Concept Note

Greening Kenya Industrial Zones: stimulating competitiveness and investments in the face of resource scarcity and climate change

United Nations Environment Programme (UNEP) | Kenya

29th November 2017

GREEN CLIMATE FUND

Concept Note

The Green Climate Fund (GCF) is seeking high-quality projects or programmes.

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Project/Programme Title:	Greening Kenya Industrial Zones: stimulating competitiveness and investments in the face of resource scarcity and climate change
Country/Region:	The Republic of Kenya
Accredited Entity:	United Nations Environment Programme (UN Environment)
National Designated Authority:	Kenyan National Treasury

Please submit the completed form to fundingproposal@gcfund.org[1]

A. Project / Programme Information	
A.1. Project / programme title	Greening Kenya: stimulating (industrial) competitiveness and investments in the face of resource scarcity and climate change
A.2. Project or programme	Project
A.3. Country (ies) / region	The Republic of Kenya
A.4. National designated authority(ies)	The Kenyan National Treasury
A.5. Accredited entity	United Nations Environment Program (UN Environment)
A.6. Executing entity / beneficiary	Executing Entity: Kenya Industrial Research and Development Institute (KIRDI); National Environment Management Authority (NEMA) Beneficiary: Kenya's Special Economic Zones (SEZ), Export Processing Zones (EPZs) Industrial Parks (IZs) and surrounding communities; the Government of Kenya
A.7. Access modality	Direct ☐ International ☒
A.8. Project size category (total investment, million USD)	Micro (≤10) ☐ Small (10<x≤50) ☒ Medium (50<x≤250) ☐ Large (>250) ☐
A.9. Mitigation / adaptation focus	Mitigation ☐ Adaptation ☐ Cross-cutting ☒
A.10. Public or private	public
A.11. Results areas *(mark all that apply)*	*Which of the following targeted results areas does the proposed project/programme address?*
	Reduced emissions from: ☐ Energy access and power generation (E.g. on-grid, micro-grid or off-grid solar, wind, geothermal, etc.) ☐ Low emission transport (E.g. high-speed rail, rapid bus system, etc.) ☒ Buildings, cities, industries and appliances (E.g. new and retrofitted energy-efficient buildings, energy-efficient equipment for companies and supply chain management, etc.) ☐ Forestry and land use (E.g. forest conservation and management, agroforestry, agricultural irrigation, water treatment and management, etc.)
	Increased resilience of: ☒ Most vulnerable people and communities (E.g. mitigation of operational risk associated with climate change – diversification of supply sources and supply chain management, relocation of manufacturing facilities and warehouses, etc.) ☒ Health and well-being, and food and water security (E.g. climate-resilient crops, efficient irrigation systems, etc.) ☐ Infrastructure and built environment (E.g. sea walls, resilient road networks, etc.) ☐ Ecosystems and ecosystem services (E.g. ecosystem conservation and management, ecotourism, etc.)
A.12. Project / programme life span	6 years

[1] Please use the following naming convention for the file name: "[CN]-[Agency short name]-[Date]-[Serial number]" (e.g. CN-ABC-20150101-1).

A.13. Estimated implementation start and end date	Start: Oct 2018 End: Sept 2024

B. Project/Programme Details

The Fund requires the following preliminary information in order to promptly assess the eligibility of project/programme investment. These requirements may vary depending on the nature of the project/programme.

B.1. Project / programme description (including objectives)

B.1.1. Overview and problem analysis

Overview. Kenya has an ambitious programme of economic development under the Kenya Vision 2030, which aims at achieving an annual growth of 10 percent per annum and transforming Kenya into "a globally competitive and prosperous, newly industrialized middle-income country with a high quality of life by 2030". Manufacturing is one of the key sectors within the economic pillar of the Kenya Vision 2030, which identifies the establishment of Industrial Parks (IPs) and Special Economic Zones (SEZs) as flagship projects to support economic growth.

The culture of industrialization through special economic zones (SEZs) and industrial parks (IPs) is gathering momentum in Kenya. For ease of reference Special Economic Zones (SEZs), Export Processing Zones (EPZs) and Industrial Parks will be referred to as Industrial Zones in the rest of the concept note. Increasingly, the Kenyan private sector is recognizing that Industrial Zones provide an enabling environment for manufacturing through well managed infrastructure that is largely absent in the rest of the country. However, Industrial Zones, if not operated according to stringent environment standards, will lead to increased and concentrated levels of pollution in form of ambient air pollution, greenhouse gas emissions and solid and liquid waste (World Bank, 2014). Currently Kenya is experiencing a marked proliferation of un-regulated Industrial Zones across the country with 64 zones already gazetted. The environmental shortcomings associated with Industrial Zones can easily override their proven socio-economic advantages if environmentally friendly interventions are not incorporated.

Currently, industrial zone enterprises are driven by minimum compliance. Given that most industrial zones are planned to be in close proximity to urban centres, the government has identified the establishment of fully functional solid waste management systems in the industrial zones as part of the objectives of the Kenya Vision 2030. As the country continues to experience increasing threats posed by a changing climate regime, there is emerging international consensus that the current traditional linear economic development model that forms the basis of the current operations of Kenya's industrial zones is no longer sustainable. Linear economic development models are wasteful, in the sense that they entail mining of raw materials, value adding on them, consuming the resultant products, and discarding the resultant wastes into a landfill.

The main objective of the proposed GCF project is to support Kenya to shift towards a low-carbon and climate resilient industrial development model to support a paradigm shift away from Kenya's currently linear model of industrialization, through mobilizing investments for the introduction and scale-up of industrial symbiosis and environmentally sound technologies and practices in existing and upcoming Industrial Zones. This objective will be achieved through three complementary components and outcomes as below:

Component 1: Enabling Environment for green Investment in industrial zones and neighbouring communities (*Outcome 1: Enabling environment for green investment in existing and planned industrial zones and neighbouring communities is strengthened*)

Component 2: Institutional and technical capacities, education and awareness of policy makers, zone authorities, practitioners and communities (*Outcome 2: Institutional and technical capacities of policy makers and practitioners are enhanced, and adaptive capacities of community members (particularly women and youth groups) and their livelihoods are improved*)

Component 3: Component 3: Investment facilitation through implementation and uptake of low-emission and climate resilient initiatives in targeted industrial zones' enterprises and communities (*Outcome 3: Private sector investments in low-carbon and climate resilient initiatives in industrial zones' enterprises and neighbouring communities are higher.*).

Baseline situation. The East African nation of Kenya has a population estimated at 46.1 million, which increases by an estimated one million a year[2]. Development challenges for Kenya include poverty, inequality, climate change, and vulnerability of the economy to internal and external shocks. The Ministry of Industry, Investment and Trade has an aspiration of attaining Vision 2030 through industrialization. The Ministry's Industrialization Roadmap[3] intends to transform the manufacturing sector contribution to GDP from 11% to 20%; increasing exports from manufacturing from 11.4% to 30%; and creating 500,000 additional direct jobs per year, instead of 275,000. To be able to realize these goals, and meet the targets set in the Kenya Vision 2030, the country's GDP must grow between $ 4 to 6 billion per year until 2030. Additionally, the country must dramatically increase its Foreign Direct Investment by 2 to 3 times. Kenya is therefore working to create an appropriate incentive mechanism to attract Foreign Direct Investments through the construction of the Special Economic Zones, Free Trade Zones, Industrial Parks & clusters and Industrial mapping. The Government is also instituting enabling policies and changes to increase global competitiveness by addressing country existing challenges and addressing the "ease of doing business" in Kenya. The country will focus on promoting attractive sectors where it has a natural competitive advantage namely leather, textiles and clothing, agro-processing, and furniture.

Given finite resources, improved resource use efficiency is necessary to help realize Kenya's growth goals. Stimulating increased private and public-sector financing and strengthening the enabling environment will support Kenya in fast-tracking its industrialization and development targets.

Currently Industrial Zone enterprises are driven by minimum compliance. The Ministry of Industry, Trade, and Cooperatives has developed draft SEZs regulations to help in the administration, designation, gazettement, licensing and land use planning of Kenya's SEZs. Whereas the draft regulations advocate for the undertaking of Environmental and Social Impact Assessments (ESIAs) and subsequent annual Environmental Audits (EAs), they seem to be silent on the promotion of voluntary environmental sustainability measures that if properly embraced will enable Kenyan industrial zones to increase their profitability and attract green Foreign Direct Investments while at the same time meeting the country's set environmental standards. As of May 2017, there were 64 gazetted zones in Kenya. Out of this, 62 are privately owned and operated while two are publicly owned and operated. The industrial Zones are located in 15 Counties out of the 47, representing 32% of the total number of counties that have gazetted zones. The Kenyan geographical distribution of gazetted zones per county in 2017 is as shown (Table 1).

Table 1: Geographical distribution of gazetted zones per County, 2017

County	Former Province	Number of zones
Nairobi	Nairobi	7
Mackakos	Eastern	5
Kajiado	Rift Valley	1
Mombasa	Coast	28
Kilifi	Coast	8
Taita Taveta	Coast	1
Kiambu	Central	2
Muranga	Central	1
Elgeyo Marakwet	Rift Valley	1
Uasin Gishu	Rift Valley	1
Laikipia	Rift Valley	1
Nandi	Rift Valley	1

[2] World Bank, 2017.
[3] Kenya's Industrial Transformation Programme 2015-2030, Ministry of Industry, Investment and Trade

Meru	Eastern	1
Bomet	Rift Valley	3
Nakuru	Rift Valley	3
Total: 15		**64**

Source: EPZA Annual Development Report, 2015 in addition to EPZA internal records , May 2017

Effects of Climate Change. Kenya's GHG emissions are expected to rise, consistent with a growing population and expanding economy, with emissions increasing from 59 million tonnes of carbon dioxide equivalent (MtCO2 e) in 2010 to 102 MtCO2 e in 2030[4]. Climate change affects all sectors of the economy. Trade and industry rely on infrastructure and services, such as water, waste, energy and transport, and are vulnerable to disruptions caused by droughts and heavy rains[5]. Climate change is threating the socio-economic development of the country - as Kenya's National Climate Change Response Strategy (NCCRS) concluded, "the evidence of climate change in Kenya is unmistakable". In many areas, extreme and harsh weather is now the norm; rainfall has become irregular and unpredictable; and some regions experience frequent droughts during the traditionally long rainy season while others experience severe floods during the short rain period[6]. The Kenyan population is vulnerable to climate risks due to the high dependency on natural resources for food, fuel and shelter. The International Institute for Sustainable Development's report on climate risk and vulnerability in Kenya indicates that water availability is especially critical as Kenyans live in one of the most water scarce countries in Africa[7].

Historically, Kenya's industrial sector has been adversely affected by extreme weather events such as rains and ensuing floods, which have impacted infrastructure such as roads, railways, buildings and ports. These impacts have indirectly affected industrial production. Changing rainfall patterns also affect the day-to-day operations of enterprises in industrial zones. Enterprises require a reliable supply of water for industrial processes, from washing to generating process heat. Reduced water supply and increased water tariffs can threaten the continued operation of these enterprises and hamper delivery of the country's industrial strategy. Less directly, low rainfall has resulted in low reservoir levels, leading to interruptions in electricity supply, given that most electricity is hydro-generated. In addition, the cost of electricity rises in times of drought as diesel generators are used to make up the shortfall. The availability of agricultural raw materials needed by industries is also adversely affected by recurring drought[8]. Furthermore, some industries such as agro-processing are major consumers (and polluters) of water. Water resources in Kenya are generally scarce and are likely to become more so with climate change[9]. Kenya is further vulnerable to increased pressure on costal ecosystems (such as coral reefs) and settlements (inundation of coastal communities through sea level rise), and changes in species distribution and abundance, including notable increases in extinction rates for select species. Kenya is a highly water-scarce country and climate change is likely to exacerbate the problem. Threats include less reliable freshwater availability due to changes in precipitation and other weather patterns, as well increasing demand due to population growth and economic development. As the country continues to experience increasing threats posed by a changing climate regime, there is emerging international consensus that the current traditional linear economic development model that forms the basis of the current operations of Kenya's industrial zones is no longer sustainable. Linear economic development models are wasteful, in the sense that they entail mining of raw materials, value adding on them, consuming the resultant products, and discarding the resultant wastes into a landfill.

The problem that the proposed GCF project will address is that Kenya's Industrial Zones strategy does not adequately reflect the need to build climate change considerations into

[4] The largest absolute growth in emissions is expected in energy and transport, with energy emissions increasing from 10 MtCO2 e in 2010 to 33 MtCO2 e in 2030 and transport emissions increasing by about three times in the same period.
[5] Kenya National Climate Change Action Plan (2013 - 2017), 2013.
[6] Kenya National Climate Change Action Plan, (2013 – 2017), 2013
[7] Government of Kenya, Ministry of Environment and Mineral Resources, Climate Change Action Plan – http://www.kccap.info/index.php?option=com_phocadownload&view=category&id=34
[8] Kenya's Second National Communication to UNFCCC, 2015
[9] Government of Kenya, Ministry of Environment and Mineral Resources, Climate Change Action Plan – http://www.kccap.info/index.php?option=com_phocadownload&view=category&id=34

investment decisions. The Industrial Zones strategy is still at an early stage, but the growth of Industrial Zones is set to accelerate over the next several years. Without GCF support, the Industrial Zones enterprises are likely to make long term investments based on current practices that will lock them into less efficient, higher emissions pathways for the long term, and that fail to incorporate water conservation and other adaptation measures. Early action to overcome the barriers to greening Kenya's Industrial Zones will lead to lower cumulative emissions over time, help to increase resilience to climate shocks, and make a greater contribution to Kenya's Nationally Determined Contributions under the UNFCCC Paris Accord.

Despite efforts made by the Kenyan government, many barriers have yet to be overcome.

The barriers. The following barriers obstruct the transition of Industrial Zones towards a low carbon and climate resilient development pathway:

i. Policy barriers

- Marked proliferation of un-regulated industrial zones across the country
- The country's Special Economic Zone Act of 2015, recent as it is, does not require the companies operating under the SEZ jurisdiction to seek innovative ways of going green.
- Regulatory constraints, e.g. for waste exchange
- The Export Processing Zone Authority as is currently constituted has no technical capacity to develop and operationalize low-carbon zone guidelines to aid their transformation of the country's existing industrial zones into low-carbon green zones.
- Low efficacy of government support schemes in form of prescribed best available technologies (and best environmental practices.

ii. Institutional barriers

- Inadequate institutional infrastructure, management capability, and green human skills
- Lack of resources, knowledge and capabilities with policy making institutions
- Several institutions are mandated with some aspects of resource efficiency and environmental protection, such as Kenya Industrial Research and Development Institute (KIRDI), Ministry of Trade Industry and Cooperatives (MTIC), the Kenya National Cleaner Production Centre (KNCPC), the Kenya Association of Manufacturers (KAM) and the Kenya Private Sector Association (KEPSA). However, there is a weak coordination mechanism among these institutions leading to the creation of confusion, unhealthy competition and the duplication of work.

iii. Technical barriers

- High cost of purchase, installation and maintenance
- Weak policies and lack of standards
- Limited information and awareness
- Lack of access to information on new technologies and innovations
- Inefficient research and development institutes and their disconnection from the operational needs of industry and policy development of government
- Lack of an enabling infrastructure for waste segregation, and reuse
- Weak waste recovery and recycling infrastructure
- Weak technology transfer infrastructure that will tend to complicate its ability to introduce environmentally sound technologies.

iv. Operational barriers

- Labour productivity due to staff turnover, efficiency, labour unrest
- Unfavourable economic condition/ inflation etc.
- High Cost of production, power/electricity and, water/ unreliable water supply
- customs regulations under the Kenya Revenue Authority
- Issues pertaining to inefficiency of port/railway transport
- Lack of locally sourced inputs and shortage of raw materials
- Competition from other countries
- Local currency fluctuation
- Market access
- Diminishing demand

- Other (lead time, insecurity, price factor, delays, unfamiliarity with Industrial Zones operations, bureaucracy, corruption, insensitiveness to investors, dependency on other Industrial Zones, lack of appropriate machines/technology, marketing, political instability, security concern, congestion among others)

v. Business buy-in and financial barriers

- Limited access to finance
- Financial institution, venture capitalists and private equity stakeholders are poorly engaged in low-carbon development plans
- Organizational rigidities within firms themselves
- Inadequate human resources and mechanisms for their constant upgrading
- Lack of incentives to unlock local finance
- Lending to SMEs involves high interest rates and is therefore not favourable
- Banks do not provide a load grace period for loans on technologies as they charge immediately with interest rate.

vi. Social and Gender Barriers

- Education choices, cultural stereotypes, lack of awareness and lack of role models
- Women's unequal access to property and land and consequently the ability to secure business loans
- Access to finance
- Inability for woman to grown business beyond the micro-enterprise level

The solution. Planning for climate change adaptation and mitigation in the manufacturing and industrial sector needs to take a holistic, multi-sectoral approach because of the linkages between the sector and others such as energy, transport and agriculture. The expansion of the industrial sector forms a significant part of Kenya's economic development strategy and the proposed project will contribute to this target by decoupling rapid industrialisation from greenhouse gas (GHG) emissions and environmental degradation in Kenya's expanding network of Industrial Zones. The proposed GCF project will provide an integrated package of support to overcome the barriers to greening the development pathway of Industrial Zones in Kenya. The project will establish the enabling environment and facilitate ongoing investment at scale for low carbon and climate resilient industrialization in Kenya's expanding network of industrial parks and special economic zones, focused on industrial symbiosis capitalising on the interlinkages and reducing wastages in the following sectors (1) waste, (2) energy, (3) transport, and (4) water. The project will aim to strengthen the policy, value chains and financing frameworks for the rapid scale-up of the industrial symbiosis and transfer of environmentally sound technologies and approaches across Kenya's industries, and demonstrate the business case for green growth through a series of private and public sector investments.

