HEINRICH BÖLL STIFTUNG
ABUJA

UNLOCKING CLIMATE FINANCE FOR NIGERIA

BETWEEN ASPIRATIONS AND REALITIES

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16th JUNE 2022

WHAT IS A GREEN BOND?

- Green bond can be seen as one of the newest type of debt on the global financial market. Green bonds are referred to as fixed-income securities, issued in order to obtain the capital for financing of projects that positively affects the environment.
- The green bond has become a powerful tool used to achieve a low carbon economy, circular economy as well as the Nationally Determined Contribution and the Sustainable Development Goals.
- It has been issued by different organizations and countries including the Federal Republic of Nigeria.
- In 2021, according to Climate Bonds Market Intelligence the global green bond market reached **USD517.4bn.**

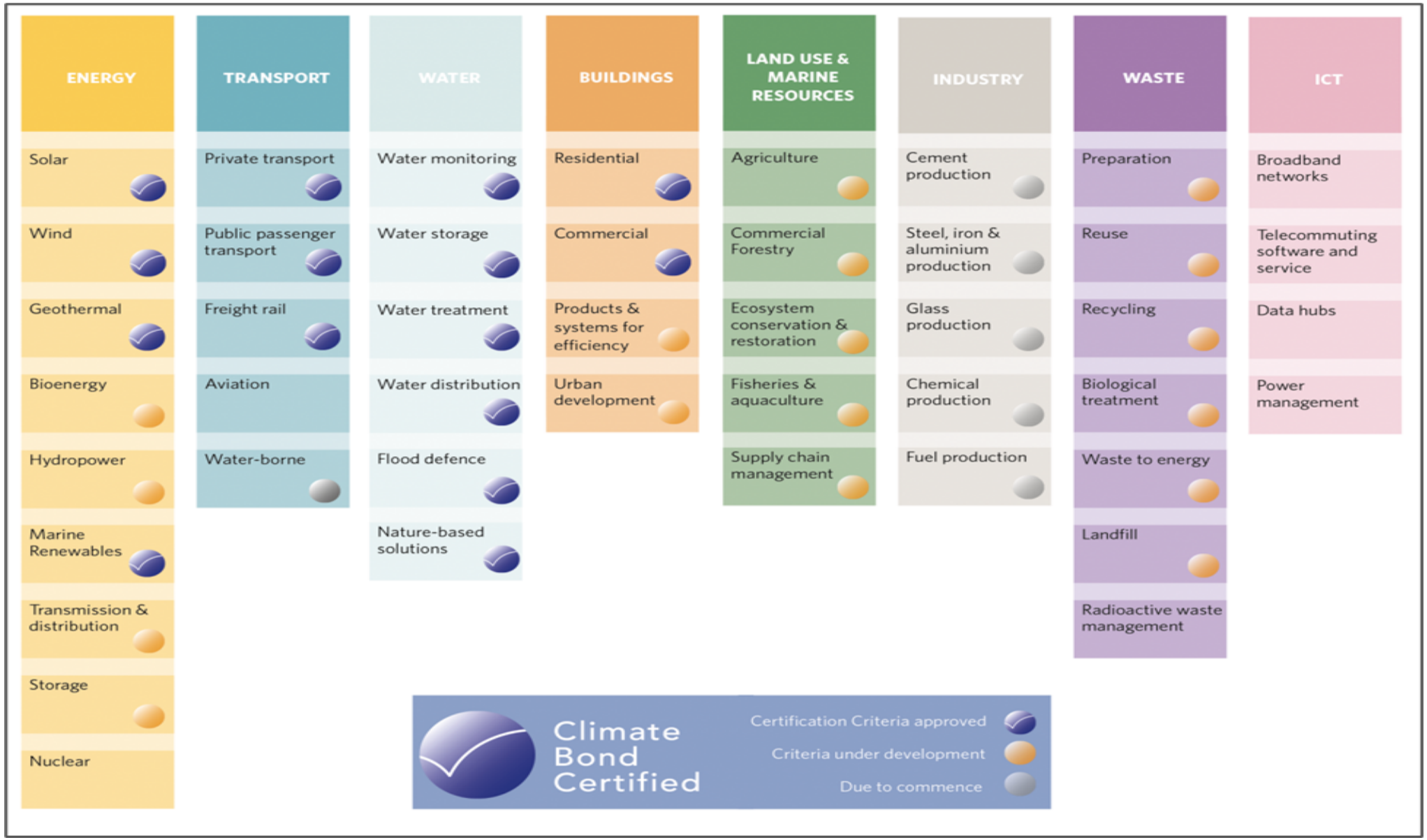
GREEN VS VANILLA BOND

- According to the International Capital Market Association (ICMA), a green bond is differentiated from a regular bond by its label. A green bond label indicates a commitment to exclusively use the proceed of the bond to finance or re-finance “green” projects, assets or business activities**.** for a range of green projects.
- Apart from the allocation of proceeds required by the green bond label, green bonds have the same financial characteristics as conventional vanilla bonds. Both green and conventional bonds use comparable risk/reward profiles and they follow the same issuance procedures of the credit risk lies with the issuer of the bond.
- The fact that green bonds are identical in structure to vanilla bonds has made them equally attractive to investors without a green mandate. Both issuers and investors can take advantage of comfort with a familiar product and at the same time signal a commitment to sustainability (Erlandsson, 2020).
- The demand from investors with green and ESG mandates has been a driving force behind the growth of this market.

