

MEETING REPORT

KENYA

CLEAN CAPTIVE INSTALLATIONS FOR INDUSTRIAL CLIENTS IN SUB- SAHARA AFRICA

Official Project Launch and First Stakeholders Consultative Meeting
16 September 2019 - Nairobi, Kenya



Frankfurt School
FS-UNEP Collaborating Centre
for Climate & Sustainable Energy Finance



“CLEAN CAPTIVE INSTALLATIONS FOR INDUSTRIAL CLIENTS IN SUB-SAHARA AFRICA”

OFFICIAL PROJECT LAUNCH

AND

FIRST STAKEHOLDERS CONSULTATIVE MEETING IN KENYA

Date and time: Monday 16th September 2019 from 9.30 a.m. to 1.00 p.m.

Venue: United Nations Complex, United Nations Avenue, Gigiri, Nairobi

OFFICIAL LAUNCH AND FIRST STAKEHOLDERS' CONSULTATIVE MEETING IN KENYA

The United Nations Environment Programme in Kenya and the Frankfurt School of Finance and Management together organised the launch of the project "Clean Captive Installations for Industrial Clients in sub-Saharan Africa" and conducted the first stakeholder consultative meeting for Kenya. This meeting took place at the UN Environment Programme Headquarters, Gigiri Complex in Nairobi on Monday, 16th September 2019 from 9.30 a.m. to 1.00 p.m.

The UN Environment Programme is initiating this project in partnership with its collaborating centre at Frankfurt School of Finance and Management who are the implementing partners of the project. The project's four target countries are namely: Ghana, Nigeria, Kenya and South Africa. The project is funded by the German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU) through the International Climate Initiative (IKI).

One of the main catalytic sectors of the economy in sub-Saharan Africa are the commercial and industrial (C&I) sector. However, the expansion and growth of the national C&I sector is being hindered by (i) shortage of reliable power and (ii) high alternative-energy costs. As a result, diesel-powered generators are widely used to back-up the grid or mitigate its fluctuations or as substitutes where there is no grid access. This in turn increases the total cost spent on electricity, thereby reducing profit margins, and generates GHG Emissions that accelerate climate change and causes pollution and health problems.

Therefore, the project's main objective is to demonstrate the economic and financial viability of clean captive energy installations for industries in the identified countries, thereby helping the C&I sector to reduce their over-dependence on the national grid and limit their usage of diesel generators. The project will focus on second generation of renewable energy business models, which do not rely on national governments' financial incentives (Feed-in-Tariffs or other scarce public money) to enhance the deployment of clean energy technologies.

Currently, a series of scoping missions in the four target countries are being conducted to collect relevant data and information that would be the basis to develop appropriate tools and guidelines to develop various business and financial models. The first scoping mission of the project started in Kenya on 16 September 2019 when the project was launched, and the first stakeholder meeting took place at the same time.

The stakeholder consultative meeting in Kenya was held with the objective of creating country's ownership and buy-in for effective and efficient implementation of the project in Kenya. In this meeting, various national public authorities and private sector actors were engaged, with a focus on discussing key barriers that hinder the greening of private clean energy generation installations including factors that limit economic activity and country development.

1. HIGHLIGHTS OF THE MEETING

1.1 Opening Session

The inaugural stakeholder consultative meeting hosted around 20 participants. These participants included representatives from the Ministry of Energy (MoE), Kenya Power and Lighting Company (KPLC), Kenya Electricity Transmission Company Limited (KETRACO), Energy and Petroleum Regulatory Authority (EPRA), Rural Electrification Authority (REA), Kenya Nuclear Electricity Board (KNEB), private sector actors such as Kenya Association of Manufacturers (KAM) and Kenya Renewable Energy Association (KERE) and energy service users/customers.

The UN Environment Programme and Frankfurt School used this platform to introduce the project objectives, activities and expected outcomes to the stakeholders and received feedback from these stakeholders to optimise implementation of the project. The information received added much value to the scoping missions that were held immediately after this meeting from 17-20 September 2019.

