



Ministry of Foreign Affairs

Business opportunities in Nigeria's waste and circular economy sector

Commissioned by the Netherlands Enterprise Agency

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Prepared by Naijalink Limited
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Ministry of Foreign Affairs



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Executive Summary

Nigeria is Africa's most populous country and largest economy. Lagos is the largest state by population and together with neighbouring Ogun State it would account for the largest share of industrial and economic activity as well. In both states, the circular economy is driven by the need to reduce the enormous amount of waste, and preferably re-use the waste created. Products can be re-used locally in some of the larger industries such as Fast Moving Consumer Goods manufacturing and construction.

The circular economy ecosystem is becoming increasingly vibrant with new players coming up every year. There is a growing understanding not just of the necessity of implementing a circular economy, but also of the business gains. Nigeria has had 'circular activities' for many years though; often within the informal economy and driven by poverty rather than green thinking. The formal sector is coming on board and its capacity is expanding promisingly.

Opportunities can be found in the plastic waste value

chain, as well as in e-waste and biowaste. These chains have gaps which translate to opportunities, while the volume of waste is substantial. Moreover, there are large (international) companies active in these waste value chains that can be either buyers of recycled materials or steady suppliers of waste, which leads to more bankable projects. There are also business opportunities in other waste streams.

Local circular economy companies have great ideas and know the business climate but are often cash strapped. While they welcome Dutch innovation and partnerships, a collaboration can only succeed if there are funds. These can come from commercial entities but there are also bi/multi-lateral partners with a circular economy agenda, while the big corporates in Nigeria increasingly allocate their CSR funds for such projects.

More and more countries are looking at Nigeria as a next frontier for circular economy projects. However, Dutch companies can still be first movers in many areas and can benefit from the opportunities the country offers.

Background

Nigeria is one of the fastest growing countries in the world and the largest economy in Africa, with a large population of about 200 million people. The Dutch government has identified it as a key focus in its Africa strategy not only because of its size, but also the opportunities for bilateral cooperation and Dutch businesses.

The Netherlands is a global frontrunner in waste management and circular economy (CE). It is an important and strategic theme for Dutch involvement in Nigeria as it offers both business opportunities for Dutch companies and opportunities for private sector development in Nigeria.

This report is part of wider efforts of the Netherlands to play a significant role in the development of Nigeria's circular economy. The goal is to deepen existing knowledge, find interesting business partners and opportunities for the Dutch companies and explore additional fields for business in waste/CE between the Netherlands and Nigeria/Lagos.

The Consulate General of the Kingdom of the Netherlands in Lagos, Nigeria, has retained Naijalink as a consulting partner for this project. Naijalink is an advisory and services company that supports international companies in accessing the opportunities in Nigeria.

We have built on the information from the "Scoping Mission Waste and Circular Economy to Lagos, Nigeria" report published in March 2020, based primarily on a fact-finding mission from the Netherlands to Nigeria. The emphasis in this

current report is on the opportunities for Dutch-Nigerian collaboration. Pivotal was therefore the mapping of relevant players and their engagement in meaningful conversations about their activities and plans.

We interviewed over 40 companies/institutions and backed those findings up with research, using reliable (open) sources as well as knowledge partners. In Nigeria it's notoriously difficult to find data, thus interviews with key players tend to be crucial when trying to assess market opportunities. Many of those interviewed are potential business partners for Dutch companies wishing to enter the market.

We focus on the reduction and re-use of materials. While the use of renewable energy is part of a circular system, the Consulate General will map opportunities in solar separately.

Based on the factfinding mission and earlier report, Lagos was identified as the focus for Dutch participation in the circular economy. With an estimated 22 million inhabitants, Lagos is like a country. When it comes to the quality of its waste management services, it is recognized as the front runner in Nigeria. No doubt, with an estimated waste output of 16,500 tons per day, it is the #1 in terms of quantity as well. However, while working on this report, we agreed to expand the area to include Ogun State as well: Ogun and Lagos collaborate in waste collection and recycling, and many large players (both manufacturers and recycling companies) are based just over the state border in Ogun.

The circular economy in Nigeria

Nigeria is Africa's most populous country. By 2030, Nigeria's population is projected to grow from its current estimated 200 million to about 273 million, surpassing the USA by mid-century. Over half of the population lives in cities with Lagos State, the sprawling commercial heart of the country, home to over 22 million people.

The growing population in Nigeria alone is expected to trigger concerns in areas of population flows, urban infrastructure and service delivery, food security, resource & wealth distribution, insecurity/conflicts, and environmental degradation; all of which have the capacity to impact the urban system. Circular thinking will be essential to avoid an ever-worsening impact of this growth.

In a way, the circularity concept has since long been adopted by the informal sector, a significant chunk of the economy. Examples are the re-use of plastic bottles for local, home-produced drinks, and used wine bottles for packaging of roasted groundnuts. Many would be energy conscious as well, because self-generated energy through petrol generators tends to be expensive. The circular concept of sharing is widely observed in public transport and taxis that commonly hold more people than appears feasible.

Waste collection and selection of reusable materials also takes place on a large scale in this informal system. Even in the most elite urban areas you will see people walking with carts, collecting the types of waste that can give them an income. However, most of this is informal, small scale, unorganized. Moreover, most of these informal sector practices would be driven by pragmatism

and necessity rather than out of concern for the planet.

For Nigeria to move forward, a more formal circular ecosystem needs to emerge. The Nigerian public and private sector are increasingly aware of the concept of circularity in the economy, and there are ever more projects and companies involved to come up with solutions.

Circularity will succeed when there are companies along the various parts of a value chain that will work to reduce output and re-use whatever is still produced. Nigeria houses many large producers, especially in Lagos and Ogun, that can and should play an important role in circularity. They are supported by collection and recycling companies. Often 'home grown', these companies are increasing in capacity thanks to the support of knowledge institutions, catalysts and of course by receiving the necessary funding to scale.

A circular economy does not happen spontaneously but relies on policies that support experimentation and innovation. Fortunately, the Nigerian public sector is becoming more committed to the development of a circular economy. For example, an Extended Producer Responsibility Programme has been established in Nigeria and the country was among the first to join the African Circular Economy Alliance. On state level, LAWMA and OGWAMA are actively pushing for a collaborative effort to create circularity and they facilitate company alliances where possible. Both agencies are very receptive to the idea of Dutch participation in the Nigerian circular economy.



To truly and completely achieve a circular economy in Nigeria, each stakeholder in the value chain must play their part optimally as lagging implementation by any stakeholder will affect the whole system. Hence, it is important to connect the dots through the use of Dutch technology to serve as innovation catalysts to create the scientific foundation for circular economy innovations in Nigeria. This will hugely benefit the Nigerian CE companies, thereafter enabling large corporate entities (off-takers) across various sectors have raw materials demand met.

Multi-stakeholder collaboration is a very important precursor to CE implementation in developing countries such as Nigeria. Multinational companies who implement CE business models generate a beneficial symbiotic relationship with local businesses. These benefits largely revolve around technology transfer and organisational learning which is essential for resource efficiency and clean technology: a foundation for CE.

Impact of the Covid-19 pandemic

The first novel coronavirus case was reported in Nigeria on 27th February 2020 and the number of cases has continued to rise ever since. Like most African countries, however, Nigeria seems largely unaffected by the virus with less than 75 thousand cases as at the time of this report. While testing is still inadequate and numbers unreliable, there are strong indications that most Nigerians are either asymptomatic or have mild symptoms, possibly due to the generally young population.

Initially, the Nigerian government took harsh measures to control the spread of the virus by implementing a full lockdown of Lagos, Ogun, Kano and the Federal Capital Territory for 3 weeks. Moreover, all inter-state travel was banned, and airports closed for international and domestic use. While the most stringent measures were lifted after a few weeks, it took months for everything to open up again. All through, Nigerians have been asked to protect themselves through social distancing, the

wearing of face masks and by observing proper hygiene. took months for everything to open up again. All through, Nigerians have been asked to protect themselves through social distancing, the wearing of face masks and by observing proper hygiene.

While the casualties may be relatively low, the economic impact has been strongly felt. A major impact of the pandemic was the drop in the demand for, and therefore price of, oil. This is Nigeria's main foreign exchange earner and also the largest source of income for the government. Cash strapped, the government could do very little to alleviate the suffering of people and companies.

Nigeria's economy will contract in 2020. The lockdown, followed by a sharp decline in oil prices, coupled with a severe shortage of FX, has led to a deep recession. There is a rise in inflation, driven by a lack of FX, raw materials, and higher food prices. Regardless, analysts expect that real GDP growth will bounce back to 1.6% in 2021 and should average around 2.6% per year in 2023-2027.

■ Impact on CE companies

During our interviews with stakeholders in the Circular Economy (CE) industry, we inquired how the Covid-19 pandemic had impacted their operations and if there was a shift in focus. We learned that the pandemic harshly impacted company profits which have dipped by as much as 30% to 50% according to some.

However, since the lockdown has been lifted and business activities started returning to normal, Circular Economy (CE) companies are noticing an improvement in their cashflow. The volume of waste was reportedly lower during the first months of the pandemic but is now at 'normal' levels.

Nigeria is now in a more precarious economic condition, though. The exchange rate is unstable and unfavourable for imports, inflation is high, as is unemployment. With lower disposable income of Nigerians, companies in the Fast Moving Consumer Goods sector will see lower profits. Funding of CE projects may come under pressure as the large conglomerates may cut CSR budgets.

■ Travel to Nigeria

International travel restrictions were lifted in September 2020. It is relatively easy to travel to Nigeria. Visitors are expected to have tested negative for Covid within 48hrs of departure and will be required to have paid for a test to be done in Nigeria within a week of arrival. Such requirements are subject to change thus we recommend checking the official government portal: <https://covid19.ncdc.gov.ng>

Likely, the restrictions in the Netherlands will be a greater influence on when travel to Nigeria can take place. It is also important to realize that not all Nigerians will be comfortable meeting foreigners who come from Covid hotspots.

