National Council for Nomadic Education in Kenya

NON–TECHNICAL SUMMARY

INSTITUTIONAL CLEAN COOKING FOR INNOVATIVE AND SUSTAINABLE FINANCING OF UNIVERSAL CLIMATE SMART SCHOOL MEALS PROGRAMME IN KENYA

Introduction

School feeding in Kenya was initiated in 1980 in response to a severe drought that led to significant school dropouts. The programme started with 240,000 children, with the support of the UN — World Food Programme. The Government fully took over the school feeding programme from the UN —World Food Programme in 2018. As of 2024, the programme covered 2.6 million learners in 8,185 schools, including special needs and refugee schools. School feeding is now a critical lifeline for over 2.5 million children supported by the Government of Kenya's School Meals Programme, particularly those in Arid and Semi-Arid Lands (ASALs), informal settlements, and underserved regions. The Government of Kenya, through the Ministry of Education and its implementing arm, the National Council for Nomadic Education in Kenya (NACONEK), has pledged to scale this number to 10 million learners by 2030 under the universal school meals programme.

However, over 90% of schools still rely on traditional biomass fuels like firewood and charcoal for cooking school meals.[1] This has severe implications: extensive deforestation, increasing greenhouse gas (GHG) emissions, indoor air pollution, high fuel costs, and compromised health and learning environments. This project responds to that challenge as it seeks to improve and dignify the learning environment for Kenyan learners.

In particular, project will have the following objective:

1. Introduce steam cooking technology in learning institutions to support the transition from biomass to LPG, guided by the National Energy Policy and LPG Growth Strategy.
2. Promote the use of alternative, sustainable energy sources such as electricity, bioethanol, biogas, briquettes, and solar photovoltaic to generate steam for cooking.

[1] SNV & CCAK (2018). Study on the use of biomass cookstoves and fuels in institutions in Kenya. Biomass in Institutions Study 2018 | PDF

3. Leverage on carbon financing from emissions reduction to support the sustainability of the School Meals Programme while contributing to Kenya's Nationally Determined Contributions.

Purpose and Technology of the Voluntary Project Activity (VPA)

The VPA titled *"Institutional Clean Cooking for Innovative and Sustainable Financing of Universal Climate Smart School Meals Programme in Kenya"* under the Gold Standard Programme of Activities (PoA), *"Multi-Country Institutional Clean Cooking Programme"* aims to transition public schools from biomass cooking to clean energy technologies, while establishing a scalable carbon finance mechanism to sustain operations over the long term.

Under traditional cooking practices, significant greenhouse gas (GHG) emissions—primarily carbon dioxide—are released due to the incomplete combustion of non-renewable biomass. Steam cooking technologies utilizing low-carbon fuels offer a substantial improvement in thermal efficiency relative to the baseline scenario involving traditional cookstoves. In accordance with Gold Standard principles, the adoption of such technologies contributes to emission reductions by lowering the demand for non-renewable biomass and improving combustion efficiency, thereby reducing the net GHG emissions per meal prepared. These systems include energy-efficient cookers configured for high-volume, batch-based cooking, making them well-suited for institutional settings such as schools.

Moreover, Digital Monitoring, Reporting and Verification (dMRV) systems are integrated into all steam cooking technology installations to facilitate continuous, real-time tracking of key performance metrics. These systems monitor parameters such as fuel consumption, device usage duration, and operational status, which are critical for calculating emission reductions with a high degree of accuracy and transparency.

The project will be developed under an internationally recognized standard, the Gold Standard for Global Goals, and aligned with Article 6.2 of the Paris Agreement to generate Internationally Transferred Mitigation Outcomes (ITMOs).

The participating institutions will engage in key project activities, including participation in random sampling surveys, kitchen performance tests, controlled cooking tests (where applicable), and ongoing monitoring surveys throughout the implementation phase. Moreover, such participating institutions agree to transfer all rights on the carbon credits to NACONEK for support in transitioning the respective schools towards clean cooking.

As publicly owned schools, the institutions involved in this VPA are expected to cooperate fully, and no significant challenges are anticipated in obtaining consent for these monitoring procedures over the course of the program.

