POLICY BRIEF
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AN ELECTRIC PRESSURE COOKER FOR EVERY HOUSEHOLD IN UGANDA BY 2030

Dr. Nicholas Mukisa, Deputy National Coordinator, National Renewable Energy Platform

INTRODUCTION

The Government of Uganda has demonstrated its commitment to promote clean cooking through various policy and regulatory measures. Key policies and regulatory measures promoting clean cooking adopted by Uganda such as the 4th National Development Plan (2026-2030), National Integrated Clean Cooking Strategy (2025), Energy Policy (2023) and Energy Transition Plan (2023) have set a target to reduce the consumption of biomass for cooking and also increase the percentage of population using clean cooking to 50% by 2030 and universal access by 2040.

Energy Transition Plan (2023) notes that 10% of the population lacking access to clean cooking can afford to cook with an electric resistance hotplate, while approximately 30% could afford cooking with electricity if a more efficient induction stove is used [1]. The National Electrification Strategy (NES) estimated that 10.4 million household connections would have been made by 2030 through extensive on-grid and off-grid investment [2].

In 2021, the Government launched the electricity cooking tariff of UGX. 412 per kWh for units between 81 and 150 kWh to encourage households to use electricity to cook [3]. Likewise, other interventions such as the Result-based Financing (RBF) mechanism under the Electricity Access Scale-up Programme (EASP), GIZ/EnDev, Beyond the Grid Fund for Africa (BGFA), SNV, among others have been implemented to catalyze the uptake of clean cooking, particularly the use of electric pressure cookers.

The Clean Cooking Scale up and Demonstrator Programme by Ministry of Energy and Mineral Development (MEMD), supported by UK Government and MECS reported about 70,000 EPCs sold to households in 2025.

These interventions by the government and its partners have registered significant milestones, however, the country still remains far from the desired universal access to clean cooking. By 2025, about 93% of Ugandans were still using traditional biomass (firewood 71.9% and charcoal 21.1%), either as the primary or secondary cooking fuel [4]. Notably, about 8.2% of infant deaths are attributed to health complications associated household air pollution from use of inefficient cooking devices and unsuitable cooking spaces [5]. Inhaling of indoor air pollution from use of traditional biomass significantly increases the risk of pulmonary diseases including chronic obstructive pulmonary disease (COPD), pneumonia, and tuberculosis (TB) [6].

Uganda registers about 96,000 new TB cases annually, and government spends on average US$396 on tuberculosis-related care (drug sensitive TB) per episode and US$3,722 for a Multi drug resistant tuberculosis (MDR TB) episode [7, 8, 9], factoring in comprehensive care, diagnostics, and clinical management. Literature from elsewhere reveals that 51% of TB cases in India for example were attributed to using traditional biomass to cook [10]. The estimate for TB cases attributed to biomass use in Uganda is undocumented.

Averagely, a household consumes 6.5 to 8.5 kg of firewood and charcoal, respectively, daily [11]. Amounting to a total household demand of roughly 40 million tons of firewood and one million tons of charcoal (approximately 10 million tons of raw wood) per year [12]. An estimated 1.6 tons of CO2e is emitted per one ton of firewood burnt. Uganda loses an average of 122,000 hectares of forest annually, where 60% of the harvesting is for firewood or charcoal production [13]. Uganda recorded its forest cover decline from 4.55 million hectares in 1990 to 2.37 million hectares in 2025 [14].

Forest degradation and eventual deforestation costs the economy billions annually. For instance, at macro-economic level, it costs to the country annually an additional US$21.8 million to clean water bodies due to lost watersheds and about US$129.3 million in crop production reduction due to soil erosion [15]. Uganda losses US$20,000 per hectare of forest cover cleared annually [16], with a hectare producing about 150 to 180 tons of biomass per hectare [17].

