRA split into separate generation and transmission system operations which also made it possible for other Independent Power Producers (IPP) to enter the market.¹¹⁷

Ghana has potential for alternative sources of electricity including medium-sized hydropower, mini hydropower and other renewable energy sources mainly solar and wind energy. Developing these potential sources will reduce the burden on the traditional electricity generation facilities, help reduce the losses in transmitting electricity over long distances from generation centres (mostly located in the south) to the consumption centres in the middle and northern part of the country. These sources will help reduce the import of crude oil and natural gas and could go a long way to impact positively on the cost of electricity to both generators and consumers.¹¹⁸

¹¹⁵ [Ghana - Energy Sector, International Trade Administration \(ITA\), September 2021](#)

¹¹⁶ [Power Africa in Ghana, U.S. Agency for International Development \(USAID\), \(Accessed January 2022\)](#)

^{117,118} [The Electricity Situation in Ghana: Challenges and Opportunities, Centre for Global Development, September 2017](#)

[Ghana's Renewable Plan](#) launched in 2019, states that the government intends to do the following by 2030:

- Increase the proportion of renewable energy in the national energy generation mix from 42.5 MW in 2015 to 1,363.63 MW (with grid-connected systems totalling 1,094.63 MW).
- Reduce dependence on biomass as the main fuel for thermal energy applications.
- Provide renewable energy-based decentralized electrification options in 1,000 off-grid communities.
- Promote local content and local participation in the renewable energy industry.

Leading power companies:

1. [Ghana grid company](#): Gridco became operational on August 1st 2008 following the transfer of the core staff and power transmission assets from VRA to GRIDCo. The company was established in accordance with the Energy Commission Act, 1997 (Act 541) and the Volta River Development (Amendment) Act, 2005 Act 692, which provides for the establishment and exclusive operation of the National Interconnected Transmission System by an independent utility and the separation of the transmission functions of the VRA from its other activities within the framework of the Power Sector Reforms.
2. [Bui Power Authority \(BPA\)](#): BPA were established by an act of Parliament in 2007 with the specific mandate to plan, execute and manage the Bui hydroelectric project. It has worked under the direction of the Ministry of Energy (MoE) since 2017 undertaking several activities on behalf of the state in the area of renewable energy. These activities include hydropower initiatives on the Western Rivers of the Republic of Ghana, the Tsatsadu Micro Hydro Project and the 250 MW Solar Project at the Bui enclave.
3. [Ghana Power Generation Company](#): GPGC is a newly formed IPP (independent power producer) in Ghana. They have recently signed a four-year deal with the government to provide a sustainable energy supply to the nation. They have a new power plant under construction which will be based on single fuel gas turbine technology using natural gas as a combustible.

Table 37: Power sector real economy bonds 2007-2021

Issuer	Currency	Value (M)	Dollar value (\$M)	Issuer type	Settlement date	Maturity date
ESLA	GHS	339.93	56.04	Corporate/ Agency	24/09/2021	09/09/2033
ESLA	GHS	75.69	13.30	Corporate/ Agency	13/01/2020	29/12/2031
ESLA	GHS	618.96	139.75	Corporate/ Agency	08/11/2017	27/10/2027
ESLA	GHS	513.54	120.33	Corporate/ Agency	01/11/2017	23/10/2024
ESLA	GHS	196.66	36.09	Corporate/ Agency	28/06/2019	15/06/2029

Source: Bloomberg – date range 2007-2021

Power sector unlabelled (vanilla) bond issuance

The majority of bond issuance in the Ghanaian power sector comes from the public sector (over 78%) and are issued by the government of affiliated agencies. Available data shows just one private company listing bonds in the power sector in Ghana since 2017: ESLA, which issued a total of 1.7 billion GHS (\$258 million). The company is not strictly a power company but is profiled as a Special Purpose Vehicle (SPV) incorporated as a public limited liability company to issue long-term bonds to resolve energy sector debts due to banks and trade creditors. The securities issued are backed by a component of the Energy Sector Levy Act (ESLA) receivables which

has been assigned to the company for the settlement of coupons and principal repayments arising under the securities that are issued.