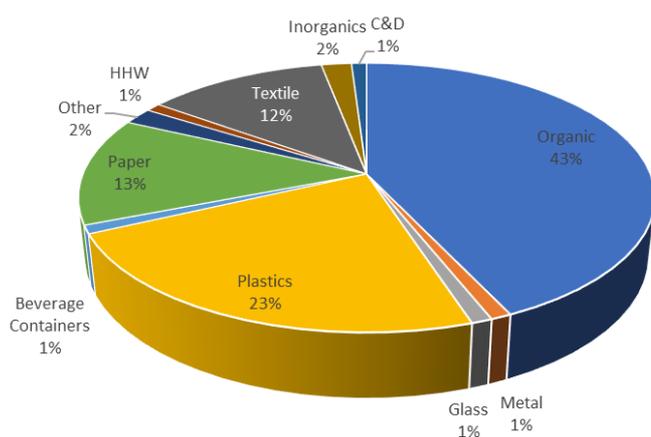
Waste Value Chains

Some of Nigeria's most notable circular economy projects and opportunities are related to waste production. Waste management is a large business in other parts of the world, but in Lagos and Ogun it is still in its early stages. As a result, there are abundant opportunities that can be explored as various waste materials such as plastic, glass, food, metal, electronics amongst others are in large abundance.

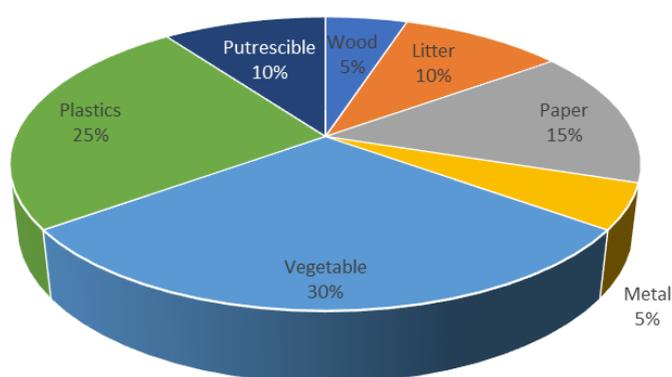
Nigeria's waste output is estimated at about 32 million tons per year for a country with almost 200 million people -- approximately 0.43kg/pppd. In comparison to other countries, this may seem more or less consistent. Waste output is higher in the larger cities. For Lagos, with a population of 22

million, we assume 0.75kg/pppd which puts the waste output in Lagos at an estimated 16,500 tons daily or a little over 6 million metric tons per year. That is 825 trucks of 20 tons each. For Ogun the figure is 0.65kg/pppd and a total of 3,380 tons per day. Residential-to-Industrial ratio is about 70-30%.

The figure below shows the composition of waste in Lagos and Ogun as presented by LAWMA in 2016 and OGWAMA in 2020 respectively. Ogun now has an active program to reduce the amount of waste by charging more for collection, a practice already in place in Lagos.



● Lagos



● Ogun

The plastic waste value chain

In Nigeria, there is no usage restriction on the usage of plastic and the material is abundantly found in drainages, gutters, and waterways all over the cities, particularly the suburbs. Plastic is seen as an affordable and convenient packaging material. Plastic bottles are omnipresent and at every shop you will receive plastic carry bags -sometimes one for every item purchased. Even drinking water is often packaged in plastic sachets.

No wonder then, that over the past thirteen years the per capita consumption of plastics in Nigeria has grown by about 5% annually from 4kg in 2007

to 6.5kg in 2017. It is estimated to be 7.5kg in 2020.

Plastic waste is a huge source of environmental pollution in especially Lagos. At the very least, Lagos generates 6 million tons of waste each year, 23% of which is plastics, making 1.38 million tons of plastic waste per year or 3,800 tons per day of which only 12% of it is recycled. The plastic waste not recycled usually ends up in landfills, waterways, drainages, streets, and bushes. This leads to flooding and other environmental hazards.



As of 2019 about 2,250 tons are generated on a daily business and at USD 500 per ton, if only 500,000 tons of plastic can be recycled and reused annually, it will potentially be a USD 250 million industry.

■ Waste Collection

Waste collection is done on different levels: scavengers, landfills, home collection, street cleaners, and at corporate entities. Informal workers commonly referred to as scavengers carry out plastic waste collection across the city from dumpsites, streets, drainages, roads and sell it to bigger collectors such as Chanja Datti, Recyclepoint, Scrapays, Wecyclers and others in exchange for cash, groceries, household items amongst other needed items. Waste collection companies also pick up in their respective LAWMA designated areas from homes, street cleaners and business establishments. On average 80 tons of waste per month is collected. The collected recyclables are further managed at collection and sorting centres owned by the waste collection companies and thereafter the waste materials are sold to manufacturing/recycling plants for further processing.

■ Waste Recycling

Plastic comes in various forms and types, each with its own composition and characteristics. There are more than 100 types of plastic but in Lagos and Ogun municipal solid waste composition only six

are generally found and collected: Polyethylene Terephthalate (PET), High Density Polyethylene (HDPE), Low Density Polyethylene (LDPE), Polyvinyl Chloride (PVC), Polypropylene (PP) and Polystyrene (PS).

Nigeria is the third-largest importer of plastics in primary forms (virgin resins) in Africa with 70 per cent of resins currently being imported. Recently, the Standards Organisation of Nigeria (SON) and stakeholders in the food and beverage industry developed a standard that would save Nigeria foreign exchange used in the importation of plastics. The new standards would improve production processes of plastics, ensure the use of rPET in production, ensure safety and the quality of products.

The new regulation has galvanized great interest and opportunity in the PET industry in Nigeria whose daily production is estimated to be with over 500 million PET bottles. A lot of players are ready to embrace this cost effective and environmentally friendly rPET circularity. PET is recycled into chips, granules, flakes, and pellets by companies such as Alkem Nigeria, Chanja Datti, Chidire Industries, Kaltani, Richbol, Ugogreen Solutions, United Cyclers and then sold on to companies such as Engee PET and Indorama who process it into PET resins. The PET resins are then sold to companies in industries such as FMCG, food & beverage, pharmaceutical, etc.

HDPE, LDPE and PP are recycled into granules, flakes, pellets, and preforms regrind by companies such as Alkem Nigeria, Chidire Industries, Omnik Limited, Richbol, amongst others. Chidire Industries and Omnik Limited use the recycled materials to further manufacture various products such as Fast Moving Consumer Goods bottles & packages, agricultural films, construction films, pure water films, shrink film packaging, plastic household utensils, pharmaceuticals bottles & packages, bags and so on. Recycled materials (granules, flakes, pellets, preforms regrind and resins) are sold to other manufacturers in other industries like FMCG, pharmaceutical, food & beverage to make similar products of their items.

At the moment, most companies such as Engee PET import majority of their plastic raw materials from Asia, which shows a clear case for more recycling of PET, HDPE, LDPE and PP within Nigeria.

■ Circularity of plastic

The Food and Beverage Recycling Alliance was established in 2013 as the producer responsibility organization (PRO) for the food and beverage sector with a focus on enabling the collection, recovery, and recycling of the post-consumer packaging waste in compliance with the extended producer responsibility guidelines. The alliance currently has some of the largest food and beverage companies in Nigeria as its members such as Nestle Nigeria, Nigerian Breweries, Coca-Cola Nigeria, Guinness Nigeria, Omnik Limited, Engee PET amongst others. FBRA also has collection partners such as Chanja Datti,

Recycleledge, RecyclePoints and several others.

With the support of its member companies, FBRA has carried out various initiatives and projects in campaign awareness, promotion of proper disposal, and segregation. FMCG, plastic manufacturing, shoe manufacturing, shopping bag making companies amongst others benefit hugely from the recycled materials to manufacture their own product. Currently, the demand for recycled raw materials is higher than the supply.

Largely untapped: e-Waste

Electronic waste (e-waste) is considered one of the rapidly growing problems in today's world, due to its high rate of generation and its hazardous composition. Globally, e-waste is growing with double digits. The percentage of e-waste collected and recycled formally in relation to the volume generated in Nigeria is shocking. In 2019, only 0.4% of the 461,300 tons of e-waste generated was collected and recycled through appropriate documented channels. The remaining 99.6% is 'processed' mainly by informal recyclers undergoing different crude practices such as burning plastic cables, acid leaching, hammering, and other common methods to reclaim valuable metals from the discarded electronics. Over 52,000 tons of brominated (flame retardant) plastics, 4,000 tons of lead, 80 tons of cadmium and 0.3 tons of mercury are burned or dumped in Nigeria every year. Moreover, more than 500,000 tons of used electrical and electronics equipment are imported in Nigeria, of which 25% is dead on arrival.



■ Waste Collection

There is no recognized collection or drop off centres for e-waste in Lagos as most e-waste are dropped in unauthorized landfills. There is a clear need to setup e-waste collection centres across Nigeria. Some recycling companies like Chanja Datti and The Initiates Plc double as waste collectors as the companies have engaged the services of scavengers to collect e-waste for a reward. Tons of electrical and electronic gets dumped in unauthorized spaces such as open spaces, water sources, and landfills particularly in New Garage, around Ojota in Lagos. The waste with no economic value is often dumped or burned –releasing

pollutants including heavy metals and toxic chemicals (including dioxins, furans and flame retardants), into the air, water and soil.

■ Waste Recycling

Most times people that work in the informal e-waste sector collect and dismantle electronics by hand to reclaim saleable components. This is very hazardous to their health as they usually end up with respiratory and dermatological problems, eye infections and lower than average life expectancy. About 100,000 people currently work in the informal e-waste recycling sector in Nigeria according to the International Labour Organization.



The formal e-waste recycling sector is still at its early stage. The two recognized and standard certified formal e-waste recycling companies in Nigeria are E-Terra Technologies Limited and Hinckley Group. Both companies partner with corporate entities in industries such as banks, technology, telecommunications amongst others to properly collect and recycle their e-waste.