Considering an EPC to last an average of five years, with wearable parts like rubber sealing rings usually needing replacing every 1 to 2 years [18], substantive benefits would be recorded by government by nationwide embracement of EPCs. Uganda had an estimated number of households of 10,698,913 in 2024, with an annual growth rate of 2.9% [19]. Averagely, each EPC generates about 2 to 3 tons of CO2e annually and trading between US$15 and US$35 per ton of CO2e avoided [20]. A household using an EPC to cook all its meals uses about 2 kWh daily, assuming an average electricity tariff of UGX. 1,000 per kWh (VAT and Service fee inclusive).

ANALYSIS

The analysis presented focusses on the trajectory of the number of households over five (5) years, required number of EPCs to be distributed to achieve universal clean cooking by 2030, Cost of purchasing EPCs incurred, carbon credits generated and their revenue, forest cover loss avoided and its monetary value, TB treatment costs avoided, electricity demand stimulated and its revenue, across four (4) scenarios: 100% distribution, 75% distribution, 50% distribution and 25% distribution of EPCs against the number of households over 5 years. The analysis considered provision of UGX. 300,000 worthy EPC to each household free of charge in a drive to achieve universal access to clean cooking by 2030. The assumption taken is that every household would have access to electricity by 2030, either through grid or off-grid systems.

