

PROJECT TEASER

Kampala Waste Treatment and Disposal **PPP**



October 2017



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Section One

Important Notice

This investment brief (hereafter referred to as the **“Teaser”**) has been prepared by the International Finance Corporation (**IFC**) on behalf of their client, the Kampala Capital City Authority (**KCCA**) in line with their mandate as Transaction Advisors to KCCA in the development, structuring and tendering of the Kampala Solid Waste Treatment and Disposal PPP Project (the **“Project”**).

This Teaser is being issued by KCCA solely for the purpose of assisting prospective investors to preliminarily assess the opportunity to invest in the Project. This Teaser does not purport to be all inclusive or to contain all of the information that a prospective bidder may require in making its decision to participate in the upcoming tender. Where this document describes any contractual, commercial or other legal arrangements which are not yet in force, those arrangements remain subject to change.

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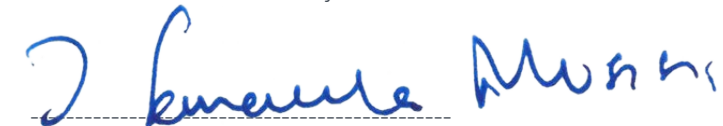
Executive Director’s Foreword

Kampala Capital City Authority (“KCCA”) is mandated to facilitate the delivery of quality services to the people in the City in a manner that ensures value for money. In its undertaking, KCCA meets its mandate by implementing programmes financed by Government, Development Partners, Locally generated revenues and partnerships with credible private sector entities.

The provision, of adequate sanitation services to the city and increasingly our role that ensures we develop projects that respond to a strategy to mitigate the effects of climate change, is at the forefront of our desire to develop effective and modern waste treatment and disposal facilities for Kampala City.

Waste collection and transportation has greatly improved and currently, 1300 tonnes of collected waste is delivered to the existing landfill in Kiteezi. Our newly acquired site for a proposed modern waste treatment and disposal facility will be a key element in enabling us achieve our objectives of harnessing private sector innovation and expertise to develop a sustainable solution that offers value for money.

Through the issuance of this teaser document, we seek to commence dialogue with the private sector on how we can work as partners to achieve KCCA’s overall objectives.



Jennifer Musisi Semakula Ph.D (h.c)
Executive Director



Potential Opportunity at a Glance

A first of its kind investment ready opportunity in Uganda that highlights the huge potential for waste treatment and disposal in Africa.

The Project will manage at least **1,000 daily tonnes** of Municipal Solid Waste (“MSW”) guaranteed and delivered by KCCA to the existing disposal facility within Kampala City. In return, KCCA seeks to partner with a credible entity to design, build, finance and operate a treatment and disposal facility.

2 sites; a 35-acre existing landfill and an 140-acre greenfield site will be made available to the private partner who will be expected to carry out:

- Remediation/closure and aftercare of the existing landfill at Kiteezi
- Construction, operation and maintenance of a treatment facility with proven technology to divert waste away from landfill
- Construction, operation and maintenance of a new landfill at Ddundu for the disposal of untreated or treated residual waste

Highlights



- Favorable regulatory environment



- PPP Act passed in 2015



- Gate fee payable per tonne of waste delivered



- Support in securing a long-term Power Purchase Agreement (“PPA”)



- Take or Pay arrangement

KCCA anticipates private sector investment of between

\$80m

to

\$100m

in the project



Overview

A
Waste
Delivery

B
Sorting &
Recycling

C
Landfill &
Leachate
treatment

D
Treatment
Facility

E
Energy
substation

F
Administartion
Block



UGANDA: Demography & Economics

Strategically located in East Africa, Uganda offers investors unrivalled access to the greater East, Central and Southern Africa growth markets. Covering an area of 241,038km, the country is bordered to the East by Kenya, to the North by South Sudan, to the West by the Democratic Republic of Congo, to the Southwest by Rwanda and to the South by Tanzania.

Uganda's Gross Domestic Product (GDP) in 2016 was **\$26 billion**, with per capita GDP of **\$642**. The current estimate of the population is **41 million**. Nearly 2.5 million reside in Kampala with the number close to doubling during the day owing to the economic attractiveness of Kampala city.