■ Circularity (Use of recycled items)

The E-Waste Producer Responsibility Organization of Nigeria (EPRON) is the organization established in 2019 to ensure proper recycling of end of life Electrical and Electronic Equipment (EEE) with adherence to the Extended Producer Responsibility (EPR) principle. EPRON joined the WEEEFForum earlier this year to further ensure that activities are conducted with utmost competence, transparency and according to international best practice. EPRON works with E-Terra and Hinckley in various e-waste recycling capacities as both companies with some of its member companies are working towards a sustainable EPR for e-waste. Moreover,

the National Environmental Standards and Regulations Enforcement Agency (NESREA) currently has a US\$ 2 million grant from the Global Environment Fund (GEF) to help strengthen the EPR for e-waste in the country. Closing the Loop, from the Netherlands, has expanded its program to Nigeria in 2019 as well.

Green gold in biowaste?

Organic or biowaste is the largest chunk of the waste generated in Lagos and Ogun State at 43% and 30% respectively. That means a combined 7614 tons per day. While a lot is the result of residential consumption, there is also organic waste produced by industrial companies. This can vary from rice husks and palm kernels as the side effect of rice milling and oil production, and also includes the residue of breweries. While most Nigerians don't perceive organic waste as a pollutant (with the exception of animal excrements possibly), the volume is significant enough to create opportunities for Dutch companies.



■ Waste Collection

Organic waste is often collected together with other household waste. However, LAWMA established a partnership arrangement with companies such as Earthcare Compost Company (a waste to compost plant at Ikorodu) and Richbol Environmental Services amongst others to collect organic waste from designated areas of the city, including large vegetable markets. On the average, the facility receives about 600 tons of organic waste per day from fruits and vegetables markets such as Mile 12 and Bolade market. Others collect at the premises of industries producing organic waste, such as the breweries.

■ Waste Recycling & Circularity

Recycling of organic waste is actively done by a number of companies. For example, Earthcare Compost Company has the capacity to process 1,500 metric tons per day. Richbol Environmental Services also converts organic waste to fertilizers. Agriculture is Nigeria's largest economic sector. Many small holder farmers depend on organic waste as fertilizer for their farms.

Nigeria also has Africa's largest livestock population. No wonder then that other companies focus on recycling organic waste into animal feed. For example, International Breweries and Nigerian Breweries (Heineken) currently partner with some animal feed companies through supply of spent grains which can be processed to serve as animal feeds. The yeast waste can be used to create fish feed. Nigerian Breweries has a proactive zero-waste initiative on all waste (including waste water) and anticipates to have achieved its zero-waste target by 2021.

Organic waste is also used to create energy, though the cost of conversion has limited the number of initiatives in this area as biogas is often considered a more expensive source of renewable energy than solar. However, there is a biogas plant project that was completed about two years ago between Lagos State government, Friends of the Environment (FOTE), HIS Biogas and TOGATA Renewable Technology. It is currently being used to power the Ikorodu Mini Abattoir at Ebute road, Ikorodu, Lagos State for close six hours every day. The plant sources its waste from the abattoir and has the capability of

converting organic waste through the installation of four 5,000-litre digester tanks. It is fed with digestible organic waste and concentrated wastewater from the abattoir.

Furthermore, Givo processes waste materials into consumer and industrial goods to develop single use biodegradable products like plates, cups, cutlery out of biomass residues available in Lagos. Using organic waste to prevent the use of plastics, is of course a great example of circularity.

Circularity in textile

Nigeria has Africa's largest population at around 200 million. By 2050 the population is set to overtake that of the United States of America thus it is clear that textile waste can be a real challenge. Lagos reports that 12% of its waste is textile, consisting of thrown away clothes and other textile items, as well as waste from tailoring shops. Nearly all textile in Nigeria is imported. Most of Nigeria's textile factories ended production in the 1990s but the government hopes to revive this sector, which increases the need for circular thinking as textile factories use a lot of water and energy.

■ Waste Collection

Scavengers visit landfills and dumpsites to gather and select reusable textile waste available in tons at these sites and sold to waste collection companies like RecyclePoint, Wecyclers and few others. This is the most common form of waste collection/sorting of textile waste in Nigeria.

■ Waste Recycling & Circularity

Nigeria plays a role in the circularity of other countries as it is a large importer of used clothing. Most people would also hand down textile to family or staff until it will finally end up at a waste dump site.

Though technically most waste in the textile industry can be recycled, unfortunately, only a small amount is actually upcycled due to the lack of textile recycling companies operating in the country. We are only aware of one larger recycling facility, in Kaduna state. The African Textile Collective will also be extending their project from Kenya to Nigeria in the nearby future.



High value: scrap metals

Scrap metal industry in Nigeria is evolving and fast becoming a booming venture. Nigeria's national steel consumption is estimated at 6.8 million metric tons annually. The exact amount of scrap metal generated in Nigeria remains very vague due to

paucity of reliable data, poor data gathering and management, however, Lagos reports 1% of its waste is metal and Ogun 5%, which puts the combined figure at 334 tonnes per day.



■ Waste Collection

The collection phase of scrap metal in Nigeria is mostly informal. Scavengers visit landfills and dumpsites to gather and select reusable metal parts including beverage cans. Young men and women search through the waste for scrap materials they can sell moving from one location to another in the city. This is done very efficiently and effectively; it is very rare to see any cans that litter the street.

About 50 years ago, a truck with 400 bags of metals weighing 25kg sold for N11,000 to N12,000. Prices have since grown exponentially. Scrap metal is often sold for at least N800 per kg. A full truck of copper is worth about N20 million and a full truck of aluminium is worth about N5 million. This confirms that a main requirement for effective collection is the provision of (monetary) incentives for scavengers and waste collection companies.

■ Waste Recycling & Circularity

Nigeria has abundant deposits of iron ore, coal, limestone amongst other basic material for the production of steel. Notwithstanding, the Nigerian steel sector collapsed several years back. Since then, the Nigerian steel industry is sustained mostly through the recycling of scrap metals collected from waste landfills. In many of the rolling mills, 100% scrap metal is recycled for the production of iron bars used for civil construction and the recycling results in the generation of low and high carbon steel respectively. Nigerian Foundries is one of the dominant players in this area.

Smaller recycling plants do exist as well as they are relatively affordable. Data collated from secondary research indicate that the minimum start-up capital for a medium scale metal recycling plant is around N5 million (~USD 12,000) while the return on investment is about 60%.

The scrap metals and beverage cans are formed into ingots and shipped where they are processed with heavy machines and technologies before some are exported out of the country to mainly China, India and Turkey. Other ingots are used in the construction and engineering sectors for various projects and in the manufacturing sector for different products. Chinese HongXing Steel

Company Limited recently invested about \$ 100 million to establish two manufacturing plants in Lagos which will make use of metal scraps during production.

Paper recycling

In Nigeria, pulp and paper production capacities are low due to dependence on foreign inputs. In 1996, the Nigerian paper mills stopped production leading to complete dependence on importation of paper and paper products. This resulted in the expenditure of an estimated amount of 500 billion naira annually (> \$1bn) on importation of paper products. Paper constitutes 13% of Lagos' waste and 15% of Ogun state thus a total of 2,652 tonnes produced daily.

■ Recycling

Post-consumer paper, or wastepaper, is an important reusable raw material source for the Nigerian paper industry. Paper waste is used by companies such as Bel Impex, Macdon Industries, Onward paper, Prorich Products Nigeria Limited to create stationary products or items such as toilet tissue.

By far the largest paper recycler is Dahua Paper Company Nigeria Ltd, a Chinese-Nigerian papermill that recycles paper collected from all over Nigeria. The initial capacity of the factory set up in 2016 is 500 tonnes per day and it produces mainly paper and packages.

At a much smaller capacity, there are local entrepreneurs who go around collecting waste papers from newspaper houses and offices. These papers are then remade into paper packaging bags of different sizes and sold to shops. Notable upcycling paper companies are The Paper Packaging Company, Paper bags by Ebees amongst others. A company such as Natural Eco Capital collaborates with banks to obtain their used papers and recycles them in pens.

Business opportunities

There are many avenues for Dutch companies to become involved in Nigeria's circular economy. Many stakeholders identified the need for building capacity, knowledge and awareness, but there are also opportunities for export of technology and/or for investment.

Plastic, e-waste and biowaste may be the most interesting for Dutch companies not just because of the size of the problem, but also the presence of large (international) companies who can be an 'anchor' to Dutch involvement as either supplier of waste or buyer of recycled projects. For this reason, the opportunity re mattress recycling may be more straightforward than other opportunities missing such an anchor.

While most stakeholders interviewed said they would want Dutch companies to invest, we believe many of the opportunities described below can be harnessed by a collaboration of a Dutch company, local CE company, an 'anchor' as well as an (international) finance partner.

There are also opportunities to purchase waste from Nigeria and recycle it in the Netherlands. However, such trade would increase the use of fossil fuels. Therefore, the most circular business opportunities are those where the recycled product will be re-used in Nigeria.

In the plastic value chain

■ rPET FLAKE PRODUCTION

The large Fast Moving Consumer Goods companies are united in the Food and Beverage Recycling Alliance and are committed to using recycled plastics in their production processes. Coca Cola, Nestlé and the likes can agree to use a certain percentage of recycled material -in line of their global commitment. At the moment there is not enough recycled material for them to use. Companies like Engee Pet Manufacturing and Indorama Eleme Petrochemicals make PET resin suitable for the Fast Moving Consumer Goods sector (including for water and soft drink bottles), but at the moment they import much of

their raw material (the plastic flakes).

Opportunity: There are many players who collect and recycle, but there is scope for large players to ramp up production, as well as need for better technology to ensure all rPET flakes are suitable for the food & beverage industry. A Dutch consortium of companies can partner with the waste collection companies and then recycle PET at a large scale in flakes and pellets. It can have off take agreements the likes of EngeePet, who will in turn be able to have an off-take agreement with the large FMCGs.

Moreover, Dutch companies can partner with existing recycling companies to increase their production. For example, Kaltani, which operates a recycling plant in Lagos, has plans to set-up PET, PE and PP recycling facility in the South-East of Nigeria. The company recently acquired 7 hectares land and is actively looking for investors, technical partners and off takers for the project.