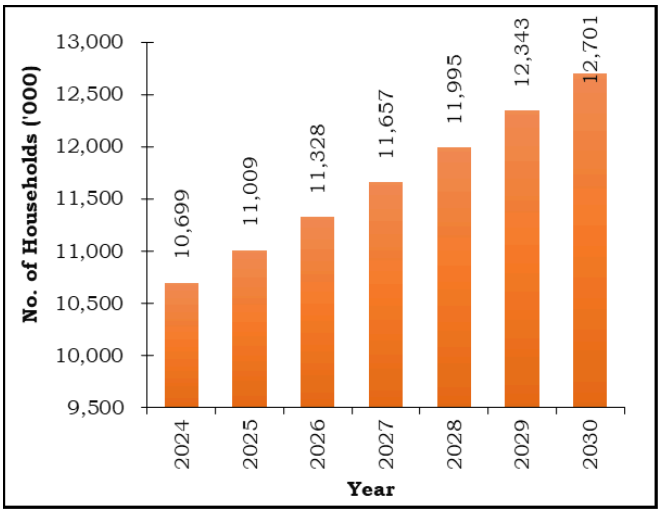

Fig. 1: Trajectory of Uganda's Number of Households

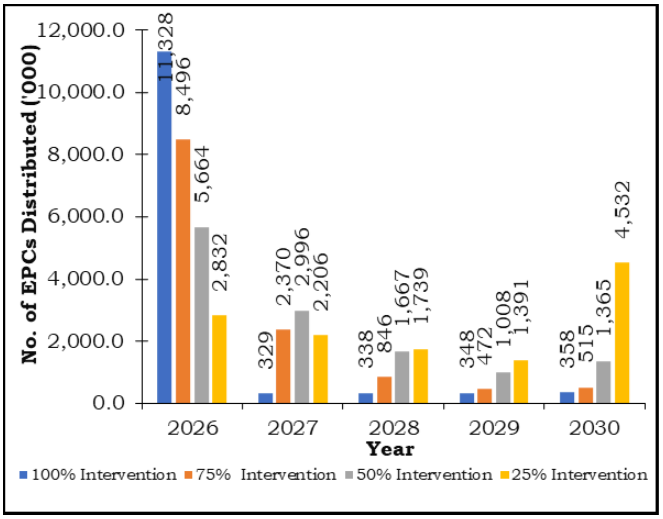

Fig. 2: EPCs Distribution per Scenario over the years

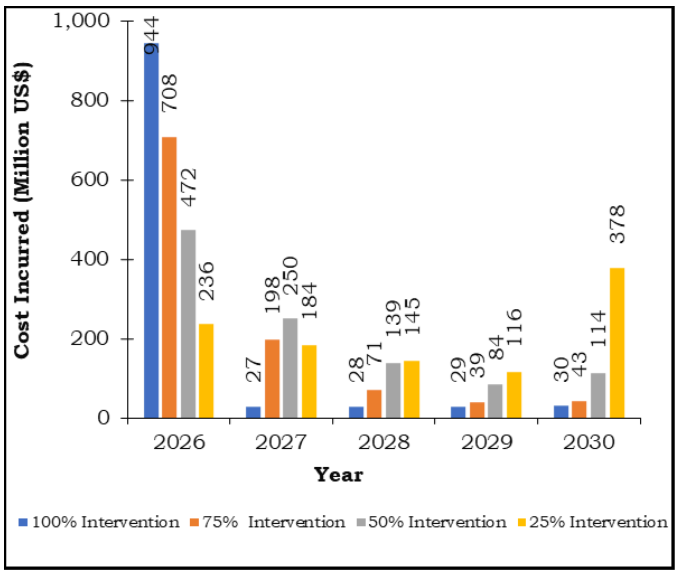

Fig. 3: Cost Incurred to Procure EPCs

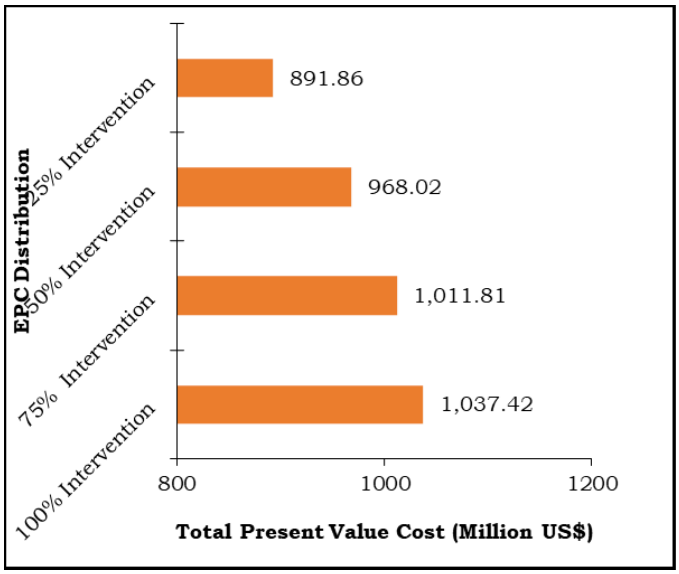

Fig. 4: Present Value Cost Incurred per Scenario

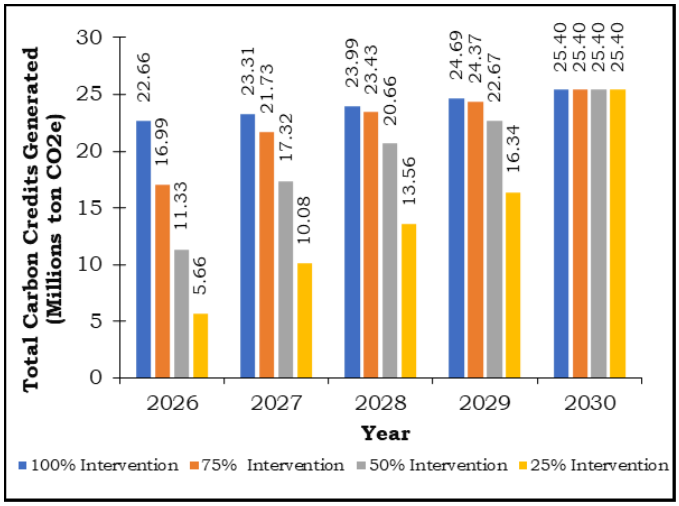

Fig. 5: Carbon Credits Generated by Using EPCs

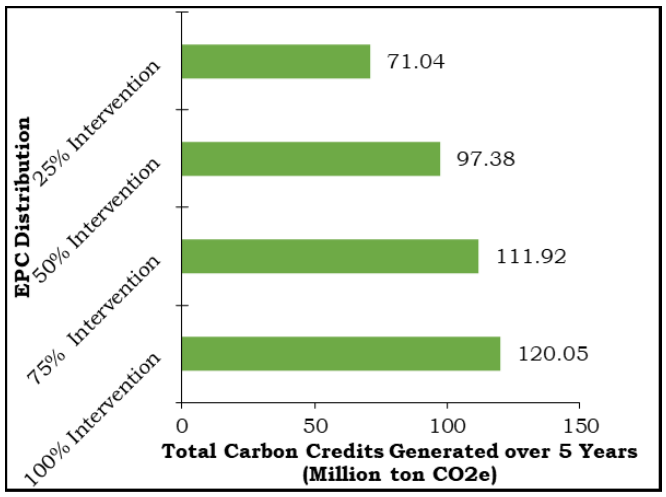

Fig. 6: Total Carbon Credits Generated from EPCs

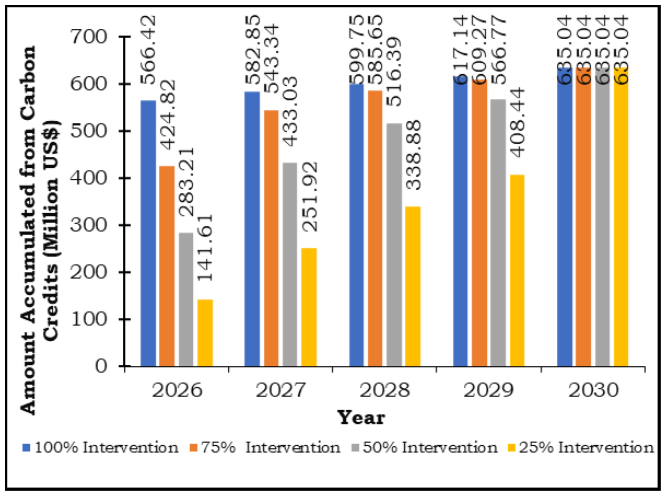

Fig. 7: Revenue Generated from Carbon Credits

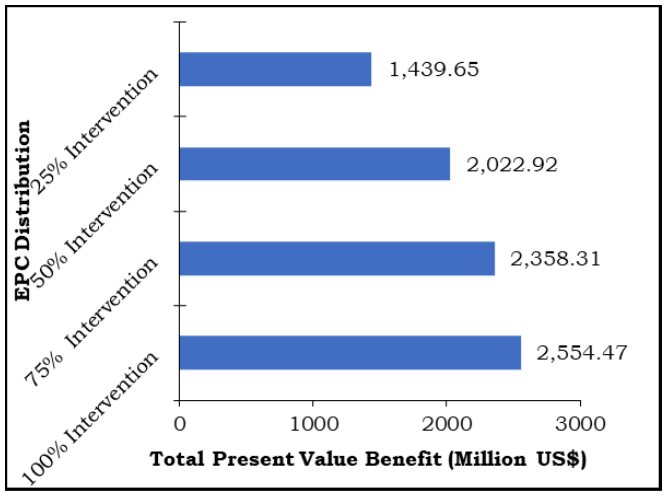

Fig. 8: Present Value Revenue from Carbon Credits

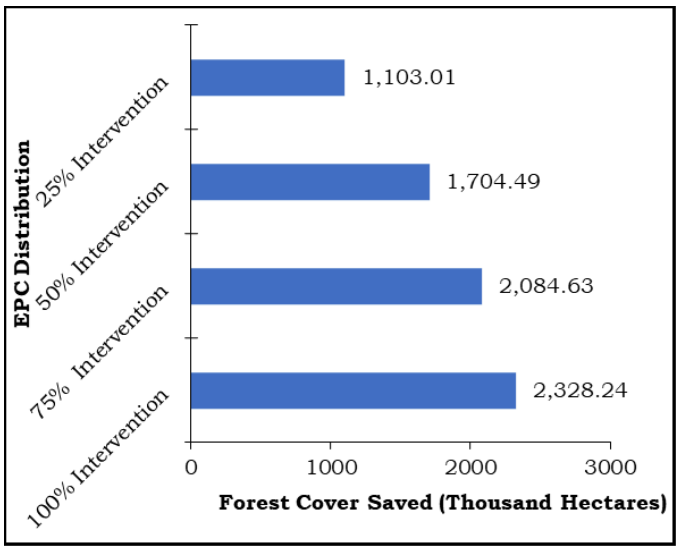