Uganda's economy quickly recovered from the 2009 global economic downturn largely due to past reforms and sound management of the crisis. A recap of key economic indicators over the last available 4-year period is provided below;-

Indicator Name	2013	2014	2015	2016
Population, total (Millions)	37	38	40	41
GDP (current US\$ billion)	24	27	28	26
GDP growth (annual %)	3.6	5.2	5.0	4.6
Inflation, GDP deflator (annual %)	3.5	4.5	5.8	6.6
Time required to start a business (days)	28	28	27	26

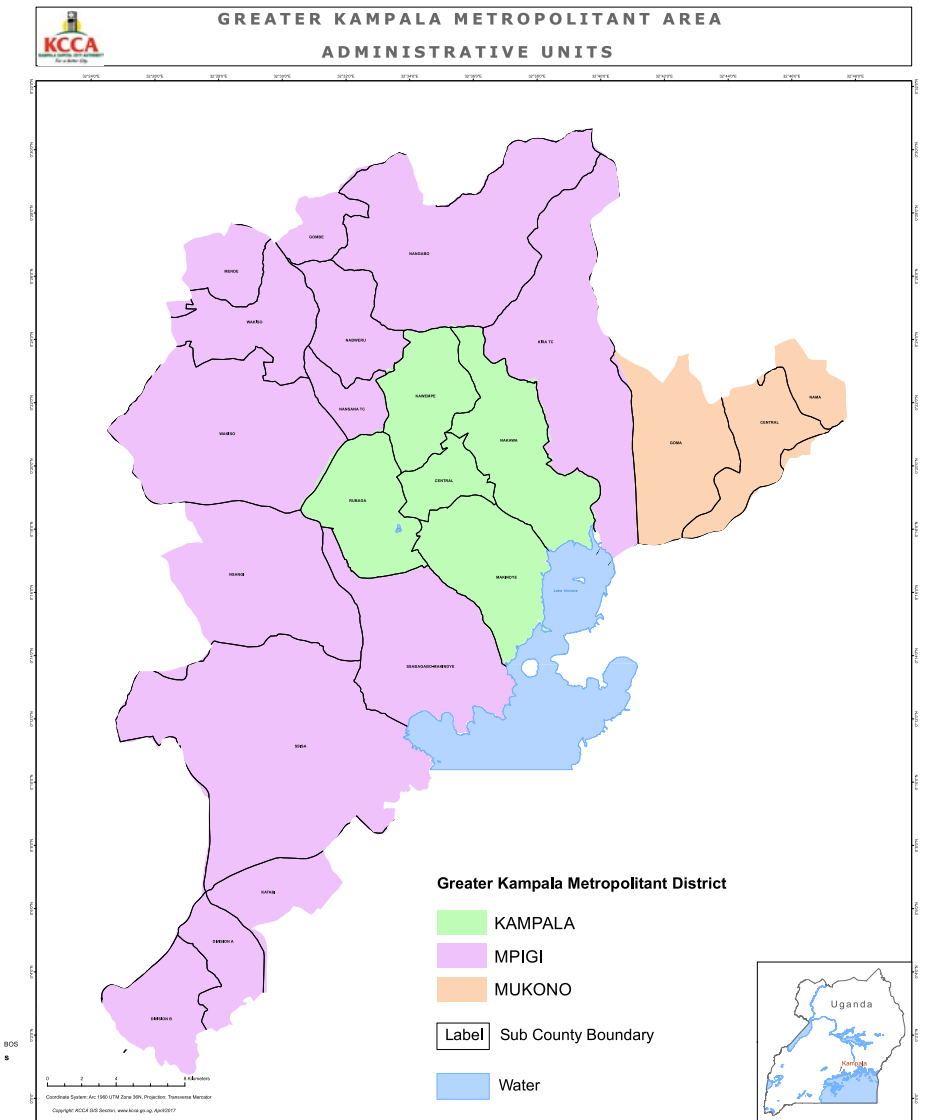


Waste in Kampala

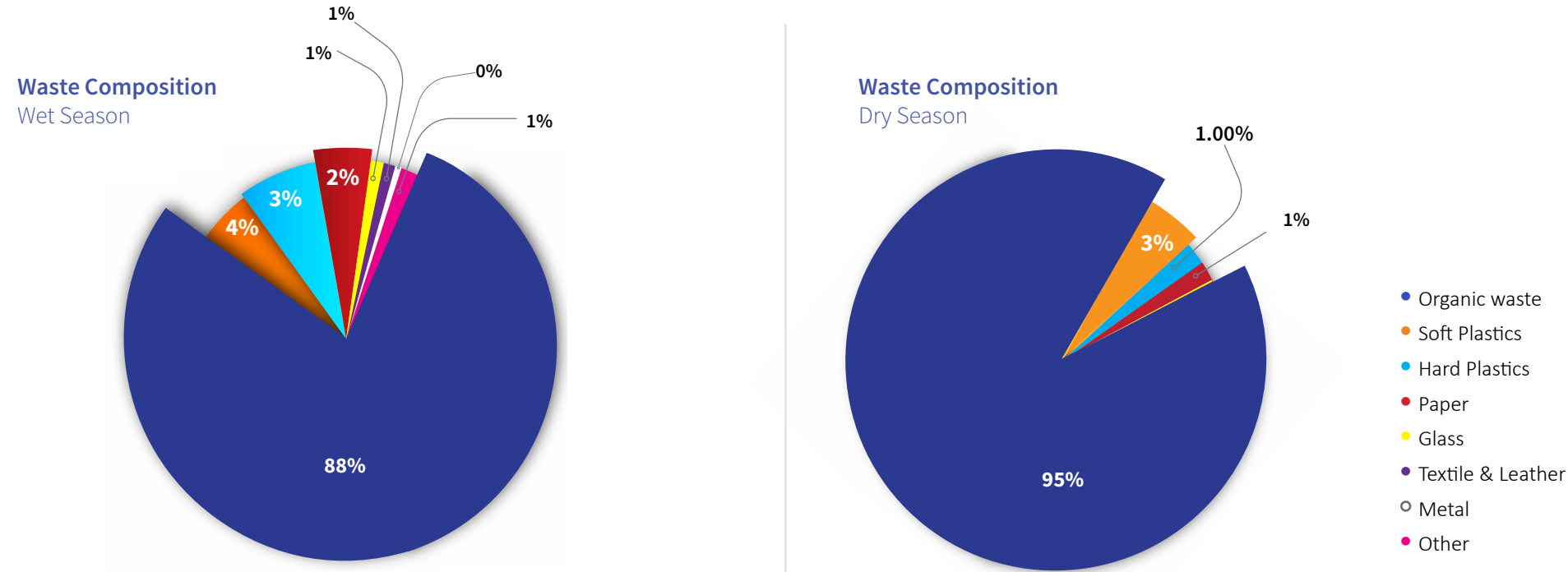
1.1.Waste Collection and Transport

KCCA is responsible for waste collection, transport, safe disposal and treatment in Kampala City. However, the Kampala Solid Waste Management Ordinance (2000) mandates KCCA to contract services of private parties (as delegated agents) to invest and undertake business operations along the waste management chain. This mandate has been strengthened by the Public Private Partnerships (PPP) act of 2015 which leverages a private sector driven environment in key service delivery sectors of government.