The target groups of the proposed GCF project are the existing and upcoming Industrial Zones (existing Athi River EPZ, Ruaraka EPZ, EPZs in Mombasa County and the upcoming Samburu EPZs), which include the enterprises operating within their perimeters, as well as, the managing authorities of the industrial parks; the Government of Kenya (national and local level), as well as, the local communities living in close proximity to the Industrial Zones.

The overarching objective of the project is to facilitate new green investment flows within Industrial Zones to support a paradigm shift away from Kenya's currently linear model of industrialization, and initiate the up-scaling of the low-carbon and climate resilient development pathway based on the circular economy concept, and through the introduction and scale-up of green technologies and practices. The reduction of GHG emissions will be demonstrated in enterprises operating in the existing Industrial Zones through the application of industrial symbiosis, environmentally sound technologies and practices. Through education, awareness raising and eco-entrepreneurship stimulation and support, the adaptation benefits will be realised to strengthen the adaptive capacities and livelihoods of local communities living in and around the industrial zones, in particular women and youth groups.

As the lead agency responsible for implementing national climate change and pollution control legislations, the National Environment Management Authority (NEMA) will serve

as the Executing Entity for component one. The Kenya Industrial Research and Development Institute (KIRDI) will serve as the Executing Entity for components 2 and 3. KCB Group (Kenya) will play an important role as lending partner under Component 3 to ensure investment facilitation and promotion. Given the interlinkages between components and their outputs, KIRDI, NEMA and KCB will operate in close collaboration, through inclusive stakeholder's engagements, ensuring board consultations and coordination, avoiding duplication of efforts and capitalizing on other actors' experiences throughout the project execution phase.

Component 1: Enabling environment for green Investment in Industrial Zones and neighbouring communities. This component will strengthen and build the necessary enabling environment and support policy and incentives implementation to build investor confidence and set the scene for large-scale investments. Under this component the project will develop and implement a model for collecting data and tracking results on financial, resource reductions, GHG emissions, gender and broader co-benefits, from the target sites and provide an ongoing evidence base for future decision making, policy formulation and replication across zone enterprises. To facilitate scale-up of investments in low-carbon and climate resilient Industrial Zones, this component will strengthen the stakeholders' landscape through improved engagements and coordination. Zone-wide investments will be undertaken to build resilient infrastructure and enable waste segregation, exchange, recovery and recycling in targeted Industrial Zones and neighbouring communities.

Component 2: Institutional and technical capacities, education and awareness of policy makers, zone authorities, practitioners and communities. This component will strengthen institutional capacity and train the cadre of specialists and green champions needed to implement the low-carbon and climate resilient development path. This component will strengthen the necessary skills base and expertise to support the creation of formal green jobs in Kenya, uplifting the livelihoods of community members whilst reducing GHG emissions. Under this component the project will set-up and train the personnel of the Green Growth Service Desk which will serve as the main provider of technical and advisory services to Kenya's current and upcoming Industrial Zones in support of their transition towards low-carbon and climate resilient operations, ensuring sustainability of the services beyond the project duration.

Component 3: Investment facilitation through implementation and uptake of low-emission and climate resilient initiatives in targeted industrial zones' enterprises and communities. This component will work to overcome perceived risks and barriers to low carbon and climate resilient investment within and around the industrial zones. KCB has been identified as lending partner for the project. Consultations have been undertaken and will continue during the full scale project development. The project will work with KCB to create two new sets of credit lines that KCB will finance to enhance green investments in Kenya. One credit line would fund efficiency improvements in Industrial Zones' enterprises and the other (in the form of micro-loans) would fund the creation of recycling micro-businesses led by community-groups living in the surrounding of the Zones. Access to finance is a major barrier to private investment in greener practices, which is why national stakeholders, particularly enterprises, zone authorities and community organizations, need to be supported in their efforts to make the business case and create the opportunity for low-carbon and climate-resilient measures. The project will work with industrial zone enterprises and private lenders / investors to develop an overarching investment framework that overcomes the barriers to investment in circular economy based operations in the industrial zones. Investments (through the KCB credit lines and partially through the GCF grant) will be undertaken at the four target Zones to demonstrate the financial, technical viability and mitigation potentials of industrial symbiosis. Mangrove restoration activities along the targeted costal Industrial Zones will strengthen resilience of the local communities, reducing their vulnerability to water scarcity, improving the surrounding ecosystem and counterbalancing residual GHG emissions from the Industrial Zones.

B.1.2 Project Intervention Logic

The proposed GCF project will facilitate the design and operation of existing and up-coming industrial zones, in accordance with the principles of the circular economy, in order to unlock investments and reduce the impacts of Kenya's development path on the

environment, to avoid compromising the country's current and future adaptation and mitigation potentials.

This will be achieved through the promotion and integration of industrial symbiosis and environmentally sound technologies (ESTs) and approaches, from the planning stage of new industrial zones, and cost-effective retrofit opportunities for the existing ones.

Industrial symbiosis and environmentally sound technologies interventions. Environmentally sound technologies are defined as technologies that protect the environment, are less polluting, use all resources in a more sustainable manner, recycle more of their waste and product, and handle residual waste in a more acceptable manner than the technologies for which they substitutes[10]. Coupled with industrial symbiosis, which is defined as a way of achieving industrial ecology, when the supply chain components within an industrial system are integrated to be symbiotic, rather than independent, each contributing to an efficient system that generates minimal by-products and pollutants, forms a holistic approach to mitigate and adapt to climate change for industries and the communities they ultimately should serve. Materials, energy, and water resource inputs are optimized, emissions and wastes are minimized. Wastes that remain are recovered for use as feedstocks by other businesses within the system, reducing the need for sourcing and transporting additional virgin and otherwise wasted resources. When implemented holistically, Industrial Symbiosis accelerates the transformation from a linear extraction-use-throw-away model of economic growth into a closed loop supply chain, changing how industries and communities relate to each other.

Industrial Symbiosis and Climate Change Mitigation

Savings	How Achieved
Material Inputs	Lower embedded energy intensity in processing recycled materials than extracting virgin raw materials
Process	Savings in gas, electricity and other fuel use by introducing process innovations and through identifying synergies with partners
Fuel Substitution	Replacing fossil fuels with other fuel sources in industrial processes
Efficient Transport	Reduction in transport directly related to implementation of synergies
Disposal & Landfill diversion	Reduction in biodegradable material sent to landfill
Energy	Production of energy through, for example, anaerobic digestion and utilisation waste heat
Water	Water efficiency measures implementations and capitalization on synergies

Source: Adapted from South Africa National Cleaner Production Centre 2016

Targeted Industrial Parks for the GCF intervention. The targeted industrial zones selected at the pre-feasibility study stage (Annex B) for initial roll out of project activities are located in five of the 47 county (local) governments and are namely:

1. Ruaraka Export Processing Zone and Industrial Park in Nairobi county
2. Athi River Export Processing Zone in Machakos county
3. The Export Processing Zones in Mombasa extending from Mombasa to Kilifi counties
4. The planned Samburu Special Economic Zone in Kwale County.

Please refer to Image 2 for a map overview and Annex A for the detailed map.

These Industrial Zones have been selected at the pre-feasibility study phase, due to their high potential for waste and by-product exchange. The Mombasa, Athi River and Ruaraka Industrial Zones are mature, have an adequate number of operational companies, and enjoy developed infrastructure in form of road, rail, telecommunications, sewerage, and power. The Samburu EPZ is at a planning stage, granting the possibility to include low-carbon and climate resilient features from the very beginning of the Industrial Zone establishment. The interventions implemented in these zones have strong potential for replicability and scale up in all other Industrial Zones in Kenya, as well as in other countries in Africa and globally.

[10] http://www.unep.or.jp/ietc/techTran/focus/Technology_Transfer_v6.pdf

Location	Number of Enterprises	Manufacturing
Mombasa EPZs	43	26
Athi River EPZ	70	43
Ruaraka EPZ Ruaraka IP	2 30	2 30
Total	**145**	**101**

Table 1 – Companies operating in targeted Industrial Zones, EPZA Records, May 2017

Image 2 –Initial selection of Industrial Zones for GCF Project intervention

For the list of companies operating in each Industrial zone, their key characteristics and their location on the map please refer to Annex B, the pre-feasibility report.

Targeted Communities for the GCF intervention. The project will engage and work with communities surrounding the targeted Industrial Zones to increase their resilience to climate change and support their livelihood enhancement. The communities identified for initial roll-out of activities have an estimated total population in excess of 1.8 million and are:

1. Ruaraka community - 192,620 people as for 2009 census
2. Athi River community with 139,380 people as of 2009 census; and Kitengela with 58,167 people as of 2009 census. Both communities are in the proximity of Athi River Export Processing Zone in Machakos county
3. Mijikenda, Swahili, and Arab communities in Mombasa county - with a combined population of 939,370 people; Mijikenda and Swahili communities in Wider Kilifi Sub-county with a combined population of 456,297 people. These communities are in the proximities of the Mombasa Export Processing Zones along the coastal area.
4. Samburu communities (population of 91,011 as of 1999 consensus) and the surrounding communities of Duruma, Kamba and Taita in the Kinango sub-county. These communities cut across political boundaries and surround the designated land for the Samburu special economic zone.

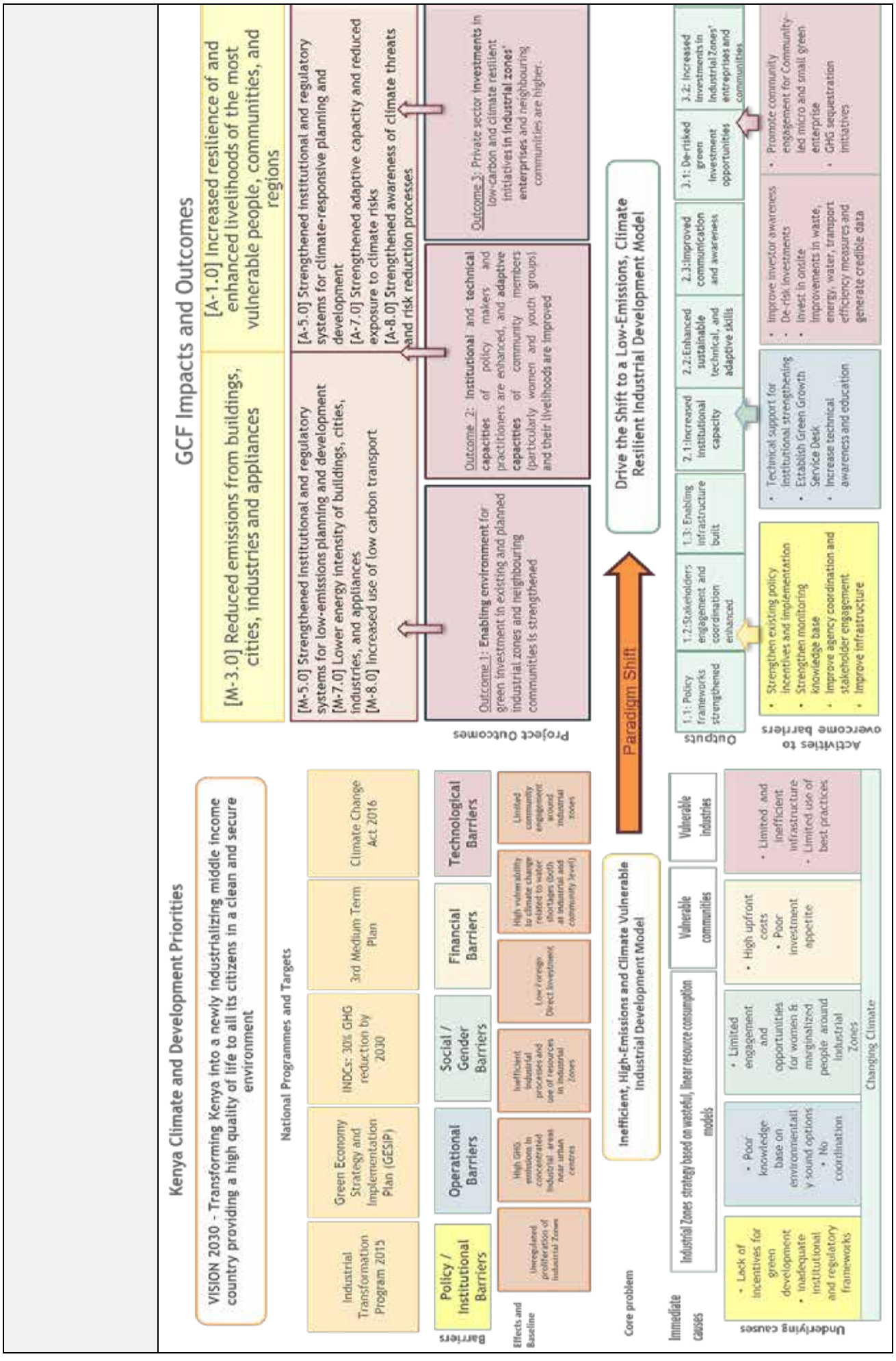
Credible financial models. The project will work with KCB to establish two new credit lines (financed by KCB as the project's lending partner) to support green improvements in Industrial Zones' enterprises and increase resilience of the communities living in their

proximity. Investments in the Industrial Zones' enterprises will finance low-carbon projects in waste, water, energy and transport efficiency in line with the Industrial Symbiosis and circular economy principles to increase GHG mitigation and climate resiliency. The investment interventions tailored to the local communities (in particular women and youth groups), will increase existing income streams and create opportunities for the establishment of community-led recycling and upscaling businesses, to ensure a holistic and sustainable engagement between Industrial Zones and their nearby communities that goes beyond the project lifespan.

Building on a well-established baseline of past initiatives. Kenya is currently participating in the SWITCH Africa Green-Industrial Symbiosis Project, a European Union-funded project, which supports transformation towards an inclusive green economy. The project assists small, medium and micro-sized enterprises (SMMEs) with the transition towards incorporating resource efficient methodologies in their businesses. It promotes eco entrepreneurship through the application of sustainable consumption and production practices.
The Danish Royal Embassy has rolled-out an Industrial Symbiosis awareness raising training session in Ruaraka industrial zone as a pilot for its planned program. Denmark boasts of seasoned circular economy experts who are helping the Kenyan private sector adopt a sustainable path. In order to realize this goal, the Danish embassy is promoting green growth networks, strengthening partnerships on industrial symbiosis, building networks between regulators and the regulated companies, and trying to demonstrate that waste management makes socio-economic sense. The embassy is determined to grow the country's recycling industry, increase investments in industrial symbiosis, and assure a higher penetration of cleaner technologies into the country's manufacturing sector. The successes of Denmark's Kalundborg industrial symbiosis systems provides practical lessons for the Kenyan situation. The budget currently allocated to this activity is a small fraction of that required to drive systematic change.
This project builds on the success of these baseline projects and will generate impact on a much larger scale. Industrial Symbiosis has also worked well in South Africa, and Kenya is favourably positioned to be at the forefront of unlocking investments for green development as an example for other African countries, where the same concept can be replicated.

Proposed Approach. The project will have a single objective on stimulating green investment flows in Kenya's industrial zones, structured around three components. The proposed approach is to provide an integrated package of support to overcome the barriers and unlock public and private investment opportunities to achieving a low-carbon development path for Kenya's industrial zones. This requires a paradigm shift from the currently linear resource utilisation approach towards a circular one.
The **Theory of Change** of the project is presented in diagrammatic form in the next page and it is formed by a combination of the problem and the solutions trees. The theory of Change diagram shows starting from the left - **the problem tree**: (a) The Kenya climate and development priorities and the country's targets and objectives in relation to low-carbon and climate resilient industrial development; (b) the existing barriers to achieve the above national programmes and targets; (c) what are the effects of the existing barriers and the current baseline situation. The theory of change states (d) the core problem that the proposed project aims to address and the factors underlying the problem facing Kenyan Industrial Zones, showing how the core problem and its (e) immediate effects, stem from (f) underlying causes.
In its centre, the graphic illustration of the Theory of Change, shows the (g) **paradigm shift** that the project aims to achieve:

In order to achieve such shift, the Theory of change (moving to the right side) shows the **solutions tree** which includes (a) the activities that are necessary to lead to the achievement of (b) the eight outputs. The Outputs jointly are expected to contribute to the achievement of the (c) three Outcomes that the project has set to achieve. Ultimately the project outcomes will contribute to the GCF Impacts and Outcomes under the mitigation and adaptation categories.