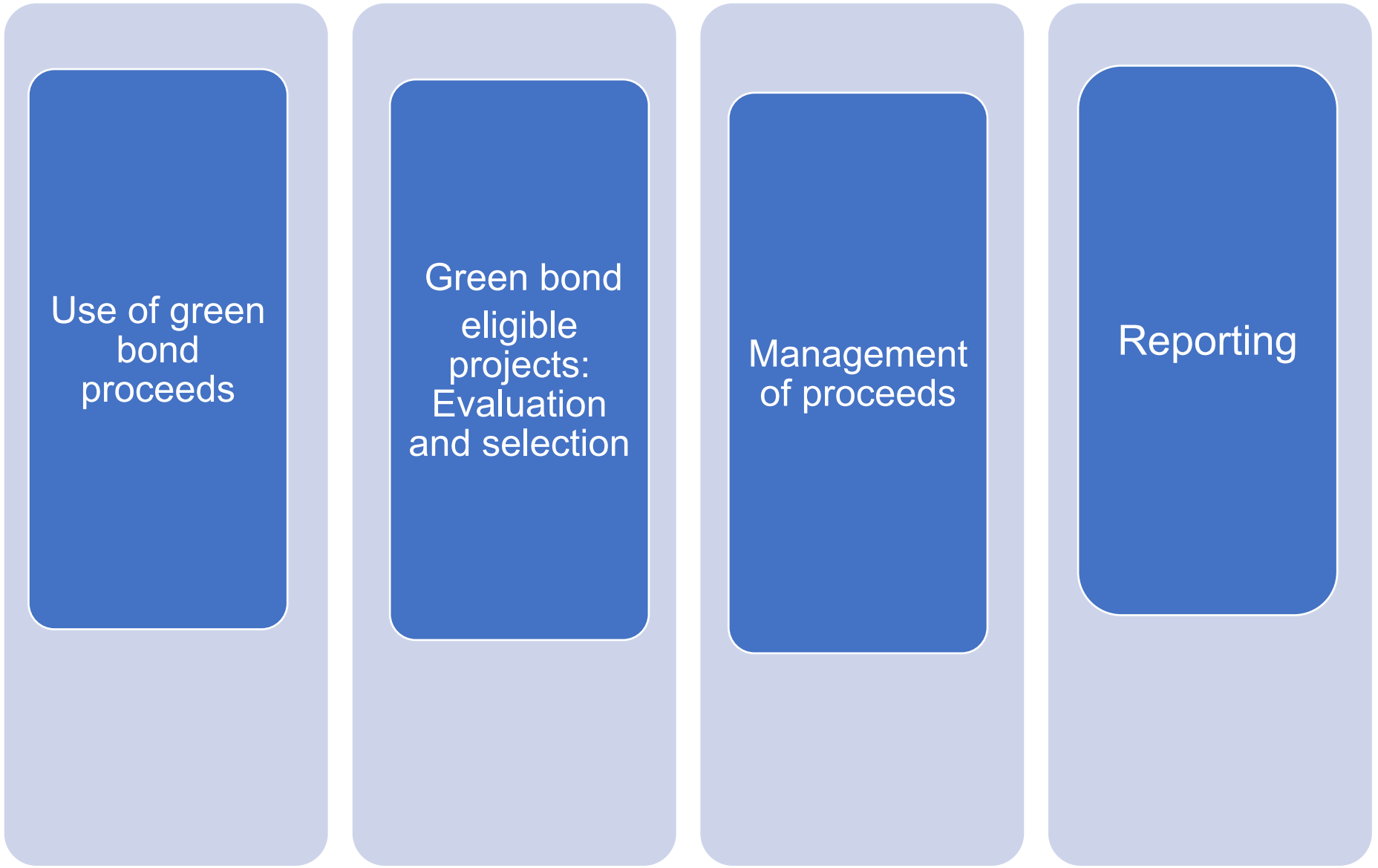
GREEN VS VANILLA BOND

Typical Steps to Issue a Bond	Additional Steps for a Green Bond
• Get rated	• identify potential projects
• Get market intelligence on the target currency tender and size	• Develop green bond framework; » define green bond criteria and project selection process » set up processes and controls for the use and management of proceeds » define monitoring and reporting processes
• Decide on underwriters based on the above	
• Register with local securities and exchange regulators	
• Issue Prospectus	
• Comfort letter/Due dilligence (if applicable)	• Get an external review
• Roadshows and marketing	• Allocate proceeds to the projects
• Launch bond	• Monitor use of proceeds and projects
• Price and allocate bond	• Undertake post-issuance audit
• Communicate the bond issue to the capital market for listing	• Publish reports on environmental, social and economic goals/impacts
• Monitor secondary market for interested investors and managing subscribed investors	