Whereas the waste collection and transport was contracted to local private companies under a PPP arrangement throughout the city since 2016, KCCA still provides the same service in critical public premises and some pockets of informal settlements. On the contrary, waste disposal and treatment at the Kiteezi landfill site is still fully financed and managed by KCCA.



The indicative waste composition for wet and dry seasons is presented below;



Source: Article in Journal of the Air & Waste Management Association, March 2014

Source: Article in Journal of the Air & Waste Management Association, March 2014

The lower calorific value (LCV) can be determined in a laboratory test or estimated from using a mathematical model. The following arithmetic formula has been used to compute the for Kampala

$$LCV [kcal/kg] = 40 (a + b + c + d) + 90e - 46W$$

% of wet weight:

a = paper

b = textiles

c = wood and leaves

d = food waste

e = plastic and rubber

W = water (assumed to be 60%)

$$LCV = 40 * (2.2 + 0.7 + 88.5) + 90 * 6.6 - 46 * 60 = kCcal/kg \text{ (approx. 6.2 MJ/kg)}$$

1.2.Waste Generation and Collection Forecast

Data from Kiteezi landfill suggests that the actual waste transported to the site is approximately 1,300 tons/day. Approximately 50% is collected by KCCA and the rest (i.e. 33%) is collected by the private operators.