GCF Impacts and Outcomes
[M-3.0] Reduced emissions from buildings, cities, industries and appliances
[A-1.0] Increased resilience of and enhanced livelihoods of the most vulnerable people, communities, and regions
[M-5.0] Strengthened institutional and regulatory systems for low-emissions planning and development
[M-7.0] Lower energy intensity of buildings, cities, industries, and appliances
[M-8.0] Increased use of low carbon transport
[A-5.0] Strengthened institutional and regulatory systems for climate-responsive planning and development
[A-7.0] Strengthened adaptive capacity and reduced exposure to climate risks
[A-8.0] Strengthened awareness of climate threats and risk reduction processes
Project Outcomes
Outcome 1: Enabling environment for green investment in existing and planned industrial zones and neighbouring communities is strengthened
Outcome 2: Institutional and technical capacities of policy makers and practitioners are enhanced, and adaptive capacities of community members (particularly women and youth groups) and their livelihoods are improved
Outcome 3: Private sector investments in low-carbon and climate resilient initiatives in industrial zones' enterprises and neighbouring communities are higher.
Outputs
1.1: Policy frameworks strengthened
1.2:Stakeholders engagement and coordination enhanced
1.3: Enabling infrastructure built
2.1:Increased institutional capacity
2.2:Enhanced sustainable technical, and adaptive skills
2.3:Improved communication and awareness
3.1: De-risked green investment opportunities
3.2: Increased investments in Industrial Zones' enterprises and communities
Activities to overcome barriers
Strengthen existing policy incentives and implementation
Strengthen monitoring knowledge base
Improve agency coordination and stakeholder engagement
Improve infrastructure
Technical support for institutional strengthening
Establish Green Growth Service Desk
Increase technical awareness and education
Improve investor awareness
De-risk investments
Invest in onsite improvements in waste, energy, water, transport efficiency measures and generate credible data
Promote community engagement for Community-led micro and small green enterprise
GHG sequestration initiatives
Paradigm Shift
Drive the Shift to a Low-Emissions, Climate Resilient Industrial Development Model
Kenya Climate and Development Priorities
VISION 2030 - Transforming Kenya into a newly industrializing middle income country providing a high quality of life to all its citizens in a clean and secure environment
National Programmes and Targets
Industrial Transformation Program 2015
Green Economy Strategy and Implementation Plan (GESIP)
INDCs: 30% GHG reduction by 2030
3rd Medium Term Plan
Climate Change Act 2016
Barriers
Policy / Institutional Barriers
Operational Barriers
Social / Gender Barriers
Financial Barriers
Technological Barriers
Effects and Baseline
Unregulated proliferation of Industrial Zones
High GHG emissions in concentrated industrial areas near urban centres
Inefficient industrial processes and use of resources in industrial zones
Low Foreign Direct Investment
High vulnerability to climate change related to water shortages (both at industrial and community level)
Limited community engagement around industrial zones
Core problem
Inefficient, High-Emissions and Climate Vulnerable Industrial Development Model
Immediate causes
Industrial Zones strategy based on wasteful, linear resource consumption models
Vulnerable communities
Vulnerable industries
Underlying causes
Lack of incentives for green development
Inadequate institutional and regulatory frameworks
Poor knowledge base on environmentally sound options
No coordination
Limited engagement and opportunities for women & marginalized people around Industrial Zones
High upfront costs
Poor investment appetite
Limited and inefficient infrastructure
Limited use of best practices
Changing Climate

The proposed project structure follows a holistic approach based on three components that will contribute to the achievement of outputs, outcomes and contribute simultaneously to the achievement of the GCF Impacts (as shown in the Theory of Change) as well as to the Kenya national climate and development priorities.

Component 1: Enabling Environment for green Investment in Industrial Zones and neighbouring communities

Outcome 1: Enabling environment for green investment in existing and planned Industrial Zones and neighbouring communities is strengthened

This component will strengthen the necessary enabling environment to build investor confidence and set the scene for large-scale investment.

The National Environment Management Authority (NEMA) will serve as the Executing Entity for component one, as NEMA is the lead agency responsible for implementing national climate change and pollution control legislations in Kenya. Under the climate change act (2016), NEMA is mandated to regulate, enforce, and monitor compliance on the levels of GHG emissions and report on whether public and private entities are in compliance with their assigned climate change duties.

Output 1.1: National, local and institutional policy frameworks strengthened to facilitate low-carbon and climate resilient development of industrial zones

Activity 1.1.1 Technical and advisory support will be provided to national, local and institutional policy actors **to strengthen the implementation** and enforcement of existing relevant policies that promote green industrial development pathways, and to support the uptake of financing instruments and incentives that facilitate inclusive, climate resilient industrial growth and investment in environmentally sound technologies. This activity will target policy makers, industrial zones authority officials and the management of the enterprises operating within the industrial zones.

Activity 1.1.2. Policy development. The project will support the establishment of policies for the zone's Authorities in matters of low-carbon and environmentally sound technology transfer to serve the interests of the tenant companies and local communities, and particularly for the establishment of future industrial zones (e.g. master plans that guide the design and construction and that incorporate environmental and sustainability consideration from the onset – differently from the current scenario). Further policy actions in the short-medium term can include: i) better implementation and coherence – in particular implementation of waste related legislation (e.g. landfilling, recycling), definitions in waste legislation, coherence between waste and bioenergy legislation or coherence between waste and manure legislation; improved implementation across environmental and wider product legislation as well as horizontal legislation and policies (e.g. on product policy, procurement, taxation); ii) revision of key legislation, particularly in the area of product design to set minimum requirements for products (e.g. eco-design, labelling) so as to provide a useful starting point to move forward by integrating circular concepts in the design phase to ensure detoxification, modularity, upgradability, disassembly, durability, recyclability in subsequent phases. In addition, increased use could be made of take-back requirements and extended producer responsibility (e.g. via product end of life requirements). In some cases, there may be a need for new regulation such as strengthened or new targets (e.g. new targets on food waste), restrictions or bans (e.g. on landfilling of plastics or recyclable materials, on the use of certain toxic chemicals, coupled with strong legislation on energy recovery to avoid incineration). Another option could be to introduce mandatory requirements (e.g. mandatory phosphorous recovery from sewage sludge, development of action programmes to tackle food waste, mandatory requirements for the separation of waste).

Activity 1.1.3. The project will help the zone authorities, the tenant companies and business associations to develop voluntary **codes of conduct and green rating systems** for the industrial zones, which will encourage tenant companies to improve their environmental performance and meet national targets.

Activity 1.1.4. Monitoring and reporting system. The project will develop and implement a monitoring and reporting system to track and report on financial, resource

reductions, GHG emissions, gender and broader co-benefits within Industrial Zones. Project managers, investors, policy makers and enterprise-level decision makers will have the information they need to determine progress, modify their approach where needed, and take decisions about providing future support at scale. The GCF project will encourage the use of standardised accounting and reporting guidelines. The system will provide a common framework for tracking and reporting on the financial, environmental and social performance of the measures implemented at the selected industrial zones.
. The framework will:

- Develop monitoring and tracking tools and standards
- Serve as a source of information for emission estimation methodologies
- Provide a centralized data acquisition and analysis system to monitor environmental performance, and GHG related data;
- Inform enterprises on local and national situations related to environmental issues.

Indicators that show progress towards a resource-efficient economy will be developed, thus providing insights, raising public awareness and support for relevant measures[11].

Output 1.2: Stakeholders engagement and coordination enhanced for scale-up of investments in low-carbon and climate resilient industrial zones

Activity 1.2.1. Stakeholder policy dialogues will be organized throughout the project cycle to ensure an inclusive approach and to gather relevant inputs to be incorporated in the development of national and county government policies, standards, rules, regulations, guidelines, and voluntary green rating systems for the zones. Kenya has two levels of Governance, the national government and 47 local or county governments that are each headed by a governor. While, the ultimate responsibility for industrial zones rests with the Ministry of Industry, Trade and Cooperatives; by virtue of their size, the industrial zones are deemed by the Climate Change Act (2016) as likely to have significant impacts on the environment and their establishment is subject to a Strategic Environmental Assessment that is approved by NEMA[12]. The overlapping responsibility between government entities highlights the need for more effective policy coordination. To optimize the effectiveness of institutional support to enterprises, there is also a need to revise and outline roles and responsibilities of relevant government bodies and institutions that contribute to the country's climate and environmental protection goals in the industrial sector, such as the Kenya Industrial Research and Development Institute (KIRDI), Climate change directorate (CCD), the Kenya National Cleaner Production Centre (KNCPC), the Kenya Association of Manufacturers (KAM) and the Kenya Private Sector Association (KEPSA). The policy dialogues will help improve coordination among entities, reducing overlaps and optimizing the effectiveness of institutional support to zone enterprises.

Activity 1.2.2 University – Industry – Government collaboration. Kenya's universities offer a source of innovation, training and support that can enhance the viability of investments in low-carbon industrial zones. The project will facilitate the creation of a University-Industry-Government (U-I-G) collaboration. University research has the potential to create local innovative solutions to address the environmental challenges that the enterprises within industrial zones are facing. At the moment, the country's University-Industry-Government collaboration is weak and in most cases non-existent. By initiating this type of collaboration, zone enterprises will have an opportunity to benefit from the academic institutes led research in low carbon innovation and universities and research institutes will be able to test and showcase their innovations and findings, contributing to Kenya's green growth in line with Government priorities.

Activity 1.2.3. Roadmap for establishment and **scale-up** of low-carbon and climate resilient Industrial Zones in Kenya. The project will work with relevant stakeholders to formulate a roadmap and update the vision for the future of Industrial zones, lay-out the plan for the establishment and expansion of low-carbon and climate resilient Industrial

[11] Eijk Van Freek, 2015. Barriers and Drivers towards a Circular Economy, Comprehensive Literature Review

[12] The Strategic Environmental Assessments aims to provide guidelines for sustainable management of environmental aspects of the industrial zone, incorporate environmental sustainability measures in the design phase of the master plan and its sub-projects, provide environmental quality benchmarks for monitoring future environmental quality of the park, and recommend institutional arrangements for sustainable management of environmental aspects of the industrial zone. Enterprises operating within the industrial zones will undertake an Environmental and Social Impact Assessment before commencing projects listed in the second schedule of the Climate Change Act (2016) and thereafter will be submitting annual environmental audit reports to NEMA.

Zones - which will fit within the Kenyan context and landscape, set high standards of facilities and operations, as well as provide a plan for upscaling the concept nationally. The roadmap will serve the many stakeholders in industrial development who seek a sustainable path for industry in Kenya: real estate developers, industrial leaders and enterprises, economic and environmental policy-makers, financiers, leaders of nongovernmental organizations, and leaders of communities that host industrial zones and industrial facilities.

Output 1.3: Resilient infrastructure built to enable waste segregation, exchange, recovery and recycling in targeted Industrial Zones and communities

Activity 1.3.1. Waste transfer station infrastructure. To help divert waste streams from the landfill and retain them on a continuous basis within meaningful economic value, the project will establish Zone-wide waste transfer stations in each of the four targeted Industrial Zones to facilitate segregation at source of different waste streams. Such transfer stations will comprise of moving conveyor systems where materials can be handpicked and separated for further processing. These resource hubs add value to materials so that they can be returned to industrial processes or to community-led eco-businesses, thereby linking them to the industrial value chain - with the added advantage of creating jobs and wealth. Currently, the infrastructure for waste recovery and re-use in the selected four economic zones is weak and largely non-existent. This is largely attributed to the fact that these economic zones were not designed, constructed and operationalized with the idea of environmental sustainability (circular economy, waste recovery and recycling) in mind. Based on the data of the pre-feasibility study (Annex B), Athi River, Mombasa and Ruaraka Industrial Zones landfill roughly 122,000 tons of industrial and commercial waste per year. Assuming a yearly diversion of 15% of this amount, this activity will mitigate in excess of 18,000 tons of GHGe over five years and the benefits will perpetuate beyond the project life span[13].

Activity 1.3.2. Waste and by-product exchange network. An established and trusted waste and by-product exchange network is necessary in each Industrial Zone to facilitate industrial symbiosis. A key feature of the network will be the **establishment of waste exchange clearing houses** for each targeted Industrial Zone. The Waste Exchange Clearing houses, in the form of smart online platforms, will track and record enterprise's waste generation levels, showing who generates what kind of waste, who needs what resources and allows enterprises to express interest and connect to exchange resources that would otherwise be wasted. Under this activity, and to ensure efficient operations of the clearing houses, the project will conduct resource mapping at enterprise level for inclusion in the waste exchange clearing house platform, organise Zone-wide events to ensure information and technical expertise sharing, and facilitate waste exchange negotiations and trust building sessions. In view of the sustainability of project activities and its exit strategy the project will recruit and train a team dedicated to manage the Waste and By-Product Exchange Network to be based under the environmental unit in each Industrial Zone.

Activity 1.3.3. Resilient Infrastructure for communities using recycled materials. The project will engage the local communities in and surrounding the targeted Industrial Zones to design and build resilient infrastructures for communal use, by using recycled materials mostly generated from the zones, reducing the amount of waste that goes to landfill and providing communities with improved infrastructure and more lively surroundings. Interventions will include the establishment of recycling stations with segregation bins, multi-use recreation and relaxation spaces made with recycled materials including outdoor playgrounds, outdoor exercise stations, tables, benches and recycled planters for sustainable and regenerative living. Installation of solar power lighting in the communal areas will also be undertaken when public lighting is absent. The project will work together with local associations and community members to build and upscale the low-carbon and resilient infrastructures 'educating by doing', while developing a strong sense of ownership and environmental consciousness.

[13] The Emission Factor used for the landfilling of commercial and industrial wastes by the Kenya National Cleaner Production Centre at pre-feasibility stage is 199 kgCO2e/ton of waste from the UK Carbon Trust 2016.

Component 2: Institutional and technical capacities, education and awareness of policy makers, zone authorities, practitioners and communities

Outcome 2: Institutional and technical capacities of policy makers and practitioners are enhanced, and adaptive capacities of community members (particularly women and youth groups) and their livelihoods are improved

KIRDI will serve as the Executing Entity for components 2. Given the interlinkages between components and their outputs, KIRDI and NEMA will operate in close collaboration, through inclusive stakeholder's engagements, ensuring board consultations and coordination, avoiding duplication of efforts and capitalizing on other actors' experiences throughout the project execution phase.

Output 2.1: Increased institutional capacity of executing entities and enterprises

Output 2.1 will be realised through the implementation of the following activities:

Activity 2.1.1. Executing entities Institutional strengthening. The main institutional beneficiaries of the institutional capacity strengthening initiatives are NEMA (which through UN Environment support, achieved accreditation to the GCF in 2016 for projects in the 'micro' category), KIRDI (currently seeking GCF accreditation). UN Environment through this project will build on past and existing collaborations, to further strengthen NEMA's capacity as a GCF national accredited entity by supporting their efforts to reach accreditation upgrade, and will strengthen KIRDI's technical and institutional capacity and support their efforts to reach accreditation.

Activity 2.1.2. Establishing Green Growth Clubs. Green practitioners are required to facilitate the stages of synergy that make industrial symbiosis possible. To promote best practices in industrial symbiosis, environmentally sound technologies and practices, the project will establish zone-based clusters (clubs) that promote industrial symbiosis and waste minimization. These clubs will be comprised of Green Growth Champions in each enterprise. The cluster champions will be identified among committed top managers of zone companies who embrace the 3R and industrial symbiosis methodologies and will advocate internally for the fact that the efficient management of resources is not only an environmentally priority but makes good business sense. Advocacy conducted by trusted industry representatives is expected to have more convincing influence on other peers than if conducted by an external party (e.g. by the project team).The Green Growth Clubs will actively engage within the waste and by-product exchange network to facilitate synergies, which will form the basis for accelerating the promotion and adoption of industrial symbiosis, and avoid unwanted duplication of effort across industrial zones. This approach has proven successful in implementing and scaling up industrial symbiosis and the transfer of environmentally sound technologies and measures in several countries. These initiatives will provide continued support to the green growth champions who will catalyse demand and facilitate top management buy-in on low-carbon and climate resilient development across the country.

Output 2.2. Enhanced sustainable technical, and adaptive skills of Kenyan decision-makers in government, the private sector, financing actors and local communities

Target beneficiaries for activities under Output 2.2 include relevant government officials (national and local levels), industry practitioners, financing institutions representatives and communities (particularly women and youth groups) operating and residing within and around the industrial zones.