Outlook for real economy sustainable bond issuance

The potential for sustainable bond issuance in the Ghanaian power sector could be limited to the few IPPs formed for renewable energy projects. There may be considerable barriers to entry-particularly as there is not a great amount of precedent for bond issuance from private business in this sector and the project pipeline may not be of sufficient size and eligibility.

Agribusiness

Overview

According to the World Bank, agribusiness represents 17.3% of Ghana's GDP and employs 30% of the country's workforce. Most of the cultivated lands consists of small and medium-sized (up to 10 hectares) farms. Crops vary considerably depending on the region. In the forest zone (southwest), tree crops, including cocoa, oil palm, coffee and rubber, are common. Maize, legumes, cocoyam or yam, with tobacco and cotton are among the most harvested crops in the middle belt of the country. Tobacco and cotton are also harvested in the north of the country, in addition to sorghum, millet, cowpeas and groundnuts. While livestock production is important, particularly in the north, Ghana still imports meat and dairy products to meet demand.

Ghana is the second largest producer of cocoa in the world (Cote D'Ivoire is the largest) with a 2019 production of 850,000 tons. Cocoa also provides the second largest source of total export earnings, representing 30% of GDP.¹¹⁹

Responsibility for agricultural policy development and implementation is spread across several agencies. The Ministry of Food and Agriculture (MOFA) is the lead ministry for the agricultural sector, responsible for non-cocoa crops and livestock. COCOBOD is responsible for cocoa, coffee and shea nuts. The Agricultural Research Institutes of the Council for Scientific and Industrial Research (CSIR) under the Ministry of Environment, Science, and Technology and Innovation (MESTI) and other agencies in the National Agricultural Research System (NARS) are responsible for agricultural research.

The Ministry of Food and Agriculture's stated vision is a "modernised agriculture culminating in a structurally transformed economy and evident in food security, employment opportunities and reduced poverty". In accordance with this vision, all governmental strategic frameworks and plans identify infrastructure development, agricultural research and extension as focus areas of policy intervention to achieve greater

agricultural productivity for improved livelihoods. Among the main objectives stated in the Food and Agriculture Sector Development Policy (FASDEP II, 2007) is the modernisation of agriculture and increased productivity of Ghanaian farmers.¹²⁰

FASDEP II also outlines the desire for a more sustainable and greener agricultural sector, but this will be difficult to implement considering the sector's vast challenges, which include a lack of access to finance and a heavily fragmented sector, which is common for this sector in developing nations.

Leading companies:

- 1. [Ghana Oil Palm Development Company Limited:](#)** GOPDC, a member of the Siat Group of Belgium, is an integrated agro-industrial company specialised in the cultivation of oil palm, extraction of crude palm oil and palm kernel oil. GOPDC produces refined specialty oils for use by the food industry. In addition, in 2012, GOPDC diversified into the cultivation of rubber trees.
- 2. [PBC Limited:](#)** PBC is a Ghana-based company, which buys, collects, stores, transports and deals in cocoa, coffee and shea nuts. The Company's business segments are Produce, which is engaged in the sale of cocoa beans and shea nut, and Haulage, which is engaged in the transporting of cocoa beans. The Company is a service provider in cocoa and other agricultural produce, hospitality and agro processing in the West African sub-region.
- 3. [Mondelēz International:](#)** Mondelez is a global consumer food conglomerate with operations in over 80 countries. In 2020, Mondelez launched its Cocoa Life programme across six key cocoa-growing origins Ghana, Côte d'Ivoire, Indonesia, India, the Dominican Republic and Brazil to help farmers gain knowledge and skills to improve their livelihoods, strengthen their communities and inspire the next generation of cocoa farmers.

