fsd Kenya

Creating value through
inclusive finance

County Green Investment Facility

County Investment Brief

Contents

Brief Introduction

The County Green Investment Facility is an initiative working to mobilize green finance to support development priorities in 10 Kenyan counties: Embu, Kirinyaga, Kisumu, Laikipia, Nairobi City, Makueni, Nandi, Taita-Taveta, Vihiga and Wajir. Funded by FSD Kenya, managed by PwC Kenya and implemented in partnership with country governments, the National Treasury and Economic Planning.

Across the 10 counties, several investable green projects have been identified as the most commercially attractive, sustainable and ecological, though there remains numerous other opportunities in development.

This proposal document introduces the exciting projects in the Counties which are looking to attract investment via a range of financial instruments including debt instruments, private equity, public sector allocation, grants and blended finance options.

Facility overview | 01

About FSD Kenya

- Financial Sector Deepening Kenya (FSD Kenya) is an independent trust dedicated to the achievement of a financial system that delivers value for a green and inclusive digital economy while improving financial health and capability for women and micro and small enterprises (MSEs).
- FSD Kenya works closely with the public sector, the financial services industry, and other partners to develop financial solutions that better address the real-world challenges that low-income households, micro and small enterprises, and underserved groups such as women and youth face.
- FSD Kenya has a Green Finance Project dedicated to supporting the development of a **green finance ecosystem** and a greener real economy that is resilient to climatic and other environmental shocks, resource efficient and generates green investment, employment, and income generation opportunities for low-income Kenyans.

Facility background

Phase 1:
County Green Finance Assessment

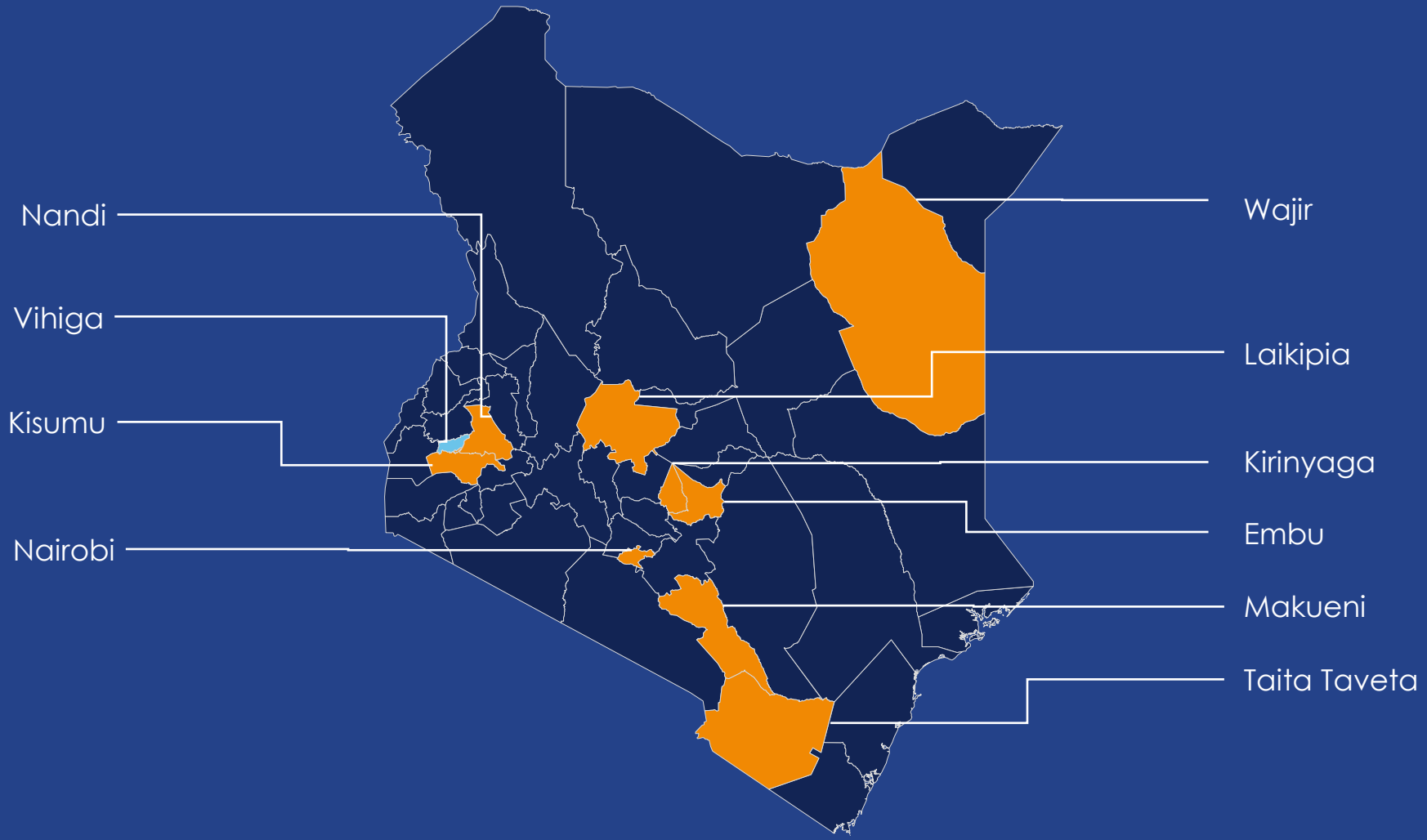
- Between October 2022 and April 2024, FSD Kenya commissioned The **County Green Finance Assessment** which provided the first-ever analysis on the green assets and potential at county level.
- The assessment was done with the approval of the National Treasury and Economic Planning and led by Agusto & Co. in partnership with The Capital Markets Authority, the Nairobi Securities Exchange, ADA Consortium, and the selected County Governments.

Phase 2:
County Green Investment Facility

- Building on the work done in Phase 1, Phase 2 began in July 2024 and is focused on providing support to counties to develop **their priority green projects to being investment-ready.** The Facility does not provide direct financing to priority county green projects
- FSD Kenya is fully funding all advisory firms and activities related to The Facility and leading its supervision and performance.
- **PwC Kenya** led the implementation of The Facility including the investment outreach process.

Counties in scope

The County Green Investment Facility is currently focused on 10 counties as shown on the map below. This investment brief is focused on the opportunities available in Taita Taveta County.



Market context | 02

fsd Kenya

Why invest in Kenya?

Liberal and strong economy in Sub-Saharan Africa

Kenya has a liberal economy with minimal government interventions.

According to Fitch Solutions, the economy is forecasted to grow at c. 5.4% (2025-2030) with inflation and lending rate forecasted to stabilise at 5.5% and 10.5% respectively (2025-2030).

The government also offers fiscal and non-fiscal incentives to enhance private sector participation.

Productive, skilled workforce

Benefits from a youthful workforce, with over 70% of the population under 35 years old and c. 36% of the population being between 18-35 years driving innovation and consumption.

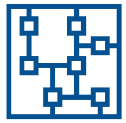
Kenya also boasts one of the highest literacy rates in Africa, at over 82%.

Proficiency in English is another skill which further facilitates seamless communication and collaboration with global players.

Kenya is leading Africa's green transition

Kenya leads in sustainability, prioritising renewable energy (with current renewable energy capacity being >80% of installed capacity) with a goal to cut emissions by 32% by 2030.

Offering the first mobile retail bond (M-AKIBA) and with a $40m Green Investment Fund and Acorn's Green Bond issuance Kenya is clearly committed to a fostering a green economy.



Innovation and logistics hub of East Africa

Nairobi is often dubbed the "Silicon Savannah" due to its thriving tech startup ecosystem, enhancing the county's innovation.

Kenya also has a strategic geographical location being a gateway to EAC and COMESA markets with c. 135million and c. 450 million respectively.

The country is also interconnected with good infrastructure.

Safe Investment Destination

The Kenyan Constitution protects private property and provides safeguards against expropriation of such property without compensation. Kenya is also a signatory to Multilateral Investment Guarantee Agency (MIGA), Member of the International Council of Settlement of Investment Disputes (ICSID).

100% repatriation of profits or interests

>20,000 acres plug-and-play industrial facilities

Tax credits, VAT duty exemptions and Special Operating Framework Agreements

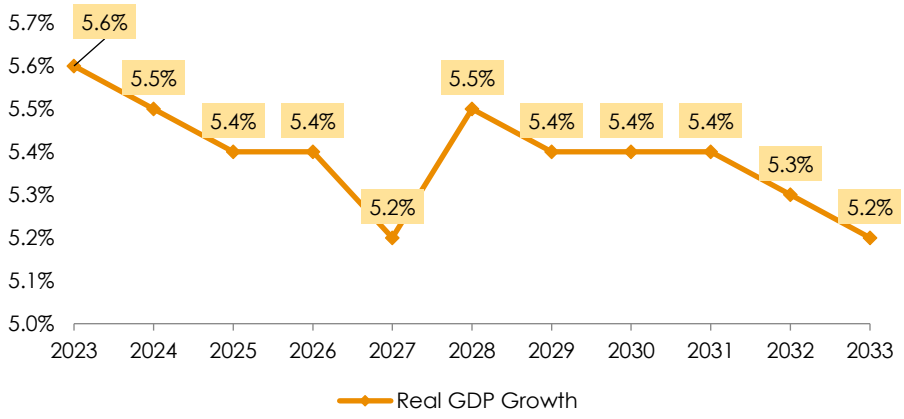
Key metrics (2025f)

5.5% GDP growth	**4.3%** CPI	**14%** Lending rate
57.3m Population growth	**131.15** FOREX (USD/KES)	

Kenya macroeconomic snapshot

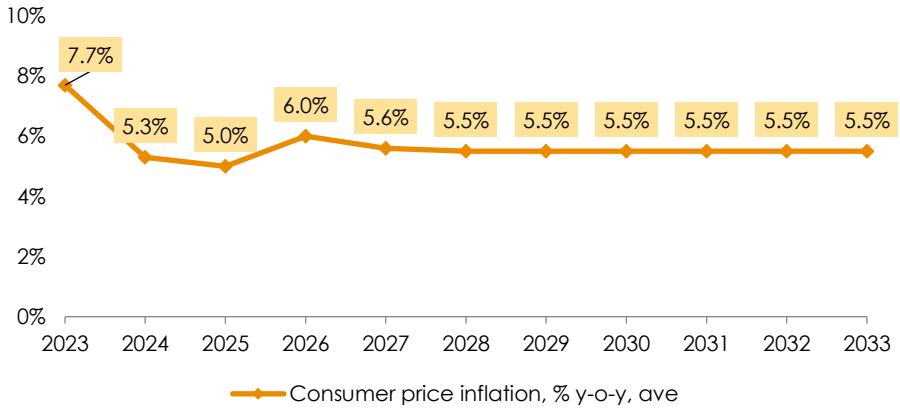
According to Fitch Solutions, Kenya's economy will grow by more than 5% over the next 8 years while inflation will stabilise at 5.5% which is well within the Central Bank of Kenya's target range of 2.5%-7.5%. The Central Bank Rate (CBR) is forecasted to stabilise at 7.8% while the KES is expected to weaken against the dollar over the next 8 years.

Real GDP Growth



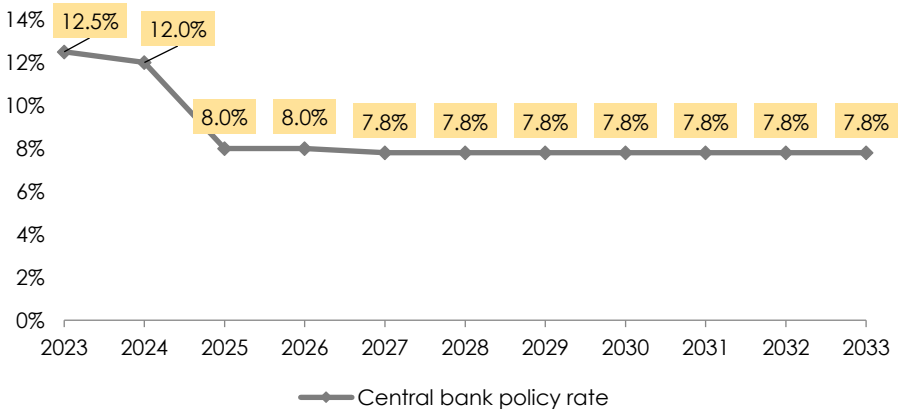
Source: Fitch Solutions, PwC analysis

Consumer price Inflation Trend



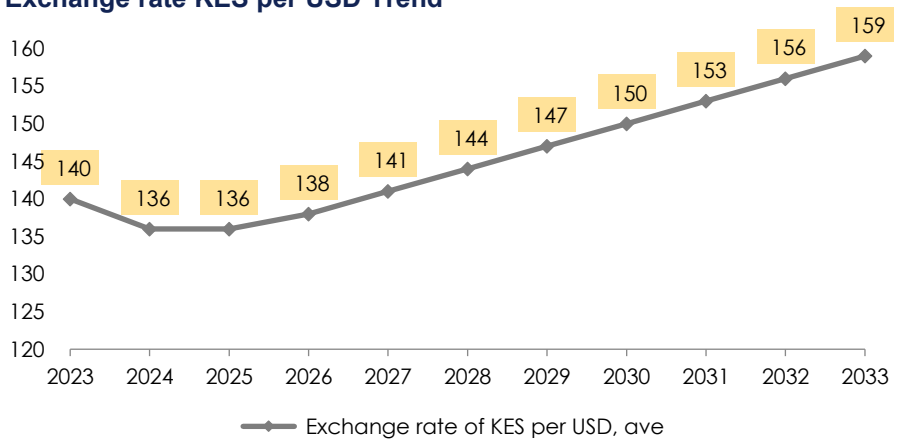
Source: Fitch Solutions, PwC analysis

Central Bank Policy Rate Trend



Source: Fitch Solutions, PwC analysis

Exchange rate KES per USD Trend



Source: Fitch Solutions, PwC analysis

County Projects | 03

Taita Taveta

fsd Kenya

MIXED-USE ROADSIDE PARK PROJECT (1 of 2)

Estimated Project Preparation Cost: $250k

Estimated Project Implementation Cost: $1b

Expected Beneficiaries: Creation of 500+ local jobs and offering services to thousands of residents and visitors to the county very day.

Transaction Rationale:

The Northern Corridor is a key transport route in East and Central Africa that facilitates the movement of cargo to and from the port of Mombasa. The absence of sufficient designated trailer parking areas has resulted in haphazard roadside parking creating hazards, traffic congestion and damage to the road shoulders. Despite efforts by the national government to build designated parking lots, demand continues to rise.

The proposed solution is to develop a Mixed-Use Roadside Park in the Manga area located along the Voi-Mtito Andei section through a Public-Private Partnership model. A private party will design, build, finance and operate the facility.

The facility is envisaged to include at least 1,000 trailer parking slots, a low-cost hotel, conferencing facility, parking for buses and private vehicles, rental areas for mini-markets, fresh farm produce, eateries, a fuel station, automobile garage, public washrooms, an Emergency Response Centre and offices.

Key Investment Highlights

1. **Clear and measurable impact**

The project will contribute to the UN SDGs by supporting economic development through employment impact for a range of people with varying skillsets, creating 300+ jobs during construction and 100 jobs during operation. The project will also enhance the safety and security of truck drivers and supporting staff workers.

2. **Clear revenue model**

The proposed project will have several revenue streams. The main source of income will be the parking fees, at c.Ksh 137m / annum. This is calculated based on 1,000 trailer slots, assuming a conservative occupancy rate of 75% and an average fee of Ksh 500 per day. Additional facilities forecast c.Ksh 50m including the low-cost hotel, mini-markets, fuel station etc. The integration of solar energy and water recycling is also projected to reduce the utility costs by c.30%.

3. **Established regulatory framework, policy-aligned and county buy-in**

There is an established legal framework in Kenya allowing for private sector participation in construction of public assets including asset concessional guidelines. In addition, the project is aligned with the political agenda, having been allocated c.50 hectares of land by the County Government.