The primary sources of municipal solid waste (MSW) generation are private households, transient population, market places, commerce, industry, public administration, kindergartens & schools, hospitals and tourists to be covered by the municipal waste collection system. Waste generation in 2014 was estimated as follows;

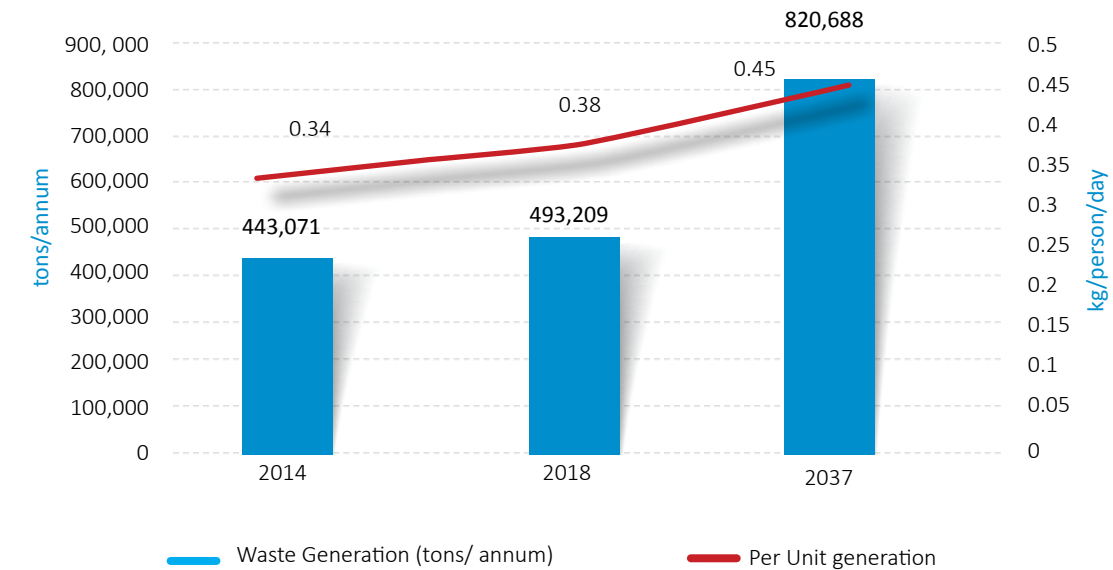
- Kampala City – permanent population:** 0.55 kg/person/day
- Kampala City – transient population:** 0.18 kg/person/day

The forecast of municipal waste generation is mainly dependent on two factors, namely the population growth and the economic growth.

KCCA has estimated waste generation in Kampala based on the following factors –

- Year on year GDP growth of 4.55%**
- Population growth**
- Growth in per capita waste generation at 0.91%**

Waste Generation Forecast



1.3.Kiteezi Landfill

The Kiteezi landfill in Wakiso district (15km from Kampala City center) will be the subject of the concession. It currently collects around 1,400 tons of waste a day from Kampala and it is owned and managed by KCCA. The current regulation imposes on all waste collection companies to dispose the waste in the Kiteezi landfill. There are currently no other licensed waste disposal and treatment facilities in and around Kampala. The surrounding area comprises of domestic residences (which were built after the landfill was operational), vacant land and plastic recycling workshops.

At the entrance to the landfill area a 6 m weighbridge is installed (Avery Weightronix, model E1105). The weighbridge however, has despite repairs been in operation on an infrequent basis due to design/ installation challenges since 2011.

North of the site is a gravel pit which has previously been used for cover material at the landfill mainly interim covering. The site is fenced; however, some sections of the fence are not fully intact.

A gravel service road has been constructed around the landfill. Some leachate has been observed in the channels along the road. This leachate is diverted to a balancing pond.