CLIMATE BOND TAXONOMY

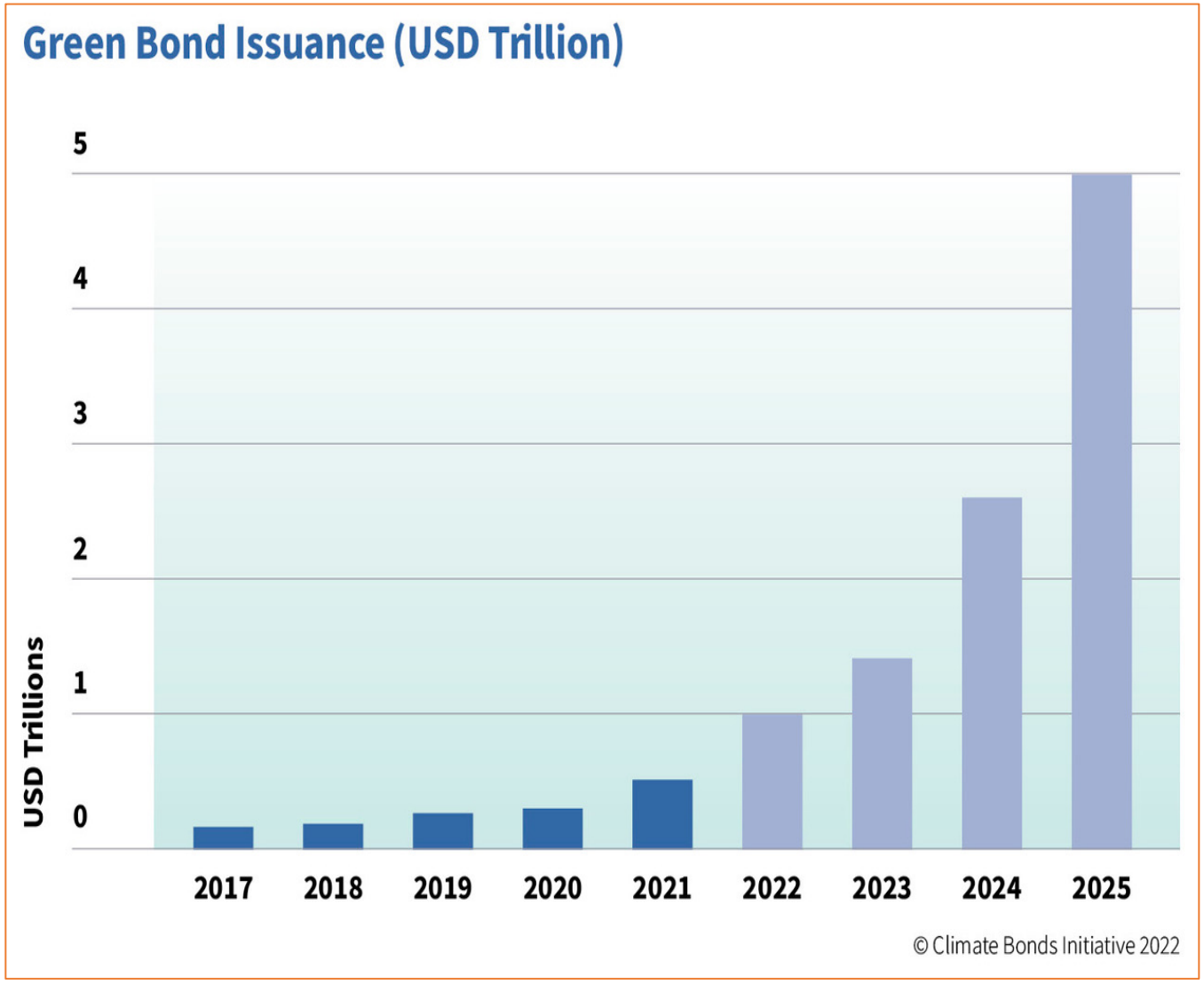


THE GREEN BOND PRINCIPLES: FOUR PILLARS



TRACKING GREEN BOND PROCEEDS

GLOBAL GREEN BOND MARKET



- Climate Bond Initiative forecast that by 2025 the market would hit 5 trillion USD. The current growth trajectory could make that happen even faster.
- Hitting this milestone early this decade serves as key indicator that capital is being shifted at scale towards climate solutions.
- A recent analysis from McKinsey suggests a total of USD9tn in green investment is needed each year to reach net-zero by 2050.