4. **Catalytic impact of the project**

The project has a potential of creating a catalytic impact through driving economic development in surrounding areas due to increased footfall traffic and access to infrastructure (water, sanitation, electricity, healthcare facilities etc).

fsd Kenya

MIXED-USE ROADSIDE PARK PROJECT (2 of 2)

Proposed structure

The proposed project structure would be a Private-Public Partnership.

Involved partied would include an SPV created between the private-sector sponsor, Taita Taveta County Government. Additional parties include PPP Directorate / National Treasury, EPC Contractor and O&M Contractor.

Project status

Project concept note is complete and available

Additional project preparation required

- Complete an initial pre-feasibility study followed by a full feasibility study.
- Develop a financial model to forecast estimated revenue and potential returns of the project.
- Conduct an Environmental and Social Impact Assessment (ESIA) for the project.

Expected project outcomes

- The project will address the need for a safe and sufficient designated trailer parking areas to reduce haphazard roadside parking, traffic congestion and damage to the road shoulders
- The proposed optimal and sustainable solution entails the creation of 1,000 trailer parking slots and supporting infrastructure.
- Creation of direct and indirect jobs in construction and operation of the parking facilities and supporting establishments. Within the Roadside Park there are numerous opportunities for employment of women, youth and marginalized groups.

NJORO KUBWA BULK WATER (1 of 2)

Estimated Project Implementation Cost: $500m

Expected Beneficiaries: Local residents in urban areas of Taita Taveta as well as businesses / farmers

Transaction Rationale:

Taita Taveta County faces water supply challenges despite hosting numerous fresh water sources. TAVEVO Water and Sewerage Company, the County's Water Service Provider (WSP), partially meets the water demand by abstracting water from Mzima springs and other sources in the County.

The County's daily water demand is estimated at 25,000m^3 against a supply of 15,000m^3 excluding rural water demand, demand by ranches and upcoming industries. Demand is projected to grow by approximately 36% between 2020 and 2025.

The project will address the water scarcity challenge in Taita Taveta and its neighbouring counties.

Key Investment Highlights

1. **Clear and measurable impact**

   According to the UN, everyone has a right to access clean water and sanitation. This project will provide clean water to approximately 200,000 people in Taita Taveta.

2. **Scalable model**

   The proposed project has a potential of serving neighbouring counties including Mombasa county; hence, expanding it's impacting to a wider population.

3. **Constant supply of raw materials**

   The county has a constant supply of water enough to meet the forecasted demand; however, investment in distribution assets is critical.

4. **Established regulatory framework**

   There is an established legal framework in Kenya allowing for private sector participation in construction of public assets including asset concessional guidelines.

5. **Catalytic impact of the project**

   The project has a potential of creating a catalytic impact through creation of employment supporting irrigation for farming, reducing water borne diseases etc.

NJORO KUBWA BULK WATER (2 of 2)

Proposed structure

The proposed project structure would be a Private-Public Partnership.

It is suggested that SPV would be created between the private-sector sponsor and the Coastal Water Works Development. Additional involved parties include TAVEVO, PPP Directorate / National Treasury, EPC Contractor and O&M Contractor.

Project status

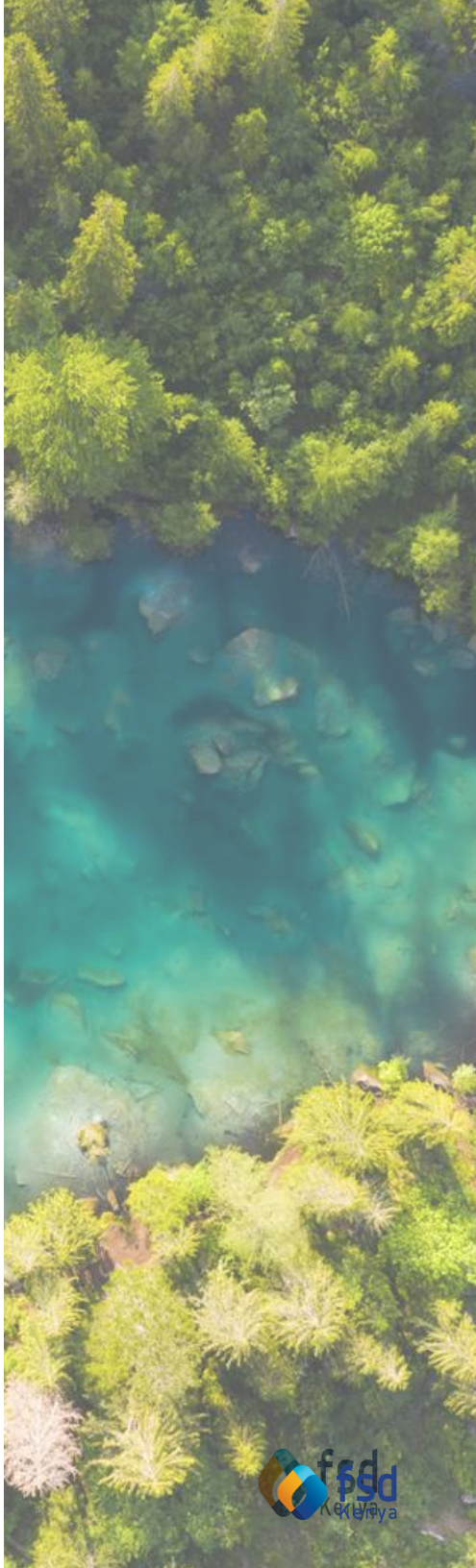
- Project concept note completed.
- Funding for the feasibility study has been obtained through support from Global Infrastructure Facility (GIF) and Africa Legal Support Facility(ALSF).

Additional project preparation required

- Complete the updated feasibility study and develop a financial model for the project.
- Conduct an Environmental and Social Impact Assessment(ESIA) for the project.

Expected project outcomes

- The project will address the water scarcity challenge in Taita Taveta and the neighboring Counties.
- The proposed optimal and sustainable solution entails the abstraction of up to the allowable 105,000m3/day.
- The project involves the construction of spring intake and collection systems works, water filtration and treatment systems, water storage, pumping stations including solarization of these, bulk transmission pipelines, distribution networks and control systems (SCADA).



SOLARIZATION OF WATER PUMPING STATIONS (1 of 2)

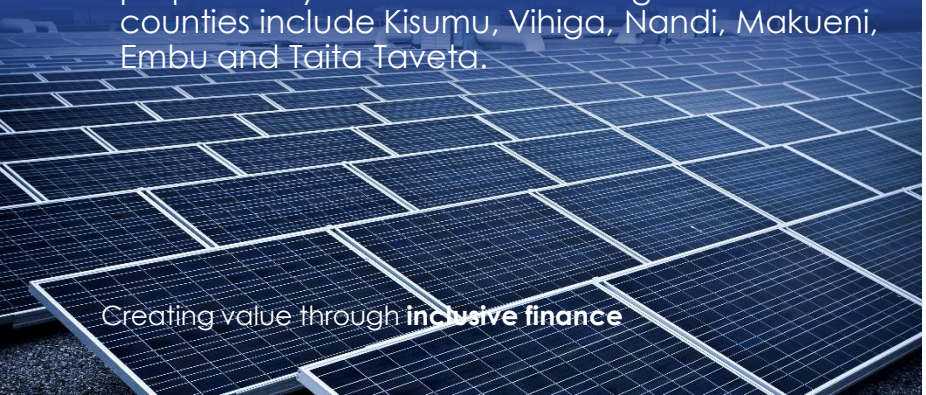
Estimated Project Implementation Cost: $-$1m per project

Expected Beneficiaries: Water companies (TAVEVO) and end-consumers

Transaction Rationale:

Unreliable power supply and high electricity costs have emerged as recurring themes among water service providers across 6 out of the 10 participating counties in this program. These issues threaten the sustainable operation of pumping stations which subsequently impedes consistent supply of water to the target connections. The objective of the project is to therefore solarize with a view to reduce operational costs, ensuring uninterrupted service and encouraging cost-effective water distribution.

6 counties have been identified for a pilot program to solarize key pumping stations proposed by the counties' management. The 6 counties include Kisumu, Vihiga, Nandi, Makueni, Embu and Taita Taveta.



Creating value through **inclusive finance**

Key Investment Highlights

1 **Clear and measurable social impact**

The proposed water projects serve at least 1000 households with the potential to connect more water within the communities of their jurisdiction many of whom are affected by the challenge of unreliable water supply of safe water. Power outages and power cuts due high electricity bills are a key contribute to low water production and water supply rationing. Installation of fully integrated solar power and battery energy storage systems for water projects across the 6 counties will directly contribute to improved water supply.

2 **Measurable economic and climate impact**

The proposed water projects incur between USD 50,000-200,000 annually in power bills, up to 80-90% cost savings can be achieved from implementing the projects. The cost savings can be also be channelled towards repayment of recoverable grants, provision of improved water services or solarization of other water projects. In addition, installation of solar power and energy storage systems mitigates against frequent use of diesel power.

3 **Catalytic impact of the project**

Successful implementation of the envisioned project structure has the potential to catalyse further investment in county-spearheaded project which have historically not attracted significant private sector investment due to high-risk perception.

fsd Kenya

SOLARIZATION OF WATER PUMPING STATIONS (2 of 2)

Proposed structure

The proposed project would be a Water Company owned-and-operated structure. Key partner is the Taita Taveta County Government.

It is suggested that there would be grant funding allocated via a County solarization fund and kept in an escrow account. Additional involved parties include relevant WSP and an EPC Contractor.

Project status

- Project concept note completed.
- Needs assessment has been conducted in Kisumu, Vihiga and Nandi counties.

Additional project preparation required

- Proposal development for the assessed facilities ongoing.
- Need assessment visits for the additional counties of Makueni, Taita Taveta and Embu have been scheduled

Expected project outcomes

- The project will strengthen the water supply in Taita Taveta.
- Uninterrupted water production and supply by ensuring constant 24/7 power supply to the water pumping stations.
- Up to 80-90% energy cost savings by development of fully integrated solar and battery energy storage systems at proposed water pumping stations.

RURAL WATER SYSTEMS

Estimated Phase 1 Pilot Project CAPEX: $500k

Estimated Total Project Implementation Cost: $8m

Expected Beneficiaries: Phase 1: 11k residents / Total project: c.110k residents

Transaction Rationale:

Taita Taveta County faces water supply challenges despite hosting numerous fresh water sources. Whilst there are various bulk water projects in progress, this project aims to address the immediate and growing demand for sustainable access to clean water in rural villages across Taita Taveta.

The proposed solution includes installation and operation of pay-as-you-use smart water taps across 8 villages in Taita Taveta by private water company eWATER. The system includes the drilling or rehabilitation of boreholes, solar-powered water-pump, network of pipes and smart taps within 150m of residents' homes – a business model focussed on the sustainable provision of 24/7 access to clean, treated water to those in need. The project cost requested is to cover the CAPEX element of the project only. The company does not retain any profit from the sale of water, which is priced to cover system O&M costs only. Grant funding is therefore preferred for CAPEX element.

Key Investment Highlights

1 Clear and measurable social impact

According to the UN, everyone has a right to access clean water and sanitation. This project has an ambitious goal to provide clean water to c.110,000 people in rural areas of Taita Taveta, delivering measurable improvements in health, gender equality, school attendance and local economic productivity.

2 Proven operating model

eWATER's cloud-linked smart metering and pay-as-you-use platform has been successfully implemented in Kenya, showing technical reliability, transparency and community acceptance. The platform eliminates collection leakages, boasting NRW as low as 5%, automates cost recovery, and gives investors real-time data. This reduces risk and supported long-term financial sustainability after the initial capital costs.

4 Scalable expansion

Phase 1 will serve c.11k residents across 8 villages, generating live data and validating demand and willingness-to-pay. Phased approach enables rapid county-wide expansion and replication after proof-of-concept. Funders can tranche commitments, assess impact in real time and apply lessons before a full rollout of the $8m total implementation cost.

5 Strong local support and enabling environment

There is an established legal framework in Kenya allowing for private sector participation in construction of public assets. There is an existing MOU between Taita Taveta County Government and eWATER, so this private-public alignment secures political goodwill and reduces regulatory risk.

fsd Kenya

Vihiga

fsd Kenya

Upgrading of water schemes in Maseno, Lunyerere and Kaimosi

Estimated Project Preparation Cost: $100k

Estimated Project Implementation Cost: $ 21M

Expected Beneficiaries: Connecting c. 390,000+ people to clean and reliable water in the county. Reduction of water production costs through leveraging clean and renewable energy.

Transaction Rationale:

The upgrading of water schemes in Maseno, Mbale and Kaimosi is a strategic initiative aimed at significantly reducing the cost of water production through the adoption of green energy solutions. This project's main objective is to improve access to safe, clean, and reliable water by increasing the capacity for water production, storage, and distribution.

By leveraging green energy, the initiative seeks to enhance the water supply infrastructure, ensuring that residents have consistent access to water resources.

The county is looking for investment in reticulation, installation of solar panels to reduce water production costs and upgrading the three old treatment plants.

Key Investment Highlights

1 **Social and economic impact**

The project will contribute to the UN SDGs by supporting access to clean and reliable water while using green energy solutions with minimal impact on the environment. The project will also lead to economic development through creation of employment, enhancing crop irrigation and improved sanitation within the county.

2 **Market demand**

According to the County Integrated Development Plan (CIDP), Vihiga county population is estimated to grow to c. 634k people by 2027. This growing population, rural-urban migration and industrialisation will necessitate for an integrated planning which will drive the increase in water demand. Additionally, water is a necessity, creating a steady demand regardless of the economic cycles.

3 **Established regulatory framework, policy-aligned and county buy-in**

There is an established legal framework in Kenya allowing for private sector participation in the water sector including asset concessional guidelines. In addition, the project is one of the key political agendas, with the key stakeholders e.g., County Governor keen on its implementation.

4 **Project's catalytic impact**

The project has a potential of creating a catalytic impact through driving economic development in surrounding areas due to decreased sanitation challenges and improvement in crop production through irrigation.

fsd Kenya

Upgrading of water schemes in Maseno, Lunyerere and Kaimosi

Proposed structure

The proposed project structure would be a Private-Public Partnership.

The structure will involve the creation of a special purpose vehicle (SPV) created between the private-sector sponsor and the county government through water service provide (WSP). Additional parties include PPP Directorate / National Treasury, National Government through the water works development agency.

Project status

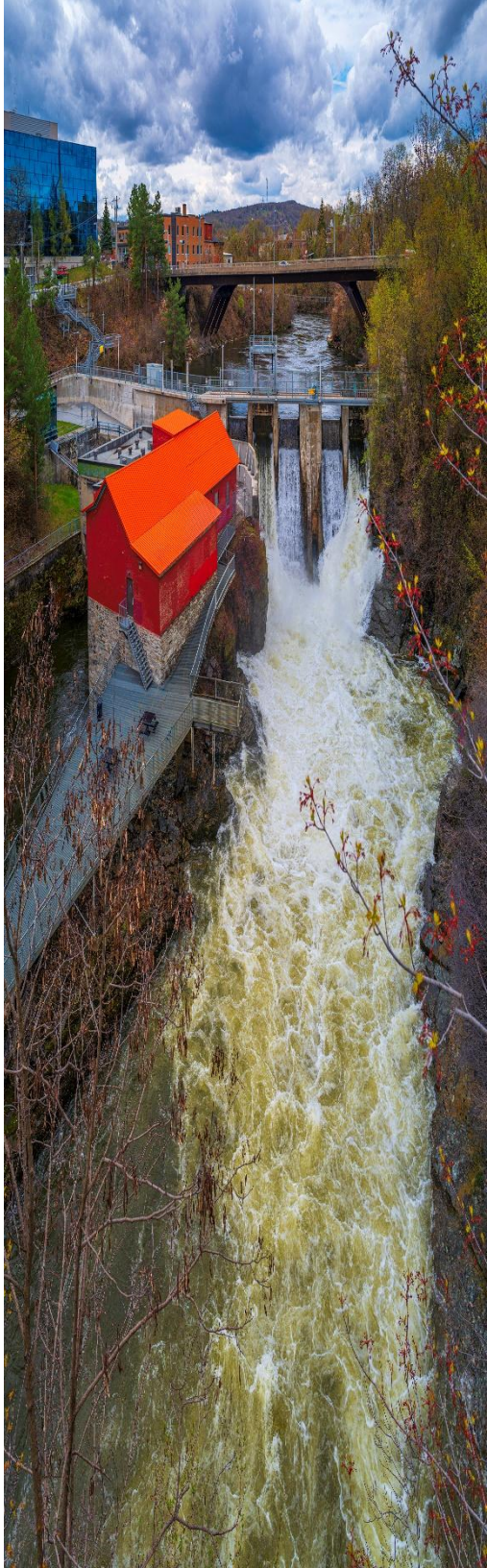
Project's technical feasibility assessment and Environmental Social Impact Assessment have been completed.

