



# Tanzania Electric Cooking Transition Assessment 2026

Policy, Financing, Marketing, and Investment Pathways for  
Achieving the National Clean Cooking Strategy 2024–2034



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Challenge)**

MECS Programme | Loughborough  
University

Building on MECS 2022 Assessment  
(Clements & Todd)

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**The report incorporates:**

- ♦ NCCS 2024–2034,
- ♦ JustGESI Research,
- ♦ TANESCO On-Bill Financing,
- ♦ NBS 2025 Data.

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EXECUTIVE SUMMARY.....	i
ABBREVIATIONS.....	ii
1.0 INTRODUCTION .....	1
1.1 Purpose and Strategic Relevance.....	1
1.2 Methodology.....	1
1.3 Tanzania’s Cooking Energy Context (2026) .....	1
2.0 ENABLING ENVIRONMENT .....	2
2.1 Policy and Regulatory Framework.....	2
2.2 Key NCCS Provisions with Direct Market Relevance .....	3
2.3 Electricity Infrastructure and eCooking Readiness .....	3
2.5 Key Ecosystem Actors .....	4
2.6 Geographic Distribution of eCooking Adoption.....	5
3.0 CONSUMER DEMAND AND MARKET SEGMENTATION .....	6
3.1 Cuisine Compatibility and Economic Case .....	6
3.2 Market Segmentation.....	6
3.3 Consumer Demand Drivers and Barriers.....	6
3.4 Primary Research Insights (JustGESI KII Study, 2026).....	7
4.0 GENDER, EQUITY AND SOCIAL INCLUSION (GESI).....	7
4.1 The Gender Paradox.....	7
4.2 Economic and Social Barriers for Women .....	8
4.3 GESI-Aligned Market Opportunities .....	8
4.4 Institutional eCooking and Gender .....	8
5.0 SUPPLY CHAIN AND APPLIANCE MARKET .....	9
5.1 Appliance Market Overview.....	9
5.2 Key Market Actors and Pricing .....	9
5.3 Distribution Channels.....	10
5.4 After-Sales Service .....	10
5.5 Pilot Evidence .....	10
6.0 FINANCING LANDSCAPE .....	11
6.1 Consumer Financing Models.....	11
6.2 TANESCO On-Bill Financing — Tanzania’s Highest-Impact Scale-Up Opportunity .....	12
6.3 Carbon Finance.....	12
6.4 Closing the Affordability Gap — Blended Finance Architecture.....	13
7.0 RELATIVE COST OF eCOOKING .....	13
7.1 Electricity Tariff Structure .....	13
7.2 Health and Environmental Economics.....	13
8.0 RECOMMENDATIONS AND 2026–2030 ACTION PLAN.....	14
8.1 Priority Actions for 2026–2028 .....	14
8.2 Strategic Recommendations by Dimension .....	15
9.0 CONCLUSION .....	16
10.0 KEY REFERENCES .....	17

## EXECUTIVE SUMMARY

Tanzania has entered a decisive and structurally significant transition phase in clean cooking. Since the 2022 MECS market assessment, the landscape has been transformed by the National Clean Cooking Strategy (NCCS 2024–2034), rapidly expanding electricity infrastructure, and installed generation capacity now stands at 3,404 MW, anchored by the 2,115 MW Julius Nyerere Hydropower Project, and proven Electric Pressure Cooker (EPC) technology. Tanzania is now recognised as one of the highest-potential eCooking markets in Sub-Saharan Africa.

Between 2021 and 2025, access to clean cooking has almost tripled, rising from 6.9% to 23.2% as reported by Tanzania's Minister of Energy at the IEA High-Level Ministerial Dialogue in Paris in February 2026. Yet with 80% of households still relying on solid biomass for cooking and only 2% using electricity as their primary cooking fuel, the gap to the NCCS 80% target by 2034 is vast and looks ambitious. The challenge is no longer technical, but is related to financial, behavioural, and institutional issues.