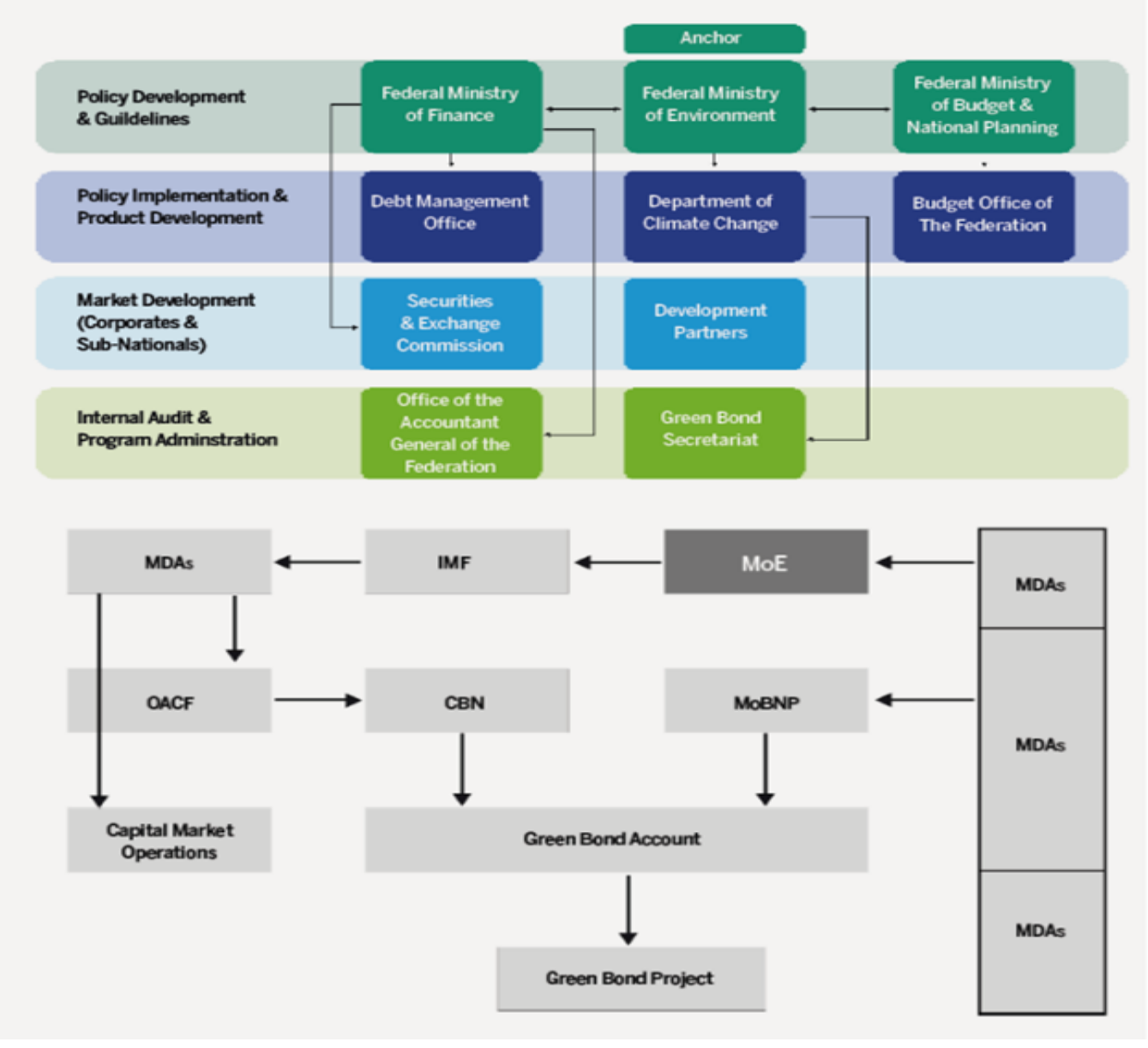
GREEN BOND IN NIGERIA

- Nigeria was the very first in Africa and the fourth globally to issue a Sovereign Green Bond. This was done as part of its obligations to fulfils its nationally determined contributions (NDCs).
- Thus far, Nigeria has issued two (2) Green Bond till date. Its debut green bond issuance was N10.69 billion ($30 million) in December 2017, and N15 billion Series II Green Bond in 2019 and the announcement of a N25 billion in 2020.
- The debut Green Bond was oversubscribed by 1.12%, with Pension Fund Administrators taking up 73% of the issued amount. The bond was listed on the Nigerian Stock Exchange and the FMDQ Securities Exchange.
- A second Green Bond was prepared and issued in June 2019. It was oversubscribed as well by 220%, which demonstrates increased awareness and interest. The ₦ 15 billion (US$ 42 million) raised financed afforestation, reforestation and ecological restoration projects, off-grid solar and wind farm equipment, and irrigation.

GREEN BOND IN NIGERIA

- Asides the Sovereign Bond, the corporate green bond market also witnessed the emergence of two (2) bonds by Access Bank PLC (“Access Bank”) and North South Power Company Limited (“NSP”).
- Access Bank issued the first certified corporate green bond in Africa, raising N15.0 billion at a fixed coupon rate of 15.50% for a tenure of 5 years to fund the following: flood defense, refinancing agricultural projects, energy efficiency and renewable energy.
- Likewise, North South Power (NSP), through its NSP-SPV PowerCorp PLC, issued an N8.5 billion 15-year 15.60% Series 1 Guaranteed Fixed Rate Senior Green Infrastructure Bond, due 2034 under a N50.0 billion Debt Issuance Programme. The NSPSPV PowerCorp PLC bond was guaranteed by the Infrastructure Credit Guarantee Company and it is said to be the longest tenured corporate bond in the Nigerian Debt Capital Market.