Additional project preparation required

- Complete the project's commercial assessments.
- Financial Model update.

Expected project outcomes

- Increase in water coverage, and a reduction in water production costs by approximately 60%.
- By lowering production costs, the project aims to revitalize the local economy by making water more affordable and accessible, thus fostering community well-being and supporting economic development.
- Reduction in water-borne diseases because of increased access to clean water, contributing to improved public health in the region



Solar power and battery storage systems for health care facilities

Estimated Project Preparation Cost: $75k

Estimated Project Implementation Cost: $1M

Expected Beneficiaries: Connecting 75 healthcare facilities in Vihiga county with renewable solar energy with the resultant battery storage system

Transaction Rationale:

Vihiga County faces significant challenges in its health sector, necessitating the solarization of health facilities to ensure equitable access to vital services.

Problems such as the expiry of vaccines due to poor storage conditions, the inability to offer 24-hour services, unavailability of water during power outages, and challenges in processing payments underscore the urgency of addressing power-related issues.

The main objective of the proposed solarization intervention is to bolster resilience and improve the well-being of Vihiga's residents by providing renewable energy solutions across all 75 public health facilities in the county.

Key Investment Highlights

1. **Cost competitive energy source**

   The major costs for a solar power plant is usually capital expenditure and once they have been installed, the operating costs tend to be minimal compared to a system that leverages on heavy fuels. This will be critical for health care facilities.

2. **Attractive risk-return**

   Investment in solar power tend to realise value in the long-run given the power cost reduction and low operational risks. Incorporating battery energy storage system will enhance the potential value of the project.

3. **Government and policy support**

   Renewable energy is a key focus for the national government with policies in place such as feed-in tariffs to stimulate adoption of renewable energy. This is advantageous especially when selling excess power to the national utility. Additionally, such investments are eligible for carbon credits and attracting green financing.

4. **Social and economic impact**

   The project will contribute to the UN SDGs by supporting access to clean and reliable energy with minimal impact on the environment. The project will also lead to provision of stable and reliable energy enabling 24-hour service delivery and enhancing service delivery e.g., storage of vaccines.

fsd Kenya

Solar power and battery storage systems for health care facilities

Proposed structure

The proposed project structure would be for the county to partner with a private entity involved in the supply of solar panels.

The private party provide the installation and maintenance services to the county, then the county will meet the recurring power costs from the solar panels.

Project status

Project's concept note has been prepared.

Additional project preparation required

- Feasibility Study and Needs Assessment
- Technical Design and System Sizing to determine optimal solar size and battery storage requirements
- Financial Analysis to determine project costs, potential savings and return on investment
- Regulatory Compliance and Permitting from relevant authorities

Expected project outcomes

- Access to stable, reliable and renewable power by the health care facilities.
- Improved healthcare service delivery especially in remote regions of the county.
- Reduction in the cost of power for the healthcare facilities in the long run.

Solar power and battery storage systems for Lunyerere water schemes

Estimated Project Preparation Cost: $150k

Estimated Project Implementation Cost: $1M

Expected Beneficiaries: Reduction in water production costs.

Transaction Rationale:

The Maseno, Mbale and Kaimosi water pumping stations under the Lunyerere water schemes are the main suppliers of water in Vihiga county.

The water pumping stations are however faced with the challenge of interruptions due to high powers costs (over USD 350,000 annually) and the associated power cuts which adversely impacts their ability reliably supply water.

The project aims to install solar PV and battery energy storage systems at the facilities with the objective of cost savings and ensuring sustainable water supply.

Key Investment Highlights

1. **Cost competitive energy source**

   The major costs for a solar power plant is usually capital expenditure and once they have been installed, the operating costs tend to be minimal compared to a system that leverages on heavy fuels. This will be critical in reducing the water production costs from the scheme.

2. **Attractive risk-return**

   Investment in solar power tend to realise value in the long-run given the power cost reduction and low operational risks. Incorporating battery energy storage system will enhance the potential value of the project.

3. **Government and policy support**

   Renewable energy is a key focus for the national government with policies in place such as feed-in tariffs to stimulate adoption of renewable energy. This is advantageous especially when selling excess power to the national utility. Additionally, such investments are eligible for carbon credits and attracting green financing.

4. **Social and economic impact**

   The project will contribute to the UN SDGs by supporting access to clean and reliable energy with minimal impact on the environment. The project will also lead to reduction in water production costs.

Solar power and battery storage systems for Lunyerere water schemes

Proposed structure

The proposed project structure would be for the county to partner with a private entity involved in the supply of solar panels.

The private party provide the installation and maintenance services to the county, then the county will meet the recurring power costs from the solar panels.

Project status

Project's concept note has been prepared.

Additional project preparation required

- Feasibility Study and Needs Assessment
- Technical Design and System Sizing to determine optimal solar size and battery storage requirements
- Financial Analysis to determine project costs, potential savings and return on investment
- Regulatory Compliance and Permitting from relevant authorities

Expected project outcomes

- Access to stable, reliable and renewable power for Mbale, Maseno and Kaimosi water pumping stations.
- Reduction in the water production cost.

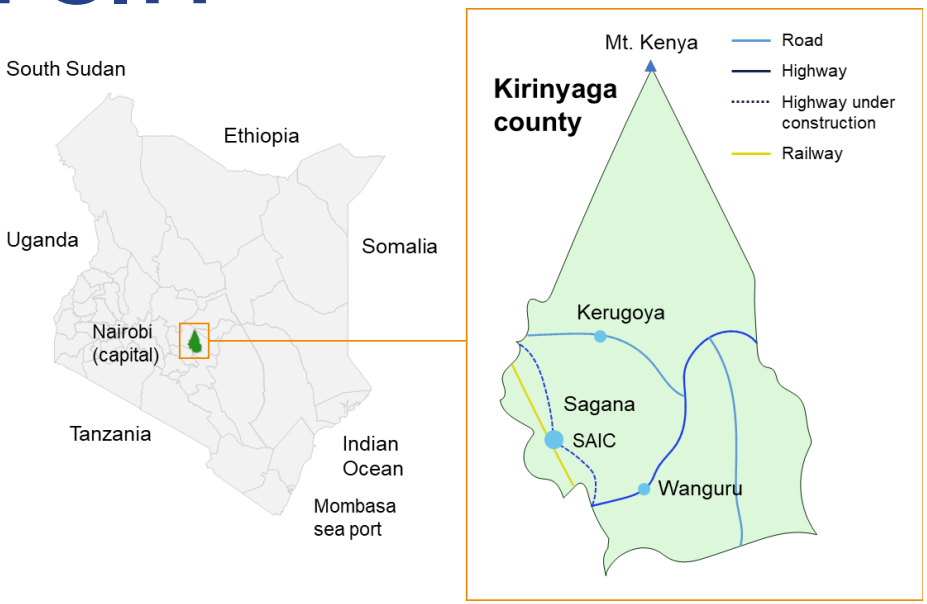
Kirinyaga

fsd Kenya

SAGANA INDUSTRIAL CITY

Project Background

Kirinyaga County has reserved 242-acres on the outskirts of Sagana town for the development of the Sagana Industrial City (SAIC). Strategically situated beside the Sagana Railway Station, the Sagana River and new Kenol-Sagana-Marua dual carriageway, the site offers road-rail-water interconnectivity unrivalled in Central Kenya. Additionally, at only 101km from Nairobi Central Business District the site provides seamless access to Nairobi's airport as well as Mombasa's seaport via train.



SAIC is designed as Kenya's first climate-smart agro-industrial city, comprising of:

1. 140-acre Special Economic Zone (SEZ)
2. 75-acre Export Processing Zone (EPZ)
3. 5-acres Affordable Housing Zone

The SEZ specifically comprises:

1. Custom Controlled Zone
   a. County Aggregation & Industrial Park (CAIP)
   b. Assorted Industries Zone
2. Non-Custom Controlled Zone
   a. Sports Complex
   b. Four-Star Hotel
   c. Public Utilities (Waste Segregation, power substation, communication masts, logistics center)

The industrial agro-processing park anchors:

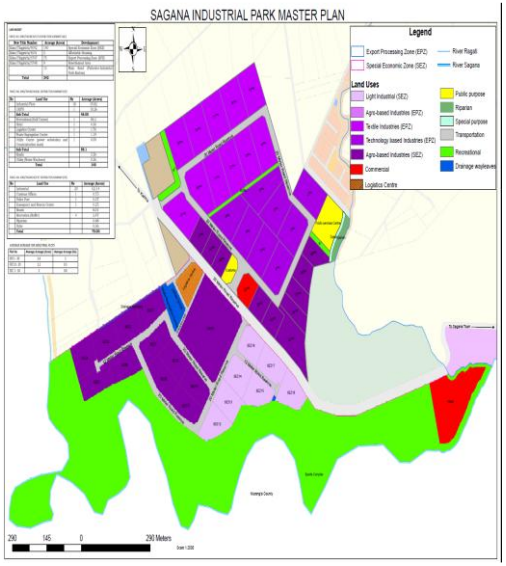
1. Dedicated agro-processing zones for rice, tea, coffee, horticulture, fruit and nut value chains;
2. Agro-logistics and cold-chain facilities
3. Modern warehousing and bulk storage silos;
4. Common effluent treatment and renewable energy
5. Social amenities including housing, health post etc.

As the SAIC progresses through its construction phase, the realization of its full potential as a climate-smart, integrated industrial and economic hub is dependent on the timely development of essential horizontal infrastructure. Key components such as internal road networks, a sewerage system, water reticulation, street lighting, internet connectivity, and waste segregation facilities are still required to support operational readiness. This proposal focuses on the implementation of the Water Connection and Sewerage System projects only.

SAGANA INDUSTRIAL CITY

The images shown on this page depict the overall site master plan as well as the rendered imagery depicting what the SAIC will look like when completed.

As a flagship project for Kirinyaga County Government, a significant investment has already been made by the County to develop plans to the current stage.



SAIC Horizontal Infrastructure

Proposed Solution: The County has requested support in conducting detailed technical assessments, engineering designs, and phased implementation of the Water Connection and Sewerage System projects at SAIC.

Total Project Implementation Cost: $2.4m

Current Status: Foundational planning documents—including the SAIC Master Plan and the Environmental and Social Impact Assessment (ESIA)—have already been developed, laying the groundwork for infrastructure and environmental compliance. However, two critical utility components, Water Connection and Reticulation and the Sewerage System—remain at the preliminary stage, with technical assessments and detailed designs yet to be undertaken.

Proposed Structure: The proposed project structure would be a Private-Public Partnership.

Additional project preparation required:

- Develop a financial model to forecast estimated revenue and potential returns of the project.
- Finalize detailed technical assessment and detailed designs for the Water Reticulation and Sewerage System respectively

Creating value through **inclusive finance**

Key Investment Highlights

1 **Clear and measurable impact**

The wider SAIC project will contribute to the UN SDGs by supporting economic development through employment impact for a range of people with varying skillsets, creating c.190,000 jobs (20,000 direct, 170,000 indirect).

2 **Regional economic development**

The project will enable additional value addition opportunities to reduce post-harvest losses and assist farmers to receive additional revenue from their harvest. In addition SAIC promotes and increases local agricultural production processing and technology transfer.

3 **Established regulatory framework, policy-aligned and county buy-in**

There is an established legal framework in Kenya allowing for private sector participation in construction of public assets including asset concessional guidelines. In addition, the project is directly aligned with the political agenda, being the flagship project for the County Government of Kirinyaga, having been allocated c.250 hectares of land.

4 **Defined beneficiaries with strong willingness-to-pay**

The project has attracted numerous well-established businesses, farmers and manufacturers who want to take advantage of the benefits and incentives offered in the SAIC area, for example waivers and reduced export taxes in the EPZ. These businesses rely on this horizontal infrastructure in order to conduct their own business and as such have demonstrated strong willingness-to-pay for reliable services

fsd Kenya

SAIC Sewerage System

Estimated Project Implementation Cost: $1.7m

Transaction Rationale:

SAIC is envisioned as a large-scale, mixed-use industrial city with an SEZ, EPZ, residential areas, commercial zones, and agro-processing industries. This mix generates significant and diverse wastewater—from domestic sewage to industrial effluent—which demands a dedicated and robust sewerage system.

A standalone sewer system ensures compliance with NEMA regulations and other environmental standards, particularly for managing industrial waste. The existing municipal sewer infrastructure in nearby towns (like Sagana or Kerugoya) is likely not designed to handle the volume or nature of waste expected from SAIC.

A standalone system allows for proper design specifications, treatment capacity, and scalability.

Having an in-house sewerage system, potentially with a wastewater treatment plant (WWTP), would support reuse and recycling of treated water, aligning with SAIC's climate-smart and sustainable development goals.

SAIC Water Reticulation

Estimated Project Implementation Cost: $0.7m

Transaction Rationale:

The operationalization of the Sagana Agro-Industrial City (SAIC) hinges on the availability of reliable, high-quality water supply to meet the demands of its diverse users, including agro-processing industries, residential units, commercial enterprises, and recreational facilities.

As a climate-smart industrial hub, SAIC's water infrastructure must support both industrial operations and sustainable living standards. Comprehensive water connection and reticulation system are required.

This includes the construction of a main water intake point, pumping stations, storage reservoirs, and a well-planned internal distribution network. The system will be designed to ensure consistent water pressure, minimize losses, and allow for future scalability in line with SAIC's phased development approach.

KUTUS MATERIAL RECOVERY FACILITY (1 of 2)

Estimated Total Project Preparation Cost: $200k

Expected beneficiaries: Local residents and businesses, and in particular the commercial entities who will be operating in the SAIC.

Transaction Rationale:

Kerugoya-Kutus Municipality serves as a key urban center as a hub for agricultural activities, featuring contributions from both smallholder farmers and large-scale operations. Its favorable climate for horticulture and flower farming has attracted significant interest from potential investors. However, the municipality faces challenges in managing solid waste, which impacts public health and the environment. The lack of a reliable waste management system has led to improper disposal practices, affecting the ecological health and productivity of the region. Currently the region is served by three informal dumpsites, which are not sufficiently managed.

The proposed solution is the establishment of the Kutus MRF which aims to enhance waste management by separating and preparing recyclable materials for marketing to end-user manufacturers. This facility will improve the recovery and recycling of waste materials, contributing to sustainable waste disposal practices.

Key Investment Highlights

1 Clear and measurable social and environmental impact

Establishing an MRF has important social benefits including direct employment opportunities for local residents as well as indirect jobs generated in supporting sectors such as logistics and supply chains. The local community will also be engaged though awareness campaigns, training programmes and partnerships with informal waste pickers. Furthermore, diverting waste from open dumping and burning sites helps reduce exposure to hazardous materials and air pollutants, leading to improved public health outcomes for the surrounding population. From an environmental perspective, the MRF will reduce soil, water and air pollution associated with unmanaged waste, contributing to a cleaner environment in Kirinyaga County.

2 Catalytic nature and value-add potential

Organic waste processed at the facility can be converted into compost or biogas, supporting local agriculture and energy needs while creating additional revenue streams. By recovering recyclable materials such as plastics, metals and paper, the MRF will also promote resource efficiency and reduce the need for virgin material extraction.

3 Alignment with local policy and economic development goals

The project aligns with Kenya's national and county-level waste management strategies, as well as broader sustainability and circular economy objectives. It is expected to contribute directly to several UN SDG goals including SDG 11 (Sustainable Cities and Communities), SDG 12 (Responsible Consumption and Production) and SDG 13 (Climate Action). As well as the income generated from the sale of recovered materials, local government may benefit from lower environmental remediation expenses over time.

fsd Kenya

KUTUS MATERIAL RECOVERY FACILITY (2 of 2)

Proposed structure

The project structure is yet to be finalised.