Alternatively, Dutch companies can participate in existing initiatives to bring the rPET value chain to a higher level. For example, Dutch companies can also partner with the University of Lagos (UNILAG) for this purpose. They propose a "NIGERIA - DUTCH RPET INITIATIVE (NDRI)". The overall objective of the initiative is to promote human capacity development, technology and machinery transfer between Dutch and Nigerian companies. They mention the following bilateral business opportunities:

- Human capacity development to ensure knowledge transfer in rPET machinery installation and maintenance.
- High technology transfer that ensures only food grade rPET flakes are generated.
- Strategy development for suitable feedstock to keep the industry running.
- Bilateral cooperation to ensure a steady and stable business model for rPET development.

■ COMPRESSION TECHNOLOGY

Plastic collection will be ramped up at the point of generation. For example, the LAWMA Blue Box

initiative, in collaboration with recycling companies, will involve blue collection boxes at households to Plastic collection will be ramped up at the point of generation. For example, the LAWMA Blue Box initiative, in collaboration with recycling companies, will involve blue collection boxes at households to ensure waste is segregated and collected separately. LAWMA intends to add 15 more hubs to their existing 5 community recycling centres. Moreover, companies such as Chanja Datti, RecyclePoints, and Wecyclers are actively looking to create plastic waste collection hubs. However, transporting plastic to recycling facilities from these hubs is expensive due to its 'empty volume'.

Opportunity: There are many players who collect and recycle, but there is scope for large players to ramp up production, as well as need for better technology to ensure all rPET flakes are suitable for the food & beverage industry. A Dutch consortium of companies can partner with the waste collection companies and then recycle PET at a large scale in flakes and pellets. It can have off take agreements

■ PET TO MICROFIBER RECYCLING FACILITY

Most recycling companies operating in the Nigerian market specialize in the recycling of clear PET bottles but there are still large quantities of clear PET bottles that are not being recycled. The demand of the recycled product (microfiber) currently outstrips supply.

Opportunity: There is a need for more PET to microfiber recycling companies in Lagos as there is a large demand of the recycled product but very few companies interested in recycling. Dutch companies can partner with a company like MustHave pillows, who are actively looking to set up a PET collection and recycling facility and who can realize their plans when they have strong (technical) partners. MustHave Pillows is one of the major off takers of the plastic waste microfibre for the production of their pillows.

■ OTHER PLASTIC PROCESSING

Most recycling companies operating in the Nigerian market specialize in the recycling of clear PET bottles. Other types of plastic wastes are usually indiscriminately disposed of, burned, or

(occasionally) exported. There is a need to recycle those other plastics as well. The volume is large enough while waste collection companies will have the capacity to supply such materials to a recycling plant.

Opportunity: There is a need for the recycling of specialized plastics such as those made from acrylonitrile butadiene styrene (ABS). Dutch companies can partner with e.g. Chanja Datti that considers setting up an ABS recycling facility.

■ TURNING PLASTIC WASTE TO ENERGY

The Food and Beverage Recycling Alliance (FBRA) has project collaborations with different stakeholders such as Geocycle (Lafarge), Recycledge, NESREA and LAWMA amongst others. FBRA's collaboration with Geocycle and Fast Moving Consumer Goods like Nestle and Unilever is on the conversion of coloured (green & brown) PET bottles into energy instead of being recycled. There is scope to increase capacity.

Opportunity: FBRA in partnership with Fast Moving Consumer Goods companies are actively looking to establish more plastic waste to energy facilities. Dutch companies can partner with the likes of Geocycle to ramp up capacity. Moreover, LAWMA is open to partnerships as the agency and Lagos State government are actively looking to harness waste to resolve power supply issues.

Landfill waste could be excavated and converted through pyrolysis to produce useable fuels for electricity as well. Richbol Environmental Services is interested in exploring such technology.

■ RECYCLING INTO BUILDING AND ROAD CONSTRUCTION MATERIALS

Nigeria is the world's 3rd largest construction market behind China and India. Both the construction of buildings and roads are major industries and some of the country's largest companies can be found in this sector. So far, recycled plastic is hardly used in the sector. It could be a good market though for 'plasphalt' - asphalt where plastic waste replaces the sand and gravel traditionally used in asphalt production. In testing, it was found that plasphalt roads were far less

vulnerable to wear and tear than traditional asphalt. Considering Nigeria's potholed roads and harsh climate, this could be a good solution for Nigeria. Alternatively, plastic waste can be moulded into 'plugs' for potholes, as is also done in e.g. India and UK.

Moreover, it is possible to create 'bricks' out of recycled bags or plastic packaging when forced together in a heat mould to form the blocks. Moreover, plastic bottles can be used. Currently some set of houses some 20 kilometres from the Nigerian capital Abuja, in the village of Yelwa, are been constructed with plastic, sand and concrete. More than 46,000 PET bottles have been used so far.

Opportunity: Dutch companies can look to partner with indigenous construction companies in collaboration with FBRA to start producing plastic blocks. Moreover, the large road construction companies can become off takers of "plasphalt" as well as plastic plugs for potholes, and Dutch companies can partner with other recycling companies to create such materials.

■ PROVISION OF PET WASHING LINE EQUIPMENT

Omnik Limited is a plastic and rubber product manufacturing company focused on film extrusion and conversion of bags into various micro to macro sizes of flexible packaging and jerry cans. The main facets of the company are extrusion, printing, and conversion. Omnik has the facility to extrude polyethylene into film ranging from a thickness range of 3-300 microns or more. Omnik Limited currently has a facility that is capable of recycling 10 tons of plastic per day, and 5 million/6 million water sachet every 24 hours. Additionally, Omnik recently partnered with RecyclePoints, Lagos Business School (LBS) Sustainability Centre, and Dow to launch a pilot project in Nigeria to recycle water sachets.

Opportunity: Omnik Limited has plans for a facility upgrade to 20 million/25 million water sachet every 24 hours and is actively looking to acquire a new PET washing line. Omnik Limited is currently exploring who they can collaborate with on the acquisition of such equipment.

In organic/ bio waste value chain

■ BREWERY WASTE INTO ENERGY

Nigerian Breweries, part owned by Heineken, is the largest brewery company in Nigeria. Others include AB Inbev and Guinness Diageo. These breweries produce spent grains as waste from their production. Currently this material is sold to the animal feed industry as well as livestock farmers.

Opportunity: Nigerian Breweries wishes to start separating the protein from spent grain as part of their zero-waste initiative. They would continue to sell that protein to the livestock and animal feed companies, but the remaining product would be compressed in pellets that can be used to produce energy (to be re-used by the company). Nigerian Breweries is currently exploring who they can collaborate with/ which technology to use to set up this process.

■ WOOD CHIP RECYCLING

The sawmills in Ebute Metta contribute up to 85% of the wood used by furniture factories in Lagos and the surrounding states. The city of Lagos generated about 300 thousand tons/year of wood waste. However, the burning and improper disposal of the sawmill waste such as saw dust, wood chips and shavings cause serious water and air contamination which has consequential health effect on residents.

The Lagos state government has started tinkering with plans for a new set of policies to check the activities of sawmill operators, specifically, with regards to the disposal and indiscriminate burning of sawdust and wood chips across the state. Lagos State Environmental Protection Agency (LASEPA) has begun taking an inventory of all sawmills in the state, following which an enlightenment programme to school sawmill operators on proper methods for disposal of sawdust and wood shavings is expected to take-off.

Opportunity: presently, wood chips are hardly being recycled in the formal economy. There is an opportunity to set up a wood recycling company, partner with LASEPA for the steady supply of the raw material, and compress the wood chips and shavings into building materials or furniture, or partner with existing players to scale production.

■ DRYING YEAST AND RECYCLING INTO FISH FEED

Breweries sell the spent grains to livestock companies. However, the yeast is mostly wasted, while it could be an attractive input for fish feed. Most animal feed is imported and thus expensive. There is a large fish farming industry looking for more locally available quality fish feeds.

Opportunity: Nigerian Breweries (Heineken) is open to Dutch companies that would turn yeast into fish feed on an exclusive deal for each brewery. They have such agreements in place for 2 of their breweries but not for the others, including their largest brewery in the south east of the country. Dutch companies may also be able to offer the technology to the 2 entrepreneurs who currently partner with Heineken, so they can expand their business.

■ ABATTOIR & ORGANIC WASTE TO ENERGY & FERTILIZER

The agro-industry generates huge amounts of organic waste. Nigeria has only a very few ranches, most cows are kept by nomadic Fulani herdsmen. To obtain cow waste, one has to work with the abattoirs. These abattoirs generate tons of punch manure (rumen content) but very little cow manure, making biogas generation from this source a bit more technical and costly. Punch manure has to be pre-processed before it can be sent to an anaerobic digester.

Successful projects include a collaboration of Lagos State government, Friends of the Environment (FOTE), HIS Biogas and Togata Renewable Technologies. It is currently being used to power the Ikorodu Mini Abattoir at Ebute road, Ikorodu, Lagos State for close six hours every day, and also produces fertilizer.

Opportunity: Togata intends to build, own and operate biogas plant from food waste co-digested with animal manures. Dutch companies can partner with the Lagos state government in collaboration with Togata to construct more biogas plants in Lagos. We understand IFAD funds projects like this.

■ DEVELOPING EFFECTIVE COMPOST

Nigeria presently imports several million tons of chemical (inorganic) fertilizers for distribution and sales to local farmers, this fact means that there is a significant market for organic fertilizers in the country. The chemical fertilizers (inorganic) pose danger to the soil, crop, and possibly people.

EarthCare Nigeria Limited is a commercial producer of organic fertilizer in Nigeria using municipal solid waste as raw materials. They have a plant situated at Ikorodu, Lagos State, with a capacity to produce 200,000 metric tons of organic fertilizer per annum under the brand name CompostPLUS.

Opportunity: There is an opportunity to produce compost and package it professionally, which will aid the adoption of such compost by farmers who believe it is less effective than chemical fertilizer. Dutch companies can partner with companies such as EartCare to scale production.

In the e-waste value chain

■ BATTERY RECYCLING

Hinckley Recycling is one of the divisions of Hinckley Group which provides salvage services in internal office recycling, data destruction, collection, and recycling of waste electronics and electrical equipment. They are one of Nigeria's largest recycling companies.