- Also, Companies like OnewattSolar (OWATTS) a clean Tech company Issued a mixture of Green Bond and Sukuk bond to finance its Pipeline solar Projects. Part of which included powering residential estate, malls, schools and hospitals etc. OWATTS issued a 7-YEAR $25 MILLION GREEN BOND/SUKUK PROGRAMME on the back of AGF which happens to be the 1st Corporate Green Sukuk in Africa 13th Green Sukuk in the World.

ISSUANCES, PROCESSES AND FRAMEWORK



THE GREEN BOND FRAMEWORK

Adaptation

Theme	Equivalent NDC Target	Project Type
Sustainable Forest Management	Climate smart agriculture and reforestation	Investments in initiatives that benefit sustainable agriculture, fishery, aquaculture, forestry and climate smart farm inputs such as biological crop protection or drip-irrigation

Mitigation

Theme	Equivalent NDC Target	Project Type
Energy efficiency	2% per year energy efficiency (30% by 2030) Efficient gas generators	Investments in equipment, systems and services which result in more efficient use of energy
Resource efficiency	Work towards ending gas flaring by 2030 Improve electricity grid	Investments to improve industry processes that enhance energy conversion
Renewable energy	Work towards off-grid solar PV of 13GW (13,000MW)	Investments in equipment, system and services which enable renewable energy
Clean technology	Transport shift – car to bus, car to rail transportation	Investments in manufacturing of components that support renewables

The Nigeria ministry of environment implements programmes and projects that provide the enabling environment for the achievement of the emissions targets that have been outlined in its Nationally Determined Contributions. To execute these projects, the ministry is collaborating with the ministry of finance. Eligible project must fall into a least one of the following eligible sectors defined in the next section.