Target Group and Location

The primary target groups include:

1. Public primary and secondary schools, especially in ASALs and low-cost boarding institutions who rely on traditional, inefficient and polluting cooking practices and technologies such as open-fire, three-stones cookstoves.
2. Over 10 million learners, cooks, and school staff will benefit from clean cooking environments.
3. Local service providers, technicians, and energy sector actors involved in installation, maintenance, and fuel distribution.

Figure 1: An example of a Steam-Based Clean Cooking System in one of the Public Secondary Schools in Nairobi County

The geographical scope of the project covers all 47 counties of Kenya, with special emphasis on marginalized and high-need regions identified in Kenya's National School Meals Strategy.

Implementation Plan

NACONEK has already made steps with the programme by implementing pilot projects in 6 schools across the country. The programme is structured as a phased national rollout over three (3) years covering 471 public schools in the following framework:

1. **4 centralized kitchens** (serving urban clusters of Public Primary and Junior schools, 30,000 learners per kitchen)
2. **447 decentralized kitchens** for Public Secondary schools (500 capacity)

3. **20 decentralized kitchens** for Low-Cost Boarding Primary Schools (500–1,000 capacity)

The total learners who will benefit from this Programme is expected to average 768,000 learners annually in schools across the country.

Carbon Credits and Financing

Greenhouse gas (GHG) emission reductions achieved through the displacement of non-renewable biomass, as quantified under the applicable Gold Standard methodology, will generate certified carbon credits. The project will apply the **Gold Standard Methodology for Metered & Measured Energy Cooking Devices v1.2**, which allows for **high-integrity GHG accounting using direct energy metering data**. This ensures that emission reductions are calculated based on actual, verifiable energy use, enhancing transparency and environmental credibility.

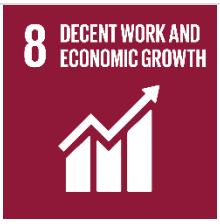
The revenues from the sale of these credits will be strategically reinvested to:

1. **Enable affordable access** to energy-efficient steam cooking technologies by offering them at subsidized prices suitable for institutional and community users;
2. **Scale and expand the Programme** to reach a broader base of beneficiaries, creating local employment opportunities across manufacturing, distribution, and maintenance;
3. **Support continuous research and development (R&D)** efforts to enhance the performance and cost-efficiency of the cooking systems, ensuring quality and durability;
4. **Strengthen user engagement and capacity-building** through awareness campaigns and training on the health, environmental, and economic benefits of transitioning to clean cooking technologies.

Contribution to Sustainable Development

In addition to delivering measurable greenhouse gas (GHG) emission reductions in line with ***SDG 13 - Climate Action***, the project is designed to generate a wide range of long-term sustainability co-benefits for Kenyan learners, their communities, and the surrounding environment. In particular, the project will directly contribute to multiple Sustainable Development Goals (SDGs), in line with the Gold Standard for Global Goals framework.

This project delivers extensive co-benefits aligned with the Sustainable Development Goals (SDGs):

SDG	Contribution
	The project eliminates exposure to harmful smoke and fine particulate matter (PM2.5) among school cooks and learners by replacing traditional biomass cooking with clean steam-based technologies. This significantly reduces the risk of respiratory illnesses and improves overall health outcomes within school environments.
	By introducing reliable, energy-efficient steam cooking systems powered by low-carbon fuels, the project expands access to clean cooking energy in public institutions across Kenya. This supports the national energy transition agenda while improving the reliability and sustainability of energy use in schools.
	The project creates direct and indirect green jobs across Kenya in areas such as technology manufacturing, installation, fuel supply, maintenance, and monitoring services. It stimulates local value chains, supports inclusive economic development, and builds technical capacity in the clean energy sector.
	Through the displacement of non-renewable biomass and the deployment of high-efficiency steam cooking technologies, the project is expected to reduce over 2 million tonnes of CO_2 equivalent (tCO_2e) annually. These emission reductions contribute directly to Kenya's Nationally Determined Contributions and global climate goals under the Paris Agreement.
	By reducing dependence on non-renewable biomass for cooking in public institutions, the project contributes to the reduction of deforestation and forest degradation in affected regions. This supports the long-term stability of forest ecosystems that are critical for maintaining biodiversity, protecting watersheds, and preserving soil integrity. In doing so, the project enhances ecological resilience and aligns with national and global efforts to safeguard terrestrial ecosystems.