However the project has the potential to be a lease agreement between the Kirinyaga County Government and a Private Operator.

Project status

- The project is in the planning stages.
- The Kerugoya-Kutus Municipal Board has developed a solid waste management strategy that includes the establishment of the Kutus Material Recovery Facility (MRF). This strategy aims to address waste generation, collection, and transportation within the municipality.

Additional project preparation required

a) Conduct a feasibility study to reflect the project's status and new developments
b) Review the capital and operating expenses to ensure accurate budgeting.
c) Estimate potential revenue from the sale of recyclable materials to end-users
d) Finalize technical designs for the MRF facility, including infrastructure, equipment, and operational procedures.
e) Confirm the project's implementation structure, including roles and responsibilities for all involved parties

Expected project outcomes

- The project will address the growing concerns regarding challenges in managing solid waste, which impacts public health and the environment. As a safe and formalized method for waste recovery and transformation into value-add products, the MRF will tackle health concerns whilst also supporting local economic development.
- The proposed solution involves the creation of numerous direct and indirect jobs for the facility operation and supporting activities.

Embu

fsd Kenya

EMBU FAECAL SLUDGE PLANT (1 of 2)

Estimated Project Preparation Cost: $200k

Estimated Project Implementation Cost: $6.7m

Expected Beneficiaries: 100,000+ People

Transaction Rationale:

The project targets the service of Embu Water and Sanitation Company(EWASCO) including Embu Town and 6 satellite towns with more than 205,147. About 27% of the area is sewered. Only 21% of the project area's total human waste is safely managed and is comprised of waste from the sewer network. The remaining 79% comprised of faecal sludge(63%) and septic waste is unsafely managed. The waste from pit latrines is mostly emptied and buried on site or disposed in bushes while septic waste is transported to the existing treatment plants which are not designed for faecal treatment. This baseline conditions pose a health risk to the population.

The main challenge to proper faecal sludge management (FSM) is EWASCO's limited institutional and budgetary capacity. EWASCO is thus partnering with Sanivation limited, a waste management company to deliver faecal waste management services. The plant will focus on waste treatment and fecal sludge resource recovery through production of briquettes.

Key Investment Highlights

1 Clear and measurable impact

The project's proposed installed capacity is 80m^3 and aims to achieve 100% safe treatment and reuse of faecal sludge. Currently only 21% of faecal waste is safely managed posing a health risk to the population. Through sustainable waste treatment and production of briquettes from waste the project directly contributes to the UN SDGs by providing access to improved sanitation, waste management and alternative energy.

The project is also projected to create 30-50 jobs.

2 Clear revenue model

The plant will produce briquettes from the treated waste and market this factories and institutions including the KTDA factories and milk processing factories in Embu and possibly beyond Embu. Currently factories and institutions in the region rely on wood fuel as the primary fuel source. However, if each of the factories could switch 10% of their energy usage to briquettes, monthly demand of 550 tons briquettes would be created.

3 Scalable model

The unsewered population within the project area had an average waste production of 222m3 per day in 2021 and is project to increase to 274m3. There is room to scale up the proposed 80m3 installed capacity with improved waste collection and aggregation infrastructure.

4 Catalytic impact of the project

Successful implementation of the envisioned project structure has the potential to catalyse further investment in county-spearheaded project which have historically not attracted significant private sector investment.

fsd Kenya

EMBU FAECAL SLUDGE PLANT (2 of 2)

Proposed structure

The proposed implementation structure is a design, build, operate joint venture.

The joint venture will be formed between the two project promoters comprised of Sanivation Limited and Embu Water and Sanitation Company(EWASCO). Sanivation Limited operates a similar plant in Naivasha, Kenya and will be responsible for running the Embu plant.

Project status

Project feasibility study was completed in 2022 and is available.

Additional project preparation required

- Conduct an Environmental and Social Impact Assessment for the project.
- Deve a comprehensive financial model for the project.

Expected project outcomes

- The project involves construction of an 80m3 capacity faecal waste treatment plant including capabilities of producing briquettes from faecal waste.
- The project will address the faecal waste management challenge in Embu today. Presently faecal waste from pit latrines and septage waste in not safely managed posing a health risk.
- Further investment to improve containment, waste emptying, waste transportation and collection infrastructure and services in the target 5 small and growing towns.

EMBU MATERIAL RECOVERY PLANT (1 of 2)

Estimated Project Preparation Cost: $200k

Estimated Project Implementation Cost: $1.5m

Expected Beneficiaries: 641,769+ People

Transaction Rationale:

Embu County does not presently have any Material Recovery Facility(MRF) and most of the waste is disposed in dumping sites but not treated. The county has a population of 641,769+ people which is projected to increase. The growing population together with the gradual economic growth is expected to increase waste production and demand for material recovery services. Embu county has five major towns and has attracted a number of manufacturers.

The MRF will sort, process, and prepare waste for recycling. This includes converting plastic into construction materials, transforming organic waste into manure, producing briquettes from biomass, and recycling metals and aluminum for industrial use. The facility will also generate Refuse-Derived Fuel (RDF) from combustible fractions for potential energy generation. It is expected that the operator or the county will generate revenue from the above streams.

The county has committed to provide land to a private sector operator who will set up and operate the facility.

Key Investment Highlights

1 **Clear environmental impact**

The project will ensure recycling of household and industrial waste in Embu and directly contribute to development of a circular economy in Embu and other counties in the including Kirinyaga, Kiambu, Nyeri, Muranga and Meru.

2 **Clear revenue model**

The project generate revenue from production and marketing of recycled materials including manure, briquettes and metal. Key client base include farmers for manure and industries + institutions for briquettes.

4 **Scalable model**

The project has the potential to scale its operations tapping into the waste produced in the counties within the regional economic bloc.

4 **Established regulatory framework.**

There is an established legal framework in Kenya allowing for private sector participation in construction of public assets including asset concessional guidelines.

5 **Catalytic impact of the project**

Successful implementation of the envisioned project structure has the potential to catalyse further investment in county-spearheaded project which have historically not attracted significant private sector investment.

EMBU MATERIAL RECOVERY PLANT (2 of 2)

Proposed structure

The proposed project is county ownership with a private operator through a lease agreement with the County.

The lease arrangement will be guided by the Public Procurement and Asset Disposal Act, No. 33 of 2015 which provides a framework for efficient, transparent and enforceable leasing of public assets.

Project status

- Project concept note completed.

Additional project preparation required

- Complete the updated feasibility study and develop a financial model for the project.
- Conduct an Environmental and Social Impact Assessment(ESIA) for the project.

Expected project outcomes

- The project will address the water scarcity challenge in Taita Taveta and the neighboring Counties.
- The proposed optimal and sustainable solution entails the abstraction of up to the allowable 105,000m3/day.
- The project involves the construction of spring intake and collection systems works, water filtration and treatment systems, water storage, pumping stations including solarization of these, bulk transmission pipelines, distribution networks and control systems (SCADA).

SOLAR POWER AND BATTERY ENERGY STORAGE SYSTEM FOR THE EMBU LEVEL 5 HOSPITAL (1 of 2)

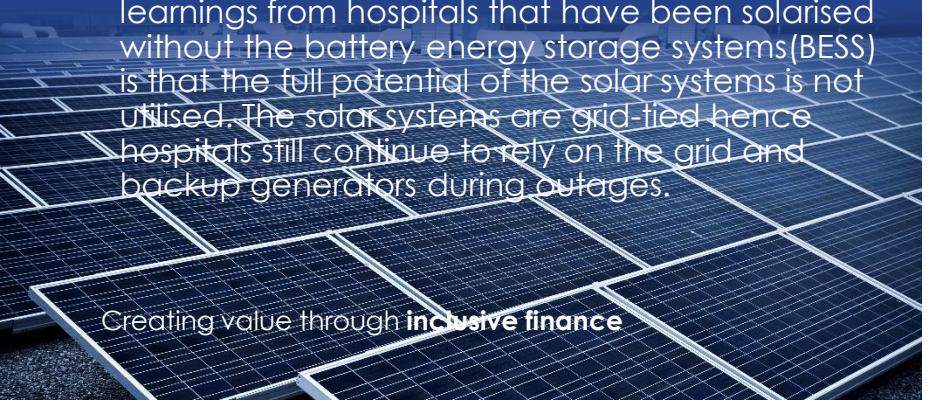
Estimated Project Implementation Cost: $1m

Expected Beneficiaries: Hospital catchment are of 586,873+ Embu County Resident

Transaction Rationale:

Embu Level 5 hospital is teaching, research and county referral hospital. The hospital provides outpatient, inpatient and specialized care including acute and acute medical and surgical services, diagnostics, rehabilitation, mental health palliative care. Alongside the high electricity bills, unreliable power supply has emerged as critical problem interrupting hospital operations. The hospital has had to resort to diesel powered backup generators as an alternative during outages which is expensive and pollutive.

The project proposed installation of a solar power and energy storage system(BESS). The learnings from hospitals that have been solarised without the battery energy storage systems(BESS) is that the full potential of the solar systems is not utilised. The solar systems are grid-tied hence hospitals still continue to rely on the grid and backup generators during outages.



Creating value through **inclusive finance**

Key Investment Highlights

1 Clear and measurable social impact

The Embu Level 5 hospital has a catchment area of 586,873+ residents within Embu County and also serves patients from the neighbouring counties of Kirinyaga, Tharaka Nithi, Meru and Muranga. The hospital is a referral and teaching hospital and provides outpatient services, inpatient services and specialist services. The hospital has 618 bed inpatient capacity with estimated average monthly outpatient visits of 11,000 patients and average monthly inpatient admissions of 1,200 patients. Reliable healthcare delivery is affected by national grid power outages. Installation of an integrated solar power and battery energy storage system will ensure improved and reliable healthcare delivery at the health facility.

2 Measurable economic and climate impact

Up to 80-90% cost savings can be achieved with installation of an integrated solar power and energy storage system. The cost savings can be channeled towards provision of improved healthcare, repayment of recoverable grants or solarisation of other healthcare facilities.

Installation of the project will also help mitigate against the frequent use of diesel power generators to complement grid power during outages.

3 Catalytic impact of the project

Successful implementation of the envisioned project structure has the potential to catalyse further investment in county-spearheaded project which have historically not attracted significant private sector investment due to high-risk perception.

fsd Kenya

SOLAR POWER AND BATTERY ENERGY STORAGE SYSTEM FOR THE EMBU LEVEL 5 HOSPITAL (2 of 2)

Proposed structure

Private sector developed, owned and operated.

Project status

- Concept note developed

Additional project preparation required

- Technical Design and System Sizing to determine optimal solar size and battery storage requirements.
- Financial Analysis to breakdown the project development costs, operational costs and return on investment.

Expected project outcomes

- The project will strengthen healthcare delivery in Embu County through:
- Uninterrupted healthcare by ensuring constant 24/7 power supply at the hospital.
- Up to 80-90% energy cost savings by development of fully integrated solar and battery energy storage systems at the proposed healthcare facility.

ESTABLISHMENT OF AGRO-INDUSTRIAL FACILITY FOR MILK HONEY AND MANGO

Estimated Project Preparation Cost: $200k per value chain

Estimated Total Project Implementation Cost: $2.4 per agri-processing facility based on high-level comparison with similar facilities set up in the region.

Expected Beneficiaries: 20,000+ farmers

Transaction Rationale:

The Embu County has identified the mango, milk and honey production as priority agricultural value chains for agro-industrial investment. The county has over 18,000 milk farmers producing 101,347,503 litres of milk annually and 5000 bee farmers producing 78,753 kgs of honey annually. Mango production in the county stands at 101,781.75 MT annually. Most of the produce is sold at below market price to brokers or goes to waste due to the lack of well-developed value chains in the county. To mitigate against this challenge the county is making investment in supportive infrastructure and extension services to support farmers and cooperatives improve their yield and aggregate their produce for marketing.

The county is inviting private sector players to set up value addition facilities across these value chains within the County Aggregation and Industrial Facility.

Key Investment Highlights

1. **Supporting baseline conditions**

The county agricultural community provides sustainable raw material supply for the value addition facilities. The county is also continually making additional investment in farmer development and aggregation infrastructure. One case is where the county set up 20 milk coolers with combined capacity of 76,600 litres per day to improve storage and aggregation.

The County Government also provides investors with the option to set up within the County Aggregation and Industrial Park(CAIP) which is in development.

2. **Clear social and economic impact**

The project upon completion will directly improve the benefit 20,000+ farmers who can sell their produce at marked-to-market prices. The value addition facilities will also provide direct and indirect employment opportunities across the value chain.

3. **Scalable model**

The project has the potential to scale its operations tapping into the rich agricultural hinterland provided by neighbouring counties within the economic bloc.

4. **Proximity to key markets**

Embu is strategically located within a two-hour drive of major urban centers such as Nairobi, Thika, Nyeri, Meru, Murang'a, and Karatina, which eases market access investors in the county.

fsd Kenya

ESTABLISHMENT OF AGRO-INDUSTRIAL FACILITY FOR MILK HONEY AND MANGO

Proposed structure

The proposed project structure would be a county owned project with provisions to ensure cost savings are directed towards improving healthcare at the facility.

Project status

- Need assessment and proposal development for the project is in progress.

Additional project preparation required

- Financing for the pre-feasibility studies, feasibility studies and financial modelling.
- Financing for the technical design and facility planning.

Expected project outcomes

- Development of three value addition facilities covering the mango, milk and honey value chains.
- Improved income for 20,000+ farmers across the three value chains and livelihood for the households. The project is also expected to positively impact downstream value chains including creating industrial and distribution jobs.
- A robust agricultural value chain will contribute to sustainable management of agricultural produce leading to reduced waste and improved food security.

Kisumu

fsd Kenya

INTEGRATED WASTE TO ENERGY AND ORGANIC FERTILIZER PROJECT (1 of 2)

Estimated Project Preparation Cost: $500k

Estimated Project Implementation Cost: $4.8M

Expected Beneficiaries: Creation of c.80-120 local direct jobs and the county saving a carbon footprint of 183.9 kg CO_2 and 186kg CO_2 per tonne of wood fuel and wet feedstock being processed.

Transaction Rationale:

Kisumu generates approximately 293 tons of municipal solid waste daily, with 192 tons identified as organic. Key sources include households, non-household entities, and markets such as Jubilee, Kibuye, Manyatta, and Kondele, which collectively produce significant quantities of organic waste daily. While 12.5% of this waste is recovered for animal feed, the remaining material is largely unmanaged, leading to environmental degradation, public health risks and missed economic opportunities.

The project aims at addressing this issue by, reducing greenhouse gas (GHG) emissions, and promoting sustainable energy solutions. It involves the development of a centralized biogas facility complemented by 10 decentralized modular units. The initiative seeks to improve public health, create jobs, and support the county's transition to a circular economy.

Creating value through **inclusive finance**

Key Investment Highlights

1. **Clear and measurable impact**

   The project will contribute to the UN SDGs by supporting economic development through employment impact for a range of people with varying skillsets, creating 80-120 direct jobs. The project will also save a carbon footprint of 183.9 kg CO_2 and 186kg CO_2 per tonne of wood fuel and wet feedstock being processed.

2. **Clear revenue model**

   The proposed project will have multiple revenue streams. These will include sale of:

   - ❑ Electricity
   - ❑ Heat
   - ❑ Compressed biogas
   - ❑ Compost/bio-slurry

3. **Established regulatory framework, policy-aligned and county buy-in**

   The project benefits from Kenya's robust regulatory framework enabling private sector participation in public infrastructure, with county government support via land allocation. Aligned with national climate and energy goals, it leverages laws mandating waste separation, existing infrastructure for organic waste processing, and government-backed financial and technical support for composting and biogas initiatives.