Activity 2.2.1: The Green Growth Service Desk (GGSD). To build long-term sustainability the project will establish the GGSD. The Green Growth Service Desk will deliver advisory services and technical assistance to strengthen the environmental performance of industrial zones, and help enterprises, communities, and investors share knowledge and experiences. Among other functions, the desk will help drive the transition of current and upcoming industrial zones towards low-carbon and climate resilient Industrial Zones, by providing support for:

- GHG inventory development – determination of organizational & operational boundaries; identification and categorization of GHG sources, sinks and carbon intensities of different zone enterprises;
- Establish zone level GHG baselines and improvements
- Conducting regular and focused capacity-building programs on opportunities to improve the environmental performance of zone enterprises and facilitate the exchange of information;
- Conducting regular and focused capacity-building programs on the environmental and energy performance of communities surrounding the zone enterprises;
- Support zone enterprises in implementing low-carbon projects by acting as the first point of contact and one-stop-shop for all low-carbon development-related queries and activities within zones.
- Provide technical support to draft industrial zone-level rules, guidelines, governance mechanisms on GHG emission mitigation, waste, energy and water management policies and plans for their implementation, in line with national Acts, laws, regulations and other development priorities.
- Provide technical support to draft voluntary green rating standards/ schemes;
- Facilitate and assist the Kenyan Export Processing Zone Authority (EPZA) in inter-departmental and inter-ministerial coordination and communication;
- Providing consolidated information on financing mechanisms and incentives available;
- Provide technical support to the Green Growth Clubs and to the Waste and by-product exchange networks.

Activity 2.2.2. Technical skills of private sector, policy makers and financing institutions representatives in support of low carbon investments in Industrial Zone enterprises

The project will organise introductory, and technical trainings on industrial symbiosis and environmentally sound approaches. The introductory trainings will be geared to policy makers and top-management representatives of the zone enterprises, to strengthen their understanding and facilitate buy-in on the benefits of implementing (and allocating budget to) industrial symbiosis and low carbon initiatives. The technical trainings will target consultants, company managers and operators to create a pool on national experts available to industry and able to implement industrial symbiosis, waste minimization and recovery, energy and water efficiency measures as well as transport efficiency initiatives in industrial zone enterprises (actual implementation of interventions is covered under component 3).

To support the de-risking of investment in low-carbon and climate resilient industrial zones (linked to Activity 3.1.2) the project will develop a free-of-charge technical assistance package to support its lending partner (KCB) and other interested financial and microfinance institutions to strengthen skills for the technical evaluation of eligible projects, encourage inclusion of environmental criteria in the due diligence process (where not already present), and enhance and promote uptake of new financial products, including dedicated green credit lines, microloans and possibly green bonds.

In parallel, the project will work with enterprises to strengthen their capacity to select eligible, innovative and profitable green projects and improve their ability to develop bankable proposals crafted in the language of their potential funders. This activity is critical to the development of bankable low-carbon measures in the industrial zones and will help drive circular thinking.

Activity 2.2.3. Strengthening community capacities for resilience and entrepreneurship. The project will engage communities in and around the industrial zones to enhance communities' knowledge and understanding of climate change, green growth, sustainable consumerism in line with the concept of the circular economy, waste as a resource, industrial symbiosis and environmentally sound technologies and practices. Communities will learn about the environmental and health impacts of pollution (air, soil and water), how to reduce plastic waste littering, and increase segregation at source. Organised community groups (in particular woman and youths) will learn how to capitalize on green growth and eco-innovation opportunities within their local area, through trainings and learning opportunities that will create the necessary skills set for the establishment of (formal) sustainable community-led micro and small green enterprises. Women and youth groups will benefit from networking opportunities, training in key skills and mentoring from green and social entrepreneurs from around the world. The project

will also enhance community capacities to increase their resilience to water scarcity, through training and pilot demonstration of water efficiency measures.

Output 2.3. Improved communication and awareness on low-carbon and climate resilient initiatives and interventions

Activity 2.3.1. Communication and awareness-raising campaign. The project will develop and implement a communications strategy and plan, which will target policy makers, industrial zones authorities, industrial zone enterprises and the general public. The communication strategy will ensure that channels used are enduring and accessible. It will identify the appropriate tools suitable for each target group. The communications strategy will include a combination of conventional media (print media, radio), non-conventional media (digital/website and social media networks), events and speaking opportunities as well as targeted stakeholder interactions. Communication tools that the strategy will consider, among others, are campaigns on social media, newsletters articles, and publishing of articles on specialised magazines, posters and brochure development, coverage by commercial media companies, organisation of information sharing events, and presentations at relevant conferences. Initial investment returns, lessons learnt and feedback derived from each pilot site will be documented in case studies and disseminated to raise awareness on the effectiveness of low-carbon and climate resilient intervention in Industrial Zones in Kenya, to influence change in other businesses and industrial zones across the country. Gender responsive communication will be pursued to acknowledge the different ways women and men access information, and maximize the potential contribution of the project to improving gender equality in the industrial zones in Kenya. The dissemination at the national and international level of best practices, reports, case studies and other tools developed during the project will be part of the anticipated deliverables under this activity. These activities will draw widespread attention to the benefits of adopting best environmental practices, and generate the support required for more widespread adoption of environmentally sound and low-carbon practices.

Component 3: Investment facilitation through implementation and uptake of low-emission and climate resilient initiatives in targeted industrial zones' enterprises and communities

Outcome 3: Private sector investments in low-carbon and climate resilient initiatives in industrial zones' enterprises and neighbouring communities are higher.

KIRDI will serve as the Executing Entity for component 3. KCB Group (Kenya) will be the key lending partner for this component. The technical assistance element of component 3 will include grants for investment assistance, training and marketing activities. The Green Growth Service Desk (GGSD) will deliver technical assistance and capacity building to support public and private investment in greening the Industrial Zones.

Output 3.1: Established mechanisms to de-risk low carbon and climate resilient investments in Industrial Zones' enterprises and neighbouring communities

Activity 3.1.1: Inventory and Investment framework for low carbon and climate resilient Industrial Zones. By engaging with lenders and investors (including the zone enterprises themselves), the project will develop an inventory of potential sources of finance and investments for industrial symbiosis and environmentally sound technologies and practice. This includes microcredit institutions to support small micro and small-scale community enterprises. Understanding different funders' investment criteria (project size, type of investment, debt/equity ratios, tenor, expected rates of return, etc.) will help establish a framework that encourages crowding in, while assigning different types of project risk to those entities that are best able to understand and manage it. The investment framework will aim to match the range of potential investment transaction types and structures with the capital requirements, cash flows, risk profile, and repayment time horizons of Industrial Zone enterprises implementing low-emission and climate resilient initiatives. By way of analogy the Emissions Reduction Purchase Agreement model drove investment into GHG mitigation projects, while the Performance Contracting model enabled large scale investment in energy and water efficiency in developed economies. The resulting low-emission and climate resilient industrial zone investment

	framework will serve as the basis for individual investment deals for funding the measures identified during the opportunity assessments. In the process of establishing the investor inventory and investment framework, lenders and investors will be sensitized on climate related risks and opportunities presented through the project. This sensitization process will have the added benefit of encouraging investors to evaluate climate risks and opportunities across their wider investment portfolio. The project will facilitate at least two investment related workshops per year, in addition to ongoing one-on-one consultations and matchmaking sessions between investors and project sponsors. **Activity 3.1.2 De-risking investment in low-carbon and climate resilient industrial zones.** To de-risk investments in low-emission and climate resilient interventions in Industrial Zones, the project will work with the KCB Group[14] (GCF candidate direct access entity) to technically assess investment projects, generated by the opportunities identified in companies under activity 3.2.1. Based on consultations, KCB is willing as a result, to provide credit lines to Zone's enterprises that wish to invest in environmentally sound technologies and improvements. An otherwise unviable project can become "bankable" with a small reduction in interest rates, by granting a grace period before repayments become due, or by extending the loan tenor by a few years. Investor risk perceptions determine whether a project is "bankable" by influencing decisions about interest rates, equity co-financing, and loan tenor. This is especially the case when investors are asked to finance an unfamiliar technology or practice. To improve the "bankability" of investments in low-emission and climate resilient initiatives in Industrial Zones, the project will work to reduce the perceived and actual risk faced by financing institutions and enterprises. The project will work with the KCB Group and other interested financial institutions (FIs) to create pre-assessed, pre-approved lists of technologies and practices for micro and small size projects, reducing the need for KCB and other FIs to become expert in low-emission and climate resilient technologies, decreasing the perceived risk and substantially lowering due diligence costs. **Output 3.2: Increased and replicable low emission and climate resilient investments in targeted Industrial Zones' enterprises and communities** **Activity 3.2.1: Low-carbon investments in Industrial Zone's enterprises.** Under the framework of the proposed GCF project, UN Environment has initiated consultations and will partner with KCB to step up investments in Kenya. Details will be elaborated in the full scale proposal but based on current consultations, KCB has expressed willingness in extending a new credit line to Kenya Industrial Zones' enterprises (KeIZE)[15]. The KeIZE credit line will be used by Zone Enterprises to finance low-carbon projects in waste, water, energy and transport efficiency in line with the Industrial Symbiosis and circular economy principles. The low carbon investments foreseen in the targeted Industrial Zones will reduce levels of GHG emissions and catalyse further investments once documented return levels prove that investing in low carbon technologies and approaches is not only environmentally sound but it makes good business sense. In line with the Industrial Symbiosis approach, investment interventions will include the following:

[14] KCB Group is registered as a non-operating holding company which started operations as a licensed banking institution with effect from January 1, 2016

[15] Lessons will be drown from a similar model which is being successfully applied by HSBC to finance investments in environmentally sound investments in the geothermal sector, among others.

Focus Area	Interventions
Material Inputs	Waste stream audits; waste separation and recovery; "want/need" resource matchmaking among enterprises operating in the industrial parks. Lower embedded energy intensity in processing recycled materials than extracting virgin raw materials
Process	Savings in gas, electricity and other fuel use by introducing process innovations and optimization, and through identifying synergies with partners
Fuel Substitution	Replacing fossil fuels with other fuel sources in industrial processes
Efficient Transport	Efficient and low-emission vehicles; iii) driver training and telematics; route optimization, and load optimization
Energy	Waste to energy solutions; Waste heat recovery; Sewerage sludge in biogas electricity generation and high grade manure (co-benefit linkage with energy and food security); energy audits and ISO 50001 Energy Management Systems and Energy System Optimization
Water	Wastewater treatment and efficiency measures

KCB will make available the necessary resources to support local, small and medium-sized private businesses adopt environmentally sound technologies and practices around the country. In addition, KCB will benefit from a free-of-charge technical assistance package – developed under Activity 2.2.2 - to strengthen its lending services under the KeIZE credit line.

The project will provide technical assistance for costed opportunity assessments (technical and commercial) at the zone enterprise level with focus on industrial symbiosis with interlinkages to waste, energy, transport and the water sectors. . The technical assistance will be provided by KIRDI (through the Green Growth Service Desk) and the UN Environment International Environmental Technology Centre, and funded through the grant from the GCF.

The assessments will be conducted by technical experts for each participating enterprise, followed by actual implementation. Opportunity assessments undertaken, during this project and thereafter, will include estimates of potential water savings, waste reduction opportunities and GHG emission reductions as well as financial savings resulting from retrofits, process improvements, equipment modernization measures and behavioural changes. The identified opportunities will range from low- and zero-cost "quick wins" to more ambitious measures requiring substantial financial investment, for which the KCB's KeIZE credit line will be used following detailed due diligence as a prelude to financing and roll-out.

The project will encourage the timely collection, validation and submission of financial and environmental data from the investment interventions. Generating high quality data for use by stakeholders is critical to ensure that the project has a transformative effect. This data is required and will be made available to policy makers to inform policy decisions and to investors to prove effectiveness and economic viability of investing in a low-emissions and climate resilient industrial sector in Kenya.

Activity 3.2.2. Investing in the creation of community-led micro and small green enterprises.

UN Environment, in partnership with KCB will increase resilience and promote entrepreneurship of women and youth groups operating (currently informally) in the surroundings of the Industrial Zones, to help these groups capitalize on green growth and eco-innovation opportunities within their local area. Based on consultation KCB has expressed willingness to extend a new credit line in microloans for community led micro-business initiatives to help harvest the intrinsic value of the waste streams generated within the Industrial Zones, that would otherwise be discarded, ensuring women and youth's formal partition in the Industrial Zones value chain. Based on the skills developed under component 2, the microloans under the NoW (No Waste) credit line will support the transformation of (informal) spontaneously driven initiatives into formalised micro and small-scale satellite green enterprises that re-use and recycle normally discarded by-products, textile and/or plastic off-cuts, etc. in line with the industrial symbiosis principle. Organised groups of women and youth residing in close proximity to Industrial Zones in Kenya will benefit from formal access to finance and know-how solutions necessary for business establishment and growth. On the advisory side and to promote women and youth entrepreneurship, the project will strengthen their skills through activities planned under Component 2.

	Activity 3.2.3 Replication and awareness of low-carbon investment mechanisms. By developing and availing these financing products (KeIZE and NoW credit lines) that are innovative or less well-known in the Kenyan markets, the project aims to create a model for others to follow. Under this activity the project will work with the Kenya Bankers Associations and financing institutions in Kenya to replicate the KCB example. Lessons learnt and feedback derived from each investment under Activity 3.2.1 and 3.2.2 will be documented and will provide a basis for future investment decisions by other financing institutions. Investors are likely to look more favourably upon initiatives undertaken successfully with a proven track record. Through the support of the project, KCB will gain experience that will help fast-track their accreditation to the GCF as direct access entity. In Addition KCB has subsidiaries in Uganda, Rwanda, Burundi, South Sudan, Tanzania and Ethiopia and therefore replicability of the transformational model can be achieved beyond the Kenya's context, reaching the East Africa Community and the rest of the continent. Recognising that the challenges facing micro, small and medium sized businesses operating in and around Industrial Zones are complex, the project goes beyond raising awareness in firms and financial institutions by interacting with policy-makers and Industrial Zone's Authorities (linkage with Component 1), sharing advisory and technical expertise through policy dialogues to help improve the business environment and the ease of doing (low-carbon and climate resilient) business in Kenya. **Activity 3.2.4 Mangrove Restoration to build resilience of communities along costal Industrial Zones**. Several Industrial Zones in the Mombasa area are located in proximity of mangrove creeks. The project will support community-led mangrove restoration initiatives in coastal communities along the Mombasa Export Processing Zones. Restoration initiatives will be implemented as part of efforts to counterbalance residual GHG emissions from the industrial zones, strengthening livelihoods in the communities surrounding the Zones and the costal ecosystems. Mangroves play an important role in the fight against climate change as they can slow storm surges, prevent erosion, and lower disaster risks for coastal communities, reducing their vulnerability to water scarcity and quality. Mangroves nourish biodiversity as nursery grounds for many coastal and marine species and support fisheries. The project will partner with community led organisations such as the Big Ship C.B.O. (Mombasa) which is actively participating in restoration and conservation of mangroves along a section of Tudor Creek. The Mombasa EPZs presents high potential for increased investments and efficiency improvements in conjunction with the realization of strong social and environmental co-benefits given the proximity to the costal line and the second most populated Kenyan city (Mombasa). More detailed information on the restoration interventions will be elaborated in the full scale project proposal.
B.2. Background information on project/programme sponsor	UN Environment is uniquely placed to implement the proposed GCF climate mitigation project. UN Environment sets the global environmental agenda within the United Nations System and serves as an authoritative advocate for the global environment. UN Environment has strong technical and scientific capacity in the field of climate change and is experienced in the implementation of projects that promote climate mitigation and adaptation at the global, regional and national levels. All projects and programmes are in line with the mandate from the UN Environment Governing Council, as detailed in the Bali Strategic Plan for Technology Support and Capacity-building. UN Environment has a proven track record of developing and promoting innovative, environmentally sound approaches that support national governments and stakeholders to mitigate and adapt to the current and predicted impacts of climate change. This is achieved by: i) enhancing the climate mitigation capacity through training and platforms for awareness raising; ii) addressing barriers to implementation; iii) providing methods and tools to support decision-making; iv) testing and demonstrating proposed solutions; and v) establishing partnerships to facilitate multi-stakeholder's engagement and knowledge sharing. UN Environment has accumulated a substantial and globally recognised knowledge base in climate change mitigation, through its experience of implementing medium size mitigation projects around the globe, as well as in Kenya and in East Africa, with a portfolio of above USD 171,000,000 funded through bilateral donor agreements and multilateral funding entities such as the GEF and the GCF itself. UN Environment has also a proven track record of implementing medium size adaptation projects with a current portfolio of over 40 adaptation projects valued at 160 million USD, which adds to UN Environment long standing work on circular economy and as the host of the 10-year framework of

	programmes on sustainable consumption and production patterns (10YFP) secretariat. In addition to the GEF and the GCF, large donors for UN Environment's programme in climate mitigation, adaptation and waste management include the German Ministry of Environment (BMUB) through the International Climate Initiative (IKI), the Government of Japan (GoJ), the European Commission (EC), the Swedish International Development Cooperation Agency, the Ministry of Foreign Affairs of Norway as well as the Danish Development Agency. Similarly, to the proposed GCF project, the above-mentioned projects are implemented in partnerships with national and local governmental institutions, academic and research entities, the large UN Environment's network of NGOs and UN partners, international consultancies, the private sector and minority groups. UN Environment will capitalise on past and on-going initiatives and add value through its in-depth scientific expertise, ensuring maximum results and impact, during the implementation of the proposed GCF initiative. Adding to the competitive advantage with respect to other non-resident entities, UN Environment has a large footprint in Kenya, with long standing, well-established networks with the Government, the proposed Executing Entity and a wide range of national and local stakeholder groups. As a result of the technical expertise accumulated in the field of climate mitigation and environmental project development and implementation, and the large footprint in the country, UN Environment is uniquely placed as the GCF Accredited Entity (AE) to oversee the efficient and effective delivery of the project's objectives.
B.3. Market overview	Industrial Zones context. Kenya as a country has successfully implemented its Export Processing Zone (EPZ) incentives programme since 1990 for the promotion and expansion of Kenya's exports also to non-traditional markets such as the United States of America. Export Processing Zone companies must export at least 80% of their annual productions in order to receive the incentives. With success, the Kenyan EPZ program certainly provided a good business model for the creation of the EPZ program at the East African Community level. The Kenyan government is currently initiating the process to develop a broader and more comprehensive Special Economic Zones (SEZs) program, which has carefully been prepared and harmonized with the East African Community Customs rules. The contracts for master planning of the Mombasa, Lamu and Kisumu SEZs are at the awarding stage. The Ministry has signed a contract with the Japanese Government on technical and financial assistance in the master planning of Ndogo Kundu SEZ and 10 km^2 start-up site at Mariakani (TICAD 2016). A new body, the Special Economic Zones Authority (SEZA) is to be set up under the Kenya parent Ministry of Industry, Trade and Cooperatives. The IFC is expected to provide support for the establishment of institutional framework and capacity building for SEZA. Image 3 shows a map of the proposed Special Economic Zones under the Kenya Vision 2030.