Environmental and Social Safeguards

The project is committed to **Gold Standard Safeguarding Principles**. The following safeguards will be implemented:

Safeguarding Principle	Assessment
Human Rights	The project fully respects internationally proclaimed human rights as outlined in the Universal Declaration of Human Rights and ensures that no activity, directly or indirectly, contributes to human rights violations. It upholds the dignity, safety, and inclusion of all individuals, with no discrimination based on gender, ethnicity, disability, age, religion, or geographical location. Participation in the project—whether as a beneficiary, worker, or community stakeholder—is voluntary, informed, and inclusive. No form of coercion, violence, or exploitation is tolerated, and grievance redress mechanisms are available to all stakeholders.
Gender Equality and Women's Rights	The project does not tolerate gender-based discrimination at any stage of its implementation. Recognizing the vital role women play in household energy use and school kitchen operations, the project ensures that both women and men are equitably involved in design, decision-making, implementation, and monitoring processes.
Community Health, Safety and Working Conditions	The project introduces steam cooking technologies that eliminate indoor air pollution from biomass combustion, significantly improving air quality and reducing respiratory illnesses among cooks, learners, and staff. The technology is installed and maintained in accordance with national occupational health and safety standards. Workers involved in installation and operations are trained in safe equipment handling and maintenance. The project poses no new risks to community safety and instead enhances the overall health and hygiene of school environments.
Cultural Heritage, Indigenous Peoples, Displacement and Resettlement	All project installations will occur within existing school compounds and will not involve acquisition of new land or relocation of any people. No indigenous communities will be adversely affected by the project. The project respects and preserves cultural heritage by avoiding any interference with culturally significant sites or practices. Stakeholder

	engagement processes are sensitive to the presence of indigenous or minority groups and ensure their full, prior, and informed consent (FPIC) where applicable.
Corruption	The project maintains strict transparency in procurement, contracting, credit issuance, and reporting. All financial flows, including carbon revenue disbursement, follow documented and auditable procedures. The project entities, including implementing partners and subcontractors, are screened for conflict of interest and integrity. Anti-corruption clauses are embedded in all contractual agreements, and any suspicion of unethical practices can be reported through confidential channels.
Economic Impacts	The project respects both international and national labor laws, including standards on minimum wage, fair working hours, and safe working conditions. It generates positive economic impacts by creating jobs for technicians, service providers, cooks, transporters, and monitoring personnel across Kenya. These employment opportunities are dignified, skill-enhancing, and often located in underserved areas, contributing to local economic development and poverty alleviation.
Climate and Energy	The project replaces biomass-based cooking systems with high-efficiency steam technologies powered by low-carbon fuels (LPG, electricity, briquettes, biogas, solar). This shift leads to a significant reduction in GHG emissions. Emission reductions will be quantified using the Gold Standard Methodology for Metered & Measured Energy Cooking Devices (MECD) v1.2, leveraging digital MRV systems for high-integrity, real-time energy use tracking and verifiable GHG accounting.
Water	The project does not extract or divert water sources and does not alter natural hydrological patterns. Unlike traditional cookstoves that often require significant water for cleaning and quenching, steam-based technologies are water-efficient and closed-loop in design. The project will not lead to erosion, sedimentation, or pollution of nearby water bodies and is fully aligned with national environmental regulations on water use and conservation.

Environment, Ecology and Land Use	By reducing reliance on firewood and charcoal, the project directly mitigates deforestation and degradation in biomass source areas, which in turn supports biodiversity, improves watershed protection, and maintains soil fertility. No project activity involves the use of land for crop production or other land-intensive purposes. Emissions of harmful pollutants such as particulate matter and carbon monoxide are substantially reduced. The project thereby supports ecological stability and land-use sustainability.

Contact details to get further technical details and project information

For more details, feedback, inquiries about the project, kindly email the project team through info@naconek.go.ke or projects@verst.earth.