4. **Scalable, Hub-and-Spoke Model**

   The project has been designed with one central biogas facility supported by 10 decentralized modular units, enabling phased expansion, wider geographic coverage, and improved waste collection efficiency.

fsd Kenya

INTEGRATED WASTE TO ENERGY AND ORGANIC FERTILIZER PROJECT (2 of 2)

Proposed structure

The proposed project structure may include:

- ❑ A Private-Public Partnership.
- ❑ A fully private-led

Project status

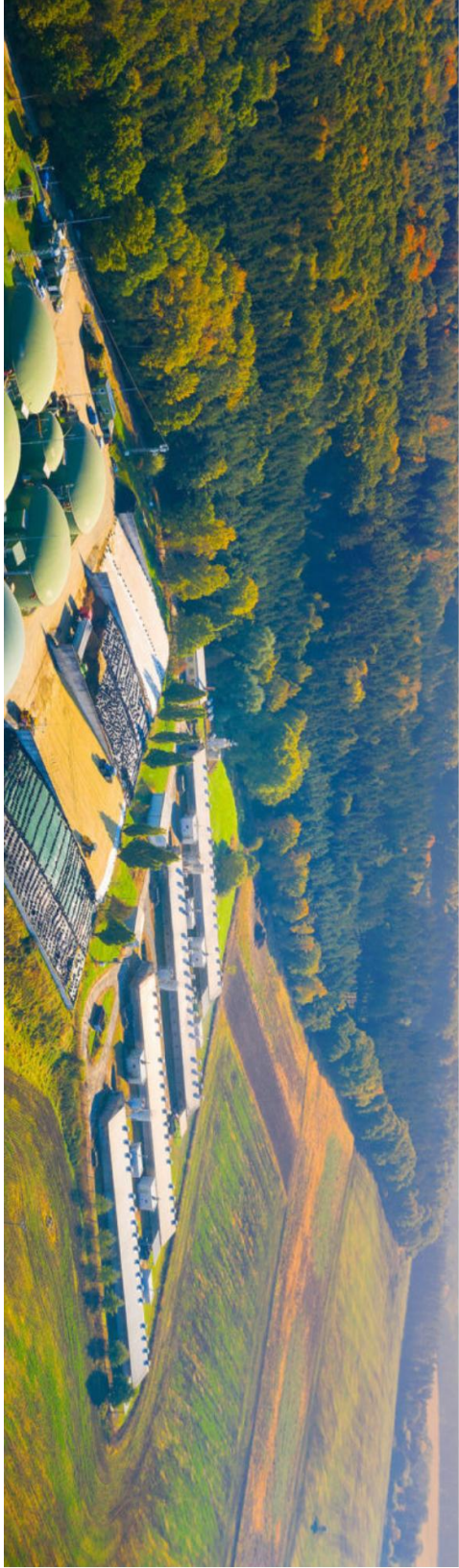
Project pre-feasibility study is complete (2024) and available.

Additional project preparation required

- Complete a full feasibility study.
- Develop detailed designs of the proposed facilities.
- Develop a financial model to forecast estimated revenue and potential returns of the project.
- Conduct an Environmental and Social Impact Assessment (ESIA) for the project.

Expected project outcomes

1. Save a carbon footprint of 183.9 kg CO_2 per tonne of wood fuel and an additional 186 kg CO_2 per tonne of wet feedstock being processed.
2. Approx. 85–120 direct jobs across waste collection, facility operation, maintenance, bio-slurry distribution, and administration.
3. In pilot case areas, this improvement could lead to a 25–30% reduction in cases of respiratory infections over tie, particularly benefitting children and the elderly.
4. Access to affordable fertilizer can improve yields by an estimated 10–15%, further strengthening food security.



SOLAR POWER AND BATTERY ENERGY STORAGE SYSTEMS FOR THE KOMBEWA (LEVEL-5) AND LUMUBA (LEVEL-4) COUNTY HOSPITALS (1 of 2)

Estimated Project Preparation Cost: $150k

Estimated Project Implementation Cost: $2M

Expected Beneficiaries: County hospitals and patients.

Transaction Rationale:

Many healthcare facilities, especially in rural and peri-urban areas, lack reliable access to electricity. Frequent power outages, high energy costs, or complete absence of grid connection severely limit their ability to deliver essential health services such as emergency care, maternal and neonatal services, cold chain storage for vaccines, and nighttime operations. Consequently, this project enhances the reliability, quality, and sustainability of healthcare delivery by reducing energy costs and providing clean, decentralized solar energy systems to underserved health facilities, thereby ensuring uninterrupted power supply for critical medical equipment, lighting, refrigeration, and digital health technologies.

Creating value through **inclusive finance**

Key Investment Highlights

1. **Clear and measurable social impact**

The proposed project aims to serve 1M+ Kisumu County residents' affected by the lack of essential health services due to power outages and power cuts due to high electricity bills. Installation of a fully integrated solar power and battery energy storage system will directly contribute to improved health services offerings.

2. **Measurable economic and climate impact**

The proposed County Hospitals incurs high power bills, however, up to 80-90% cost savings can be achieved from implementing the project. The cost savings can be also be channeled towards repayment of recoverable grants, provision of improved essential health services or solarization of other hospitals. In addition, installation of solar power and energy storage systems mitigates against frequent use of diesel power.

3. **Established Regulatory and Policy Support**

The project benefits from Kenya's supportive regulatory and policy environment promoting renewable energy in public facilities. Government incentives, net-metering provisions, and green energy funding programs encourage solar adoption in health infrastructure, aligning with national energy and climate strategies while enhancing hospital resilience, lowering operational costs, and improving uninterrupted patient care.

fsd Kenya

SOLAR POWER AND BATTERY ENERGY STORAGE SYSTEMS FOR THE KOMBEWA (LEVEL-5) AND LUMUBA (LEVEL-4) COUNTY HOSPITALS (2 of 2)

Proposed structure

The proposed project would be a County Hospital owned-and-operated structure. Key partner is the Kisumu County Government.

It is suggested that there would be grant funding allocated via a County solarization fund and kept in an escrow account. Additional involved parties include an EPC Contractor.

Project status

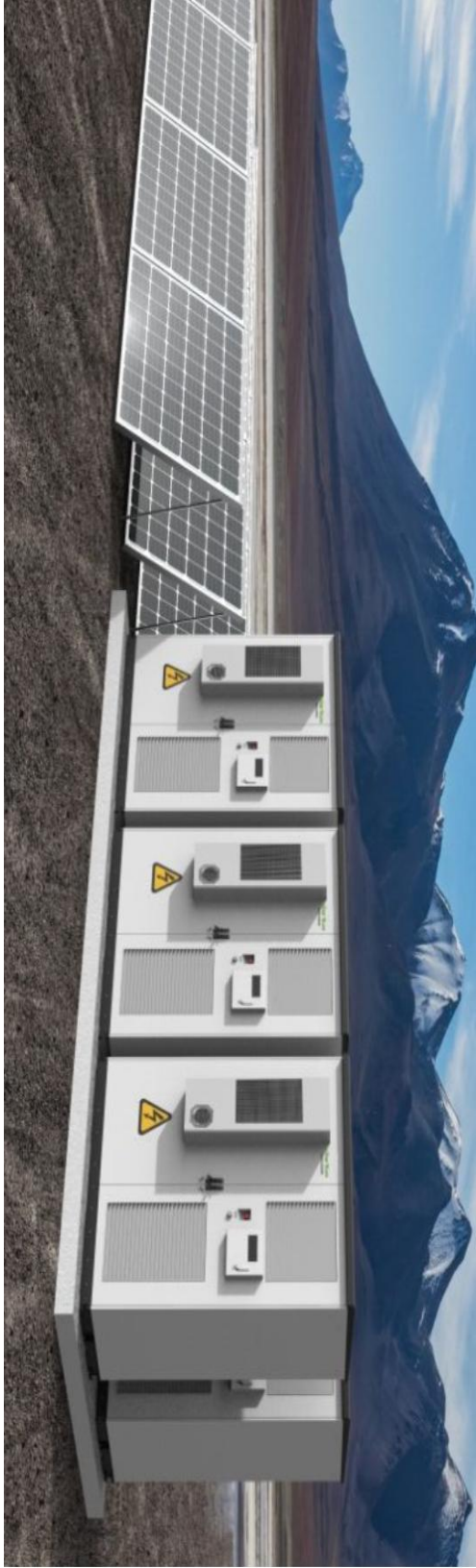
- Project concept note completed.
- Needs assessment has been conducted

Additional project preparation required

- 1. Technical Design and System Sizing to determine optimal solar size and battery storage requirements
- 2. Financial Analysis to determine project costs, potential savings and return on investment
- 3. Regulatory Compliance and Permitting from relevant authorities

Expected project outcomes

- Improved healthcare by reduction of interruptions caused by power outages. Energy Cost savings of up to 90% can be achieved with well integrated solar power and battery energy storage systems and can be directed to healthcare.
- Installation solar power and energy storage systems mitigates against the frequent use of diesel power generators to complement grid power during outages.



SOLAR POWER AND BATTERY ENERGY STORAGE SYSTEMS FOR NYAKACH WATER TREATMENT PLANT (1 of 2)

Estimated Project Preparation Cost: $25k

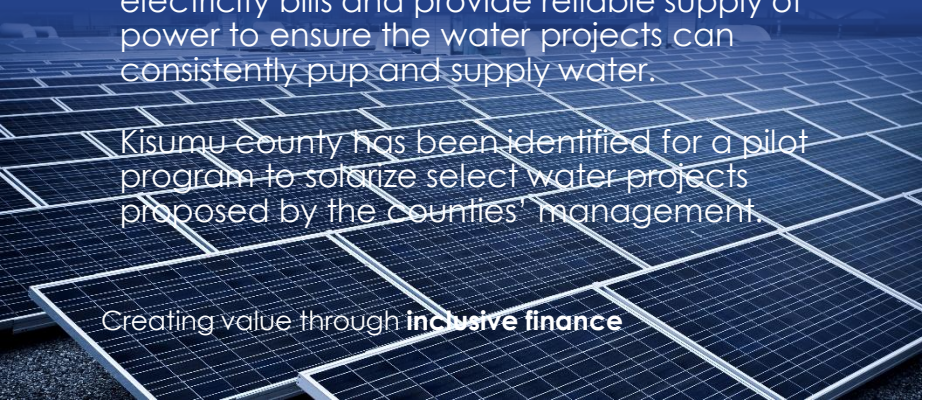
Estimated Project Implementation Cost: $1M

Expected Beneficiaries: Water companies (KIWASCO) and end-consumers.

Transaction Rationale:

Unreliable power supply and high electricity costs has emerged as a recurring theme amongst the county's water service provider. The power outages and electricity charges pose a challenge to the sustainable operation of pumping stations which subsequently impedes consistent supply of water to the target connections. The objective of the project is to reduce operational costs attributed to high electricity bills and provide reliable supply of power to ensure the water projects can consistently pup and supply water.

Kisumu county has been identified for a pilot program to solarize select water projects proposed by the counties' management.



Creating value through **inclusive finance**

Key Investment Highlights

1. **Clear and measurable social impact**

   The proposed water project aims to serve 150,000+ Nyakach sub-county residents' affected by the challenge of unreliable water supply of safe water. Power outages and power cuts due high electricity bills are a key contribute to low water production and water supply rationing. Installation of a fully integrated solar power and battery energy storage system will directly contribute to improved water supply.

2. **Measurable economic and climate impact**

   The proposed water treatment plant incurs high power bills, however, up to 80-90% cost savings can be achieved from implementing the project. The cost savings can be also be channeled towards repayment of recoverable grants, provision of improved water services or solarization of other water projects. In addition, installation of solar power and energy storage systems mitigates against frequent use of diesel power.

3. **Established Regulatory and Policy Support**

   The project aligns with Kenya's renewable energy and water sector policies, benefiting from government incentives for clean energy adoption. Supportive regulations encourage solar integration into public utilities, enabling reduced operational costs, enhanced energy efficiency, and sustainable water service delivery, while advancing national targets for renewable energy penetration and climate resilience.

fsd Kenya

SOLAR POWER AND BATTERY ENERGY STORAGE SYSTEMS FOR NYAKACH WATER TREATMENT PLANT (2 of 2)

Proposed structure

The proposed project would be a Water Company owned-and-operated structure. Key partner is the Kisumu County Government.

It is suggested that there would be grant funding allocated via a County solarization fund and kept in an escrow account. Additional involved parties include KIWASCO and an EPC Contractor.

Project status

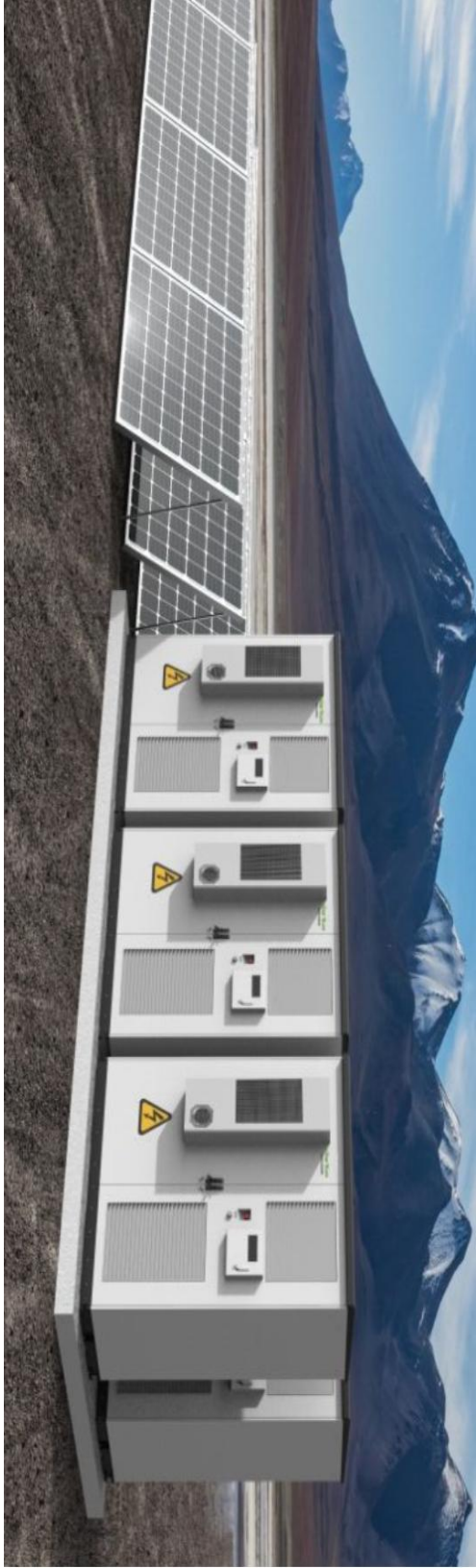
- Project concept note completed.
- Needs assessment has been conducted

Additional project preparation required

- 1. Technical Design and System Sizing to determine optimal solar size and battery storage requirements
- 2. Financial Analysis to determine project costs, potential savings and return on investment
- 3. Regulatory Compliance and Permitting from relevant authorities

Expected project outcomes

- The project will strengthen the water supply in Kisumu.
- Uninterrupted water production and supply by ensuring constant 24/7 power supply to the water pumping stations.
- Up to 80-90% energy cost savings by development of fully integrated solar and battery energy storage systems at proposed water pumping stations.



Laikipia

fsd Kenya

NANYUKI BULK WATER (1 of 2)

Estimated Project Implementation Cost: $91.9m

Expected Beneficiaries: 23,000 households in Nanyuki town and its environs.

Transaction Rationale:

Water scarcity has affected Laikipia County, impacting both domestic consumption and agricultural activities. The Nanyuki Bulk Water Supply Project is designed to address these challenges by constructing a dam on the Likii Central River, expanding the water treatment plant, and developing additional storage and distribution infrastructure. The project aims to serve approximately 23,000 households in Nanyuki town and its environs, including market centres and small-holder irrigation schemes in areas such as Nturukuma, Sweet Waters, Njoguini, and Jua Kali/Mukima.

The proposed dam will have a capacity of 47 million cubic meters sufficient to meet the water demands of Nanyuki and surrounding areas. Upgrades to the existing water treatment facility will ensure clean and safe water provision. Additionally, 50 KM of distribution mains and new storage tanks will be constructed to improve water delivery.