Fig. 9: Forest Cover Loss Avoided by Using EPCs

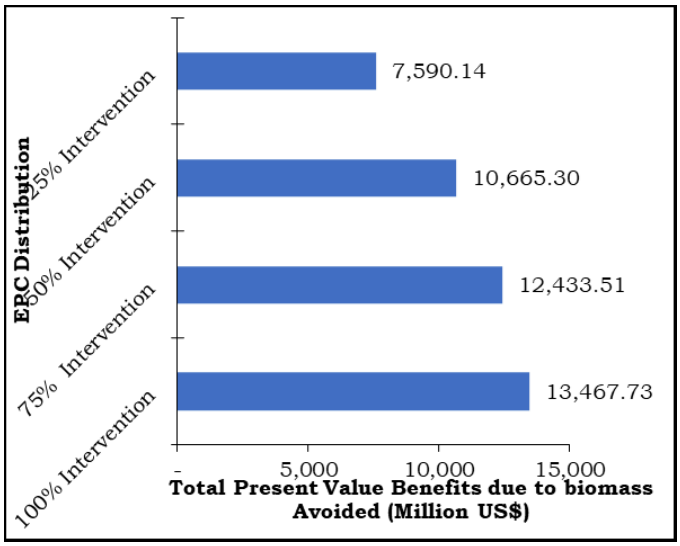

Fig. 10: Present Value of Forest Cover Loss Avoided

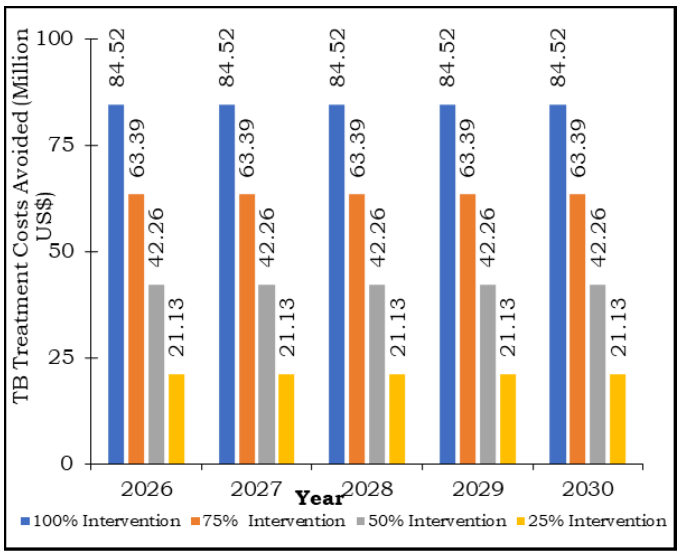

Fig. 11: TB Treatment Cost Avoided by Using EPCs

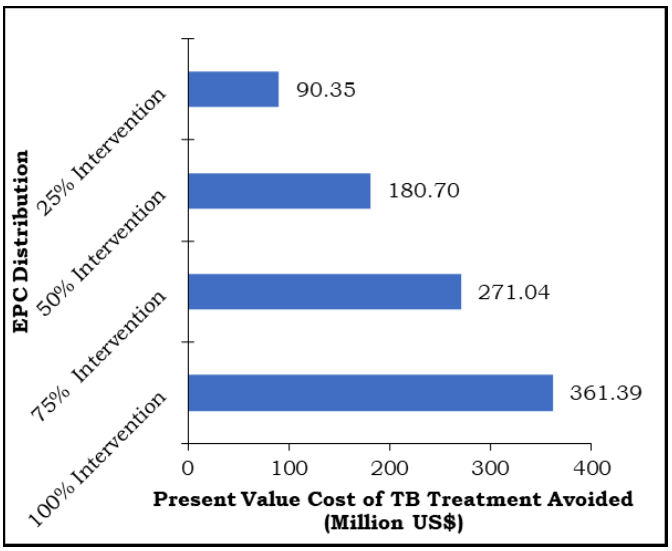

Fig. 12: Present Value of TB Treatment Avoided

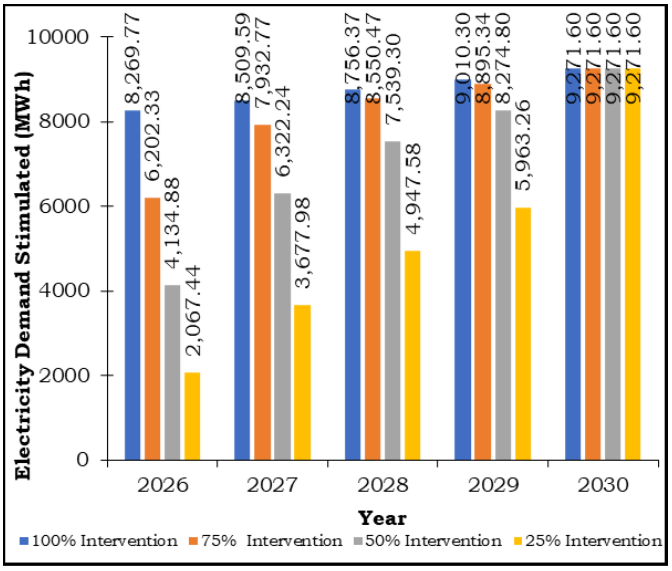

Fig. 13: Household Electricity Demand of EPCs

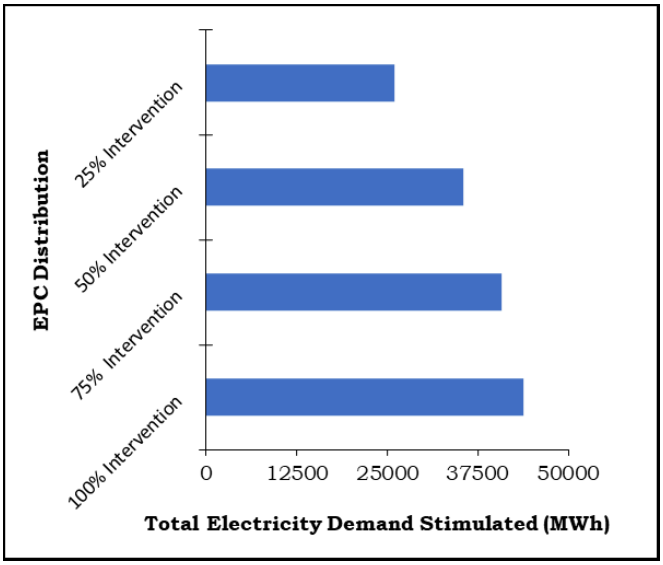

Fig. 14: Total Household Electricity Demand of EPCs

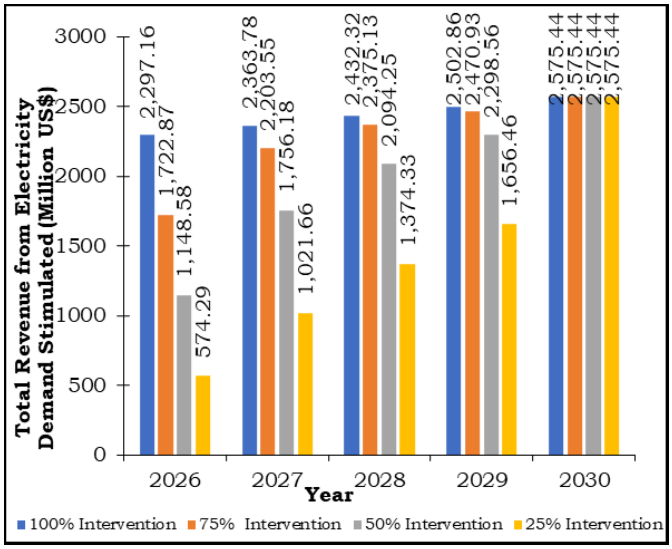

Fig. 15: Revenue of Electricity Demand of EPCs

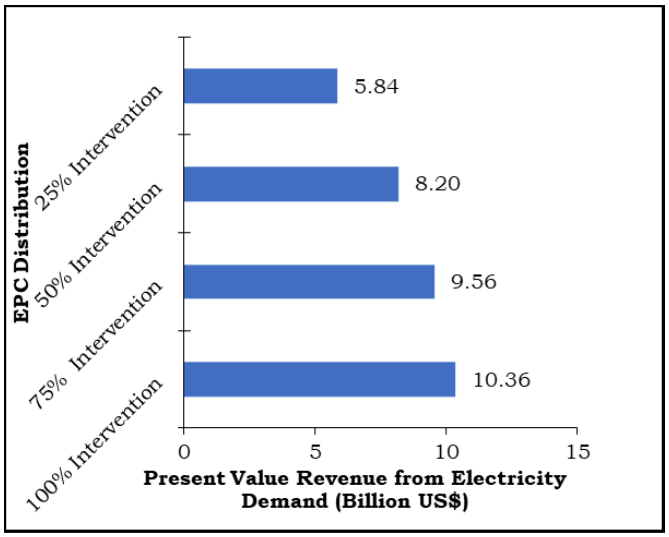

Fig. 16: Present Value Revenue of Electricity Demand

Table 1: Present Value Benefits and Savings Generated per US Dollar Invested in Electric Pressure Cookers for Different Scenarios over 5 years Period