Source: The Ministry of Environment Climate Change Department

FIRST AND SECOND SERIES OF THE GREEN BOND ISSUANCE

First Series*

Project (Use of Green Bond Proceeds)	**Implementing Ministry/Agency**	**Project Objective**	**Climate Action Taxonomy**	**Cost(N)**
Energizing Education	Power/Rural Electrification Agency	To develop off-grid Independent Power Plant type projects for the generation and provision of 24/7 power supply for 37 federal universities and 7 teaching university hospitals	Mitigation Energy: Solar	8,550,000,000
Afforestation Programme	Environment	To increase forest coverage through plantation of seedlings to cover 131,000 hectares of land	Mitigation Land Use: Forestry	1,990,000,000
Renewable Energy Micro-Utilities in 45 Communities	Power/Rural Electrification Agency	To provide energy access for 45 unserved rural communities across the country by employing mini-grids with distributed loads of 33–50KW per community	Mitigation Energy: Solar	150,000,000
		TOTAL		**10,690,000,000**

**The proceeds from the first green bond series were mostly allocated to three key project categories. All the selected projects were fully budgeted for in the 2017 national budget.*

Second Series*

Project (Use of Green Bond Proceeds)	**Implementing Ministry/ Agency**	**Climate Action Taxonomy**	**Cost(N)**
Energizing Education & RE Micro-Utilities	Power/Rural Electrification Agency	Mitigation Energy: Solar	7,777,000,000
Afforestation Programme	Environment	Mitigation Land Use: Forestry	1,220,877,357
10MW Katsina Wind Farm	Power	Mitigation Energy: Wind	487,000,000
Solar Powered Tricycles	Transport	Mitigation Transport: Electric Public Transport	500,000,000
Abuja Rail Mass Transit	Federal Capital Territory	Mitigation Transport: Public Mass Transit	1,597,122,872
National Irrigation Programme	Water Resources	Adaptation & Mitigation	405,000,000
Agroforestry	Agriculture	Mitigation Land Use: Agriculture	600,000,000
		TOTAL	**15,000,000,000**

**The proceeds from the second green bond series were allocated to seven projects and programmes in various sectors. All the selected projects were fully budgeted for in the 2019 national budget.*

METRICS USED IN THE STUDY

Environmental Impact Metrics								
Project type	Sector	Implementing agency/ MDA(s)	Appointed private sector contractor(s) and role	Target environmental impacts, i.e. carbon/ CO_2 emissions reductions	Actual estimated CO_2 emissions reductions	Compliance with ESIA (if required)	Waste management plan for the project	Degree of responsiveness to environmental issues and threats from the project
Economic Impact Metrics								
Project cost/ budget	Allocated green bond proceed amounts vs actual-on-ground (value for money)	Project completion status (%)	Workability status (i.e. meeting the set demand, scalable, technically suitable, number of breakdowns and repairs, need for additional support, speed of maintenance)	Impact on local livelihood and income from existing productive activities	Direct and indirect impact on the productive turnover of the target	Accessibility and affordability of the cost of the project or its by-products for the target beneficiaries or host	Host community's perception of economic importance	Renewable energy: number of installations/ electrified homes, businesses/ people affected
Social Impact Metrics								
Target direct green (and non-green jobs)		Actual est. direct green (and non-green jobs)		Gender inclusion/participation (i.e. women's perception of the project; benefits for women; extent of women's involvement)			Level of community participation before and after project implementation and execution	

For the study, three projects financed with proceeds from the first green bond series were selected and visited to assess their impact, using an assessment matrix that covered environmental, social and economic aspects.

SCOPE & METHODOLOGY

Besides taking a critical look at the overall green bond framework, the study covers selected NDC-related projects, based on their allocated share of the total green bond proceeds and priority ranking in the country's NDC commitments to cut carbon emissions and build resilient adaptation safeguards.

The projects selected for evaluation are in the power and agroforestry sectors:

- Renewable energy installations at Bayero University, Kano, (BUK)
- Renewable energy installations at Nnamdi Azikiwe University (NAU) Akwa,
- an agroforestry project in Old Oyo National Park. Akwa.