Key Investment Highlights

1. **Clear and measurable impact**

   According to the UN, everyone has a right to access clean water and sanitation. This project will provide clean water to approximately 23,000 households in Nanyuki town.

2. **Scalable model**

   The proposed project has a potential of serving neighbouring counties such as Nyeri and Meru counties; hence, expanding its impact to a wider population.

3. **Constant supply of raw materials**

   The county has a constant supply of water enough to meet the forecasted demand; however, investment in distribution assets is critical.

4. **Established regulatory framework**

   There is an established legal framework in Kenya allowing for private sector participation in construction of public assets including asset concessional guidelines.

5. **Catalytic impact of the project**

   The project has a potential of creating a catalytic impact through creation of employment supporting irrigation for farming, reducing water borne diseases etc.

NANYUKI BULK WATER (2 of 2)

Proposed structure

The proposed project structure would be a Private-Public Partnership.

It is suggested that a SPV that will own the project and contract with the public entity. Financing instruments will include Equity, Grant / Government viability gap funding and Concessional debt in line with the forecasted cashflows.

Project status

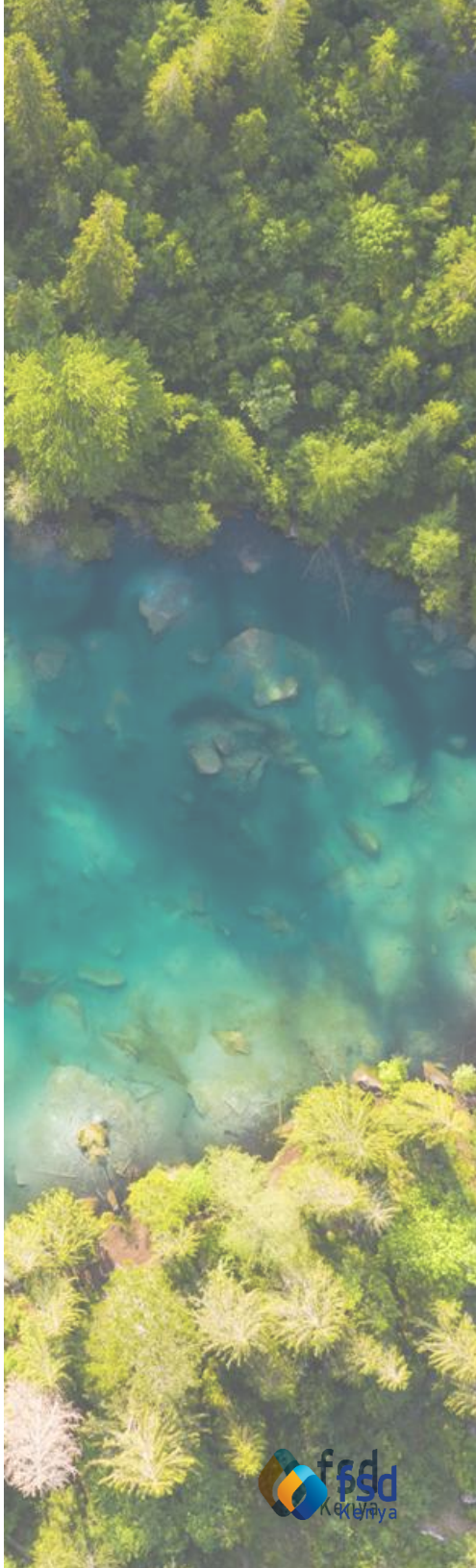
- Project preparation assessments completed include feasibility study (2009), detailed design and tender documents (2009), environmental and social Impact assessment (2009), non-revenue water analysis (2009), hydrological assessment (2009), engineers cost estimate (2009), updated feasibility study (2017) and financial Model 2021
- Funding for updating the above assessments has been secured thorough support from FSD Kenya

Additional project preparation required

- Complete the update of the project preparation assessments.

Expected project outcomes

- Provides Nanyuki, Nyeri and Meru county residents and businesses with reliable, safe water.
- Reduces incidence of waterborne diseases and enables better hygiene practices.
- Creates additional revenue from new connections (assuming 100% collection efficiency from new connections)
- Reduces time spent fetching water, especially in rural and peri-urban areas – enabling education and income-generating activities for women.
- Design minimizes ecological disruption, preserve aquatic life, and maintain environmental flows.



RUMURUTI DAM (1 of 2)

Estimated Project Preparation Cost: $500k

Estimated Project Implementation Cost: $46.4M

Expected Beneficiaries: Rumuruti municipality42,585+ residents

Transaction Rationale:

Rumuruti Municipality serves as the current headquarters of Laikipia County. The town is a hub for horticultural activities, featuring contributions from both smallholder farmers and large-scale operations like AAA Growers Limited. Its favorable climate for horticulture and flower farming has attracted significant interest from potential investors. Complementing these activities, the county, in partnership with the national government, is developing a County Aggregation and Industrial Park (CAIP) to accommodate various production and manufacturing industries. The River Ewaso Ng'iro is a vital water source for the county; however, the lack of a reliable water supply system has led individual farms to draw water directly from the river for agricultural purposes, thus limiting the environmental flow for downstream users. Additionally, Rumuruti Municipality experiences a daily shortfall of 1,200 cubic meters in meeting domestic water demand.

The construction of the Rumuruti Dam is set to increase the daily water supply to 4,000 cubic meters, adequately meeting both current and future domestic water demands in Rumuruti Municipality. By implementing a regulated distribution system, raw water from the dam can be efficiently delivered to farms for productive purposes.

Key Investment Highlights

1. **Clear and measurable impact**

   According to the UN, everyone has a right to access clean water and sanitation. This project will provide clean water to approximately 42,585 residents in Rumuruti municipality..

2. **Scalable model**

   The proposed project has a potential of serving neighbouring Laikipia municipalities, expanding its impact to a wider population.

3. **Constant supply of raw materials**

   The county has a constant supply of water enough to meet the forecasted demand; however, investment in distribution assets is critical.

4. **Established regulatory framework**

   There is an established legal framework in Kenya allowing for private sector participation in construction of public assets including asset concessional guidelines.

5. **Catalytic impact of the project**

   The project has a potential of creating a catalytic impact through creation of employment supporting irrigation for farming, reducing water borne diseases etc.

fsd Kenya

RUMURUTI DAM (2 of 2)

Proposed structure

The proposed project structure would be a Private-Public Partnership.

It is suggested that a SPV that will own the project and contract with the public entity. Financing instruments will include Equity, Grant / Government viability gap funding and Concessional debt in line with the forecasted cashflows.

Project status

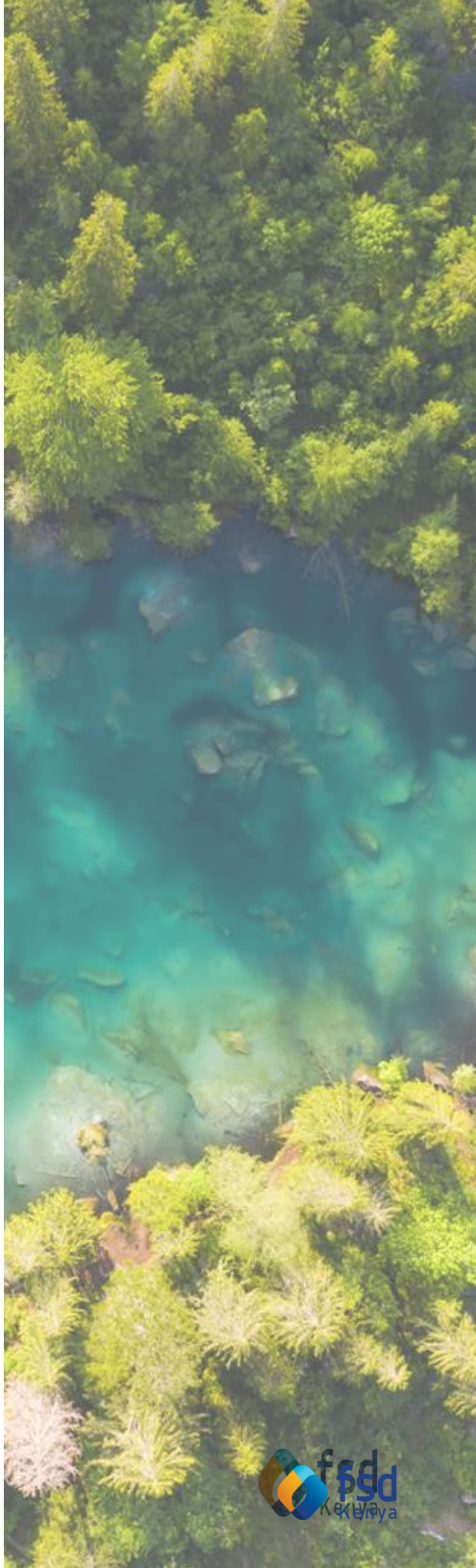
- Project preparation assessments completed include feasibility study (2016), geotechnical report (2016) and environmental and social Impact assessment (2016).
- Funding for updating the above assessments is required

Additional project preparation required

- Update the project preparation assessments and develop the financial model.

Expected project outcomes

- Provides Rumuruti municipality residents and businesses with reliable, safe water.
- Reduces incidence of waterborne diseases and enables better hygiene practices.
- Creates additional revenue from new connections (assuming 100% collection efficiency from new connections)
- Reduces time spent fetching water, especially in rural and peri-urban areas – enabling education and income-generating activities for women.
- Design minimizes ecological disruption, preserve aquatic life, and maintain environmental flows.



NYAHURURU FEACAL SLUDGE TREATMENT PLANT (1 of 2)

Estimated Project Preparation Cost: $200k

Estimated Project Implementation Cost: $4.2M

Expected Beneficiaries: 150,000+ residents of Laikipia County.

Transaction Rationale:

Nyahururu Water and Sanitation Company currently serves over 150,000 people within Laikipia County. The utility lacks a fecal sludge treatment plant. Currently, fecal waste is being discharged to the environment and partly to the existing wastewater treatment plant. The existing sewage treatment facility was originally built to process liquid waste from households linked to the county's sewer system. However, due to the absence of a dedicated facility for handling fecal sludge from standalone units like pit latrines and septic tanks, the Nyahururu Water and Sanitation Company started allowing sludge from exhausters to be processed at this plant at a monthly fee for KES 15,000, allowing them to dispose of sludge at the sewage treatment facility.

Over time, the ponds have accumulated solids, causing blockages in the current systems and necessitating frequent maintenance and repairs. Consequently, the county now needs a specialized facility to specifically manage fecal sludge.

Key Investment Highlights

1. **Strong regulatory and policy support**

   Backed by government sanitation masterplans, SDG 6 (Clean Water & Sanitation) targets, and environmental protection policies. Often qualifies for concessional financing, climate funds, and PPP structures.

2. **Essential urban infrastructure with rising demand**

   Addresses a critical public health and sanitation gap in rapidly urbanizing regions. Demand driven by population growth, urban densification, and tightening sanitation regulations.

3. **Revenue diversification potential**

   Core income from sludge treatment fees (municipal or private haulers). Secondary revenues from sale of by-products: compost, soil conditioner, biogas, and potentially renewable electricity.

4. **Proven, scalable technology**

   Uses tested treatment technologies with low operational risk and modular capacity expansion. Adaptable to both centralized and decentralized waste management models.

5. **Circular economy and carbon credit upside**

   Supports resource recovery and circular economy principles. Eligible for carbon credits through methane capture and renewable energy generation.

6. **Positive environmental and social impact**

   Reduces pollution of water bodies and groundwater. Improves public health outcomes, lowers disease burden, and supports sustainable urban development.

fsd Kenya

NYAHURURU FEACAL SLUDGE TREATMENT PLANT (2 of 2)

Proposed structure

The proposed project structure would be a Private-Public Partnership.

It is suggested that a SPV that will own the project and contract with the public entity. Financing instruments will include Equity, Grant / Government viability gap funding and Concessional debt in line with the forecasted cashflows.

Project status

- Project preparation assessments completed include feasibility study (2023) and detailed designs (2023).

Additional project preparation required

- Financial Model Build
- Technical Design and Technology Selection
- Environmental and Social Impact Assessment

Expected project outcomes

- The construction and operation of the plant creates direct (e.g., plant operators, maintenance staff, transport workers) and indirect jobs (e.g., equipment suppliers, service providers), stimulating the local economy through increased income and consumption.
- Improve sewerage and sanitation services to Nyahururu residents. This reduces contamination of water sources and the spread of waterborne diseases significantly improving public health and lowering healthcare burdens on communities.

RUMURUTI SEWERAGE SYSTEM (1 of 2)

Estimated Project Preparation Cost: $300k

Estimated Project Implementation Cost: $15M

Expected Beneficiaries: Rumuruti municipality42,585+ residents

Transaction Rationale:

Rumuruti Municipality currently does not have a sewerage system in place. As the county headquarters, the demand for sewerage services is anticipated to increase significantly in the coming years. However, the development of a sewerage system is contingent upon resolving the current water availability issues.

With a growing population and growing residential and business areas, Rumuruti needs a sewerage treatment plant. The plant will be established following the successful implementation of the Rumuruti Dam Project. The water treated from the plant can be delivered to neighboring farms for irrigation to support agricultural activities.

Key Investment Highlights

1. **Strong regulatory and policy support**

   Backed by government sanitation masterplans, SDG 6 (Clean Water & Sanitation) targets, and environmental protection policies. Often qualifies for concessional financing, climate funds, and PPP structures.

2. **Essential urban infrastructure with rising demand**

   Addresses a critical public health and sanitation gap in rapidly urbanizing regions. Demand driven by population growth, urban densification, and tightening sanitation regulations.

3. **Revenue diversification potential**

   Core income from sludge treatment fees (municipal or private haulers). Secondary revenues from sale of by-products: compost, soil conditioner, biogas, and potentially renewable electricity.

4. **Proven, scalable technology**

   Uses tested treatment technologies with low operational risk and modular capacity expansion. Adaptable to both centralized and decentralized waste management models.

5. **Circular economy and carbon credit upside**

   Supports resource recovery and circular economy principles. Eligible for carbon credits through methane capture and renewable energy generation.

6. **Positive environmental and social impact**

   Reduces pollution of water bodies and groundwater. Improves public health outcomes, lowers disease burden, and supports sustainable urban development.

fsd Kenya

RUMURUTI SEWERAGE SYSTEM (2 of 2)

Proposed structure

The proposed project structure would be a Private-Public Partnership.

It is suggested that a SPV that will own the project and contract with the public entity. Financing instruments will include Equity, Grant / Government viability gap funding and Concessional debt in line with the forecasted cashflows.

Project status

- Project preparation assessments need to be done.

Additional project preparation required

- Feasibility Study
- Detailed Designs
- Environmental and Social Impact Assessment (ESIA)
- Financial Model

Expected project outcomes

- The construction and operation of the plant creates direct (e.g., plant operators, maintenance staff, transport workers) and indirect jobs (e.g., equipment suppliers, service providers), stimulating the local economy through increased income and consumption.
- Improve sewerage and sanitation services to Rumuruti municipality residents This reduces contamination of water sources and the spread of waterborne diseases significantly improving public health and lowering healthcare burdens on communities.

Makueni

fsd Kenya

KIIA NZOU WATER DAM (1 of 2)

Estimated Project Preparation Cost: $5M

Estimated Project Implementation Cost: $115m (Cost to be confirmed during feasibility study).

Expected Beneficiaries: 40,000+ residents

Transaction Rationale:

The county aims to increase household water access from 46% to at least 68% the national average. There are several initiatives at the county level to enhance water access including sinking boreholes, constructing sand dams and encouraging citizens to maximize rainwater harvesting.

Wote township and neighboring municipalities are not water sufficient, with the increasing urban population adding to the strain. The project will be located along the Kaiti River and will comprise of a dam, a water treatment plant and water distribution network. Water from the Kiia Nzou Water Dam project will be distributed to the neighbouring communities and the Wote township and municipality.

This project aims to increase water access to 60% and reduce average distance to a water source to 2km from 8km in Wote, Mukuyuni, and Kilala. The project also aims to increase irrigation land by an additional 500Ha.