The opening remarks were from the representatives of the UN Environment Programme, the Ministry of Energy, and Frankfurt School. In his opening remarks, Mr. Nzioka representing the Ministry of Energy reiterated that energy lies at the heart of both the 2030 Agenda for the Sustainable Development Goals, the AU Agenda 2063 as well as the Paris Agreement on climate change. He added that ensuring access to affordable, reliable, sustainable and modern energy for all by 2030 will open a new world of opportunities for millions of people through new jobs, better empowered women and youth, better healthcare and education and more equitable and inclusive communities.

“Under the Vision 2030, the Government of Kenya identified provision of reliable and adequate energy as a key enabler for development. This is critical in our goal to transform Kenya into an industrialised middle-income country providing a high quality of life to its citizenry”, said Mr. Stephen Nzioka.

In this regard, Mr. Nzioka echoed that the Ministry of Energy appreciates initiatives that are geared towards use of clean energy, as it will help reduce Green House Gases in the atmosphere. He also added that clean captive power will be economically and financially beneficial since there will be no need for transmission lines which will in turn reduce inefficiencies associated with such transmissions lines.

Subsequent to this session, the project team delivered two presentations that focused on the project highlights and preliminary results of the desk studies on the Kenyan Energy market

1.2 Project Highlights

Ms. Meseret Zemedkun representing the UN Environment Programme presented the highlights of the project including the rationale, objectives, activities and expected output of the project.

She stated that one of the main catalytic sectors of the economy in sub-Saharan Africa is the C&I sector, and that the expansion and growth of national industrial sector is being hindered by (i) shortage of power due to inefficient transmission and distribution infrastructure (amongst others) and (ii) high-energy costs.

She added that industrial clients predominantly use diesel-powered generators to back-up the grid, mitigate its fluctuations, or use it as substitutes where there is no grid access. This in turn has a two-fold effect: (i) it increases the total cost spent on electricity thereby reducing profit margins and (ii) it generates GHG emissions that accelerate climate change

and cause pollution and health problems.

She indicated that the project's main objective is to demonstrate the economic and financial viability of captive clean energy installations for industries in the target countries, thereby helping the C&I sector to reduce their over-dependence on the national grid and limit their usage of diesel generators. The project will focus on second generation of renewable energy business models, which do not rely on national governments' financial incentives (Feed-in-Tariffs or other scarce public money) to enhance the deployment of clean energy technologies.

The overall expected outcome is a sustainable business model which creates value for the user and reduces the burden on the grid operator and this will be proven through economic and financial analysis and the establishment of a track record for captive RE industrial installations.

1.3 Preliminary results of desk review

Ms. Madhumitha Madhavan, the project manager from Frankfurt School, gave a brief presentation that covered the tasks undertaken so far. This included details on project initiation through desk-studies and stakeholder consultations, the Frankfurt School-UNEP technical assistance and final the expected outcome.

The key preliminary findings from the desk-study report were:

- Kenya might have an over-supply of electricity although grid connected electricity is not very reliable due to frequent outages caused by inefficient transmission and distribution channels
- Time-of-Use tariff may or may not affect demand for captive power
- Simplified regulatory environment for self-consumption plants below 1MW
- Clean captive power uptake in Kenya is strong and growing; good potential market in manufacturing industry
- Some bank financing is available largely due to donor support
- Active ecosystem of captive power players including private financiers and ESCOs

"However, given this over-supply of electricity, we understand that a lot of the Kenyan industrial sector face frequent power outages, (either due to weather conditions, equipment failure, planned interruption, etc.) and from the statistics these outages could last for an average of 6 hours each time", she mentioned. Ms. Madhavan then added that a majority of industries in Kenya tend to use diesel-powered back-up generators, which are not only expensive with fluctuating price for diesel but are also not environmentally sustainable solutions. She then suggested a two-fold solution: (i) Replace existing diesel gen-sets (to the best extent possible) with captive solar PV for backing-up the grid; (ii) increase the share of PV electricity usage to reduce over-dependency on grid supplied electricity.

In regards to the growth of clean captive power uptake in Kenya, she highlighted that there are at least 100 captive solar PV systems between 10-15 kWp that are already constructed or under construction. However, there is still a huge potential market for captive PV installations in the manufacturing industry. "We estimate that there are at least 800 potential manufacturing firms in theory, that have over 1m USD/year in turnover and could become a clean captive power user", she concluded.