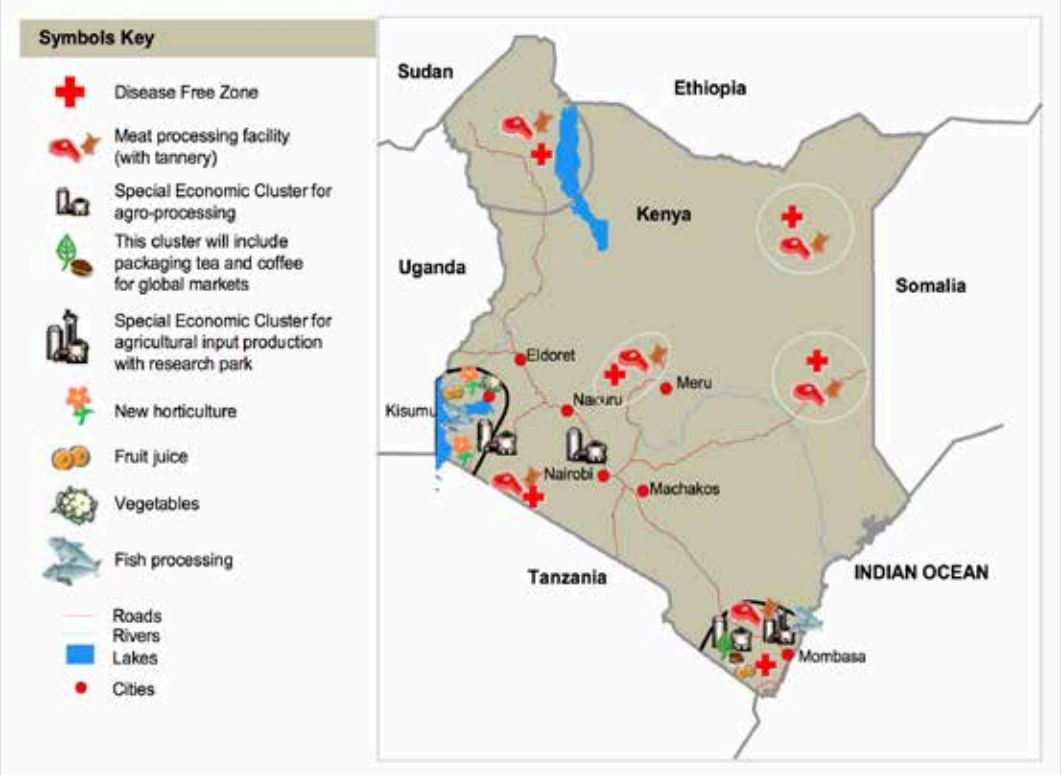


Image 3 **–** Map of Proposed Special Economic Zones under Kenya Vision 2030 [Source: Kenya Vision 2030]

There are over 15 sectors operating within the Kenyan Industrial Zones as shown in the prefeasibility report (Annex B) and as illustrated in Image 4.

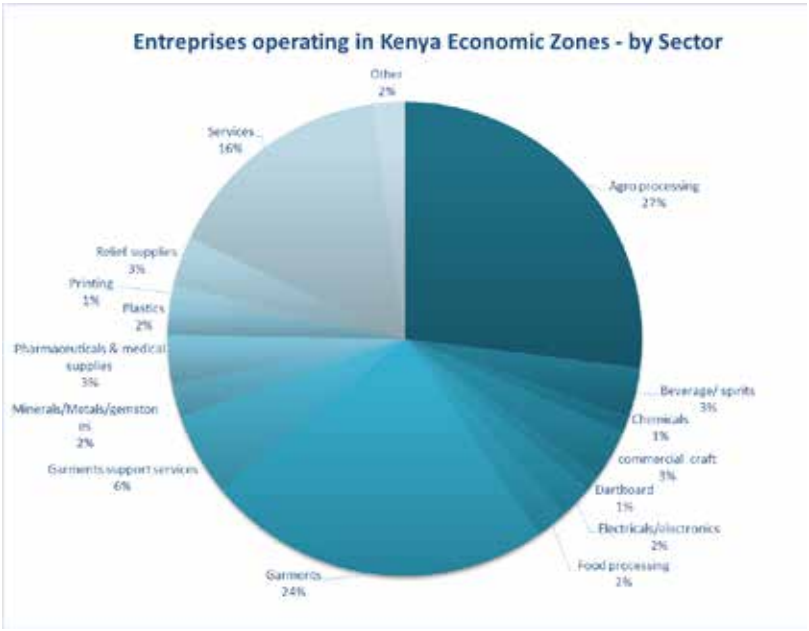


Image 4- Source: Economic Zone Sectoral Performance (2015); Project Pre-feasibility report

Agro-processing and garments are the dominant industries. Services come in at a distant third. As shown in details in the pre-feasibility study, the four-studied economic zones are located respectively in:

1. The Athi River Export Processing Zone — 70 Enterprises of which 43 in the manufacturing sector

2. The Ruaraka Export Processing Zone (EPZ) and Industrial Park – 30 enterprises in the Industrial Park and 2 enterprises in Balaji EPZ. All 32 enterprises operating in the manufacturing sector.
3. The EPZs in Mombasa County and the surrounding coastal areas – 43 Enterprises of which 26 in the manufacturing sector;
4. The upcoming Samburu EPZs in Kwale County near Mombasa – 80 hectares earmarked, no enterprises yet operating within the zone.

Annex 1, 2 and 3 of the pre-feasibility report show the complete list of licensed enterprises in the four studies industrial zones, their locations as well as their specific sectors. The pre-feasibility study has been undertaken using the following method:

- Direct interviews with key representatives from Government, companies operating in Industrial Zones and Export Processing Zones Authorities.
- Field visits to the Athi River, Kwale and Mombasa, as well as an industrial cluster within the Ruaraka area to survey companies' environmental performance on water, material and energy use, and waste management; and assess the opportunities for industrial symbiosis
- Literature and policy review, including of company records.

Athi River Export Processing Zone is the oldest public economic zone with well-established roads, telecommunication and sewerage handling infrastructure. At the time of the survey, the economic zone had 70 operational firms.
In the Athi River area, most of the men from Kitengela and Athi river communities work within the Industrial Zone, while it is mostly women and youth groups who are involved in the spontaneous and informal activities at the periphery of the zone.
Within the Athi River industrial zone , there was a spontaneous evolution of waste and by-product exchange in the sectors of agro-processing, plastics, textile, and chip board manufacturing as a result of the prevailing forces of material supply and demand. As a result of this spontaneous evolution of industrial symbiosis, 240 tons/year of seed cake by-product is diverted from the landfill to serve as raw material input for an animal feed manufacturing company leading to 80% secondary transport energy savings and 86,427 kg CO2e/year of reduced emissions; use of 108 tons/year of tarpaulin waste as raw material for making plastic water tanks and chairs leading to the creation of five on-site plastic re-processing green jobs; use of 255 tons/year of textile fabric off cut waste for making sofa sets and on-site steam generation leading to the creation of fifteen green jobs and 1,142 kg CO2e/year; and use of 204 tons/year of chipboard saw dust waste as steam boiler fuel replacing fuel oil with avoided emissions of up to 4,448 kg CO2e/year. Based on interview feedback from the economic zone companies, it has been demonstrated that inter-company use of wastes and by-products as raw material inputs for other unit operations will help reduce raw material transport costs by well over 80% resulting in a lower carbon footprint. Waste reuse diverted the potential solid wastes from the landfill, created new products and jobs, hence contributing positively to the country's green growth agenda (see figure 6 in the pre-feasibility report). The quantity of diverted wastes could have been higher had it not been for the economic zone's weak infrastructure for waste recovery and recycling. These spontaneous efforts are being executed informally, at the side lines of the industrial zones and therefore workers do not benefit from formal business structures. Furthermore, revenues generated are not accounted for in terms of manufacturing's contribution to the GDP. The informal context in which IS is being practiced, hampers the potential to stimulate investments in green businesses and micro-enterprises.

Mombasa Export Processing Zones. The majority of the EPZs in Mombasa are privately owned single units that do not operate within a centralized facility with a perimeter fence, unlike the Athi River EPZ. Only a small fraction of zone based companies operate jointly under well-defined perimeter walls as well as a centralized gate. The majority of the zone companies operate singly in expansive demarcated compounds that are similarly fenced. The country's only zone authority is a state corporation within the Ministry of Trade, Industry and Cooperatives.

Samburu Export Processing Zone. An upcoming Samburu EPZ, in Kwale county, currently under construction, will automatically become an SEZ once the SEZ Act becomes operational and will be publicly owned. Fencing, construction of buildings and roads are currently underway. Resident companies in this economic zone will be operating within

the same perimeter fence, making the enforcement of the zone's rules much easier. The Samburu EPZ has been selected as one of the project sites as it grants the possibility to include features of industrial symbiosis and environmentally sound technologies and practices from the very beginning, at the planning and construction stages. The aim is to influence investors and companies to subscribe to green growth thresholds spelled out in zone regulations as an entry requirement and as a business opportunity. Also, the area is located in proximity of the Tsavo East National Park and the Nairobi-Mombasa Madaraka Express railway, so the greening of this economic zone would help minimize the negative impact on the surrounding environment, benefiting nature and wildlife.

Ruaraka. The Ruaraka area of Nairobi has one economic zone called Balaji with two operational enterprises within it, namely Suman Shakhti EPZ Limited and United Aryan EPZ Limited both being garment factories. This means that the majority of the companies located in Ruraka do not operate under the SEZ jurisdiction. However, the industries are well coordinated through a local umbrella body, Ruaraka Business Community (RUBICOM), through which they share and address business and environmental challenges. A total of 30 industries were mapped in the Ruaraka Industrial Cluster falling in the sub-sectors of paper industries, plastic recycling and manufacturing industries, food and beverage, metal and steel companies, pharmaceutical companies. A number of spontaneously evolving industrial symbiosis synergies were identified by the Kenya National Cleaner Production Centre (KNCPC) research team where waste exchange could occur. Currently, three waste exchange synergies are already taking place (see table 25 in the pre-feasibility report) and the Ruaraka manufacturing companies have shown significant potential for pursuing circular business models. The location is a mixed industry settlement with community facilities, residential areas, (formal and informal) and the Dandora waste dumpsite. These resources and work space, further provide opportunities to making impacts on the nexus between livelihood, environment/pollution, occupational health and well-being, and youth employment. For more background information on the targeted Industrial Zones please refer to Annex B, the pre-feasibility report.

Waste is not the only opportunity for greening the industrial zones. Baseline data for Athi River, Ruaraka and the Mombasa zones indicates 43,928 MWh of annual electricity consumption, and 32.4 million litres of diesel and petrol consumption by transport vehicles. Extrapolated to the 64 gazetted zones, this would mean 702 GWh of annual electricity consumption, leading to CO_2 emissions of 248,000 tonnes. The same extrapolation would mean 518 million litres of diesel and petrol, with GHG emissions of 1.35 million tCO_2. Total water consumption was estimated at 10,795,917 m3/year (See pre-feasibility study Annex B).

Financing context. The green bond market is yet to take root in Kenya. Even the Climate Change Fund that is mandated by the Climate Change Act of 2016 is yet to be operationalized. The Kenyan National Research Fund (NRF) established by the Science Technology and Innovation (STI) Act of 2013 is the only fund currently operational that could be tapped and used to promote green growth in Kenya. This absence of financing support highlights the importance of the proposed project. The GFC project intervention will facilitate an effective enabling environment for assisting the Government of Kenya achieve key national development objectivities and vision 2030, through stimulating competitiveness and green investments in the face of resource scarcity and climate change. Circular economy business models within the industrial zones will require adaptive and targeted financing mechanisms that are currently not in place in Kenya.

Goods and Services. In most cases products and services are produced in Kenya not by using environmentally sound technologies and following a liner model. The current industrial development model poses challenges to the low-carbon and climate resilient development pathway for its Industrial Zones. The GCF project intervention will improve the environmental profile of goods and services within Kenya's industrial zone sector, while protecting the regions' environmental assets. Some of the anticipated gains for enterprises engaging in industrial symbiosis will include reduced virgin material and energy input (substituted by wastes) and reduced wastes and emissions as they are used as input resources. Additional benefits include reduction of volume and load of wastewater discharges and pollution of ground and surface waters; mitigation of CO2 emissions and possibly other GHGs hence lowering the contribution to climate change of the Industrial

Zones, energy recovery and use of renewable energy; reuse, recycling and recovery of waste. The anticipated economic wins include reduced raw material and energy costs; reduced costs associated with waste disposal; reduced transport costs; improved zone image and green growth market potential; reduced waste management costs, emission control costs; and new employment opportunities through local utilization and management of material and energy flows. Improvements in energy efficiency of industrial processes will enhance competitiveness and create cost reductions.

Water Resilience**.** The GCF project intervention will improve climate resilience by reducing vulnerabilities to currently experienced water scarcity within the targeted communities through water efficiency measures within industrial zones, and awareness raising of cost-effective water conservation measures within the communities.

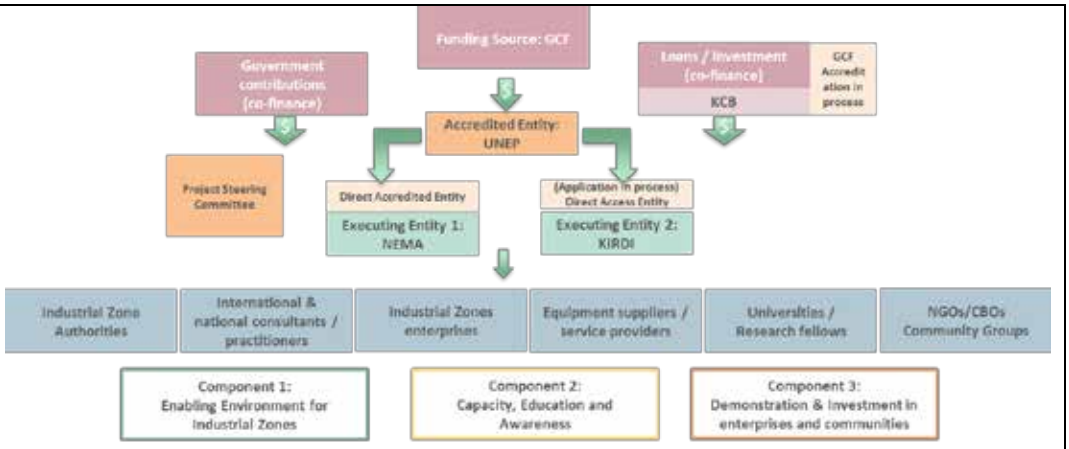
Conservations and Communities. The region is greatly affected by industrial pollution, environmental degradation and poor waste management practices. Among the challenges encountered in the conservation process are the very limited collaboration efforts and sometimes outright conflict between the numerous corporates and the local communities. From the corporates, this includes illegal encroachment and release of untreated industrial affluent into the ocean, the use of hazardous toxic metal such as lead without taking any precaution to protect the workers and community. Communities also contribute to illegal logging of mangrove, overfishing and improper disposal of household waste. The Mombasa EPZs presents high potential for increased investments and efficiency improvements in conjunction with the realization of strong social and environmental co-benefits given the proximity to the costal line and the second most populated Kenyan city. The GFC project intervention will engage the surrounding communities in the circular economy activities of the Industrial Zones, increase the amount of green jobs and formal employment and promote green consumerism, gender and youth empowerment**.** The GCF project will strengthen collaborations between communities and industries contributing to sustainable and inclusive development.