Key Investment Highlights

1. **Clear and measurable impact**

   According to the UN, everyone has a right to access clean water and sanitation. This project will provide clean water to approximately 40,000 people in Makueni County.

2. **Scalable model**

   The proposed project has a potential of serving neighbouring sub counties beyond Wote township and municipality; hence, expanding it's impacting to a wider population.

3. **Improved climate adaptation**

   The project will be located along the Kaiti River which is the main river supplying water in the county. The river is seasonal river that floods every year during the rain season, building the dam will mitigate flooding and also preserve water for the dry season. The water will be used by households and for irrigation.

4. **Established regulatory framework**

   There is an established legal framework in Kenya allowing for private sector participation in construction of public assets including asset concessional guidelines.

5. **Catalytic impact of the project**

   The project has a potential of creating a catalytic impact through creation of employment supporting irrigation for farming, reducing water borne diseases etc.

KIIA NZOU WATER DAM (2 of 2)

Proposed structure

The proposed project structure would be a Private-Public Partnership.

It is suggested that SPV would be created between the private-sector sponsor and the Wote Water and Sewerage Company Limited (WOWASCO). Additional involved parties include Makueni County Government, PPP Directorate / National Treasury, EPC Contractor and O&M Contractor.

Project status

Project concept note completed

Additional project preparation required

- Conduct feasibility study and develop a financial model for the project.
- Conduct an Environmental and Social Impact Assessment(ESIA) for the project.
- Develop technical designs for the project.

Expected project outcomes

- The project involves development of a dam, water treatment facility and reticulation infrastructure.
- The project will address the water scarcity challenge in Makueni County and potentially the neighboring Counties.
- Development of reticulation infrastructure as part of the project will help reduce the average distance travelled to fetch water within the targeted locations from 8km to 2km.
- The project aims to increase irrigated land by an additional 500ha and will contribute to improved food security. Makueni is particularly a semi-arid county faced with the challenge of extended dry months.

SOLAR POWER AND BATTERY ENERGY STORAGE SYSTEM FOR THE MAKINDU LEVEL 4 HOSPITAL (1 of 2)

Estimated Project Implementation Cost: $1M

Expected Beneficiaries: Improved and reliable healthcare within the hospital catchment of 200,000+ residents of Kibwezi West Sub County.

Transaction Rationale:

Makueni county has 16 level 4 hospitals cumulatively incurring more than USD 169,227 in electricity bills every year. The largest of the level 4 hospitals is the Makindu Level 4 hospital which incurred USD 67,564 in electricity bills in 2024. Alongside the high electricity bills, unreliable power supply has emerged as a critical problem interrupting hospital operations in Makueni county. The county plans to solarize the 16 level 4 hospitals however for the pilot Makindu Level 4 hospital has been identified.

The proposed solution is to install solar power and battery energy storage systems(BESS). The learnings from hospitals that have been solarised without the battery energy storage systems(BESS) is that the full potential of the solar systems is not utilised. The solar systems are grid-tied hence hospitals still continue to rely on the grid and backup generators during outages.

Key Investment Highlights

1 Clear and measurable social impact

The Makindu Level 4 hospital has a catchment area of 200,000+ residents within Kibwezi West subcounty and also serves patients from the neighbouring counties of Kajiado, Kitui, Machakos and Taita Taveta. The hospital is a referral and teaching hospital and provides outpatient services, inpatient services and specialist services. The hospital has inpatient capacity of 210 beds and serves 300+ outpatient visitors daily. Reliable healthcare delivery is affected by national grid power outages. Installation of an integrated solar power and battery energy storage system will ensure improved and reliable healthcare delivery at the health facility.

2 Measurable economic and climate impact

The Makindu Level 4 hospital incurred USD 67,564 in electricity bill in 2024. Up to 80-90% cost savings can be achieved with installation of an integrated solar power and energy storage system. The cost savings can be channeled towards provision of improved healthcare, repayment of recoverable grants or solarisation of other healthcare facilities.

Installation of the project will also help mitigate against the frequent use of diesel power generators to complement grid power during outages.

3 Catalytic impact of the project

Successful implementation of the envisioned project structure has the potential to catalyse further investment in county-spearheaded project which have historically not attracted significant private sector investment due to high-risk perception.

fsd Kenya

SOLAR POWER AND BATTERY ENERGY STORAGE SYSTEM FOR THE MAKINDU LEVEL 4 HOSPITAL (2 of 2)

Proposed structure

The proposed project structure would be a county owned project with necessary provisions to ensure cost savings are directed towards improving healthcare at the facility.

Project status

- Need assessment and proposal development for the project is in progress.

Additional project preparation required

- Technical Design and System Sizing to determine optimal solar size and battery storage requirements.
- Financial Analysis to breakdown the project development costs, operational costs and return on investment.

Expected project outcomes

- The project will strengthen healthcare delivery in Makueni County through:
- Uninterrupted healthcare by ensuring constant 24/7 power supply at the hospital.
- Up to 80-90% energy cost savings by development of fully integrated solar and battery energy storage systems at the proposed healthcare facility.

Nairobi

fsd Kenya

Nairobi City Wood – Metal Furniture Aggregation & Industrial Park (1 of 2)

Estimated Project Implementation Cost: $ 77 m

Expected Beneficiaries: The facility will integrate artisans into formal value chains, enhance productivity, and support the delivery of high-quality, locally manufactured furniture for both domestic and export markets.

Transaction Rationale:

The wood and metal furniture sector in Nairobi is largely informal, with over 20,000 artisans operating in clusters such as Gikomba, Kamukunji, and Ngong Road. These artisans face numerous challenges including poor workspaces, outdated equipment, limited access to markets, and lack of standardization. Despite this, the sector holds immense potential for job creation, value addition, and contribution to national manufacturing goals.

The proposed Wood-Metal Furniture Aggregation and Industrial Park will serve as a Common User Facility (CUF), offering: Modern, regulated workspaces , shared access to advanced machinery and equipment, technical training and skills development, product standardization and certification support & market access through showrooms, e-commerce platforms, and trade fairs

The facility will integrate artisans into formal value chains, enhance productivity, and support the delivery of high-quality, locally manufactured furniture for both domestic and export markets.

Key Investment Highlights

1. **Clear and measurable impact**

   The project will contribute to the UN SDGs by supporting economic development through employment impact for a range of people, creating numerous jobs during construction and during operation. The project will also enhance the productivity and support to the artisans involved.

2. **Established regulatory framework, policy-aligned and county buy-in**

   There is an established legal framework in Kenya allowing for private sector participation in construction of public assets including asset concessional guidelines. In addition, the project is aligned with the political agenda, having received the first level of buy in from county government stakeholders.

3. **Catalytic impact of the project**

   The project has a potential of creating a catalytic impact through driving economic development in surrounding areas through solving challenges such as: low access to modern technology, high production cost, low certification levels, poor market penetration & lack of appropriate work sites. As the investment looks to rid such issues that many of the artisans are going through, it is also expected to increase general access to infrastructure (water, sanitation, electricity, healthcare facilities etc) as a result of this investment.

fsd Kenya

Nairobi City Wood – Metal Furniture Aggregation & Industrial Park (2 of 2)

Proposed structure

The proposed project structure would be a Private-Public Partnership.

Involved parties would include an SPV created between the private-sector sponsor, Nairobi County Government. Additional parties include PPP Directorate / National Treasury & the EPC Contractor

Project status

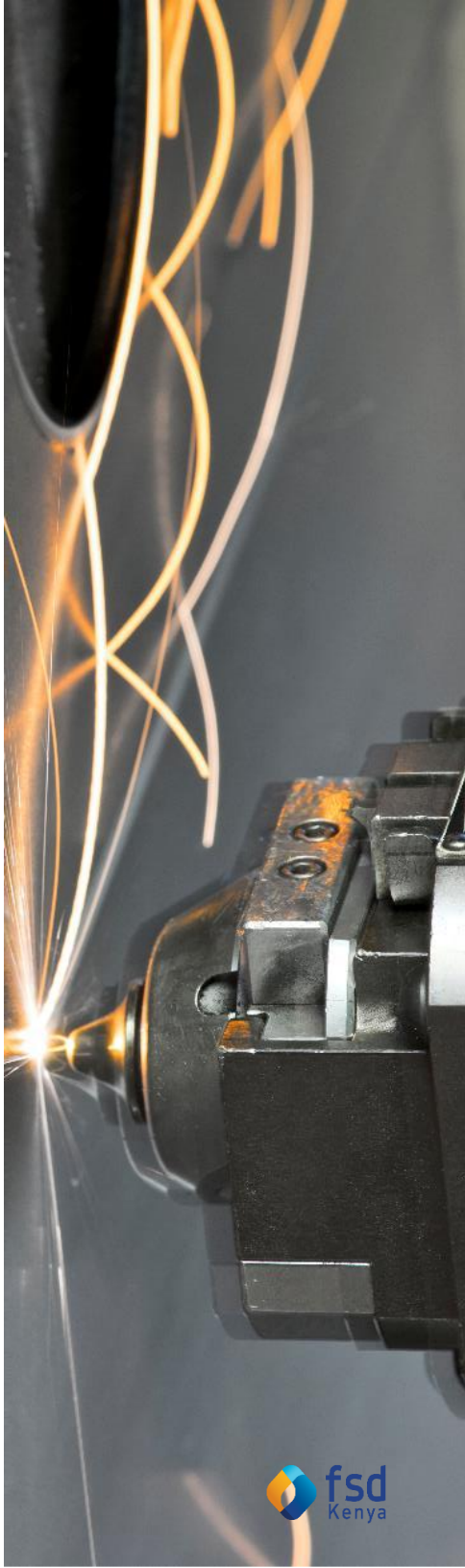
Project concept note is complete and available.

Additional project preparation required

- Complete an initial pre-feasibility study followed by a full feasibility study.
- Develop a financial model to forecast estimated revenue and potential returns of the project.
- Conduct an Environmental and Social Impact Assessment (ESIA) for the project.

Expected project outcomes

- The project will allow for high efficiency in material conversion, which will lower productions costs and enhance savings
- High precision leading to product uniformity
- High quality of end products, bringing in healthy competition against imports
- Employment creation and improved livelihoods



SOLARIZATION OF MAMA LUCY & PUMWANI HOSPTALS(1 of 2)

Estimated Project Implementation Cost: $4.8m

Expected Beneficiaries: 500 – 600 patients daily

Transaction Rationale:

The Pumwani Maternity and Mama Lucy Hospitals currently have populations of approximately 250 and 400 respectively at any given time. Currently, warm water is provided through instant heaters which is neither sustainable nor efficient.

Currently the County Government pays approximately $ 30k as monthly electricity bills and due to high electricity bills, the power is frequently disconnected leading to serious risks to the mothers and children and creates many inefficiencies.

The project will address the current power issues both hospitals experience including frequent power disconnections, affecting neonatal care, theater operations, and overall service delivery

Creating value through **inclusive finance**

Key Investment Highlights

1 **Clear and measurable impact**

This development is aligned to the UN SDG's 3(Good health & wellbeing) 7(Affordable and clean energy,) 8 (Decent work and economic growth), 11(Sustainable cities and communities), and 13(Climate action). Particularly, installation of solar will lead to use of warm water by mothers and babies after delivery and will reduce treatment of effects of getting into contact with cold water. The disconnections normally lead to among others expiry of refrigerated drugs, inconveniences in scheduled theater operations and infants in incubators.

2 **Measurable economic and climate impact**

Currently the hospitals incur between USD 360,000-500,000 annually in power bills, and up to 80-90% cost savings can be achieved from implementing the projects. The cost savings can be also be channeled towards repayment of recoverable grants, provision of improved services or solarization of other hospitals. In addition, installation of solar power and energy storage systems mitigates against frequent use of diesel power.

3 **Catalytic impact of the project**

Successful implementation of the envisioned project structure has the potential to catalyse further investment in county-spearheaded project which have historically not attracted significant private sector investment due to high-risk perception.

fsd Kenya

SOLARIZATION OF MAMA LUCY & PUMWANI HOSPITALS(2 of 2)

Proposed structure

The proposed project would be a developed by an independent company owned-and-operated structure. Key partner is the Nairobi County Government.

It is suggested that there would be grant funding allocated via a county solarization fund and kept in an escrow account.

Project status

- Draft project concept note, and preliminary energy audit carried out.

Additional project preparation required

- Undertake a feasibility study and develop a financial model for the project.
- Conduct an Environmental and Social Impact Assessment(ESIA) for the project.

Expected project outcomes

- The project will significantly address the mortality rate of mothers and babies who seek treatment at the two facilities
- Significant reduction of the current operational costs and inefficiencies
- Environmental and social impacts including reduction of carbon emissions, given the current overuse of the diesel generators at the facilities
- Improvement of service delivery

NGETHU WATER TREATMENT WORKS (1 of 2)

Estimated Project Implementation Cost: $33 m

Transaction Rationale:

Nairobi's water demand is estimated at 900,000 m³/day against a supply of 660,600 m³/day, resulting in a shortfall of 239,400 m³/day. With a projected annual demand growth rate of 4%, largely driven by population growth and urban migration, the demand is expected to continue growing annually at a rate of 20,000 m³/day. The Northern Collector Water Project and Karimenu Project partially addressed the shortfall by providing approximately 110,000 m³/day and 25,000 m³/day respectively totaling to about 135,000 m³/day. However, significant supply deficits will persist until additional measures are implemented. (NCWSC) intends to undertake a significant project to enhance water supply infrastructure to address the growing demands of Nairobi with a focus on re-use of 30,000 m³/day backwash water at Ng'ethu Water Treatment Plant (WTP).

The project will enhance the access to water to customers by increasing the supply by re-use of 30,000m³/day backwash water. It will also reduce the abstraction of raw water from the catchment area. Some of chemicals discharged into the open environment have detrimental effects to the aquatic life in the rivers, and this project will address this problem.

Key Investment Highlights

1 Clear and measurable impact

Re-use of backwash water is line with the UN SDG 6 which emphasizes that by 2030, the world should aim at achieving universal and equitable access to safe and affordable drinking water for all. The project also addresses the Sustainable Management of Water Resources aspect by addressing the importance of sustainably managing water resources, including reducing water pollution, minimizing the release of hazardous chemicals, and improving water-use efficiency.

In addition, the National Environment Management Authority(NEMA) under the EMCA Act 1999,emphasizes the environmental conservation through reduction in the amount of chemicals discharged into the environment

2 Measurable economic and climate impact

The successful execution of this project will enable recovery of 30,000m3/day of backwash water that is used to clean filter media at Ng'ethu WTP. Currently, the water which is partially treated, is discharged back to the river. Implementation of the project will help reduce the water supply deficit and reduce the amount of water treatment chemicals discharged into the environment.

3 Catalytic impact of the project

Successful implementation of the envisioned project structure has the potential to catalyse further investment in county-spearheaded projects and specifically in water as a utility, which have historically not attracted significant private sector investment due to high-risk perception.

fsd Kenya

NGETHU WATER TREATMENT WORKS(2 of 2)

Proposed structure

Hybrid PPP: Design-Build-Operate (DBO) with Public Financing or Blended Finance. The other possible structuring options include; 1) Full Build-Operate-Transfer (BOT) with Revenue Ring-Fencing and Risk Mitigation Support, and 2) Public Sector Implementation with Concessional/Donor Financing + Performance-Based O&M Contract

Project status

- Project concept note completed.
- Feasibility study carried out by World Waternet in April 2021.

Additional project preparation required

- Possible updating of the feasibility study that was done 4 years ago.
- Update of the financial model

Expected project outcomes

- Increase water supply to Nairobi County without undertaking more abstraction of the commodity form the catchment area
- Reduce wastage of the water and chemicals at the Water Treatment Plant (WTP)

Nandi

fsd Kenya

Solarization of Kapsabet County Referral Level 5 Hospital

Estimated Project Preparation Cost: $150k

Estimated Project Implementation Cost: $1M

Expected Beneficiaries: Providing reliable and clean power for Kapsabet County Referral Hospital.