119 [Agriculture Sector in Ghana Review, Israeli Ministry for Economy and Industry, May 2020](#)

120 [Ghana - Country fact sheet on food and agriculture policy trends, Food and Agricultural Organization of the United Nations \(FAO\), March 2015](#)

Table 38: Agribusiness sector real economy bonds 2007-2021

Issuer	Currency	Value (M)	Dollar value (\$M)	Issuer type	Settlement date	Maturity date
Produce Buying Co	GHS	16.36	3.37	Corporate	14/11/2018	14/11/2019
Produce Buying Co	GHS	28.22	6.31	Corporate	06/12/2017	06/12/2018
Produce Buying Co	GHS	18.35	4.13	Corporate	09/11/2017	09/11/2018
Produce Buying Co	GHS	21.14	4.99	Corporate	30/11/2016	30/11/2017
Produce Buying Co	GHS	15.83	4.09	Corporate	04/11/2016	04/11/2017
Produce Buying Co	GHS	24.77	15.23	Corporate	06/10/2011	05/04/2012
Produce Buying Co	GHS	15.10	9.96	Corporate	05/04/2011	04/10/2011

Source: Bloomberg – date range 2007-2021

Agribusiness unlabelled (vanilla) bond issuance

Total bond issuance in the Ghanaian agricultural sector overall is minimal and totals 139 million GHS (\$20.7 million). PBC are the only agricultural sector company with fixed income debt and issuance experience.

There has been some sustainable debt activity in the Ghanaian agriculture sector. Cocobod has two sustainability linked loan facilities, both \$300 million, one from 2018 and one from 2019. The sustainable KPIs include sustainable supply chain, ESG rating, environmentally friendly cocoa production, child labour sensitivity and empowering women.

Outlook for real economy sustainable bond issuance

The makeup of the agribusiness sector in Ghana creates challenges to real economy sustainable bond issuance. Government policies and modernisation plans could create a suitable environment for sustainable bond issuance in the sector, however only the largest real economy companies would have suitable projects and volume to consider issuance.

Transport

Overview

The transport sector in Ghana is dominated by road transport, accounting for more than 80% of the movement of goods and persons on a daily basis. Despite the dominance of the road sector in Ghana, other modes of transport such as air, railway and inland water transport also play a significant role in the economic development of the nation. The Government of Ghana largely owns and operates railway and inland water transport, while private companies are active in the air transport industry. The road transport sector, both public and private, is controlled through private entities.¹²¹

The transport sector in Ghana is characterised by limited regulatory and institutional effectiveness and a lack of a clear and comprehensive policy. Although the road sector is the dominant transport sector, there are no standard regulations on area of coverage, standards of operation, maintenance of vehicles, or related emissions.

Urban passenger transport in Ghanaian cities is provided primarily by minibuses (tro-tros) which are individually owned, but highly organised at route level through unions. This has provided a stable system which is well understood by the customers. Nonetheless, there are limitations in vehicle and service quality.

Large vehicle service provision is currently limited to the parastatal Metro Mass Transit and some bus companies with low market share.

Major sector reform is underway, primarily through the Ghana Urban Transport Project (GUTP). This includes regulatory and institutional development, a BRT corridor from the west of Greater Accra to the CBD, and improved bus routes with some bus priority on other corridors.¹²²

The government of Ghana has made revamping the country's railway network a priority and established the Ministry of Railway Development to execute this mandate. The country's railway infrastructure has seen little development since its independence in 1957 and has deteriorated to the point that a majority of the 940 kilometres of narrow-gauge rail is out of service.

121 [Transportation Management Challenges in Ghana: A Study of Three Selected Companies in the Sekondi-Takoradi Metropolis, American Journal of Economics, Issuer 10, Page 138-148, 2020](#)

122 [Intelligent Transport Systems - Accra, Ghana, The World Bank, \(Accessed January 2022\)](#)

The government is focusing on a combination of rehabilitation and extension of existing track and development of completely new rail lines for both passengers and freight.¹²³

The policy objective driving this development plan is to build a modern railway network from the south to the north of Ghana along with associated infrastructure, leading to:

- Infrastructure development in the towns traversed by railway lines
- More efficient transportation of passengers and goods
- Improved domestic and international trade
- Economic growth and development
- Job and wealth creation