Employment. According to the 2016 Economic Survey, the number of EPZ employees increased by 8.7 per cent to 50,523 persons in 2015. The bulk of employment was in the garment/apparel enterprises with a total of 41,548 persons mainly due to expansion of existing apparel, and agro-processing firms. The Ministry has prioritized the Mombasa Free Trade Zone (FTZ) as the first phase of the larger SEZ programme in-line with the Jubilee manifesto that aims to create 1 million new jobs by actively growing Kenya's manufacturing sector through tax incentives and grants for overseas companies to establish industrial operations in the country. This will create employment for the local population, provide a source for local materials and take full advantage of the growing demand for manufactured goods across East Africa.

Waste as a resource. Although the practice of waste and by-product exchange has spontaneously evolved on its own, its accelerated up take by zone companies is being frustrated by a weak waste recovery and recycling infrastructure, a non-enabling policy framework, limited awareness, as well as a weak institutional framework for offering technical green growth advisory services that the proposed project seeks to address. One of the missed opportunities that the proposed project will address is the need to use green zone credentials as a marketing proposition designed to attract investors interested in making green investments. Low-carbon green economic zones are attractive to environmentally conscious investors.

The GCF project will facilitate and encourage the investment and innovation in recycling and recovery infrastructure and technologies and will increase the amount of diverted waste from the landfill and open dumping. The proposed project will help in diverting waste from being landfilled and dumped openly, a development that will lead to reduced pressure on the use of virgin materials and also help reduce pollution resulting from open dumping of different and mixed waste streams, which will be highly welcomed by the communities affected by the improper handling and pollution of waste. The potential for spin off companies will be high with improved waste recovery and recycling infrastructure that the proposed project will help put in place. The economic benefits will include increased resource productivity and reduced production costs; creation of an enabling environment for technology development and innovation; increased competitiveness;

	opening up of new markets as well as development of new businesses. The environmental benefits will include reduced environmental pollution; reduced resource depletion; reduced ecosystem degradation; mitigation of climate change; as well as reduced water scarcity.
B.4. Regulation, taxation and Insurance	As required, Environmental Impact Assessments will be undertaken according to the law of the Republic of Kenya and UN Environment's Environmental, Social and Economic Sustainability Framework. All interventions will be designed consistent with current and expected regulation and strategy frameworks of Kenya including licensing and permitting. Taxes are not applicable for services (with the exception of utilities) rendered through UN Environment in accordance with Section 7 of the Convention of the Privileges and Immunities of the United Nations. Taxes payable from procured services directly from Government of Kenya, KIRDI and other implementing partners will be paid according to prevailing national procedures, including 16 % domestic goods and services value added tax.
B.5. Implementation arrangements	UN Environment will be the Accredited Entity for the project, and will be responsible for the implementation of the activities under the project. UN Environment will monitor, and supervise the execution of the project and ensure the proper management and application of GCF Grant Proceeds by the Executing Entities. UN Environment will ensure that the Grant Proceeds are utilised in accordance with the terms of the Funded Activity Agreement and the Accreditation Master Agreement. KIRDI and NEMA have been identified as Executing Entities for the project, and will be accountable to UN Environment for project execution and for the effective and efficient use of resources. UN Environment will sign appropriate legal instruments with KIRDI, and NEMA to to establish clear roles and responsibilities for both parties for the delivery of the proposed activities. NEMA, with support of the project management unit, will lead the execution of component 1. UN Environment has supported NEMA in obtaining accreditation for direct access to GCF micro funds (accredited in March 2016). UN Environment, through this project, will build on past and existing collaborations, to further strengthen NEMA's capacity as a GCF national accredited entity and their efforts to upgrade their accreditation status. KIRDI, with support from the project management unit, will lead the execution of component 2 and 3. KIRDI is currently in the process of applying for accreditation to the GCF and this project will strengthen the institute's technical and institutional capacity and support their efforts to reach accreditation. KCB has been identified as lending partner for the project. KCB (Kenya) is also undergoing the process to get GCF accreditation as direct access entity. This project will provide KCB with first-hand experience and will in addition provide support to fast-track their accreditation. In Addition KCB has subsidiaries in Uganda, Rwanda, Burundi, South Sudan, Tanzania and Ethiopia and therefore replicability of the transformational model can be applied beyond the Kenya's context, reaching the East Africa Community and the rest of the continent. Both KIRDI and NEMA will, through the support of the project management unit, coordinate and support the participation of government departments, NGOs and CBOs, research fellows, financing institutions, national and international consultants, service providers, equipment suppliers, and enterprises within the various industrial zones, as necessary.



KIRDI and NEMA may subcontract relevant institutions, zone enterprises, government departments and offices, NGOs, and national and international centres of excellence for each of the project activities, relevant to the components they are responsible for executing. The official entry point for engaging County Governments is through the Council of Governors (CoG). The CoG was established in April 2013, pursuant to the Intergovernmental Relations (IR) Act. The council consists of the governors of the 47 counties, with the chairperson and vice chairperson elected from amongst its members. Among other, the council provides a forum for: consultation amongst county governments; sharing of information on the performance of the counties in the execution of their functions with the objective of learning and promotion of best practice and where necessary, initiating preventive or corrective action;

The Steering Committee, will be established comprising key stakeholders from all levels of government, zone enterprises, financial institutions as well as NGOs and civil society. The Project Steering Committee is a decision-making body within the project governance structure that consists of top managers and decision makers who provide, review and monitor strategic direction and policy guidance to the project team and other stakeholders. Among other functions, the Steering Committee will review and approve the annual workplan and budget, and approve the project's annual report. The committee also provides recommendations on project approaches and participates in discussing general strategies and opportunities for project planning and implementation. The function of the Steering Committee will include:

- Providing overall guidance for project execution to the executing agencies, especially on cross-cutting issues which require consensus from the various stakeholders involved in the project;
- Ensuring that recommended policy and institutional renovation undertaken under the project are consistent with the country's overall agenda;
- Ensuring full cooperation of various stakeholders under their jurisdictions to provide access and support to the project team in carrying out their tasks;
- Review and monitor the project execution progress.

An inter-ministerial Advisory Group will also be established, composed of climate relevant ministries and regulatory agencies, to ensure that the evidence gathered from project implementation, will be used to trigger policy review for improved sustainability (example members include the Climate Change Directorate and the Climate Change Council, Ministry of Industry, Trade and Cooperatives; Ministry of Environment; Ministry of Transport and Infrastructure; Ministry of Planning and Devolution, Ministry of Energy; Ministry of Water, etc.)

The final institutional arrangements will be determined through the scoping and evaluation assessments currently underway by the Accredited Entity and presented in the full project proposal. In particular, the placement of the Project Management Unit, Monitoring and reporting arrangements, and selection of financial mechanisms for project implementation. Zone enterprises and community level stakeholders are key to the project's success and are to be involved at each stage of project development and implementation.

As part of project management, the project will be undertaking regular monitoring exercises and mid-term and final evaluations will be conducted to facilitate successful project implementation and sound impact assessment, taking into account socio-economic and gender aspects. Activities will include periodic monitoring as well as a mid-term project evaluation with recommendations to be validated by the steering committee and a final impact assessment of project results, including gender and broader socio-economic assessments. A management response will be formulated and the project activities will be adjusted to take into account possible variations in country's priorities.

An indicative timetable of operations is included below:

Components	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Component 1 – Enabling Environment for green Investment in Industrial Zones and neighbouring communities						
Output 1.1: National, local and institutional policy frameworks strengthened to facilitate low-carbon and climate resilient development of industrial zones						
Activity 1.1.1: Technical and advisory support	■	■				
Activity 1.1.2: Policy development			■	■	■	
Activity 1.1.3: Development of codes of conduct and green rating systems	■	■				
Activity 1.1.4: Monitoring and reporting system		■	■	■	■	■
Output 1.2: Stakeholders engagement and coordination enhanced for scale-up of investments in low-carbon and climate resilient industrial zones						
Activity 1.2.1: Stakeholder policy dialogues	■	■	■	■	■	■
Activity 1.2.2: University – Industry – Government collaboration		■	■	■	■	
Activity 1.2.3: Roadmap for establishment and scale-up			■	■	■	
Output 1.3: Resilient infrastructure built to enable waste segregation, exchange, recovery and recycling in targeted Industrial Zones and communities						
Activity 1.3.1: Waste transfer station infrastructure	■	■				
Activity 1.3.2: Waste and by-product exchange network	■	■	■	■		
Activity 1.3.3: Resilient infrastructure for communities using recycled materials		■				
Component 2 - **Institutional and technical capacities, education and awareness of policy makers, zone authorities, practitioners and communities**						
Output 2.1: Increased institutional capacity of executing entities and enterprises						
Activity 2.1.1: Executing entities Institutional strengthening	■	■	■			
Activity 2.1.2: Establishing Green Growth Clubs	■	■	■	■		
Output 2.2: Enhanced sustainable technical, and adaptive skills of Kenyan decision-makers in government, the private sector, financing actors and local communities						
Activity 2.2.1: The Green Growth Service Desk (GGSD)	■	■	■	■	■	■
Activity 2.2.2: Technical skills of private sector, policy makers and financing institutions representatives in support of low carbon investments in Industrial Zone enterprises		■	■	■	■	■

	Activity 2.2.3: Strengthening community capacities for resilience and entrepreneurship	■	■	■	■	■	■
	Output 2.3: Improved communication and awareness on low-carbon and climate resilient initiatives and interventions						
	Activity 2.3.1: Communication and awareness-raising campaign		■	■	■	■	■
	Component 3: Investment facilitation through implementation and uptake of low-emission and climate resilient initiatives in targeted industrial zones' enterprises and communities						
	Output 3.1: Established mechanisms to de-risk low carbon and climate resilient investments in Industrial Zones' enterprises and neighbouring communities						
	Activity 3.1.1: Inventory and Investment framework for low carbon and climate resilient Industrial Zones	■	■	■	■		
	Activity 3.1.2: De-risking investment in low-carbon and climate resilient industrial zones			■	■	■	■
	Output 3.2: Increased and replicable low emission and climate resilient investments in targeted Industrial Zones' enterprises and communities						
	Activity 3.2.1: Low-carbon investments in Industrial Zones' enterprises		■	■	■	■	■
	Activity 3.2.2: Investing in the creation of community-led micro and small green enterprises		■	■	■	■	■
	Activity 3.2.3: Replication and awareness of low-carbon investment mechanisms				■	■	■
	Activity 3.2.4: Mangrove Restoration to build resilience of communities along coastal Industrial Zones	■	■	■	■	■	

C. Financing / Cost Information

C.1. Description of financial elements of the project / programme

C.1.1 Costs estimates (provisional assessment) according to major cost categories

Budget line	Components				
	1	2	3	Project mgmnt	Total
Staff and Other Personnel Costs	1,000,000	2,000,000	1,200,000	1,380,000	5,580,000
Contractual Services	6,000,000	2,000,000	8,000,000	650,000	16,650,000
Travel	300,000	300,000	300,000	250,000	1,150,000
Equipment, Vehicles and Furniture	400,000	200,000	580,000	-	1,180,000
Operating and Other Direct Costs	100,000	60,000	130,000	150,000	440,000
Component totals	7,800,000	4,560,000	10,210,000	2,430,000	**25,000,000**

Detailed economic and financial justification will be provided during the full project proposal development phase.

C.1.2 Grant administration

The country expects that 100% of GCF assistance is committed in the form of grants. UN Environment will manage the GCF Grant Proceeds for the activities

in accordance with its obligations under the Accreditation Master Agreement and the Funded Activity Agreement. UN Environment will agree on a plan with the Kenyan NDA to monitor the implementation of the activities using the grant proceeds. The project will be executed by NEMA and KIRDI as Executing Entities, and UN Environment will sign Project Cooperation Agreements with the Executing Entities to determine the roles and responsibilities of each party for the delivery of the proposed activities.
In order to execute the activities, the Executing Entities will channel the necessary funds from the GCF Grant Proceeds to the appropriate government institutions and partners at national and sub-national levels as per annually-costed work plans vetted by the project steering Committee (PSC). The Steering Committee, including relevant stakeholders from government, civil society and private sector will approve the annual work plan and budgets as well as activities and expenditure reports.

GCF grant resources will be used for hard and soft investments that overcome the barriers to private sector investment described in earlier sections of this concept note. This includes support for improving the enabling environment; developing the software and physical infrastructure and knowledge base to support the transition to a low-carbon and climate resilient industrial zones; cost- and risk-sharing to stimulate private lending and equity investments; and measurement and data collection to provide the evidence base for the business case behind mainstreaming these initiatives.

C.1.3 Co-financing
The total cost of the proposed project activity is USD $45 million. Of this total, $25 million is requested from the GCF in the form of grant funding for the implementation of activities. Co-financing of $ 5 million is anticipated to be provided as co-financing via Government funding vehicles. In particular, the Ministry of Industry has accepted to incorporate the project in its Third Medium-Term Plan (2018 – 2022) ensuring official co-financing during the project period. The balance of $ 15 million (amount to be confirmed) will be provide by KCB through two credit lines – one for the Industrial Zone's enterprises and one in terms of micro-loans to organised community groups living in proximity of the Industrial Zones. Confirmation of the co-financing commitments will be secured during the full proposal development.

C.1.3 How the choice of financial instrument(s) will overcome barriers and achieve project objectives, and leverage public and/or private finance
The policy and technical support components of this proposed project are not expected to generate a financial return and therefore necessitate grant financing. Grant financing is required to establish the infrastructure for a sustainable resource efficient and low-carbon programme, which might ultimately be funded via subscription fees beyond any long-term government funding. While economies of scale and learning would help enterprises within industrial zones to justify investment in the improvement measures, the early-stage and higher risk nature of the proposed project requires a significant level of grant financing to enable the project to "crowd in" significant co-finance.

C.2. Project financing information		**Financial Instrument**	**Amount**	**Currency**	**Tenor**	**Pricing**
	Total project financing (a) = (b) + (c)		……45……	Options		

	(b) Requested GCF amount	(i) Senior Loans (ii) Subordinated Loans (iii) Equity (iv) Guarantees (v) Reimbursable grants * (vi) Grants *	…… …… …… …… …… ……25……	Options Options Options Options Options Options	( ) years ( ) years	( ) % ( ) % ( ) % IRR
		** Please provide detailed economic and financial justification in the case of grants.*				
		Total Requested (i+ii+iii+iv+v+vi)	……30……	Options		
	(c) Co-financing	**Financial Instrument**	**Amount**	**Currency**	**Name of Institution**	**Seniority**
		Options Options Options Options	……5 (tbc) …… ……15 (tbc) ……	Options Options Options Options	-Ministry of Industry Trade and Cooperatives -KCB Group	Options Options Options Options
		Lead financing institution: The Green Climate Fund (GCF)				
	(d) Covenants					
	(e) Conditions precedent to disbursement					

D. Expected Performance against Investment Criteria

Please explain the potential of the Project/Programme to achieve the Fund's six investment criteria as listed below.

D.1. Climate impact potential *[Potential to achieve the GCF's objectives and results]*	Climate change mitigation benefits Based on the data of the pre-feasibility study (Annex B), the diversion of Athi River's 3,791 tons of waste /year from the land fill, Mombasa's 9,783 tons of waste/year from the landfill, and Ruaraka's 6,496 tons of waste/year from the landfill will lead to avoided GHG emissions of 754 tCO_2e/year, 1,947 tCO_2e/year, and 1,293 tCO_2e/year respectively for Athi River, Mombasa, and Ruaraka. This joint diversion of 100,350 tons of waste from the landfill over five years will help achieve the green economic zone status contributing to economic, social and environmental benefits. Extrapolated to the 64 gazetted zones across the nation would yield an annual GHG reduction of 63,903 tonnes CO_2e[16]. Assuming a one-time (15%) saving from energy efficiency and conservation measures, the project would result in a reduction of 2,327 tCO_2 from electricity generation, or 37,240 tCO_2 when extrapolated to the 64 gazetted zones. Similarly, a one-time (15%) saving from transport efficiency and vehicle electrification would yield an annual 12,691 tCO_2 GHG reduction in Athi River, Ruaraka and

[16] The Emission Factor used for the landfilling of commercial and industrial wastes by the Kenya National Cleaner Production Centre at pre-feasibility stage is 199 kgCO2e/ton of waste from the UK Carbon Trust 2016.

Mombasa. When extrapolated to the 64 zones gazette nationwide, this yields an annual GHG reduction of 203,049 tCO_2[17].
The project will establish community-lead GHG sequestration initiatives (e.g., tree planting, mangrove restoration in coastal communities), as part of efforts to counterbalance residual GHG emissions from the industrial zones.