Hinckley Recycling and Closing the Loop (the Netherlands) are currently in partnership on battery recycling, Hinckley exports scrap batteries to Europe for safe recycling. The shipment was done in accordance with the Basel Convention regulations supported by National Environmental Standards and Regulations Enforcement Agency in Nigeria, Verde Impacto, and the Dutch Minister for Foreign Trade and Development Cooperation.

Opportunity: Hinckley recycling is seeking to avoid shipping all batteries outside of Nigeria because exporting the batteries is ultimately not financially sustainable. Hinckley recycling is actively seeking to establish a facility to cater for phone battery recycling, solar battery recycling, and second-life use in the e-waste value chain. Hinckley is currently

exploring who they can collaborate with on the establishment of such a facility.

■ PLASTIC E-WASTE RECYCLING AND DE-POLLUTION OF OTHER MATERIALS FROM E-WASTE

Plastic in e-waste is a constant environmental hazard that has been overlooked in Nigeria. Plastic accounts for about 20% of the 50 million tonnes of e-waste produced each year, and this is expected to reach 110m tonnes by 2050.

Most of the plastic in electronic devices are not designed for recovery or recycling, and thus end up untreated in landfill sites. The unregulated recycling is hazardous to the environment and human health. For example, mercury poisoning is a serious risk to those who use soldering irons to free electronic components.

Opportunity: There is need for plastic e-waste recycling and other materials de-pollution facilities in Lagos to further enable the e-waste value chain. Dutch companies could collaborate with companies such as E-terra, Hinckley, The Initiate Plc, and collaborate with EPRON, to improve this part of the e-waste value chain.

■ HVAC RECYCLING

E-waste recycling initiatives currently overlook HVAC while Nigeria is a large consumer of appliances such as air conditioners. The large appliance manufacturing companies such as LG and Samsung have a strong presence in the country and may be open to taking more responsibility regarding the recycling of their products.

Opportunity: Dutch companies can get involved in HVAC recycling. For example, by partnering with E-terra which has already acquired a hectare of land to start HVAC recycling.

■ ESTABLISHMENT OF E-WASTE COLLECTION DEPOT AND CONSOLIDATION POINT

There is a need for e-waste collection depot and consolidation point as none currently exists in Lagos. It will be very significant to balance and enable the e-waste value chain.

Opportunity: Dutch companies through a joint venture with Nigerian companies can establish an e-waste collection depot and consolidation point in partnership with either E-terra/Hinckley recycling.

■ E-WASTE AWARENESS, ENFORCEMENT OF POLICIES, AND TRAINING

E-waste Producer Responsibility Organization Nigeria (EPRON) is a non-profit organization set up by electrical and electronic producers in Nigeria. It is the first Producer Responsibility Organization (PRO) for electronic waste in Nigeria.

E-waste Producer Responsibility Organization Nigeria (EPRON) recently joined the Waste Electrical and Electronic Equipment (WEEE) forum. This will enable the organization to acquire the technical expertise to guide the Nigerian industry and fulfil its responsibility. EPRON runs various initiatives/programs with some companies such as HP, Zenith Bank amongst others to help fulfil part of their corporate social responsibility (CSR). EPRON have plans for more initiatives/programs in collaboration with different stakeholders focused on e-waste awareness campaign, enforcement of policies and provision of technical know-how trainings.

Opportunity: EPRON sees opportunities and possible partnership with Dutch companies in the whole value chain with emphasis on the areas of e-waste awareness campaign, enforcement of policies and provision of technical know-how trainings. EPRON is actively looking for international support in the aforementioned areas and various stakeholders under EPRON are open to collaborate as well.

Other Opportunities

■ MATTRESS RECYCLING

Mouka Foam is one of the only 2 manufacturers of mattresses with nationwide coverage. An indigenous company with foreign management and 90% owned by private equity company Actis. IMS/ISO certified, Mouka operates according to international best standards.

Mouka achieved zero waste as the foam crumbs are

used to make pillows and PU foam is processed (heated + added chemicals) to make rebound blocks that are used for orthopaedic mattresses. They also buy plastic fibre from recycled PET to use in e.g. duvets. From January 2021 they will also purchase compressed recycled fibre slabs as filling for their products and 90% of the mattresses will then consist of recycled material. This is cheaper for them and it avoids the hassle and high cost of importing PU.

Opportunity: Mouka needs more rebound blocks as currently it can't meet demand for orthopaedic mattresses. It would like to buy from a third party that chops up and processes used mattresses. Mouka believes that this company can collaborate with e.g. Ecoprune for collection from boarding schools and hotels. Mouka suggests that local recycling company Alkem may be open to a collaboration with a Dutch technical partner to supply Mouka with recycled material.

■ TEXTILE RECYCLING FACILITY

Textile recycling companies are needed in the country given the volume of textile waste usually destroyed/burnt/disposed of in the waste landfills around the country. Chellarams plc is large indigenous conglomerate which owns one of the few textile recycling facilities in the country (Kaduna state) where they recycle old textile into reusable textile. However, there are no (large) textile recycling facilities in Lagos/Ogun.

Opportunity: Dutch companies can set up a recycling facility in Lagos. An agreement can be made with the waste collection companies like RecyclePoints, Wecyclers in Lagos on collection of textile waste in their operations. Furthermore, it may be possible to collaborate with Dutch textile manufacturer Vlisco, for which Nigeria is a key market, and which may support recycling initiatives.

■ MEDICAL WASTE TREATMENT FACILITIES

Medical waste management companies are mandated by LAWMA to collect the medical wastes produced by the hospitals and health care centres that are located in their respective designated local government areas. This causes poor collection of

medical waste in some areas if the company does not have the required capacity, while in some areas there may be hardly any collection.

Opportunity: There is need for more medical waste treatment facilities in Lagos given the inadequate collection and poor disposal. Dutch companies can look to partner with medical waste disposal companies like Agoa Waste in their bid to expand their operations and increase capacity.

■ OGUN STATE PILOT SCHEME RECYCLING HUB DEVELOPMENT AND EQUIPMENT SUPPLY

Ogun Waste Recycling Initiative (OWRI) is a waste recycling program created by OGWAMA (the Ogun State Waste Management Authority) to uphold the principles of circular economy through efficient and effective waste conversion strategies and initiative targeted at ensuring that 50% of solid waste is converted to usable materials. OGWAMA plans to establish community recycling centres one in each of the 20 Local Government areas of the State, where materials would be sorted. It further plans to set up a massive hub which aggregates the input of the community recycling centres.

Opportunity: There are opportunities for Dutch companies to collaborate with OGWAMA and local SMEs to develop a pilot scheme of the recycling hub, understudy the model, benchmark the operation with best global practices and build capacity. It also welcomes feedback on areas where knowledge sharing initiatives and technical support can be given. Companies in the state may be interested in joint venture on the provision of equipment and establishment of various facilities. OGWAMA explicitly stated that it would welcome a delegation of Dutch companies to the state during which they would meet the key stakeholders as well as the Governor to discuss partnerships in

■ SUPPLY OF GARBAGE COLLECTION VEHICLES

LAWMA and OGWAMA partner with private sector companies for the collection of waste. They are given a specific area from which they can collect, in such a way that their operations are beneficial. For example, OGWAMA mentioned a NGN 5 million investment to obtain a NGN 60m yearly revenue.

Both government entities will be given out licenses to more/ new waste collection companies.

Opportunity: these private companies require vehicles to collect the waste, especially used garbage trucks. Dutch companies can partner with LAWMA and OGWAMA to connect with the license holders and sell them the required equipment.

■ CONSTRUCTION OF AN ENGINEERED LANDFILL

Dutch companies can partner with The Initiates Plc in their plans to build the first engineered landfill in Nigeria (first in West Africa as well) which would bring about various economic and environmental benefits.

Financing Options and Funds

In many countries, governments and other financial institutions are actively involved in providing an enabling environment for companies operating in waste recycling and circular economy through funding, waivers and tax holidays. An analysis of financing/funding sources of companies interviewed show that about 70% of them commenced operations from equity financing while about 30% fund their business from finance institutions. Only very few start out with grants from donor organizations.

It is important to note that waste recycling is perceived as long-term investment with marginal returns after several years of operations. There is very limited support in terms of financing/funding from the government. CSR projects play a key role in the development of Nigeria's circular economy, as do international agencies.

Nigerian government funding

The government in Nigeria hardly supports companies via funding. However, it tries to make up for this shortcoming in the area of policy creation to enable the smooth operations and growth. Lagos and Ogun both have very active waste management authorities which are also keen to collaborate with international companies.

In October 2020, the Federal Executive Council approved the national policy on plastic waste which focuses on the reuse of plastic waste generated in the country, and in doing so ensures a truly circular economy in the country. The law is expected to boost the level of involvement of financial institutions that already support recycling projects in the country and attract foreign investments as well.

The Bank of Industry, a Nigerian government entity, has also shown an interest in funding circular economy projects though its terms would be close to that of a commercial bank. They are currently managing a solar fund and are looking at ways to become involved in (large) recycling projects as well. The BOI provides access to funds for startups,

SMEs, and large enterprises such as Shongai Packaging Plastics Industries Limited and the Shongai Recycling Plant, both located in Sango-Otta, Ogun State.

The role of banks

Circular economy projects are capital intensive, but commercial bank funding is often not available for smaller companies due to their lack of collateral. Moreover, it can be a very expensive option as interest rates are usually in the double-digit region, even above 20%.

Sustainability initiatives financed by banks and implemented with CE companies are a more important contribution. Some are beginning to embrace the sustainability mindset and are working towards gains that are not necessarily monetary. Some initiatives are highlighted below:

Access Bank Plc: Access bank strives to continuously commit to efficient waste management approaches such as partnering with Recycle point and Parallel point for attain the goal of zero waste-to-landfill.

First City Monument Bank (FCMB): FCMB partnered with Mitimeh on the transformation of water hyacinths into valuable material. It also partners and funds other environmentally friendly organizations through its waste to wealth initiative

Guaranty Trust Bank: Guaranty Trust Banks runs the Waste2Style Initiative such as Recycling waste to play with PP40 Ibadan.