### What Has Changed Since 2022

Then (2022)	Now (2026)
No dedicated eCooking strategy	NCCS 2024–2034 adopted; Communications Strategy launched June 2025
~40% national electricity access	71.2% household access (NBS 2025); generation capacity 3,404 MW
Only pilot-stage EPC distribution	Growing supply chains; SESCO has already distributed 28,500+ EPCs, including TANESCO OBF, launched
Limited consumer financing	TANESCO on-bill financing live (Oct 2025); RBF, carbon finance, group, and MFI models emerging
Clean cooking access ~6.9% (2021)	Clean cooking access 23.2% (2025); national target 80% by 2034
Weak advocacy coordination	CCAT and TACCS operational; three-tier governance structure in place

### Key Statistics at a Glance

Electricity Access (HH)	eCooking Adoption	Clean Cooking (2025)	NCCS Target by 2034
71.2% national 84% urban   61% rural	2% use electricity as a primary fuel for cooking	23.2% up from 6.9% in 2021	80% national clean cooking access

### Impact Potential — If 40% of Urban Charcoal Users Switch

Impact Area	Estimated Benefit	Source
Net social benefit	USD 220 million per year	WHO BAR-HAP model
DALYs avoided	2,691 per year	MECS 2022 updated baseline
CO <sub>2</sub> emissions reduced	1.3 million tonnes per year	Estimated
Women's time saved	429 million hours per year	344 hrs/household/year
Electricity demand stimulated	530 GWh per year	Estimated
EPC payback period	~6–10 months (at USD 80 upfront)	Current tariff analysis

*Strategic Positioning: Tanzania now has the clean cooking enabling environment (NCCS 2024–2034), the infrastructure (3,400+ MW generation; 71% household electricity access), the technology (EPCs proven across diverse contexts), and the financing architecture (TANESCO on-bill financing, RBF, carbon finance). The period 2026–2030 will determine whether eCooking remains a niche solution or becomes the dominant urban cooking pathway for millions of households.*

**ABBREVIATIONS**

A2EI	Access to Energy Institute
AECF	Africa Enterprise Challenge Fund
BAR-HAP	Benefits of Action to Reduce Household Air Pollution
BCC	Behaviour Change Communication
CCAC	Climate and Clean Air Coalition
CCAT	Clean Cooking Alliance of Tanzania
CCP	Core Carbon Principles
CLASP	Collaborative Labelling and Appliance Standards Program
CSO	Civil Society Organisation
DALYs	Disability-Adjusted Life Years
EAE	Energy Access Explorer
EEP	Energy and Environment Partnership
EPC	Electric Pressure Cooker
EU	European Union
FSD	Finance for Sustainable Development
GESI	Gender Equality and Social Inclusion
GoT	Government of Tanzania
ICVCM	Integrity Council for the Voluntary Carbon Market
IEA	International Energy Agency
KII	Key Informant Interview
LPG	Liquefied Petroleum Gas
LUKU	Lipa Umeme Kadiri Utumiavyo
MCFA	Modern Cooking Facility for Africa
MFI	Micro Financial Institution
MoE	Ministry of Energy
MRV	Monitoring, Reporting, and Verification
NBS	National Bureau of Standards
NCCS	National Clean Cooking Strategy
NCMC	National Carbon Monitoring Centre
NEES	National Energy Efficiency Strategy
NeMS	National eCooking Monitoring System
NGO	Non-Governmental Organisation
NMB	National Microfinance Bank
OBF	On-Bill Financing
PACM	Paris Agreement Crediting Mechanism
PAYGo	Pay-as-You-Go
RBF	Result-Based Financing
REA	Rural Energy Agency
SACCOS	Savings and Credit Cooperative Society
SE4ALL	Sustainable Energy for All
SESCOM	Sustainable Energy Services Company
SIDA	Swedish International Development Cooperation Agency
SME	Small and Medium Enterprises
SNV	Netherlands Development Organisation
SPPs	Small Power Producers
TACCS	Tanzania Association of Clean Cooking Stakeholders
TAFORI	Tanzania Forestry Research Institute
TANESCO	Tanzania Electric Supply Company
TANGSEN	Tanzania Gender and Sustainable Energy Network
TAREA	Tanzania Renewable Energy Association
TaTEDO-SESO	TaTEDO-Sustainable Energy Services Organisation
TBS	Tanzania Bureau of Standards
TCCP	Tanzania Clean Cooking Programme
TVET	Technical and Vocational Education and Training
UNCDF	United Nations Capital Development Fund
UNDP	United Nations Development Programme
UNFCCC	United Nations Framework Convention on Climate Change
URT	United Republic of Tanzania
WFP	World Food Programme
WHO	World Health Organisation
WRI	World Resources Institute