Electric Pressure CookerIntervention Scenario	Benefits from Carbon Credits ($)	Benefits due to Biomass Avoided ($)	Cost of TB Treatment Avoided ($)	Revenue from Electricity Demand Stimulated ($)
100%	2.46	12.98	0.35	9.99
75%	2.33	12.29	0.27	9.45
50%	2.09	11.02	0.19	8.48
25%	1.61	8.51	0.1	6.55

DISCUSSION AND POLICY RECOMMENDATIONS

Prioritize electric cooking transition pathway for on- and off-grid connected households. The country should **cease considering e-cooking as a niche option and instead integrate it extensively in mainstream electrification plans,** to align electrification expansion with e-cooking rollout. For instance, every connection made under the Electricity Connection Policy (2017) and National Electrification Strategy (2022) must not stop at only lighting connection, but also be considered as potential e-cooking connection. This is supported by the electricity demand stimulated and revenue in **Figs. 13** to **16.**

Cognizant that households using e-cooking consume substantive amount of electricity units a year, the government should **consider redesigning the electricity cooking tariff to be calibrated in a way that encourages regular e-cooking users than only awarding modest consumption increment.** Preferably by restricting it to verified e-cooking households, simplifying household eligibility to the tariff block, and linkage to appliance financing or registration. Given the environment and health benefits in **Figs. 5** to **12,** e-cooking tariff should be redesigned in consideration of e-cooking benefits beyond the energy sector.

The prevailing bottleneck to e-cooking is tagged on upfront appliance cost, considering national average household monthly income. Government should **move from silo and scattered project-based interventions to National Clean Cooking Finance Facility built on Carbon Credits generatable from e-cooking practices.** Government should aggregate household-level carbon emission reductions, certify appliance-based carbon savings at scale, and channel carbon revenues into consumer subsidies and market expansion to drive universal access. As revealed in **Fig. 8** that the revenue generated from carbon credits can ably exceeds all the costs incurred in **Fig. 4** to procureEPCs for all households by 2030.