In the next phase following stakeholder consultations, Frankfurt School – UNEP Collaborating Centre plans to start streamlining the process through development of necessary tools, such as the right business model and financing mechanism. They will also identify and screen for relevant and key partners to work with to implement the show case project in each country.

Finally, Frankfurt School and the UN Environment Programme intend to design the criteria for the right model. Currently, there is a lack of monitoring and verification of installed captive PV projects and there is not enough publicly available information on advantages vs. risks of such installations. Frankfurt School would therefore like to implement one showcase project and monitor its performance to improve transparency of such implementations and simultaneously to prove it for use as a viable design for other industrial users.

2. DISCUSSION

The interactions among various stakeholders and their comments and input on the project to optimise its implementation and achieving its objective was remarkable.

The areas of discussions were mostly focused on: (i) demand and supply of power for both C&I and household uses; (ii) type of technology to be used as a prime solution; (iii) policy and regulations that allow for a conducive environment for C&I users and private sectors to generate power greater than or equal to 1 MW; (iv) means of implementation of national policies at county levels.

Various stakeholders agreed that policy and regulations are very crucial not only in terms of their development but also in their implementation and utilisation.

EPRA indicated having simplified regulatory environment for self-consumption RE captive power plants below 1MW and that these plants do not require any electricity licensing or energy regulatory approval. However, Frankfurt School would like to understand rules around projects that have >1MW capacity that supply captive electricity to third parties using a PPA.

The stakeholders were keen to learn more about the process and criteria for selecting showcase projects. Some of the stakeholders also showed interest to take part in the implementation of these showcase projects. They gave suggestions to contact various institutions and agencies during the four days of scoping missions to collect relevant data and information suitable for developing appropriate models. The stakeholders also appreciated the participation of Ministry of Energy as a member of the project's steering committee representing the Government of Kenya

3. SUMMARY AND RECOMMENDATIONS

In general, the meeting met its objectives by creating project ownership of all relevant stakeholders that included the Ministry of Energy (MoE), Kenya Power and Lighting Company (KPLC), Kenya Electricity Transmission Company Limited (KETRACO), Energy and Petroleum Regulatory Authority (EPRA), Rural Electrification Authority (REA), Kenya Nuclear Electricity Board (KNEB), private sector actors such as Kenya Association of Manufacturers (KAM) and Kenya Renewable Energy Association (KERE) and energy service users/customers

The Ministry of Energy appreciates the direction that the UN Environment Programme and Frankfurt School have taken towards supporting the clean captive installations for industrial clients in sub-Saharan Africa and in particular for selecting Kenya as one of the beneficiaries.

The Ministry of Energy assigned Mr. Stephen Nzioka, Deputy Director of Renewable Energy Directorate to be a member of the project steering committee representing the government of Kenya.

The Ministry of Energy appreciates initiatives that are geared towards use of clean energy, as it will help reduce Green House Gases in the atmosphere. Clean captive power will be economically and financially beneficial since there will be no need for transmission lines, which will in turn reduce inefficiencies, associated with such transmissions lines. Captive RE installations will also be able to provide reliable electricity supply, energy cost savings and reduce over-dependence on the grid.

All stakeholders expressed their willingness and commitment to work closely with the UN Environment Programme and Frankfurt School to make this project a success in Kenya.

4. NEXT STEPS

All the stakeholders agreed that a coordinated, integrated and harmonised approach of the various institutions is crucial and well encouraged.

The project is expected to run from 2019 until 2023 and the below phases outlined will help bring the project to its completion:

- Baseline studies and awareness raising are to be conducted through country desk studies and scoping missions and data validation
- In the next phase following stakeholder consultations, streamlining the process will commence through development of necessary tools, identifying relevant & key partners, selection of replicable designs (best model); designing selection criteria for national showcase project
- Tools for assessment of financial and economic viability and definition of suitable financing structures of clean captive installations will be elaborated and disseminated with industrial and commercial actors; national and international financiers, and national public institutions
- Four viable and replicable pilot projects with industries, one in each participating country, will be selected, developed, structured, realized and monitored
- Through a knowledge management strategy to be designed jointly with stakeholders, case studies on supported projects will be prepared and published, project results and knowledge disseminated through national and regional and other events and other relevant means to allow replication at both national and regional levels



Visit the project website

www.captiverenewables-africa.org

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