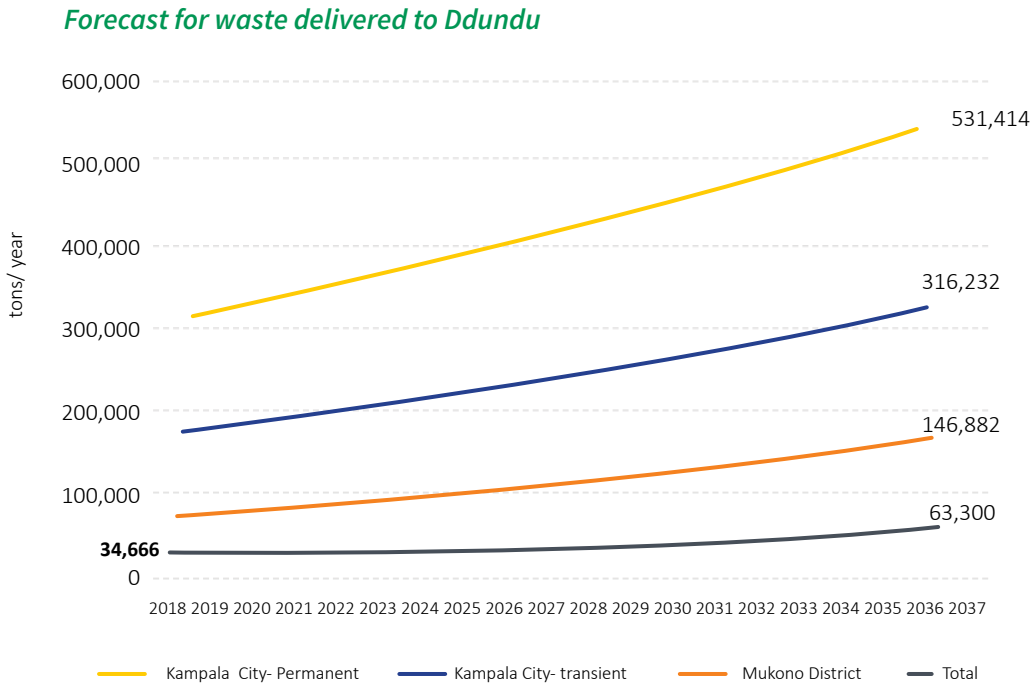
The existing site has been constructed without a proper liner system. Along the western part and southern part of the current waste disposal area is at the bottom constructed a stone blanket, from where the leachate is collected via HDPE 160 mm diameter pipes. These pipes transport the leachate to the leachate collection system. A leachate treatment plant has been established on the north-eastern part of the site based on a simple aeration principle (equalization, settling,

aeration and clarifying processes). Records available indicate that quantity of raw leachate directed to the LTP are estimated at 166 m3/day (61,000 m3/year).

1.4.New Site at Ddundu

A 140-acre site has been identified 40km from Kampala City (30 km from Kiteezi) in Ddundu, Kiryamuli and Buntaba Villages in Mukono District for the Project. Geo-technical and topographic studies are being undertaken for the Project and will be made available to prospective bidders. It is expected that waste from Kampala and Mukono will be treated and disposed at this site. The chart below shows the estimated 20-year waste disposal forecast for Kampala and Mukono District, based on the following assumptions

- *Population growth of 1,79% per year for both permanent and transient population in Kampala. Population growth of 2,70% for Mukono;*
- *Annual waste generation growth rate per person of 0,91%, reflecting 20% of GDP growth rate (4,5%);*
- *Collection efficiency of 60% in Kampala, which reflects the assumed increase in collection efficiency after the award of the 3 concessions. Collection efficiency in Mukono is estimated at 40% due to the rural character;*
- *Recyclable material taken out of the waste stream before disposal is estimated at 5%. After landfilling another 1% is expected to be taken out for recycling.*
- *The average amount of waste expected to arrive at the new landfill site over the 20-years period is approximately 400.000 tons per year, or 1,100 tons per day.*



Section Two

The Project

KCCA is seeking a private partner in the design, build, finance and operate of a waste treatment and disposal facility for Kampala city and its greater metropolitan area.

Currently, 90% of the 1,300 tonnes of waste delivered at the final disposal point in Kiteezi is landfilled. With 12% of global methane emissions being generated by landfills, KCCA's long term strategy with respect to waste management is to mitigate its impact on climate change whilst providing superior service to the residents of Kampala city.

In waste management, there is no throwing away

Key features of the Project

1. Scope

The Project scope shall include the development and construction of new waste treatment and disposal facilities, including the construction of a new sanitary landfill for residual nonhazardous and inert waste, including the operation of a transfer station and the provision of aftercare of the existing landfill. For clarity, the Project scope shall not include waste collection and primary transportation.

2. Waste guarantee

KCCA intends to deliver a minimum of 1,000 tonnes of waste every day under a Deliver or Pay obligation. The investor will be expected to make their own investigations with respect to the quality and composition of waste.