- The following data-collection methodologies were adopted for the study:
  - A review of all relevant information available in the public domain related to Nigeria's green bond issuances and the NDC-aligned projects financed and implemented. This includes information available from the websites of the relevant government ministries, departments and agencies (MDAs) and the Green Bond Investment Prospectus and its supplementary documents. Investment Prospectus and its
  - supplementary documents.
  - physical visits to the selected projects sites.
  - interviews with beneficiaries, operators and other stakeholders.
  - outcomes from stakeholder forums with relevant implementing MDAs.

ENERGIZING EDUCATION PROGRAMME

- The Federal Government set up the Energizing Education Programme (EEP) to provide a reliable power supply to 37 federa universities and seven university teaching hospitals across the country.
- The universities and teaching hospitals have an estimated electricity demand of 90 MW.
- The EEP projects are being deployed in phases. Phase 1 was set to deliver 28.5 MW to nine federal universities and one university teaching hospital, using solar-hybrid and/or gas-fired captive power plants.
- Phase 1 is designed to benefit 127,000 students, 28,000 university staff and 4,700 staff in teaching hospitals; power 2,850 streetlights; and result in the decommissioning of hundreds of small and large diesel generator.

Geo-Political Zones	Universities	Plant Type	Total Installed Capacity (MW)
SE	Nnamdi Azikiwe University, Anambra (NAU)	Solar Hybrid	4.38
NC	Federal University of Agriculture Markurdi (FUAM)	Solar Hybrid	8.25
SE	Alex Ekwueme Federal Universi-ty Ndufu-Alike Ikwo, Ebonyi (AE - FUNAI)	Solar Hybrid	2.80
NW	Usuman Danfodiyo University Sokoto (UDUS)	Solar Hybrid	4.39
NW	Bayero University Kano (BUK)	Solar Hybrid	7.10
NE	Abubakar Tafawa Balewa Uni-versity, Bauchi (ATBU)	Solar Hybrid	1.12
SS	Federal University of Petroleum Resources Effurun (FUPRE)	Solar Hybrid	1.35
	TOTAL		**29.39**

FINDINGS – RENEWABLE ENERGY PROGRAMME

- The green bond proceeds allocated to the two projects were utilised to purchase solar panels, batteries, inverters and backup diesel generators. At each university, some hectares of land were allocated for solar PV panel installations and streetlights were installed across the campuses.
- METKA Power West Africa, a European provider of fully integrated turnkey power generation projects, was appointed as the private-sector contractor to carry out engineering, procurement and construction, following a build-and-transfer model for both projects.
- The NAU project has been able to save about 76 tons in carbon emissions, based on a recent project update report from the REA. NAU project revealed that the system met the installed solar-energy capacity of 2 MW in only six months of operations. However, due to additional structures, the energy load of the university is expected to possibly increase to 5 MW.
- The BUK solar-hybrid system has displaced diesel and petrol generators, resulting in an annual carbon-dioxide emissions saving of 49 tons. Before the introduction of the new system, BUK spent over NGN 4.5 million monthly to power its learning and research facilities and offices at the old and new campuses.
- The BUK project's sub-optimal peak of 1.3MW of solar, overall failure to meet the energy demand of 5MW, and shedding of previously connected commercial businesses from the solar-hybrid system expose its actual performance to be below what is expected of a green bond investment.

RECOMMENDATIONS – RENEWABLE ENERGY PROGRAMME

Private-sector participation, the government and EEP would stand to enjoy the following benefits:

- Before the commencement of any project, private-sector operators would likely carry out more sound and detailed energy audits and load profiling for each university as well as segment and profile the various energy end-users (students, university staff, businesses on campus).
- The two EEP projects visited could potentially be commercially viable if commercial businesses on the premises were connected, metered and charged a reasonable tariff and the universities' budgets for grid electricity and cut-off generator fuel and maintenance were channeled towards the new systems
- The projects would be operated, maintained and monitored more sustainably by technically competent and experienced companies.
- Private-sector provision of the required capital and operation of the EEP would reduce the government's debt profile and/or allow it to allocate scarce bond proceeds to projects where no private sector incentives exist. The universities would also save money because of the competition in the private sector.
- The government would still be entitled to track, monitor and report environmental, social and economic achievements in line with SDGs and NDC targets.

RECOMMENDATIONS – RENEWABLE ENERGY PROGRAMME

- A comprehensive operational plan should have been developed and better integrated into the REA's deployment of the project before handover to the universities.