Heritage Bank Plc: Heritage bank is currently the official bank for all recyclers in Lagos state for the next two years and will focus all of their Corporate Social Responsibility programs on the state.

Jaiz Bank: in partnership with Chanja Datti, United Nations Development Programme (UNDP), and Abuja Environmental Protection Board (AEPB) Jaiz Bank has commenced the green account. This is an initiative to promote culture of waste recycling in

Nigeria. Individuals who submit waste, frequently receive cash, after accumulating sufficient point in the green account which will be domiciled in the bank.

Stanbic IBTC Plc: Stanbic IBTC currently drives paper reduction initiatives, Paper waste recycling and Go Green Branch Initiative in partnership with waste recycling companies.

Sterling Bank: Sterling Bank is very active in environmental sustainability initiatives such as partnerships with Lagos State Waste Management Agency (LAWMA) and Wecyclers for effective waste disposal and carbon reduction.

The role of leading multinationals

Grants through the Corporate Social Responsibility (CSR) initiatives of leading manufacturing companies in Nigeria and/or CE projects at their request have become an important source of funding for companies operating in waste recycling and circular economy in Nigeria.

For example, the Coca-Cola Foundation (TCCF) recently provided a grant to a non-governmental organisation, Initiative for The Advancement of Waste Management in Africa (W.A.S.T.E AFRICA), to promote waste as valuable currency for social, good and economic inclusion through the establishment of green recycling hubs across Abuja and Lagos. Moreover, Unilever Nigeria announced a foundry grant to Wecyclers, and other large companies have done similarly.

As either the largest producers of waste or largest buyers of recycled materials, they are a pivotal part of the waste value chain and often business cases in recycling are developed around such large players.

International finance & institutions

There is an increasing number of international institutions looking at Nigeria's circular economy, funding projects to boost the value chain. Below are entities that are currently active in this space and

could be approached for upcoming projects also. There will be others who could be interested to co-finance a Dutch project, for example FMO, which has financed projects in Nigeria but not yet in circular economy.

African Development Bank (AfDB)

The African Development Bank (AfDB) finances projects in waste and wastewater in African countries including Nigeria.

Global Environment Facility (GEF)

The Global Environment Facility has co-financed over 5000 projects globally in the areas hazardous waste, municipal solid waste, organic waste, waste agricultural biomass and wastewater. In Nigeria, GEF has financed major waste management and CE projects which include the Circular Economy approaches for the electronics sector and Environmentally Sound Management and Disposal of PCBs each with a cost of approximately USD 15 million and USD 49 million respectively.

Green Climate Fund (GCF)

The Green Climate Fund (GCF) to date has carried out 9 projects with total financing of USD 173.1 million for mitigation and adaptation projects in the area of greenhouse gas emissions and enhance their ability to respond to climate change in Nigeria.

Joint Initiative on Circular Economy (JICE)

The Joint Initiative on Circular Economy (JICE) is a partnership between the European Union's largest national promotional banks and institutions and the European Investment Bank to invest at least €10 billion in the circular economy by 2023.

United Nations Environment Programme (UNEP)

The UNEP in collaboration with the Federal government, the Global Environment Facility and the UN announced a USD 2 million investment to kick off the formal e-waste recycling industry in Nigeria to address the e-waste challenge and grasp the opportunity of the circular economy. The new investment is expected to leverage over USD 13 million in additional co-financing from the private sector.

World Bank

The World Bank Group has carried out projects in the areas hazardous waste, municipal solid waste,

waste plastics in Africa. Some of these projects include the Lagos Landfill Gas & Composting (USD 2.13 million), EarthCare Solid Waste Composting Project (USD 7.13 million), Oyo State Urban Composting Project (USD 50 million) and Lagos Drainage and Sanitation Project (USD 63 million). Also under the World Bank group:

International Finance Corporation (IFC)

The IFC has sponsored the large-scale waste management and circular economy projects in Nigeria such as the construction of a Continuous Polymerization (“CP”) plant costing about USD 24 million to be sited in Ogun State, Nigeria, with a nameplate capacity of 150,000 metric tons per annum (mtpa) as backward integration to an existing Solid State Polymerization plant amongst other projects.

MIGA Multilateral Investment Guarantee Agency (MIGA)

MIGA has funded several sustainability projects in Nigeria such as the constructing of a float glass and on-line solar control glass production line with a capacity of 500tpd worth USD 70 million by China Glass Holdings Limited (CGHL).

Bilateral and Multilateral Cooperation initiatives

Multilateral cooperation tends to take the shape of either trade in waste, knowledge sharing initiatives and/or funding and investment projects. An increasing number of international governments recognize the opportunities in Nigeria and would like to play a more active role in Nigeria's waste and circular economy.

BILATERAL TRADE IN WASTE

There is increasing recognition that non-hazardous waste could be traded for further processing and recovery under proper controls in Nigeria. The country is now involved in waste trade, which provides potential opportunities to direct waste to countries with a comparative advantage in sorting and processing activities that can boost global recycling rates.

However, one cannot ignore that Nigeria is becoming a dumpsite for e-waste from Europe, America, and Asia. An estimated 500 containers, each carrying about 500,000 used computers and other electronic equipment, enter the country's ports every month from the United States, Europe, and Asia.

According to the UNComtrade, Nigeria exported \$5.5 million (Euro 4.67 million) worth of scrap metal to the Netherlands, India, Spain, and the United Kingdom in 2019. According to their data, The Netherlands and India account for 96% of trade in scrap metal sourced from Nigeria.

Trade in secondary raw materials constitutes an essential element of the trade and circular economy interface for Nigeria. In Nigeria, at the moment, there is currently no comprehensive data on second-hand goods. One potential issue identified is the difficulty in distinguishing trade in second-hand products from exported products for recycling and recovery.

BI/MULTI-LATERAL INITIATIVES

There are an increasing number of initiatives. The ones mentioned below are among the most prominent at the moment.

African Circular Economy Alliance (ACEA)

ACEA is a government-led coalition of African nations and global partners created in 2017, committed to advancing the circular economy transition at the national, regional and continental levels. Together with the African Development Bank and Finnish Innovation Fund Sitra, they organized a virtual event on the circular economy opportunities in Africa's post COVID-19 recovery which was scheduled to highlight circular economy opportunities to accelerate the transition to a low-carbon and climate-resilient development model that bolsters jobs for youth, green innovations and sustainable development in Africa. The event took place on 30 September 2020.

Dialogue on Waste Management in Nigeria - AHK

A series of seminars on waste management and climate change financed by the Foreign Climate Policy Fund of the German Ministry of Foreign Affairs and facilitated by the Consulate General of the Federal Republic of Germany in Lagos, the Energy and Environment Desk of the Delegation of German Industry and Commerce in Lagos and the German Embassy Abuja.

European Commission

The European Union intends to implement sustainable development based on balanced economic growth and price stability examples of these initiatives include:

- [European Union - integrated waste management in Western Africa \(IWWA\)](#)
The EU-funded IWWA project has provided a blueprint of the practical steps countries and regions in western Africa could take to design and implement integrated waste management systems for local communities. The blueprint includes collection, sorting, recovery, reuse and recycling of valuable materials, and disposal methods. The European Union (EU) has disclosed that it spent

over €260 million to provide access to clean water, sanitation and hygiene facilities to over 10 million Nigerians in 14 states.

- **EU Circular Economy Action Plan**

The EU Circular Economy Action Plan embodies all the initiatives along the entire life cycle of products, targeting for example their design, promoting circular economy processes, fostering sustainable consumption.

GIZ Germany

The GIZ through the promotion of pro-poor and environmentally sound recycling strategies launched a project in Nigeria to ensure the informal sector receives greater consideration in the waste management projects of international development cooperation.

LOOP Nigeria

LOOP Nigeria is an active new initiative in helping companies to develop innovative ideas and CE solutions that promote sustainability in the society while adding value to business and economic growth. LOOP Nigeria is a gateway to Nigeria for Finnish players with circular offering.

Sitra – Finland

SITRA is a Finnish Innovation Fund and organizer of the World Circular Economy Forum which brings together over 4000 business leaders, policymakers and experts to present the world's best circular economy solutions. The next annual WCEF will be held for the first time in North America in Toronto, Canada on 13-15 September 2021.

United Kingdom

The UK government's department for international development (DFID) over the years have implemented programs across nine locations in Northern Nigeria through the Propcom Mai-Kafi initiative. Propcom Mai-Kafi is implementing its funding through Palladium International. The program has invested in an indigenous company, Earth Care Nigeria Limited, to provide affordable organic compost to farmers in the North Eastern region of Nigeria.

United Nations Development Programme (UNDP)

The UNDP is currently funding several projects in Nigeria which includes the Sound Environmental Management and Disposal of PCBs in Nigeria. The

project commenced in January 2018 with a budget of USD 1.2 million and is scheduled to end in 2023.

United States

United States supports several initiatives in Nigeria including:

- USAID funded water sachet recycling. DOW Midland, Michigan (US), has partnered with Omnik, RecyclePoints and the Lagos Business School Sustainability Centre to recycle water sachets through a pilot program, designed to show that they can be collected and recycled to be utilized in new, quality packaging applications.
- The US Consulate General, Lagos, is sponsoring the vocational skill acquisition of 100 graduates to learn the art of designing and making furniture from waste. The implementing partner is Pearl Recycling, Lagos.

And of course there are the Dutch initiatives to make sure the Netherlands and Nigeria will collaborate closely to promote the circular economy and enable business from both countries to collaborate.

Networking opportunities

The best way to connect with the Nigerian circular economy stakeholders is to visit the country to meet them -Covid permitting, of course. Until free travel is possible, virtual connections can be made.

However, there are also events one can attend to build better relationships. Many events are organised by catalysts such as the Climate

Innovation Centre, foreign diplomatic missions or government entities. However, most of those would not be announced far ahead of time and are not regular. We therefore cannot list them.