3. Sites

Kiteezi- 35 acres of existing landfill Ddundu- 140 acres of unoccupied, unencumbered land approximately 30 kms from Kiteezi

The diversion of waste from the landfill is strongly encouraged but the technology must be proven

Jennifer Musisi - KCCA ED





KCCA Project Expectations

Tailor make a solution fit for Kampala

- Understand local needs, asses the existing system to deliver a sustainable solution for waste disposal and treatment in Kampala
- Develop a communications plan and engage with stakeholders to build a community solution that is socially and environmentally acceptable

Raise long term financing secured to project cashflows

- Innovate solutions that are proven and bankable
- Optimize the value of carbon emissions reductions and support KCCA’s drive to develop a climate resilient solution

Design, build and operate a sanitary landfill

- Operate an efficient transfer station at the existing site
- Design a sorting and or treatment facility as appropriate
- At the greenfield site, build a sanitary landfill with separate disposal cells and an active geomembrane that complies with health and environmental standards

- Collect, treat and monitor leachate and biogas to ensure public health and safety is maintained to the highest standards
- Maintain and operate the landfill to international standards

Generate value in our waste

- Separate and recover valuable waste through mechanical and or manual sorting
- Work with KCCA to identify appropriate channels for energy recovery from waste and sale of recyclables

Build a professional organization with waste pickers to maximize recycling and employment

- Establish a structured formal network with full support from KCCA
- Asses the informal market for recycling and design a fully adapted economic model and develop commercial partnerships
- Provide equipment and infrastructure that fits the Ugandan perspective



Private Partner Offer

KCCA is looking to select a private operator under a concession contract to provide waste treatment and disposal services as well as closure and capping of the existing site at Kiteezi if necessary. This Project presents a unique and attractive investment opportunity in Uganda – a politically and economically stable country in Sub-Saharan Africa. A successful bid for the Project will ensure the following advantages to the private partner ;

- **Partner with GoU and KCCA on a Priority Project**
The GoU’s Vision 2040 statement expresses its aspiration of transforming Uganda to a competitive upper middle-income country by implementing several ambitious infrastructure projects, particularly in the energy and transport sectors, and support the social sectors through improvements to water, education, and health infrastructure. The National Development Plan identifies PPPs as a key instrument to attract new investment and to deliver infrastructure more efficiently.
- **Become a part of Kampala’s growth story**
The Project will offer the opportunity to enter Uganda’s urban services and potentially renewable energy sector. Kampala – one of the fastest growing cities in the world (by population) – has been ranked the best city to live in East Africa. Any firm partnering with KCCA to improve the livability and reduce the carbon footprint of Kampala will be playing a significant role in Kampala’s growth.

PROJECT TEASER
Kampala Waste Treatment and Disposal PPP

- **Opportunity to design Kampala’s waste management value chain**

Kampala is one of the fastest growing cities in the world and will have significant waste disposal and management needs in the future. An early engagement with Kampala and KCCA will ensure that the partnering firm will be able to lend its expertise towards Kampala’s waste management strategy. To this end, both sites will be made available to concessionaire. The concessionaire will be expected to design the most efficient and effective waste treatment and disposal value chain including an upgrade or closure of the existing landfill and development of waste treatment facility and, if necessary, a new landfill. Any other facilities envisaged in the Project design including Transfer Station will be developed by the concessionaire.

- **Optimal risk allocation**
The risk allocation for the PPP engagement will be determined to ensure the party

“We want to make the project bankable and a benchmark of success across Africa by listening to valuable views from credible investors

Jennifer Musisi - KCCA ED



bearing the risk is the one that is best placed to manage it. There will be several rounds of consultation between KCCA and potential bidders to arrive at an acceptable risk allocation and ensure a bankable project.

- **Sustainable revenue streams**

It is currently envisaged that the waste management operations under the concession will be paid to the Concessionaire through gate fees charged to the KCCA and ancillary revenues arising from the treatment process. The exact revenue model for the concession will be designed as part of the transaction structuring process taking into consideration the interests of the KCCA and the views of interested investors. In this context, potential volume risk could be addressed though the introduction of certain mitigation mechanisms.