If the project is successfully rolled out nationwide (refer to section D.2), total expected GHG reductions would be at least 300,000 tCO2 per year. Assuming 5 years of reductions, the project would be responsible for 1.5 million tonnes CO_2e of direct emission reductions[18].

Climate change adaptation benefits
The impacts of climate change are leading to increasing water scarcity in Kenya, meaning that the country requires adequate water management strategies that take into account the sector's vulnerability to climate change. The project will mainstream water conservation measures within and in the vicinity of Industrial Zones, to encourage efficient management of available water sources, water supply and wastewater, for the benefit of industries and communities, to be scaled-up at the national level. The project will promote awareness on climate change impacts, particularly water conservation (recycling, waste water management) and efficient water use, within Kenya's industrial sector and build the capacities of the public and provide sector to create the enabling environment for private sector investment in adaption measures within the industrial zones. Potential adaptation investment measures include: i) water audits to identify no-cost / low-cost water saving opportunities; ii) industrial process improvements, and iii) greywater reuse and recycling.
The project will also improve the resilience of community livelihoods by engaging the communities living in proximity to the zones in the industrial supply chains and enhancing their capacities to capitalize on green growth and eco-innovation within their region.

The industrial zones are well positioned to build climate change resilience through its products and operations for individual enterprises and neighbouring communities, in terms of infrastructure, transfer of environmentally sound technologies, job security and employment. Climate change has the potential to curtail the success of private sector development, for instance, through supply chain disruptions.

Industrial Symbiosis, Environmentally Sound Technologies and approaches	**Mitigation/Adaptation measures**	**Mitigation/Adaptation benefits**
Closed-loop waste stream	Waste stream audits; Opportunity identification; Separation and Recovery; Want/need matchmaking; industrial symbiosis	Reduced GHG emissions; community entrepreneurship (income generating activities for local communities, women and youth; increased local jobs); cost savings; reduced extraction of virgin materials
Energy efficiency	Energy audits Waste to energy solutions Waste heat recovery Sewerage sludge in biogas electricity generation and high-grade manure Solar street lighting	Reduced GHG emissions and ambient air pollution; cost savings

[17] Conversion factors from the Intergovernmental Panel on Climate Change (IPCC) guidelines for National GHG inventories 2006.
[18] For calculations and methodology used refer to the pre-feasibility study under Annex B

Efficient transportation	Reduction of raw material transport costs by the implementation of industrial symbiosis; Efficient, low-emission and non-motorized transport system Driver training and telematics Route optimization Load optimization	Reduced GHG emissions and ambient air pollution; cost savings
Efficient water use	Water audits Industrial process improvements Greywater reuse and recycling	Yield savings of 10 – 20%, sometimes greater; less stress on local and national water distribution systems; greater resilience in times of water scarcity; reduced expenditures on water, water heating and water treatment
Community-led mangrove restoration	Mangrove restoration in coastal communities along Mombasa Export Processing Zones	Community-led initiatives; employment; reduced vulnerability to water scarcity; increased resilience to disasters and soil erosion; improved ecosystem and biodiversity; mitigating GHG emissions

A comparable benchmark

South Africa is a front runner in Industrial Symbiosis on the African continent. Through its two industrial symbiosis programs at KwaZulu Natal and Western Cape (initiated in 2013) significant economic and environmental benefits have been realized as shown in the table below. The data serves as a benchmark for savings achievable through industrial symbiosis and Transfer of Environmentally Sound Technologies (TEST).

Key Performance Indicator	Cumulative savings Sept 2015 - Mar 2017	5 Year Projection (assuming same number of synergies stay active and completed on annual basis.
Waste Diversion	16 540 tons	82 700 tons
GHG Savings	105 050 tons	525 250 tons
Virgin Resources use Reduction	18 960 tons	94 800 tons
Industrial H_20 Saved	486 443 m3	2 432 215m3
Cost Savings	R 1,422,800	R7,114,000
Job Creation	9 Contract Jobs	~ 45new job opportunities

D.2. Paradigm shift potential

[Potential to catalyze impact beyond a one-off project or programme investment]

Paradigm Shift. Kenya has one of the largest manufacturing sectors in East Africa, and expansion of the sector forms a significant part of the country's development strategy. The sector serves both the local market and exports to the Eastern and Central African region. Kenya is experiencing a marked proliferation of un-regulated Industrial Zones, driven by minimum environmental compliance. While the benefits of low-carbon zones are clear, the transition is unlikely to be straightforward. A lack of awareness, knowledge, and institutional capacity to implement low-carbon zones remains a key

challenge to their adoption (World Bank, 2014). Furthermore, climate change poses a real threat to development prospects and livelihoods, and can undermine investments made to meet Vision 2030 goals.

To enable a paradigm shift towards low-carbon and climate resilient industrialization the Government of Kenya needs to decouple industrial and economic development from natural resource depletion, environmental pollution and increased climate threats. **This GCF project will drive the shift from an inefficient, high-emissions and climate vulnerable industrial development model to a low-emissions, climate resilient industrial development model.**

The project will systematically address the barriers to both the sustainability and scale-up of low-carbon and climate resilient development of Industrial Zones, and achieve this paradigm shift by:

1. Strengthening the **enabling environment** for green investment in existing and planned industrial zones and neighbouring communities (Outcome 1);
2. Enhancing the i**nstitutional** and **technical capacities** of policy makers and practitioners, and improving the **adaptive capacities** of community members (particularly women and youth groups) and their livelihoods (Outcome 2)
3. Increasing private sector **investments in** low-carbon and climate resilient initiatives in low-carbon and climate resilient initiatives in industrial zones' enterprises and neighbouring communities (Outcome 3).

The suggested project interventions will support investments across the country and beyond the project period. By building a cohort of trained energy, waste, and water efficiency experts, the project will dramatically increase in-country capacity to ensure sustainable improvements and performance of enterprises and communities in and around Industrial Zones, and identify low-carbon and climate resilient alternatives

Innovation. The project will enhance the transition towards a circular economy, integrating low-carbon and environmentally sound interventions in industrial zones and at the community and policy level. This simultaneously requires innovations in business relations, between companies, institutions and resource flows (UNIDO, 2016).
Shared services under the industrial symbiosis approach can include transportation, cleaning and maintenance, monitoring and control of emissions and occupational health. Shared infrastructure and under the waste and by-product exchange network can include recycling, biogas plant, wastewater treatment and power generation. The project approach, is innovative and currently there are no large-scale activities in Kenya and the East African region that aim at approaching climate mitigation and resilience within manufacturing, using the project's proposed holistic approach. The project anticipates an initial need to utilize international expertise, with the aim of phasing it out in favour of national expertise as the project progresses. Industrial symbiosis and the circular economy are being increasingly accepted concepts in developed countries, but is still a pioneering concept within developing economies.

Potential for scaling-up and replication**.** The roadmap to be developed under component 1, will lay-out the plan for the establishment and expansion of low-carbon and climate resilient Industrial Zones in Kenya. It will set high standards for facilities and operations, as well as provide a plan for upscaling the concept nationally, optimizing the location of companies and the flow of by-product exchange within zones. In addition KCB has subsidiaries in Uganda, Rwanda, Burundi, South Sudan, Tanzania and Ethiopia and therefore replicability of the transformational lending model can be replicated beyond the Kenya's context, reaching the East Africa Community and the rest of the continent. Strengthening enabling policies, establishing logistics and value chains, validating cost models, and engaging financial intermediaries will be ensured through this project in order to overcome barriers to large scale replication.
Industrial Zones with good infrastructure and joint provision of services, meeting the needs of companies, are more likely to attract domestic and foreign investments, and ultimately generate a collective advantage.

Potential for knowledge and learning**.** A switch from the current wasteful linear economic development model to the resource efficient circular economy will need a new green skill set that is not readily available in Kenya. Since currently there is no

	systematic framework for knowledge sharing and harnessing industrial synergies, the project will establish logistics data platforms and building capacities at government, private sector and community level to collaborate with zone enterprises (e.g. Green Growth SD and Resource Minimization Clubs). The capacity building interventions planned by the project will develop a pool of Kenyan experts, able to assist industry in the planning and operations of industrial zones, delivering climate mitigation, resource efficiency and environmentally sound waste management solutions. Consideration are currently on-going for the establishment of a possible south-south cooperation model with South Africa, where solid expertise in industrial symbiosis has been developed, providing African approaches and answers to global challenges. Contribution to the strengthening of an enabling environment**.** Although the practice of waste and by-product exchange has spontaneously evolved on its own on a small scale among few enterprises, its accelerated up take by zone companies is being frustrated by a non-enabling environment (policy framework, limited stakeholder coordination and poor infrastructure). Low-carbon and climate resilient industrial zones are attractive to environmentally conscious investors. One of the missed opportunities that the proposed project will address is the need to develop green rating systems and codes of conduct as a marketing proposition designed to attract national and foreign investors interested in making green investments.
D.3. Sustainable development potential *[Potential to provide wider development co-benefits]*	Industrial zones have started assuming an important role in the country's industrialization process, but if not planned and managed according to sustainability principles, such concentrated forms of industrial development will negatively impact on the climate, the environment and the people. The described project interventions will result in a wide range of economic, social and environmental benefits. Economic co-benefits. Low carbon and climate resilient industrial zones which embrace the circular economy concept will achieve increased resource productivity and reduced production costs; strengthening of an enabling environment for technology development and innovation; increased competitiveness; opening up new markets as well as development of new businesses. Successful low-carbon industrial zones are able to generate positive impacts on the local and regional economic performance by enabling new and innovative business opportunities, increasing regions and company's competitive advantage, as well as saving costs due to reductions in waste, resource and energy consumption (UNIDO, 2016). The project will catalyse investment for the creation of micro-green enterprises, by providing support to organised community groups to engage in the industrial value chain, transforming informal jobs into formal green economic activities, with strong social co-benefits (better living standards for communities neighbouring the Industrial Zones). In summary, the following economic co-benefits are expected from the implementation of this project: - Increases in resource productivity and reduce production costs - Collaborative business opportunities through synergies - An enabling environment for technology development and innovation - Increased innovation and competitiveness - Opening up new markets - Development of new businesses - Increased number of formal jobs Social co-benefits. Some of the social benefits expected through the implementation of the proposed GCF project include creation of new jobs, overall poverty reduction, and securing of existing jobs. The project will create new skills and capacities through educational and training programmes. The project will indirectly impact on improved occupational health and safety conditions as well as on improved health and safety of communities. Communities will benefit from improved infrastructures and enhanced opportunities for education and working conditions. By taking a stakeholder inclusive approach the project will pay particular attention to vulnerable groups and gender balance. In summary, the following social co-benefits are expected from the implementation of this project, which will adopt an adaptive management approach:

	- Increased job security and the creation of new jobs - Creation of new technical and managerial skills and capacity - Improved occupational health and safety conditions - Improved health and safety of surrounding communities - Increased consideration for the environment and improved provisions for harmonious co-existence between communities, nature and industries. Environmental co-benefits**.** Negative environmental impacts caused by industrial operations are reduced through environmental management and pollution prevention systems. By following circular economy principles and fostering industrial synergies, the management of Industrial Zones can support companies in their efforts to increase environmental efficiency through reduced raw materials, waste, water and energy consumption. Improving energy efficiency and utilizing waste as a resource in the industrial parks helps to reduce demand for fossil fuel based power sources on the Kenyan national grid, with resulting benefits for both ambient air quality and the country's balance of payments. Similarly, increased transport efficiency and reduced diesel and petrol consumption contributes to improved ambient air quality and fewer imports of fossil fuels, which must be paid in hard currency. Kenya's large tourism industry is largely nature-based and the wildlife populations are highly susceptible to climate change. The Constitution of Kenya (2010) provides ground for the formulation of adaptation and mitigation legislation, policies and strategies by guaranteeing the right to a clean and healthy environment under the Bill of Rights. Every person has the right to a clean and healthy environment (Articles 42, 69 and 70), which is a fundamental freedom under the Bill of Rights. This right cannot be fully provided for unless action is taken to address environmental pollution, which can be supported through a low carbon climate resilient development pathway (Khisa, 2011). In summary, the following environmental co-benefits are expected from the implementation of this project: - Reduced GHG emissions, and carbon offsetting through carbon sequestration initiatives, mangrove planting and implementation of waste, water, energy and transportation efficiency measures - Reduced environmental pollution and improved environmental assets, such as water and air - Reduced degradation of ecosystems - Reduced water scarcity - Less waste to landfill Gender-sensitive development impact**.** As spelled out in the Environmental, Social and Economic Review Note (Annex D) the project will promote gender equality throughout the project cycle and its activities will seek to engage women and youth groups in waste repurposing activities, capacity building and awareness raising. A growing amount of research as well as the "Gender and Economic Growth Assessment in Kenya" demonstrates that addressing gender barriers in Kenya could generate significant economic growth for the country. Women remain underrepresented in most sectors and are paid less than men for equal work. Increasing the number of women engaged in manufacturing provides a large potential for women-led industries to create productive jobs. The Kenyan Association of Manufacturers (KAM) has launched the first ever Women in Manufacturing Programme in Kenya in May 2017. Women in Manufacturing is a mentorship and networking platform aimed at increasing the participation of women in the manufacturing sector as part of the drive to industrialize for a stable and sustainable economic future for Kenya. The project will work together with the Women in Manufacturing Programme, to strengthen the skills of women in manufacturing and women-led businesses through technical assistance, facilitating access to finance and mentorship from KAM's larger database, where they can also seek solutions to scale up their industries through business-to-business linkages.
D.4. Needs of recipient *[Vulnerability to climate change and financing needs of the recipients]*	Climate change poses a real threat to development prospects and livelihoods, and can undermine investments made to meet Vision 2030 goals[19]. The 1998-2000 drought in Kenya led to an economic loss of about US$ 2.8 billion resulting from the loss of crops

[19] http://www.kccap.info/index.php?option=com_phocadownload&view=category&id=34

	and livestock, forest fires, damage to fisheries, reduced hydropower generation and industrial activity Financially this drought to have resulted in an estimated 16 per cent reduction in the GDP in each of the 1998-99 and 1999-2000 financial years. Lost industrial production alone due to inadequate power supply during this period amounted to a loss of approximately KSh 110 billion (USD 1.4 billion)[20]. The overall impact of the 2008-2011 drought in Kenya is estimated at KSh968.6 billion (USD 12.1 billion), and was predicted to have caused a slowing down in the growth of the country's economy by an average of 2.8 per cent per year during that period[21]. Kenya's water scarcity is already concerning and expected to be more severe in the future due to an overwhelming increase of water demands against a substantially reduced per capita availability of 393 m^3 by 2030 (Kenya's Second National Communication). This project will contribute to strengthening the resilience of Kenyan industries and community livelihoods. The low-carbon and climate resilient development pathway proposed by this GCF project is fully tailored to the Kenya's unique circumstances. Although the industrial zones have a great potential for the economic development of the country, their expansion also causes substantial damage to the environment and climate and particularly threaten the health of the communities and wildlife living nearby. High GHG emissions per unit output as a result of wasteful processes at existing industrial zones, the prospect of higher GHG emissions at future zones is contributing to global climate change, increasing vulnerabilities of communities and livelihoods. Kenya's technology needs are diverse and their deployment requires a range of activities to overcome the existing barriers. Kenya has undertaken two Technology Needs Assessments (TNAs), in 2005 and 2013. The latter prioritized Environmental Sustainable Technology (EST) needs for mitigation and adaptation and developed their technology action plans (TAPs). The TNAs determined that priority technologies have high socio-economic or sustainable development benefits, and target the energy, waste, agriculture and water sectors in rural communities; which is in line with the proposed intervention logic. Most of the industrial zones are in close proximity of urban and peri-urban areas and therefore impact on human settlements. Due to the lack of environmental standards there has been alarming pollution and environmental degradation within these environments, affecting the heath of communities and wildlife. There is a strong need for protecting the livelihoods and ecosystems the communities depend on and introducing climate change adaptation measures to strengthen long-term resilience to climate change. All project components directly address the greening of the development pathways of Industrial Zones and neighbouring communities e.g. including capacity building and carbon sequestration activities, establishing of an enable environment to increase investments in low-carbon and climate resilient interventions as well as the direct implementation of waste, energy, water and transportation efficiency measures.
D.5. Country ownership *[Beneficiary country ownership of project or programme and capacity to implement the proposed activities]*	Alignment with the country's national development and climate priorities. The proposed project is designed in full alignment with Kenya's national development goals and climate priorities: § **Kenya's Intended Nationally Determined Contributions**: Kenya pledged, ahead of the Paris Agreement in December 2015, to reduce carbon emissions by 30% by 2030, relative to a business-as-usual scenario of 143 MtCO2e, subject to financial and technological international support. The proposed project will contribute to the achievement of the Kenya's Intended Nationally Determined Contributions, by greening the development pathway of upcoming and existing industrial zones. § **Kenya Vision 2030**: The country is committed to transforming Kenya into a newly industrializing middle income country providing a high quality of life to all its citizens in a clean and secure environment, promoting rapid growth in the manufacturing sector with a sectoral goal of attaining a 10% annual growth. § **Green Economy Strategy and Implementation Plan 2016 – 2030**: Kenya as a country has committed itself to decoupling economic growth from environmental

[20] National Climate Change Action Plan, 2013 – 2017, Republic of Kenya
[21] National Climate Change Action Plan, 2013 – 2017, Republic of Kenya

degradation through its The strategy aspires to advance a low-carbon, resource efficient, equitable, and socially inclusive development trajectory.