Leading companies

1. [Ghana Ports and Harbours Authority](#): Ghana Ports and Harbours Authority (GPHA) is a statutory corporation established under Ghana's Provisional National Defence Council Law (PNDCL 160) of 1986 to build, plan, develop, manage, maintain, operate and control all ports in Ghana. The Authority manages and operates the seaports of Ghana and various business units in collaboration with a number of private service providers in the areas of vessel handling, stevedoring, transfer, storage, receipt and delivery of containerized and general cargo.
2. [Metro Mass Transit](#): Metro Mass Transit Ltd was incorporated in March 2003 as a limited liability company. The government of Ghana owns a 45% stake in the company alongside other shareholders such as the National Investment Bank and Ghana Oil Company.
3. [OMA Ghana](#): OMA Ghana provides ship agency and husbandry services for all types of vessels from tankers to navy, bulk carriers to cruise. OMA Logistics Ghana serves the entire logistics sector offering solutions for mining, oil & gas, energy & infrastructure, project cargo, LCL amongst others, by air, sea and road.

123 [Ghana -Rail Industry, International Trade Agency \(ITA\), September 2021](#)

Table 39: Transport sector real economy bonds 2007-2021

Issuer	Currency	Value (M)	Dollar value (\$M)	Issuer type	Settlement date	Maturity date
Quantum Terminals	GHS	10.19	2.30	Corporate	15/03/2018	03/02/2028

Source: Bloomberg – date range 2007-2021

Transport sector unlabelled (vanilla) bond issuance

Total bond issuance in the Ghanaian transport sector overall is minimal and data shows just one bond issued by a logistics company totalling just 10 million GHS (\$1.5 million).

This bond was issued by Quantum Terminals group—a logistics firm serving the Ghanaian petroleum industry.

The Ministry of Finance announced a €280 million (\$334.18m) social loan to develop a sector of vital highway in the Eastern Corridor.¹²⁴

Outlook for real economy sustainable bond issuance

There are favourable government policies and potential projects which could be eligible for funding through sustainable bond issuance in the Ghanaian transport sector. Rail development is a common interpretation of the “clean transportation” use of proceeds and green bonds are regularly issued to fund rail projects. The fragmented nature of real economy companies in the transport sector reduces the potential for sustainable bond issuance as companies lack the size, resources, and projects.

Private investors in Ghana have shown increasing interest in the e-vehicle (EV) sector. Electrifying the transportation sector, coupled with a clean electric grid, could represent a key pathway to reach carbon neutrality in the medium and absorb some of the power generation over-capacity in the short-term. In October 2019, Ghana Energy Commission, in collaboration with the Ministry of Energy, launched the “Drive Electric Initiative” to promote the adoption of electric vehicles and drive the productive utilization of the excess electricity supply in the system. As the EV market is characterized by network effects, demand depends on the availability of publicly

accessible charging stations, and, in turn, the supply of charging infrastructure depends on the installed base of EVs to use the stations.

Conclusion

Real economy issuers in Ghana have scope and possibilities for sustainable investment over the next decade. The green economy approach of the government offers concrete measures to protect the environment and reduce social inequalities, while enhancing economic development. With its current positive economic outlook, Ghana’s transition to a green economy can start from a position of strength. The national vision that already subscribes to many green economy principles is also representative of the motivation that the government must enact the transition.¹²⁵

The private sector will need to play a significant role in climate adaptation and mitigation, public sector finance alone will not be sufficient to meet Ghana’s climate finance needs, of the \$22.1 billion estimated funding required to implement the NDC, \$16.3 billion would need to be contributed by international and private finance.¹²⁶ The private sector in Ghana is vulnerable to climate impacts with key sectors such as agribusiness, tourism and hydro energy sectors especially exposed.

The government’s “Private Sector Engagement Strategy” in the NDC looks to reduce the barriers to entry for private companies in climate adaptation projects.

However, as the only developing nation in this report yet to issue a green bond, Ghanaian real economy sustainable bond issuers face few barriers to entry in many heavily centralised sectors. The imminent issuance of Ghana’s proposed sovereign green bond could pave the way for future sustainable bond issuance in the country.

¹²⁵ [Green Economy Scoping Study Ghana, United Nations Environment Programme \(UNEP\), 2013](#)

¹²⁶ [“Private Sector Engagement Strategy for the National Adaptation Plan”, Environmental Protection Agency - Government of Ghana, May 2020](#)

Glossary

[Green Bonds](#)

Green Bonds are any type of bond instrument where the proceeds will be exclusively applied to finance or re-finance, in part or in full, new and/or existing eligible green projects and which are aligned with the four core components of the Green Bond Principles (GBP).