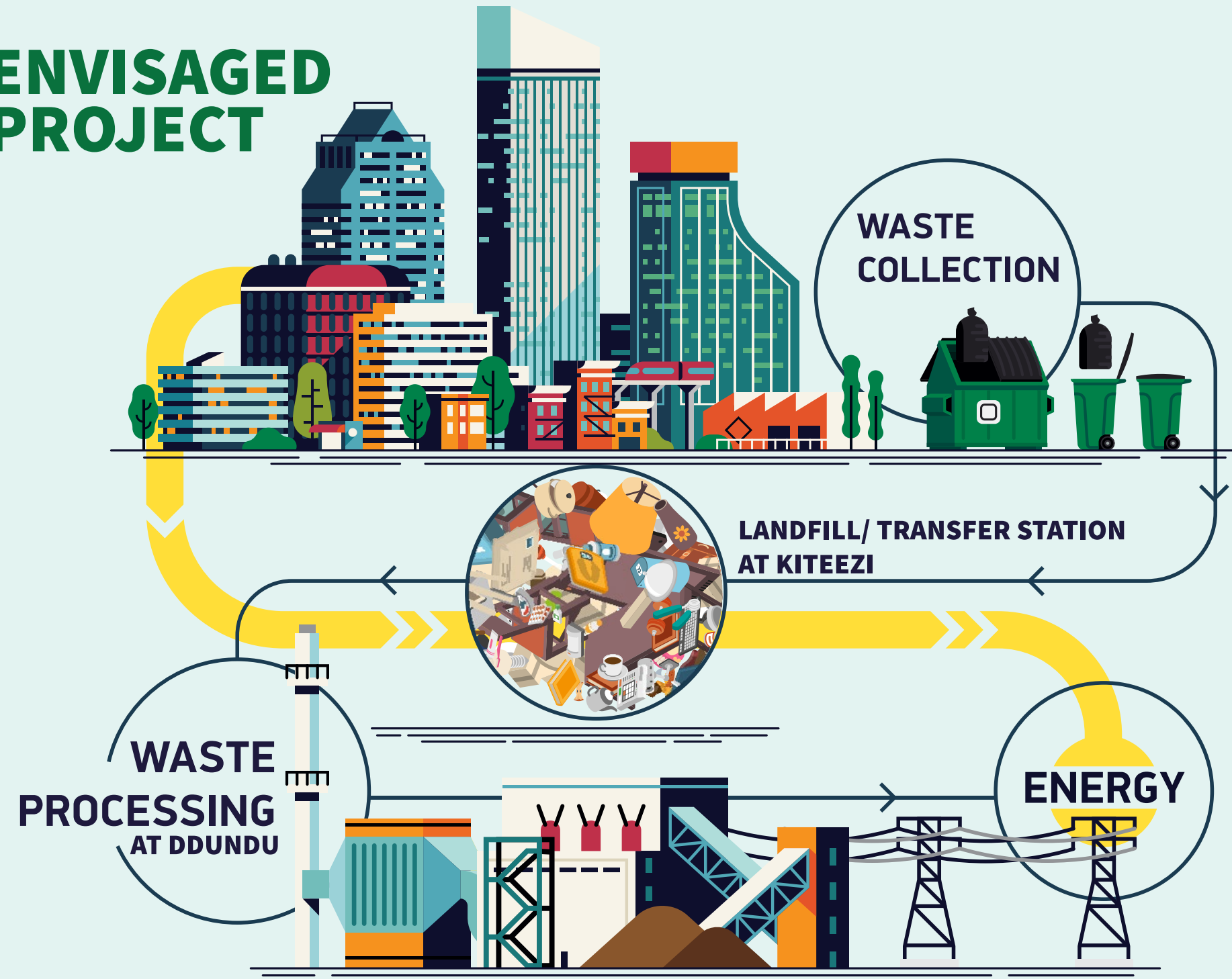
- **Become one of the pioneers of waste processing/ waste to energy technology in Africa**

KCCA is keen to evaluate waste processing technologies in order to find a lasting sustainable solution for its waste management needs. A suitable waste processing technology will also reduce the quantum of waste required to be disposed thereby limiting the need for landfills. Prospective bidders will be encouraged to suggest the most suitable treatment technologies and processes. While there are a few examples of such projects in Africa, few projects have been commercialized at the scale envisaged in Kampala. This Project, if developed as an **integrated waste processing and disposal** solution for Kampala will be the first of its kind in the region.

We anticipate the following time-line;

Preliminary Information Memorandum	30th November 2017
Investor Conference & Site visits	14th December 2017
Issue RFQ	January 2018
Issue RFP	March 2018
Financial Close	June 2018
Landfill opens for Operations	April 2019

ENVISAGED PROJECT



All correspondence in response to this teaser including requests to discuss this project further and (**expression of interest**) should be sent to the following persons;

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