However, there are also a few annual events that represent networking opportunities:

Event	Location	Website
African Waste Management Exhibition & Conference	Lagos	www.africanwastemanagementexpo.com
CSEW Cleaning, Sanitation, Environment and Waste Management Expo and Conference	Lagos	www.bkgexhibitions.com
The Nigeria Waste to Wealth Conference and EXPO	Lagos	www.accinigeria.com/event/nigeria-waste-to-wealth-expo/
The Nigeria Waste to Wealth Conference and EXPO	Lagos	www.wacee.net

It is worth noting that Nigerian companies have the propensity to attend fairs and tradeshow in other countries, including in Europe.

Conclusion

In Nigeria and Lagos in particular, the waste management and circular economy sector is a relatively new developing area. The sector is in the process of its evolution not only into a 21st century economy but even one that can be on par with their European counterparts. Ongoing private public partnership has had the effect of boosting the development and activities in the sector which has caught the attention of foreign countries -including The Netherlands. With the initiatives and project by various key stakeholders, there is a cautious optimism that the next few years will see the waste and circular economy sector develop in leaps and bounds.

There are certainly challenges for any company interested in doing business in Nigeria, such as poor infrastructure, a lack of regulatory enforcement, political changes, a volatile exchange rate and poor financing/funding options. However, circularity is an increasingly profitable business. All along the waste value chains, there are several opportunities and projects to explore.

To stay true circularity, the best opportunities are those where both the waste originates from Nigeria, and where the recycled product can be used in Nigeria. Those projects are in Fast Moving Consumer Goods manufacturing (re-use of PET), organic waste used in agriculture, various recycled products for building materials, and recycled mattresses. Some of Nigeria's biggest corporates are active in these sectors.

We believe Dutch companies seeking to operate would be best served by entering a partnership with leading local companies. The knowledge of the sector that such local companies have would assist not only allowing the Dutch companies to efficiently discover opportunities, it would also allow them to navigate the Nigerian business environment.

We recommend that interested Dutch companies contact the companies profiled in this report and discuss in more detail how they can collaborate. CE projects are often driven by the big multinational corporations and associations such as the FBRA

and EPRON can be driving forces of collaboration with such corporates. In our view, the best projects involve a leading (multi)national conglomerate as supplier of waste or off taker of recycled materials (thus the 'anchor' of a bankable project), a local collection/recycling company and their Dutch counterparts.

Of course, in preparing this report we could only interview a relatively small number of companies. Therefore, we recommend that Dutch companies interested in Nigeria's circular economy meet and discuss opportunities with other manufacturing companies as well, not only those that were profiled for this report. The individual members of associations such as the FBRA can have initiatives, such as Heineken's zero-waste drive, that will create opportunities for Dutch companies. Moreover, there are large indigenous producers who may not yet be part of any CE association, but that could play a role in upcoming Dutch projects as well.

All in all, with the right proposition and expert local knowledge gained in well-chosen partnerships with Nigerian businesses, Dutch companies could have a first-mover advantage in what could be in a few years among the biggest waste and circular economy countries in the world. With high expectations and willingness among key stakeholders to collaborate in driving this growth, there is no better time to invest in unlocking the waste and circular economy potential of Nigeria than now.

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The majority of information has been derived from our interviews with close to 40 sector experts/ key companies in Nigeria's circular economy. Figures mentioned in our report were further derived from the following sources:

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Appendix

The table below entities that are active in the waste management and circular economy in Lagos, Ogun and other parts of Nigeria. Though elaborate, this is by no means a complete list. Most of these entities have been consulted during the course of the project and their insights have been included in this document.

KNOWLEDGE INSTITUTIONS/ NGOS/ CATALYSTS/ GOVERNMENT

Name	About
Africa Clean up Initiative. www.acuinitiative.org	African Clean Up Initiative (ACI) is a non-governmental organization (NGO) driven to create awareness about waste in the society and raise environmentally responsible citizens in Nigeria.
Circular Economy Innovation Partnership (CEIP) www.ceipafrica.com	The Circular Economy Innovation Partnership (CEIP) is a three-part organisation that seeks to drive the transition to a Circular Economy (CE) through advocacy, developing circular businesses and economic growth from investment in circular economy.
E-waste Producer Responsibility Organization Nigeria (EPRON) www.epron.com.ng	E-waste Producer Responsibility Organization Nigeria (EPRON) is a non-profit organization set up by electrical and electronic producers in Nigeria. It is the first Producer Responsibility Organization (PRO) for electronic waste in Nigeria.
E-Waste Relief Foundation www.ewasterelief.org	E-waste Relief Foundation (ERF) is Nigeria's flagship Non-governmental organization (NGO), focused on tackling the electronic-waste (e-waste) crisis within Nigeria and the West African sub-region.
Federal Ministry of Environment www.environment.gov.ng	Federal Ministry of Environment was established to ensure effective coordination of all environmental matters.
Food and Beverage Recycling Alliance (FBRA) www.fbranigeria.ng	The Food and Beverage Recycling Alliance (FBRA) is a team of responsible and looking forward companies united by a shared concern for the environment and committed to promoting the sustainability of our environment by driving a self-regulatory post-consumer packaging waste recovery within the food and beverage sector.
Lagos State Environmental Protection Agency (LASEPA) www.lasepa.gov.ng	LASEPA aims to build a portfolio of sound environmental management programs and projects in the development of a sustainable environment in conjunction with other arms of government, regulatory organizations and international agencies.

Name	About
<p>Lagos State Ministry of the Environment and Water Resources (MOE) www.moelagos.gov.ng</p>	<p>Lagos State Ministry of Environment and Water Resources is the state government ministry, charged with the responsibility to plan, devise and implement the state policies on environmental management and water resources.</p>
<p>Lagos State Waste Management Agency (LAWMA) www.lawma.gov.ng</p>	<p>Lagos State Waste Management Agency (LAWMA) is a government of Lagos State body responsible for managing waste generated in Lagos state through a waste collection, transportation and disposal structure.</p>
<p>Lagos Sustainability Centre www.lbssustainabilitycentre.edu.ng</p>	<p>Part of the respected Lagos Business School. The school is known for various sustainable management initiatives and project.</p>
<p>National Environmental Standards and Regulations Enforcement Agency (NESREA) www.nesrea.gov.ng</p>	<p>NESREA is responsibility for the protection and development of the environment, biodiversity conservation and sustainable development of Nigeria's natural resources in general and environmental technology including coordination and liaison with relevant stakeholders within and outside Nigeria.</p>
<p>Nigerian Climate and Innovation Centre (NCIC) www.nigeriacic.org</p>	<p>Nigeria Climate Innovation Centre (NCIC) is a member of a worldwide CIC network established to provide business advisory, venture development through incubation and acceleration programs, access to fund and mentorship for businesses or products focused on providing entrepreneurial solutions to climate change-related problem in the sectors: agribusiness, waste management, water management and renewable energy.</p>
<p>Ogun state waste management authority (OGWAMA)</p>	<p>Ogun State Waste Management Authority (OGWAMA) was established in October 2019 and promulgated into a law by the State House of Assembly in July 2020. The policy objectives for the State Waste Management reform are centred on provision of clean and liveable environment; sustainable Municipal waste management services; Job creation and provision of Investment opportunities.</p>
<p>University of Lagos (UNILAG) www.unilag.edu.ng</p>	<p>The University of Lagos, popularly known as UNILAG, is a public research university in Lagos, Nigeria. It is one of the five first generation universities in Nigeria and was founded in 1962. The University is known for various waste management and circular economy project.</p>

Name	About
<p>Waste Management Society of Nigeria (WAMASON) www.wamason.org</p>	<p>Waste Management Society of Nigeria (WAMASON) is non-governmental professional organization that aims to protect public health, control pollution, conserve ecological capital and promote waste to wealth initiatives, and innovations such as waste to energy and minimize contribution of waste to greenhouse gases emission and climate change.</p>

CIRCULAR ECONOMY COMPANIES

Name	About
<p>Agoa waste management company www.agoawaste.com</p>	<p>Agoa waste is a medical, biohazard and industrial waste management company.</p>
<p>Alkem Nigeria Limited</p>	<p>Alkem Nigeria Limited is a recycled PSF manufacturer from hot washed pet flakes.</p>
<p>AlonGreen Recycling Limited</p>	<p>AlonGreen recycling offers services on the transportation of reusable recyclables from dumpsites to recycling plants.</p>
<p>Chanja Datti www.chanjadatti.com</p>	<p>Chanja Datti is involved in collection and recycling of different types of waste.</p>
<p>Cyrus45 Factory www.cyrus45.ng</p>	<p>Cyrus45 Factory is an art-inclined home décor that upscales waste items into bespoke and ultra-modern furniture pieces and home wares.</p>
<p>De Star Metal Industries www.destarmetals.com</p>	<p>De Star Metals Industries is a manufacturer and recycler of aluminium alloy and copper ingots.</p>
<p>Del Waste Management Company www.delwastemgt.com</p>	<p>Del Waste provides services to the oil and gas industry in the areas of environmental and waste management services.</p>
<p>Dross to gem recycling limited www.f6s.com/drosstogemrecyclingltd</p>	<p>Dross to Gem is a green start up that recycles paper into quality furniture, packaging materials, and artwork.</p>

Name	About
E – Terra Technologies Limited www.eterra.com.ng	E-Terra Technologies specializes in the management of e-waste.
EarthCare Nigeria Limited www.earthcarecompostplus.com	EarthCare produces organic fertilizer using a mix of organic waste as raw materials.
Ecoprune Africa Limited www.ecoprune.com	Ecoprune is a social enterprise promoting waste recycling among households, schools, businesses, and organizations.
EngeePET Manufacturing www.engeePET.net/home	Engee PET Manufacturing Company Nigeria Limited is the leading manufacturer of the highest quality food-grade PET resin.
Envirocycles Limited	Envirocycles Limited is a waste recovery, recycling, and reuse operator.
Environmental Accord www.envaccord.com	Environmental Accord Limited offers consultancy services in environmental information management and risk management
Geocycle www.lafarge.com.ng/geocycle	Geocycle is a division of LafargeHolcim that offers waste management services to a variety of waste generation sectors.
Globetech Remedial Nigeria Limited www.globetechremedial.com	Globetech Remedial Nigeria Limited is a waste and resource management company with expertise in environmental management.
Greenhill recycling www.ghrng.com	Greenhill Recycling is an agency that operates on post-consumer recycling.
Hinckley Recycling www.hinckley.com.ng	Hinckley Recycling is involved in the collection and recycling of waste electronics and electrical equipment.
Jawura Environmental Services Limited www.jawura.com.ng	Jawura Environmental Service Limited (JESL) is an environmental, safety, industrial, analytical chemist and waste management company.
Juststandout www.juststandout.com	Juststandout provides holistic alternative energy for home, organizations, and corporate bodies.