- **Kenya Industrial Transformation Program 2015:** Based on the Kenya Vision 2030 the Government of Kenya has developed a comprehensive programme to guide Kenya on its journey to industrialization. According to the 3rd Pillar of the Kenya Industrial Transformation Program 2015 the government aims to create an enabling environment to accelerate industrial development through industrial parks/zones along infrastructure corridors, technical skills, supporting infrastructure and ease of doing business.
- **3rd Medium Term Plan 2018-2022:** In line with the objectives of the Medium Term Plan II, The Climate Change Directorate (CCD) under the Ministry of Environment and the Ministry of Industry have recently agreed to the Medium Term Plan III (2018-2022) which reinforces the need for removing systematic barriers for the creation and optimal operation **of** Industrial Zones.
- The **Climate Change Act 2016**, sets the regulatory framework under which the line Ministries have the authority to impose climate change obligations and monitor compliance. Under the Climate Change Act, NEMA and the National Climate Change Council will enforce. Monito and regulate environmental compliance of Industrial Zones.

As the proposed project interventions will take place in five of the 47 local municipalities (counties), the active engagement of relevant County Governments is crucial for achieving the objectives of this proposed GCF project. The involvement of the County Governments will be through the **Council of Governors (CoG)** office, providing visibility for this GCF project across all counties in Kenya, laying the foundation for further scale-up of industrial symbiosis and the transfer of environmentally sound technologies and practices existing and planned Industrial Zones in the rest of the counties.

Brief description of executing entities along with the roles they will play.

KIRDI is the Kenyan Industrial Research and Development Institute, under the Ministry of Industry, Trade and Cooperatives. It was established in 1979 under the Science and Technology Act Cap.250, Laws of Kenya (which has since been repealed by the Science, Technology and Innovation Act, 2013), as a multidisciplinary Institution to conduct basic and applied research in industrial and allied technologies, environmental sciences, chemical sciences, and energy resources. The Act inter alia provides that the institute shall: ensure timely introduction and use of improved technology for the benefit of Kenyans; disseminate and facilitate the application and commercialization of research findings and technological developments; facilitate the implementation of government policies on scientific research and development; undertake technology forecasting to identify opportunities where new technologies can be commercially exploited and advise the government on all aspects of industrial research; establish industrial research and technology transfer centres in different parts of the country to carry out research on the industrial and technological utilization of the resources in those parts; and co-operate with other organizations and institutions of higher learning in training programs and on matters of relevant joint research and commercialization of findings.
As such KIRDI is strategically well placed to execute components 2 and 3.
KIRDI is in addition in the process of acquiring accreditation to GCF and its nomination has been accepted.

NEMA, is a GCF Nationally Accredited entity and its role in the establishment and operation of industrial parks is clearly defined by the Climate Change Act of 2016 as well as the Environmental Management and Coordination Act, Cap 387 of 1999. NEMA is mandated to exercise general supervision and coordination over all matters relating to the environment and to be the principal instrument of the Government of Kenya in the implementation of all policies relating to the environment. Under the Climate Change Act 2016, NEMA will on behalf of the National Climate Change Council (NCCC) regulate, enforce and monitor compliance on levels of GHG emissions. Among other functions, NEMA's role is to co-ordinate the various environmental management activities being undertaken by the lead agencies and promote the integration of environmental considerations into development of policies, plans, programs, and projects with a view to ensuring environmental compliance.

	Therefore, NEMA is strategically well placed to execute component 1 on strengthening the enabling environment.
D.6. Effectiveness and efficiency *[Economic and financial soundness and effectiveness of the proposed activities]*	Assuming a GCF investment of USD 25 million and expected GHG reductions of 1.52 million tonnes CO2e over the project funding period, the project's emissions reduction cost is approximately USD $16.7 per tonne. The project has an expected co-financing ratio of approximately 44% The project helps to strengthen a recently accredited Direct Access Entity (NEMA) and an entity that is currently seeking accreditation and whose nomination has already been accepted (KIRDI). KCB – which is also currently seeking GCF accreditation - will benefit from being involvement in the project, gaining first hand- implementation experience. The project overcomes critical barriers related to the enabling environment, capacity building, and market development, and thus would not be able to attract investment without the Fund's support. An initial investment in policy, technical and financial facilitation will result in a large scale, permanent reduction in GHG emissions from Kenya's growing network of industrial zones and improved resilience capacity compared to business-as-usual.

E. Brief Rationale for GCF Involvement and Exit Strategy

Please specify why the GCF contribution is critical for the project/programme

Kenya, in line with its sustainable development agenda, seeks to abate its GHG emissions by 30% by 2030 relative to the business as usual scenario of 143 MtCO2eq[22]. This is subject to international support in the form of finance, investment, technology development and transfer, and capacity building. The Government of Kenya has recognised that there are entrenched policy, market and financial barriers that prevent the transition from fossil fuel-based technology to greener alternatives (GOK, 2015). It is estimated that over USD 40 billion is required for mitigation and adaptation actions across sectors in Kenya up to 2030[23]. While the relevant sector ministries and county governments will be active in mobilizing domestic resources, Kenya will require international support to fully realize her intended contribution. If successfully funded, this project will help remove the identified barriers, stimulate financial flows and mobilize private sector investments, resulting in a large scale, permanent reduction in GHG emissions generated from Kenya's growing network of industrial zones.

This project fits well with the GCF's goal of transformational impacts. Kenya's Industrial Zones strategy is still at an early stage, but the growth of Industrial Zones is set to accelerate over the next several years. Without GCF support, the Industrial Zone enterprises are likely to make long term investments based on current practices that will lock them into less efficient, higher emissions pathways for the long term. Early action to overcome the barriers to greening Kenya's Industrial Zones, in the context of low-carbon and climate resilient development, will lead to lower cumulative emissions over time, and make a greater contribution to Kenya's Nationally Intended Contributions under the UNFCCC Paris Accord. Hence the GCF contribution is critical to implement such catalytic activity, which would not happen without GCF support.

Please explain how the project/programme sustainability will be ensured in the long run, after the project/programme is implemented with support from the GCF and other sources.

The interventions proposed will drive a shift to a low-emissions, climate resilient industrial development model by overcoming systemic barriers to low-carbon development and thus catalysing impacts beyond the end of the GCF funding. The project will for example strengthen the **enabling environment** for green investment in existing and planned industrial zones and neighbouring communities (Outcome 1) with focus on improving the policy framework, the available infrastructure and enhancing the stakeholder's networks and coordination. To ensure sustainability of the initiatives proposed, the GCF project will focus strongly on developing and enhancing i**nstitutional** and **technical capacities** in government, the private sector and the communities (Outcome 2) for maintaining the assets and continuing to offer the services established by the project. To reinforce long-term and sustained national capacity the project through the Green Growth Service Desk will provide services to guide and support zone enterprises in their green growth transition and the promotion of eco-innovation. Finally, by seeding a critical mass of investment, practical experience and know-how, the project will increase confidence of financing institutions and private sector in the benefits of investing in low-emission and climate resilient initiatives in industrial zones and neighbouring communities (Outcome 3), stimulating long-term financial flows in the sector and attracting local capital and green foreign direct investments.

[22] Kenya's Intended Nationally Determined Contribution (INDC), 23 July 2015
[23] Kenya's Intended Nationally Determined Contribution (INDC), 23 July 2015

In summary: developing an enabling environment, stakeholder network and infrastructure; addressing capacity barriers and unlocking financial flows which will lead to the creation of a credible and sustainable market for low-carbon and resilient industrial development in Kenya is the exit strategy of the project.

F. Risk Analysis

Please describe the financial and operational risks and discuss mitigating measures.

Risk	Risk Level	Mitigation measures
Project incentives to promote low carbon development do not sufficiently raise investor interest, understanding and/or confidence	Medium	Component 1 will ensure the appropriate enabling environment is strengthened and optimized. The finance and investment sector is introduced early into the project development process and their representation in the project steering committee ensured. The roadmap for low carbon and climate resilient industrial zones will be designed to specifically present the opportunities and mechanisms for realizing the implementation and scale-up of the low carbon and climate resilient industrial zones concept across Kenya's industrial sector. The project will ensure a strong national ownership and as such, the project will work with and support green champions (component 1) from all stakeholder groups
Lack of incentives for industrial enterprises to shift to low carbon technologies and practices.	Low-medium	The project, through its awareness raising and capacity building initiatives (component 2) will ensure a paradigm shift in understanding of manufacturing and production, and opportunities and responsibilities to future generations, through shifting to a circular economy. Experts on green technologies will elaborate detailed technology assessments and cost-benefit analysis together with the company's management to ensure interest and commitment.
Companies reluctant to provide sensitive information (production methods, quantities, resource consumption and savings)	Medium	Non-disclosure agreements will be established to protect the commercial nature of enterprises
Lack of interest among enterprises to engage communities within industrial zone supply and value chains	Low	The project will formulate and implement a community engagement plan in order to establish win-win situations within the industrial zone value chains, for communities and enterprises. The project will also pursue a gender responsive communication and ensure stakeholder involvement at all levels, with special regard to involving women and youth, as well as CSOs and NGOs promoting gender equality and mainstreaming, and recruit a gender expert. This shall mitigate social and gender related risks, promote gender equality, create a culture of mutual acceptance, and maximize the potential contribution of the project to improving gender equality in the productive sectors. An Environmental and Social Impact Assessment, including a gender analysis, will be undertaken during the project formulation phase. Based on these findings, relevant gender, environmental and social impact mitigation measures will be incorporated into the project design.
High investment and operational costs for enterprises	Low-medium	The project partners will work on appropriate business plans to facilitate the necessary operational costs for common facilities and transferred technologies. Experience gained from similar project and facilities will be used to find appropriate models for this.
Required stakeholder coordination and networking needs are not met as the establishment and management of EIP	Low	As this is a very large project, involving many stakeholders, it is useful to have two executing agencies. NEMA will lead the in-country work on strengthening the enabling environment, while KIRDI, with support of the MTIC, will lead the in-country work on awareness-raising, capacity building, investment facilitation and M &E and reporting

approaches requires multiple networks of communication/coordination, to achieve shared benefits		As the UN Environment HQ is based in Nairobi additional implementation support/ coordination is available to support the project. In order to coordinate and execute the project smoothly, a project steering committee will be created as early as possible to coordinate all stakeholders and take into account the needs of all groups Also, green champions will be established within each industrial zone
Lack of access to finance - high interest rates of local banks or rejected financing due to low credit worthiness of companies.	Medium	Measures to reduce this risk would include the early integration and information of KCB as lending partner (and other significant finance partners) during feasibility studies of investments projects as well as extensive checking of financial robustness of pilot companies
Industrial processes of qualified pilot industries are not sufficiently compatible to create IS.	Low	Feasibility studies will be undertaken to determine fully-compatible with Industrial Symbiosis.

G. Multi-Stakeholder Engagement

Please specify the plan for multi-stakeholder engagement, and what has been done so far in this regard.

The project has ensured a very strong sense of national ownership and is fully aligned with Kenya's national development objects. Two multi-stakeholder workshops to promote the greening of Kenya's industrial sector have already taken place. Kenya, in partnership with the Accredited Entity (UN Environment), held its first stakeholder consultation workshop on how to green its industrial zones on September 15, 2016 in Nairobi, Kenya. During the workshop, participants were sensitized on the importance of abandoning the country's wasteful linear economic development model and instead embrace the resource efficient circular economic development models. As a result of the stakeholder consultation workshop 12 companies agreed to participate fully in the greening of its operations. The Kenya Association of Manufacturers (KAM) has expressed willingness to promote waste and by-product exchange through industrial symbiosis (IS) among its members and champion IS country-wide. KAM states that Industrial Symbiosis is an idea whose time has come as it will help reduce pressure on use of finite virgin resources and help divert wastes from the landfill. They emphasized the need for the development of an enabling IS policy, institutional and regulatory framework. They observed that there are so many players in the green growth space that need to be coordinated towards a shared vision of the entire country. The KAM Centre for Energy Efficiency and Conservation provides subsidized energy audits and energy efficiency training. KAM works with Cooperative and Stanbic Banks to provide loans for companies to invest in recommended renewable energy and energy efficiency.

The second stakeholder consultative workshop took place on 30 June 2017 in Nairobi Kenya to establish a network of key organizations and institutions that will be key players in the sharing of green growth knowledge and experiences as well as the identification of common challenges and opportunities in the promotion of the industrial zones as important tools of the country's sustainable industrial development process. The purpose was further to i) ensure an inclusive, stakeholder engagement for a country driven project proposal; ii) gather valuable feedback to help strengthen the concept note and proposal; ii) discuss how co-financing can be adequately realized; and iv) create opportunity for further dialogue and networking. All key stakeholder groups where present and able to express their views and needs and the NDA publicly endorsed and expressed full support to the project. Some of the needs expressed by businesses, government instructions, academia, investment promoters and CSOs, include the following:

The proposed green growth concept will have to overcome challenges such as limited awareness, poor communication amongst industries, trust, and ability to co-finance for the proposed GCF grant among others

- The proposed project should be seen as part of easing the art of doing business in Kenya
- There is need to incorporate media as a key stakeholder in simplifying and disseminating the green message
- There is need for the creation of an inter-ministerial project steering committee (PSC) comprising of key climate relevant ministries and regulatory agencies to ensure that the evidence gathered from project implementation is used to trigger policy review for improved sustainability (potential PSC members include Ministry of Industry, Trade and Cooperatives; Ministry of Environment; Ministry of Transport and Infrastructure; Ministry of Energy; Ministry of Water, etc.); (The cross-cutting nature of climate change is forcing Government Ministries that never used to work together to do so with the broader benefit of helping to overcome the silo approach);
- Private sector business associations in form of Kenya Private Sector Association (KEPSA and KAM should be part of the key project implementation stakeholders and have expressed willingness and motivation to do so
- The country's investment policy should prioritize green growth and circular economic development models that are low-carbon, resource efficient and socially inclusive;
- Relevant County Governments should be incorporated in the proposed project through the involvement of the Council of Governors (CoG) office

- The good agricultural practices (GAP) promoted by KFC among the ranks of its members in terms of energy efficiency; water use efficiency; waste minimization and management as well as the adoption of renewable energy solutions should provide a good comparative benchmark
- Attention should be put on the climate proofing of the infrastructure to be set up in the Industrial Zones

Bilateral consultations with KCB have been undertaken during the concept note development stage and will continue during the full project proposal development.
The roadmap described in component 1, based on multi-stakeholder consultations, will formulate the zone's vision for the future and set the governance structure for implementation and monitoring the roadmap. Stakeholders' commitment and national ownership is being secured for this transformative process by involving them from the onset. A detailed stakeholder mapping, consultations and engagements will continue throughout the full project proposal development phase.

H. Status of Project/Programme

1) A pre-feasibility study is expected to be completed at this stage.
Please provide the report in section J Yes ☒ No ☐

2) Please indicate whether a feasibility study and/or environmental and social impact assessment has been conducted for the proposed project/programme: Yes ☐ No ☒
(*If 'Yes', please provide them in section J.*)

3) Will the proposed project/programme be developed as an extension of a previous project (e.g. subsequent phase), or based on a previous project/programme (e.g. scale up or replication)? Yes ☐ No ☒
(*If yes, please provide an evaluation report of the previous project in section J, if available.*)

I. Remarks

The preliminary technical feasibility to inform this concept note was completed in May 2017 with a focus on waste, RECP, 3Rs/ IS, and EST for advancing a circular economy. Following broader national stakeholder support for the project, particularly from industry (e.g. Rubicom) and government, the scope of the project has since been broadened to maximise the climate impact potential and paradigm shift potential away from linear industrialisation models. A full feasibility study and environmental, social and climate impact assessment studies will be undertaken as part of the full project development. The Non objection letter is attached to this concept note and it has been received from the Nationally Designated Authority (National Treasury) on 3 May 2016. The NDA has been involved throughout the development of the concept note and engaged in the stakeholder consultations where the content of the concept note has been presented and shaped.

J. Supporting Documents for Concept Note

☒ Map indicating the location of the project/programme (attached separately in Annex A)
☐ Financial Model
☒ Pre-feasibility Study (attached separately in Annex B)
☐ Feasibility Study (if applicable)
☐ Environmental and Social Impact Assessment (if applicable)
☐ Evaluation Report (if applicable)
☒ Non objection Letter (attached separately in Annex C)
☒ UN Environment Environmental, Social and Economic Review Note (attached separately in Annex D)
☒ Stakeholder's consultation Reports (Inception workshop - attached separately in Annex E; Concept validation workshop - attached separately in Annex F)