[Green Bond Principles \(GBP\)](#)

The Green Bond Principles (GBP) are voluntary guidelines that recommend transparency and disclosure and promote integrity in the development of the green bond market by clarifying the approach for issuance of a green bond. The GBP have four core components:

1. Use of Proceeds
2. Process for Project Evaluation and Selection
3. Management of Proceeds
4. Reporting

[Greenhouse Gases \(GHGs\)](#)

The UN identifies seven main greenhouse gases (GHGs) that are major drivers of climate change: carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulphur hexafluoride (SF₆) and nitrogen trifluoride (NF₃).

As CO₂ is by far the most common GHG caused by human activity, it is sometimes used as a shorthand expression for all greenhouse gases.

[International Capital Market Association \(ICMA\)](#)

ICMA is a not-for-profit association representing more than 600 organisations in 65 countries. They include private and public sector issuers, banks and securities houses, asset managers and other investors, capital market infrastructure providers, central banks, law firms and others.

ICMA serves as the secretariat of the Green Bond Principles (and the related Social Bond Principles, Sustainability Bond Guidelines and Sustainability-Linked Bond Principles).

[Paris Agreement on climate change](#)

The Paris Agreement is a binding UN agreement to strengthen the global response to climate change by keeping the average global temperature rise this century well below 2°C above pre-industrial levels and to pursue efforts to limit the temperature increase to 1.5°C.

It was agreed at the annual UN climate change summit in Paris in 2015 but entered into force in November 2016.

[Social Bonds](#)

Social Bonds are ‘use of proceeds’ bonds that raise funds for new and existing projects that address or mitigate a specific social issue and/or seek to achieve positive social outcomes.

[Social Bond Principles](#)

Like the GBP, the Social Bond Principles (SBP) are voluntary guidelines that recommend transparency and disclosure and promote integrity in the development of the social bond market. They have the same four components as the GBPs.

[Sustainable Development Goals \(SDGs\)](#)

The 17 SDGs were adopted by the United Nations in 2015 as the cornerstone of its 2030 Agenda for Sustainable Development. They acknowledge that many environmental and social objectives are interlinked and are increasingly being referenced by companies and investors in their impact reports.

The goals are:

1. No Poverty
2. Zero Hunger
3. Good Health and Well-being
4. Quality Education
5. Gender Equality
6. Clean Water and Sanitation
7. Affordable and Clean Energy
8. Decent Work and Economic Growth
9. Industry, Innovation and Infrastructure
10. Reduced Inequality
11. Sustainable Cities and Communities
12. Responsible Consumption and Production
13. Climate Action
14. Life Below Water
15. Life on Land
16. Peace and Justice Strong Institutions
17. Partnerships to achieve the Goal

Sustainability Bonds

Sustainability bonds are bonds whose proceeds will be used exclusively to finance or re-finance a combination of both green and social projects. To be labelled as Sustainability Bonds, they must align with the four core components of both the GBP and SBP with the former being especially relevant to underlying green projects and the latter to underlying social projects.

Sustainability Bond Guidelines

These voluntary guidelines were issued to help ensure the integrity of the fast-growing market for sustainability bonds. The four core components of the GDP and SBP and their recommendations on the use of external reviews and impact reporting also apply to sustainability bonds.

Sustainability-Linked Bonds

Sustainability-linked bonds (SLBs), unlike green, social or sustainability bonds, are not ‘use-of-proceeds’ instruments. Rather, they are intended to be used for the issuer’s general purposes but the terms of the bond (e.g. coupon, maturity, repayment amount) can vary depending on whether the issuer achieves predefined sustainability objectives within a certain time. Those objectives are measured by predefined Key Performance Indicators (KPIs) and assessed against Sustainability Performance Targets (SPTs).

Sustainability-Linked Bond Principles

The Sustainability-Linked Bond Principles (SLBPs) provide guidelines that recommend structuring features, disclosure and reporting for SLBs. The SLBPs have five core components:

1. Selection of KPIs
2. Calibration of SPTs
3. Bond characteristics
4. Reporting
5. Verification

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