This planning should have considered:

- metering and billing the university a token fee for energy consumed to cover operations and maintenance expenses.
- creating a long-term operations and maintenance agreement between the university and a qualified service provider.
- adopting technology to drive transparency and accountability, i.e. deploying publicly accessible electronic platforms that report the real-time performance of the system.

FINDINGS – AFFORESTATION PROGRAMME

- Afforestation was the second major area of intervention to be funded with proceeds from the first series of green bonds in Nigeria. The Ministry of Environment's national afforestation programme intends to increase forest coverage by planting seedlings on 131,000 hectares of land.
- Three sites in Old Oyo National Park (OONP) were identified for the first phase of the green-bond-funded programme: Igbeti, Alaguntan and Tede. Each project site is fivehectares in size and was to be planted with a variety of trees.
- A typical tree can absorb about 21 kilograms of carbon dioxide a year when fully grown. Young saplings, like the ones seen at the project sites, absorb significantly less than this, dramatically decreasing the project's current potential for capturing carbon dioxide in the atmosphere.
- The immediate beneficiaries in the community were not consulted about the types of trees relevant to their livelihood, which resulted in the planting of fruit trees that were already in abundance in the area and therefore of low economic value. They further disclosed that they were not part of the screening and selection process to identify a contractor to procure and plant seedlings.
- Apparently, the National Park Services within the Federal Ministry of Environment directly appointed the contractor. The identity and profile of the contractor could not be discovered during this research. It is therefore impossible to assess their suitability and technical capability.

FINDINGS – AFFORESTATION PROGRAMME

- No soil testing was conducted on the land used for the trees. The absence of a sustainable irrigation system also contributed to poor seedling performance. The survival rate for each plant group is unknown.
- The participation of the community in project implementation and maintenance has been minimal. Although OONP acknowledges the involvement of a small number of men and women in project implementation, no one was consulted during the project's conceptualisation. A total of 46 people were involved in the project, about half of them women. The overall impact of the project on the community, and women and youth in particular, appears very limited but it is hard to assess at this stage.
- This study's independent tracking and assessment pegged the project's completion status at 50 per cent at best.

RECOMMENDATIONS – AFFORESTATION PROGRAMME

Accordingly, the Ministry of Environment should:

- Develop an updated and more comprehensive roadmap in collaboration with eligible local communities and afforestation experts across the country.
- Identify, map out and explore collaborations with organisations and experts within and outside the country who are successfully executing afforestation and agroecology projects for better learning and skills development.
- Set up zonal afforestation committees that include members from local communities, field experts, experienced academics and relevant government MDAs.
- Train staff of the local executing institutions, along with members of local communities, in the requisite skills and information related to the needs, execution and sustainability of similar afforestation projects.
- Ensure proper representation of women and youth from the respective communities in the above interventions.
- To maximize the twin benefits of carbon capture and socio-economic development in local communities, the use of agroforestry systems should be central to the afforestation.

CONCLUSION

- The federal government's Green Bond Programme in support of Nigeria's NDC targets has broken new ground and needs to be commended as such.
- However, as the findings from this study demonstrate, there is a need for the government to strengthen elements of the green bond process and conduct a comprehensive end-to-end assessment of all the projects that have been financed and implemented through the first and second green bond issuances.
- This report has identified some of the lapses in Nigeria's first two green bond issuances and highlighted some gaps and missing links in the overall green bond frame- work. It is hoped that the findings will stir constructive debate and more detailed enquiries into green bond projects as well as spur more innovative and strategic approaches towards achieving the country's NDC targets and related goals.

CONCLUSION

Some of the most critical observations emerging from the report include:

- The lack of regular project reporting. Currently, there are no reports available that would provide up-to-date information on the status of funded projects in line with Pillar 4 of the GBPs.
- The lack of tracking of carbon results. The project assessment only found projections of CO2 savings that were developed before the start of projects. The actual amount of carbon dioxide captured or the change in emissions as a result of the green bond projects is not being measured.
- The importance of stakeholder consultation. The afforestation project demonstrates the importance of stakeholder consultation to ensure project success.
- To address some of the above issues, the government, through the Ministry of Environment, should deploy an electronic registry where details of all green bond-financed and NDC aligned projects implemented in both the public and private sectors could be recorded for continuous tracking and reporting.

THANK YOU!