Transaction Rationale:

The aims of this project is to reduce the cost of energy, enhance reliability and consistent supply of energy and adoption of renewable and clean energy.

The solarization of the hospital is expected to realise cost savings for the hospital and improve the quality of healthcare delivery,

Key Investment Highlights

1. **Cost competitive energy source**

   The major costs for a solar power plant is usually capital expenditure and once they have been installed, the operating costs tend to be minimal compared to a system that leverages on heavy fuels. This will be critical for health care facility.

2. **Attractive risk-return**

   Investment in solar power tend to realise value in the long-run given the power cost reduction and low operational risks. Incorporating battery energy storage system will enhance the potential value of the project.

3. **Government and policy support**

   Renewable energy is a key focus for the national government with policies in place such as feed-in tariffs to stimulate adoption of renewable energy. This is advantageous especially when selling excess power to the national utility. Additionally, such investments are eligible for carbon credits and attracting green financing.

4. **Social and economic impact**

   The project will contribute to the UN SDGs by supporting access to clean and reliable energy with minimal impact on the environment. The project will also lead to provision of stable and reliable energy enabling 24-hour service delivery and enhancing service delivery e.g., storage of vaccines.

Solarization of Kapsabet County Referral Level 5 Hospital

Proposed structure

The proposed project structure would be for the county to partner with a private entity involved in the supply of solar panels.

The private party provide the installation and maintenance services to the county, then the county will meet the recurring power costs from the solar panels.

Project status

Project's concept note has been prepared.

Additional project preparation required

- Feasibility Study and Needs Assessment
- Technical Design and System Sizing to determine optimal solar size and battery storage requirements
- Financial Analysis to determine project costs, potential savings and return on investment
- Regulatory Compliance and Permitting from relevant authorities

Expected project outcomes

- Cost savings on energy expenditures, freeing up resources that can be reinvested into other critical healthcare services or infrastructure improvements.
- Improve the quality of healthcare delivery by ensuring uninterrupted power supply critical for patient care, medical procedures, and the operation of high-tech diagnostic equipment.
- Additionally, the project will contribute to environmental sustainability by reducing greenhouse gas emissions associated with traditional energy use

Solarization of the Rural Water Projects - Kapsabet Water Supply

Estimated Project Preparation Cost: $50k

Estimated Project Implementation Cost: $1M

Expected Beneficiaries: Reduction in water production costs.

Transaction Rationale:

The project aims to transform energy usage by integrating renewable energy solutions for water pumping. This initiative's main objectives include reducing the cost of energy, enhancing the reliability and consistency of safe water supply, and advancing the adoption of renewable and clean energy sources.

The expected outcomes includes enhanced service delivery; improved service delivery; and reduction in CO_2 emissions.

Key Investment Highlights

1. **Cost competitive energy source**

   The major costs for a solar power plant is usually capital expenditure and once they have been installed, the operating costs tend to be minimal compared to a system that leverages on heavy fuels. This will be critical in reducing the water production costs from the scheme.

2. **Attractive risk-return**

   Investment in solar power tend to realise value in the long-run given the power cost reduction and low operational risks. Incorporating battery energy storage system will enhance the potential value of the project.

3. **Government and policy support**

   Renewable energy is a key focus for the national government with policies in place such as feed-in tariffs to stimulate adoption of renewable energy. This is advantageous especially when selling excess power to the national utility. Additionally, such investments are eligible for carbon credits and attracting green financing.

4. **Social and economic impact**

   The project will contribute to the UN SDGs by supporting access to clean and reliable energy with minimal impact on the environment. The project will also lead to reduction in water production costs.

Solarization of the Rural Water Projects - Kapsabet Water Supply

Proposed structure

The proposed project structure would be for the county to partner with a private entity involved in the supply of solar panels.

The private party provide the installation and maintenance services to the county, then the county will meet the recurring power costs from the solar panels.

Project status

Project's concept note has been prepared.

Additional project preparation required

- Feasibility Study and Needs Assessment
- Technical Design and System Sizing to determine optimal solar size and battery storage requirements
- Financial Analysis to determine project costs, potential savings and return on investment
- Regulatory Compliance and Permitting from relevant authorities

Expected project outcomes

- Enhanced service delivery as a result of cost savings derived from the reduced dependence on traditional energy sources;
- Improved service delivery is anticipated due to improved operational efficiency and the potential for connecting additional clients;
- Reduction in CO2 emissions is expected as the project transitions towards clean energy solutions, contributing positively to environmental conservation efforts.

Wajir

fsd Kenya

ESTABLISHMENT AND CONSTRUCTION OF DAM(1 of 2)

Estimated Project Preparation Cost: $2 M

Estimated Project Implementation Cost: $270 M

Expected Beneficiaries: 180,000 residents of Wajir town the environs

Transaction Rationale:

The County Government of Wajir is advancing a significant infrastructure project: the establishment and construction of a 9.9 million cubic meter dam at Lag Bor/Lagboqol, complemented by a water treatment facility and an extensive distribution network. This crucial initiative directly addresses the pervasive water scarcity in Wajir County, a predominantly arid and semi-arid region, aiming to secure a sustainable, year-round water supply for domestic, agricultural, and livestock needs.

Faced with an estimated population of 850,000 people and over 1 million livestock units, the county experiences increasing strain on its limited water resources, a situation intensified by climate variability, urbanization, and reliance on shallow aquifers.

The proposed development would be of strategic importance for regional stability and development.

Key Investment Highlights

1. **Clear and measurable impact**

The proposed construction of a 9.9 million cubic meter dam at Lag Bor/Lag boqol, along with associated water treatment works, is a strategic intervention aimed at addressing the chronic water scarcity in Wajir County. This initiative aligns with Kenya's Vision 2030 and contributes to the achievement of Sustainable Development Goals (SDGs), particularly SDG 6 (Clean Water and Sanitation) and SDG 13 (Climate Action).

2. **Established regulatory framework, policy-aligned and county buy-in**

There is an established legal framework in Kenya allowing for private sector participation in construction of public assets including asset concessional guidelines. In addition, the project is aligned with the political agenda.

3. **Catalytic impact of the project**

The project has a potential of creating a catalytic impact through driving economic development in surrounding areas as a result of better and faster to water. Beyond resolving water scarcity, the initiative is projected to generate employment, empower marginalized communities, and foster environmental sustainability.

fsd Kenya

ESTABLISHMENT & CONSTRUCTION OF DAM(2 of 2)

Proposed structure

The proposed project structure would be a Private-Public Partnership.

Involved partied would include an SPV created between the private-sector sponsor, Wajir County Government. Additional parties include PPP Directorate / National Treasury, EPC Contractor and O&M Contractor.

Project status

Project concept note is complete and available

Additional project preparation required

- Complete an initial pre-feasibility study followed by a full feasibility study.
- Develop a financial model to forecast estimated revenue and potential returns of the project.
- Conduct an Environmental and Social Impact Assessment (ESIA) for the project.

Expected project outcomes

- Enhance Livelihoods though supporting domestic, agricultural, and livestock water needs, thereby improving food security and economic stability.
- Promote health by reducing waterborne diseases by supplying clean and safe drinking water.
- Froster social cohesion through mitigating resource-based conflicts by ensuring equitable water distribution.
- Strengthen Climate Resilience by enabling communities to better withstand the impacts of climate variability and drought.

SOLARIZATION OF 6 LEVEL 4 HOSPITALS(1 of 2)

Estimated Project Implementation Cost: $160k per hospital. Total project cost c. $1.92 M

Expected Beneficiaries: 500k+ people across the 6 level 4 hospitals

Transaction Rationale:

The project is a strategic initiative aimed at enhancing the resilience, efficiency, and sustainability of healthcare service delivery in Wajir County through the deployment of reliable solar energy systems across all sub county hospitals. This project responds to the persistent challenge of unreliable grid electricity and frequent power outages that compromise the quality and continuity of healthcare services, particularly in remote and underserved areas.

By installing solar photovoltaic (PV) systems in all six sub-county hospitals—Wajir East, Wajir West, Wajir North, Wajir South, Tarbaj, and Eldas—the project seeks to provide consistent and clean energy to support critical hospital operations, including lighting, refrigeration of vaccines and essential medicines, operation of medical equipment, and communication systems.

Key Investment Highlights

1 **Clear and measurable impact**

This initiative is firmly aligned with Kenya's Vision 2030 and the Sustainable Development Goals—specifically SDG 3 (Good Health and Well-being) and SDG 7 (Affordable and Clean Energy). It also supports the Ministry of Health's agenda on climate-smart healthcare systems, by spearheading the adoption of green energy solutions in the healthcare sector,

Wajir County will not only improve its health outcomes but also establish itself as a leader in sustainable development and climate resilience within Kenya's arid and semi-arid lands.

2 **Measurable economic and climate impact**

The expected outcomes of this initiative include uninterrupted electricity for vital health services such as operating theatres, laboratories, maternity wards, and vaccine cold chain systems. It is projected to reduce power outages by 90% and cut energy-related operational costs by 50%. These improvements will directly contribute to the quality and efficiency of healthcare service delivery, resulting in better health outcomes for the community. Furthermore, the strengthened energy infrastructure will enhance the resilience of the health system in the face of climate-related challenges

3 **Catalytic impact of the project**

Successful implementation of the envisioned project structure has the potential to catalyse further investment in county-spearheaded projects which have historically not attracted significant private sector investment due to high-risk perception.

fsd Kenya

SOLARIZATION OF 6 LEVEL 4 HOSPITALS (2 of 2)

Proposed structure

The proposed project would be a developed by an independent company owned-and-operated structure. Key partner is the Nairobi County Government.

It is suggested that there would be grant funding allocated via a county solarization fund and kept in an escrow account.

Project status

- Project concept note completed.

Additional project preparation required

- Undertake a feasibility study and develop a financial model for the project.
- Conduct an Environmental and Social Impact Assessment(ESIA) for the project.

Expected project outcomes

- Economic benefits including cost savings, boosting efficiency through reduced downtime and increased hospital productivity, local economic stimulation & resilience against power tariff increases
- Social benefits including improved healthcare delivery, enhanced patient safety, better access to healthcare and great support for maternal and child health
- Environmental benefits such as a reduced carbon footprint, and use of a sustainable energy source
- Long term systemic benefits including strengthening Wajir health systems and a large contribution to universal health coverage.

100MW SOLAR POWER PLANT(1 of 2)

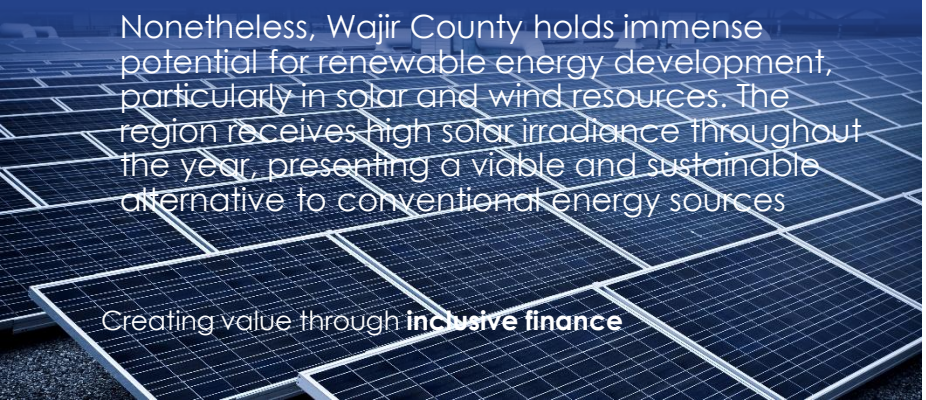
Estimated Project Implementation Cost: $93 M

Expected Beneficiaries: 500k+ residents of Wajir town and 30 surrounding towns

Transaction Rationale:

Access to electricity remains particularly low, with only 14.6% of households connected as of 2019, placing Wajir among the least electrified counties in Kenya. Most residents continue to rely on traditional energy sources such as firewood, kerosene, and tin lamps for lighting and cooking. In Wajir Town, electricity generation largely depends on diesel-powered generators, with daily fuel expenditures reaching an estimated $ 20k. This model is financially unsustainable and environmentally harmful, contributing to high operational costs and carbon emissions. The lack of affordable, reliable energy limits productivity, constrains access to quality healthcare and education and impedes private sector development.

Nonetheless, Wajir County holds immense potential for renewable energy development, particularly in solar and wind resources. The region receives high solar irradiance throughout the year, presenting a viable and sustainable alternative to conventional energy sources



Creating value through **inclusive finance**

Key Investment Highlights

1 Clear and measurable social impact

The facility will provide clean, stable power to support critical public services, including healthcare centers, schools, water supply systems, and street lighting, thereby enhancing public service delivery, safety, and living standards. The integration with Kenya's national electricity grid will also allow for energy surplus distribution, contributing to national energy stability and supporting broader clean energy goals

The initiative will include targeted training programs for local youth and technicians, aimed at building capacity in solar PV installation, maintenance, and energy management. This will not only enhance local employment opportunities but also contribute to the long-term sustainability of the project by fostering a skilled local workforce.

2 Measurable economic and climate impact

Reliable energy access will support local enterprises, agricultural value chains, and microbusinesses by reducing operating costs and enabling mechanization and cold storage. Special focus will be placed on ensuring that women, youth, and marginalized groups benefit from the project through inclusive job creation, targeted training, and improved access to services such as maternal healthcare, education, and safe lighting. By prioritizing gender equity and social inclusion, the project will help bridge development gaps, promote resilience, and foster equitable socio-economic growth in Wajir County.

3 Catalytic impact of the project

Successful implementation of the envisioned project structure has the potential to catalyse further investment given the very significant role that availability of power as a utility has.

fsd Kenya

100MW SOLAR POWER PLANT(2 of 2)

Proposed structure

The proposed project structure would be a Private-Public Partnership.

It is suggested that SPV would be created between the private-sector sponsor and the most appropriate contracting authority. Additional involved parties include, PPP Directorate / National Treasury, EPC Contractor and O&M Contractor.

Project status

- Project concept note, detailed technical specifications report and energy consumption and cost report completed.

Additional project preparation required

- Undertake a feasibility study and develop a financial model for the project.
- Conduct an Environmental and Social Impact Assessment(ESIA) for the project.

Expected project outcomes

- Increased access to clean and reliable energy, with at least 114,000 households (80% of the county total) receiving electricity from the 100 MW solar plant by the end of 2027, leading to a 60% reduction in fossil fuel dependence in targeted areas.
- Improved functionality and service delivery in critical public sectors, with 30% of hospitals, schools, and water facilities connected to the solar-powered grid by 2027, resulting in enhanced healthcare, education, and water access
- Enhanced local employment and income opportunities, with 500 jobs created during construction and 200 permanent operational roles, contributing to improved livelihoods, with at least 30% of these jobs benefiting women and youth.
- Improved grid reliability and energy security through the deployment of a 40 MWh battery storage system by 2026, enabling 99% reliability of electricity supply, even during periods of low solar generation
- Significant contribution to climate change mitigation, with the solar plant reducing 50,000 metric tons of CO_2 emissions annually from 2027, supporting Kenya's commitments under the Paris Agreement and national energy targets.

The Ask

- Vihiga County is currently in the process of seeking interest from both private and public sector entities.
- There are various exciting opportunities ready for support and investment with a current focus on Water and Sanitation and Renewable Energy.
- The focus for investment at this stage is on grants to support preparation activities (such as feasibility studies, ESIA studies etc), Viability Gap Funding, as well as concessional loans though consideration will be given to various funding and partnership models to support priority projects.

Contact Details

For further information about the County Green Investment Initiative and any projects outlined in this document, please reach out to:

Isaac Otolo
+254 734 315 430
Isaac.otolo@pwc.com

Alex Nyaga
+254 723 226 904
alex.nyaga@pwc.com

Jotham Wadongo
+254 725 912 131
jotham.w.wadongo@pwc.com

Angela Kanina
+254 725 852 952
angela.kanina@pwc.com

Creating value through **inclusive finance**

Green Suites Palm Suite,
Riverside, Riverside Drive,
P.O. Box 11353, 00100,
Nairobi, Kenya.

www.fsdkenya.org
FSD Kenya
@FSDKe