Name	About
Kaltani www.kaltani.com	Kaltani is a technology backed plastic recycling company. They collect, sort, wash and recycle (post consumer & post industrial) PET, PE, & PP Plastic waste into Hot washed Flakes & Pellets respectively. KALTANI utilizes blockchain technology for data analytics, data visualization, predictive analytics, and geo-location analytics offering near real time and historical data about their process. This offers both transparency and traceability throughout our value chain.
Localine www.localine.ng	Localine produce paper pencils from recycled newspaper.
Maanar www.maanar.com	Maanar provides smart bicycles for easy communal use in communities in Nigeria.
Mitimeth www.mitimeth.com	MitiMeth creates handcrafted products from natural fibres that would otherwise be considered waste or environmental menaces.
Musthave Pillows	Musthave pillows makes use of recycled microfibers from PET products in the production of their various collection of pillows and foam materials.
Natural Eco Capital www.ecopital.com	Natural Eco Capital, a Member of the Natural capital coalition, works with government, financial institutions and investors on sustainability issues as they relate to natural capital, climate change and low carbon economy, Sustainable finance and circular economy.
Odun Environmental Limited www.odunenvironmental.com	Odun Environmental Limited (OEL) is an environmental management and pollution control services.
OkwuEco App www.okwueco.com	OkwuEco is a marketplace platform to smooth solid waste disposal and encourage recycling. It is an application that assists users in identifying, sorting, buying, selling, and disposing of solid waste from anywhere for cash or points.
Omnik Limited www.omnik.biz	Omnik Limited is a plastic and rubber product manufacturing company focused on film extrusion and conversion of bags into various micro to macro sizes of flexible packaging and jerry cans.
Paper bags by Ebees www.paperbagsbyebees.com	Paper bags by Ebees is a social venture that manufactures Eco friendly alternatives to single use plastic packaging targeting SMEs in food service.
Pearl Recycling www.pearlrecycling.com.ng	Pearl Recycling is a social enterprise focused on green innovation and job creation through creative reuse of municipal solid waste and vocational skill transfer especially in the area of furniture making out of waste materials.

Name	About
Planet 3R www.f6s.com/planet3r	Planet 3R is a social enterprise dedicated to converting textile and plastic wastes into Eco-friendly waste products.
RecyclePoints www.recyclepoints.com	RecyclePoints is a waste recycling operating in an incentive-based scheme which collects recyclable materials from post-consumers and rewards them.
Richbol Environmental Services Limited www.richbol.com	Richbol Environmental Services Limited is a waste/environmental management company with specialization in municipal solid waste management.
Salubata www.salubataofficial.com	Salubata is an enterprise dedicated to produce shoes from recycled products and substances.
Scientific Ideas Limited www.scientificideasltd.com	Scientific Ideas Limited is an accredited environmental consultant that provides environmental impact assessment.
Scrapays www.scrapays.com	Scrapays facilitates the recovery of recyclable material by allowing individuals to sell their scrap and scrapable materials.
Shongai Packaging Industries Limited www.shongaipackaging.com	Shongai Packaging Industry provides plastic recycling services in Nigeria.
Street Waste Company Limited (SWCL) www.swcl.com.ng	Street Waste Company Limited (SWCL) is an environmental and waste management company.
The Initiates Plc. (TIP) www.initiatesgroup.com	The Initiates Plc. (TIP) is a waste management company that provides services to both private and public sectors.
The Shred Station www.theshredstation.com	The Shred Station specializes in providing tailored document destruction services. They partner with banks, diplomatic missions etc especially for destruction of confidential information. They supply the paper shreds to recycling companies.
Tongda Industries Limited www.tongdaniq.com	Tongda Industries Limited specializes in the sales of Nylon/plastic recycling machines, PVC pipe recycling plants, and other types of recycling machines.
Universal Care Limited www.universalcarelimited.com	Universal Care is a provider of comprehensive waste management services in Lagos.
Wastecare Solutions and Resources Management Limited www.wastecaresolutionsng.com	Wastecare Solutions and Resources Management Limited is an integrated waste management solutions company.

Name	About
Waste-Point Limited www.wastepoint.com.ng	Waste Point Limited is a waste management solution company with services in waste transfer & landfill facility management.
Wecyclers www.wecyclers.com	Wecyclers is a company that specializes in household waste recycling, collection of waste, redirect waste from landfills. They empower individual waste collectors and reward households with a points system.
West Africa ENRG www.westafricaenrg.com	West Africa ENRG is the largest private Landfill Diversion company in West Africa.
Yetlaw Environmental Services www.yetlaw-environmental-services.business.site	Yetlaw Environmental Services is a Lagos based waste management company.

MULTINATIONALS RELEVANT FOR CE PROJECTS

Name	About
BAT Nigeria www.batnigeria.com	British American Tobacco Nigeria is a manufacturer and marketer in Nigeria's tobacco sector.
Chellarams www.chellaramsplc.com	Chellarams Plc is a multi-diverse company that are into the procurement and supplies of foam chemicals and industrial raw materials used in cosmetics production and related others.
Coca-Cola Hellenic Nigeria www.coca-colahellenic.com	Coca-Cola Nigeria has interests in the manufacturing, retailing, and marketing of non-alcoholic beverages.
Dow Chemicals www.dow.com	Working in partnership with Omnik, RecyclePoints and the Lagos Business School (LBS) Sustainability Centre, Materials science specialist Dow has launched a pilot project in Nigeria to recycle water sachets. The project is called ReflexNG.
GMT Limited www.gmt-limited.com	GMT Limited is a logistics company that can support international entities who set up local manufacturing, e.g. by reducing the cost of equipment imports.
Guinness Nigeria www.guinness-nigeria.com	Guinness Nigeria has interests in the manufacturing, retailing, and marketing of alcoholic beverages.
Intercontinental Distillers www.idl.ng.com	Intercontinental Distillers Limited are producers and marketers of alcoholic and non-alcoholic beverages.
International Breweries www.internationalbreweriesplc.com	International breweries, a member of the Ab-InBev family, is a major distributor of alcoholic and non-alcoholic beverages nationwide.

Name	About
Mouka Foam www.mouka.com	Mouka Foam is one of only 2 companies that manufacture and distribute mattresses nationwide.
Nestle foods www.nestle-cwa.com	Nestle is a manufacturer and marketer of confectionaries products in Lagos
Nigerian Breweries www.nbplc.com	Nigerian Breweries is Nigeria's largest brewing company with majority ownership of Heineken. They have a zero-waste drive and expect to have zero waste by 2021.
Rite foods www.ritefoodsltd.com	Rite Foods are manufacturers of processed food items such soft drinks and pastries.
Seven up Bottling company www.sevenup.org	Seven Up Bottling company Plc has interests in the manufacturing, retailing, and marketing of non-alcoholic beverages.
Unilever Nigeria www.unilever-ewa.com	Unilever Nigeria Plc. is engaged in the manufacture and marketing of foods and food ingredients, and home and personal care products.

FINANCIAL INSTITUTIONS

Name	About
Access Bank PLC www.accessbankplc.com	Access Bank Plc is a multinational commercial bank, owned by Access Banks Group and licensed by the Central Bank of Nigeria.
Bank of Industry (BOI) www.boi.ng	Bank of Industry Limited is the oldest and largest development finance institution currently operating in Nigeria.
Fidelity Bank Plc www.fidelitybank.ng	Fidelity Bank Plc. is a licensed commercial bank in Nigeria with international authorization by the Central Bank of Nigeria.
First Bank of Nigeria www.firstbanknigeria.com	First Bank of Nigeria is one of Nigeria's oldest financial institutions and has been in existence since 1894.
First City Monument Bank Plc www.fcmb.com	First City Monument Bank Ltd is a banking group, headquartered in Lagos.
FMDQ www.fmdqgroup.com	FMDQ OTC Securities Exchange promotes market development in the Nigerian OTC financial markets, with a primary focus on the OTC markets.

FINANCIAL INSTITUTIONS

Name	About
Guaranty Trust Bank www.gtbank.com	GTB is a Nigerian multinational financial institution, that offers online/internet banking, retail banking, corporate banking, investment banking and asset management services
Heritage Bank Plc www.hbnq.com	Heritage bank is an indigenous financial institution founded in 2012 and offers retail banking, corporate banking, online/internet banking, investment banking and asset management.
International Finance Corporation (IFC) www.ifc.org	The International Finance Corporation is an international financial institution that offers investment, advisory, and asset-management services to encourage private-sector development in less developed countries.
Private Infrastructure Development Group (PIDG) www.pidg.org	The Private Infrastructure Development Group ('PIDG') is an innovative infrastructure development and finance organisation that encourages and mobilizes private sector investment in infrastructure in the frontier markets of sub-Saharan Africa and South and South-East Asia.
Stanbic IBTC Plc. www.stanbicibtcbank.com	The Private Infrastructure Development Group ('PIDG') is an innovative infrastructure development and finance organisation that encourages and mobilizes private sector investment in infrastructure in the frontier markets of sub-Saharan Africa and South and South-East Asia.
Sterling Bank www.sterling.ng	Sterling Bank Plc, which is a full service national commercial bank is licensed by the Central Bank of Nigeria.
Union Bank of Nigeria www.unionbankng.com	Union Bank is one of Nigeria's oldest financial institutions commencing operations in 1917
Wema Bank www.wemabank.com	Wema Bank is an indigenous financial institution offering retail banking, SME banking, corporate banking, treasury, trade services and financial advisory.
Zenith Bank www.zenithbank.com	Zenith Bank is a top-tier financial service provider in Nigeria and Anglophone West Africa.

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