Uganda already has a proof of concept and should embrace the next step of scaling e-cooking. Government should ensure that **importers, distributors and manufacturers avail wearable parts to local technicians** to address aftersales services that negate the national e-cooking campaign. Given the MECS Demonstrator project has already proven market readiness and trained over 600 EPC technicians across the country, government should base on the lessons learnt to streamline the smooth flow and availability of EPC wearable parts across the country to facilitate aftersales services and movement sustainability.

To fast-track the attainment of universal access to clean cooking by 2030, **government interventions should prioritize community segments with high transition viability and climate gains.** For instance, urban and peri-urban households spend significant share of their monthly income on charcoal, making them the first market target for e-cooking. Any of the proposed scenarios could be implemented starting with urban and peri-urban areas to drive adoption as the frontrunner and champions for scale.

The clean cooking agenda should go beyond being an energy issue to being a public health priority. E-cooking is a preventative health investment for the country, considering the respiratory diseases and deaths emanating from indoor air pollution from firewood and charcoal. For instance, include e-cooking in public health and TB-prevention campaigns, prioritize clean cooking in maternal and child health programmes, and leverage health sector co-financing for e-cooking in high burden areas. **Figs. 11** and **12** depict government expenditures on TB treatment that ordinarily would have been caused by the use of biomass fuels to cooking.

Given the burden firewood harvesting imposes on the national forest cover, the government should explore linking clean cooking to forest conservation and restoration policies and interventions. For example, prioritize clean cooking as a core anti-deforestation instrument, align charcoal production and trade regulation with forest restoration and watershed protection, and tag forest and climate finance to clean cooking transition. It is evident from Figs. 5 to 10 that clean cooking must be linked to forest conversation interventions. The two aspects must be promoted concurrently, with linkages clearly stipulated.

Government should walk the talk by making clean cooking, particularly e-cooking mandatory for national housing and institutions. Schools, health centres, training institutions and staff housing are anchor demand points for e-cooking. This intervention would help build public trust in the appliance performance as well as create a formidable pool of e-cooking champions across the country. Unless government institutions are prioritized as the forerunners of the clean cooking transition, government's motive to promote clean cooking, particularly e-cooking will remain questionable. Government should use its institutions' kitchens as the benchmarks for e-cooking rollout.

Without quality controls such as standards, quality assurance and aftersales services, rapid market expansion and penetration can undermine public confidence. Government should ensure that all e-cooking appliances meet the enforceable technical standards. Likewise, government should support local aftersales service networks. Government should expedite the development, gazettement and publicity of clean cooking standards and labels to mitigate against market distortion due to counterfeits and fake appliances that the public is unable to discern.

Government should establish a national clean cooking results framework that tracks not only access, but actual usage, appliance retention, fuel stacking, health outcomes, forest-pressure reduction, and emission avoided.

Currently, progress is only measured by appliance sales made or policy announcements. Several interventions have so far been undertaken by government and its partners, however, evidence of their long-term impact is scanty and ought to be aggregated to enable rightful reporting on the clean cooking subsector performance in the country.

CONCLUSION

Uganda has established a formidable policy vision and its immediate challenge lies in converting the vision into a mass electric cooking transition. The policy response should accelerate beyond isolated pilots by donor interventions to National Scale-up model.

The analysis reveals that for every US dollar spent on electric pressure cookers by government and its partners would unlock several dollars from carbon credits (US$1.61 – 2.46), biomass avoided (US$8.51 – 12.98), TB treatment avoided (US$ 0.10 – 0.35), and electricity demand stimulated (US$6.55 – 9.99) in just five (5) years, for all the considered scenarios.

This empirical evident should support the government in resource mobilization and prioritization of clean cooking agenda in Uganda. The evidence depicts that clean cooking is not entirely an energy issue, but equally a public health and environmental issue that calls for collective action by government.

FOR FURTHER INFORMATION CONTACT:

National Renewable Energy Platform
Ministry of Energy and Mineral Development, Amber House,
P.O.BOX 163345, Kampala, Uganda.
Phone: +256 (0)393100495
Website: www.nrep.ug
Email: info@nrep.ug | nrep.memd@gmail.com

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