## 1.0 INTRODUCTION

### 1.1 Purpose and Strategic Relevance

This assessment serves as a strategic decision-making tool for three audiences: government bodies implementing the National Clean Cooking Strategy; financiers and development finance institutions evaluating eCooking investment opportunities; and implementing organisations designing and developing delivery and financing models. It aligns with emerging funding frameworks such as Climate and Clean Air Coalition (CCAC), International Climate Initiative (IKI), Energy and Environment Partnership Trust Fund (EEP Africa), Africa Enterprise Challenge Fund (AECF-REACT), and EU/UNCDF CookFund, and this is anchored in the accumulated implementation experience of TaTEDO-SESO and SESCOM Ltd, Tanzania's pioneer eCooking actor with over 28,500 EPCs distributed, three regional service and support centres, and an active on-bill financing partnership with TANESCO.



### 1.2 Methodology

This assessment combines primary and secondary evidence sources:

- 2026 primary KII research: 32 key informant interviews conducted by TaTEDO-SESO across Dar es Salaam, Dodoma, Kilimanjaro (Hai, Moshi, Rombo, which are Tanzania's highest eCooking adoption zones), and Morogoro, spanning government, private sector, CSOs, EPC users, and non-users; 50% female sample (JustGESI Project)
- The 2022 MECS Tanzania eCooking Market Assessment (Clements & Todd, 2022)
- National Clean Cooking Strategy 2024–2034; National Energy Efficiency Strategy 2024–2034; National Energy Compact 2025
- Updated World Bank, IEA, NBS, and Ministry of Energy data (2023–2026)
- Real implementation data from TaTEDO-SESO and SESCOM Ltd deployment programmes
- Peer-reviewed research: Shuma et al. (2022), Kweka et al. (2021), Ndifwa et al. (2025), Ntiyakunze & Stage (2025).

### 1.3 Tanzania's Cooking Energy Context (2026)

Tanzania (with a population of approximately 65 million (40% living in urban areas)) presents a classic energy transition paradox: electricity access is rising rapidly, but cooking practices remain deeply biomass dependent. Biomass fuels account for 82% of the total primary energy supply nationally. Indoor air pollution from biomass cooking is Tanzania's largest environmental risk factor, contributing to an estimated 33,024 premature deaths annually and 1,414,699 DALYs lost (World Bank, 2024). Urban households spend up to 30% of household income on charcoal (World Bank, 2023); rural families invest hours daily in firewood collection, with women bearing the heaviest burden.



*Mwalimu Nyerere Hydro Plant*

Generation capacity has exceeded 3,404 MW, with clean energy sources (hydro, gas, solar) now accounting for approximately 70% of the generation mix. With 71.2% national household electricity access and 84% urban coverage (NBS, 2025), Tanzania's electricity infrastructure can now support mass adoption of eCooking. The constraint is not technology or grid reach; it is affordability, behaviour, and delivery model.

*Key Insight: Tanzania has moved decisively from asking 'Is eCooking feasible?' (2018–2022) to asking 'How do we scale eCooking to millions of households?' (2024–2030). The strategy, infrastructure, and technology are in place. Coordinated financing and delivery at scale are what remain.*

## **2.0 ENABLING ENVIRONMENT**

### **2.1 Policy and Regulatory Framework**

The most significant development since 2022 is the National Clean Cooking Strategy (NCCS) (2024 to 2034), launched by President Samia Suluhu Hassan on 8 May 2024. This is the first comprehensive clean cooking framework of Tanzania with an 80% access target by 2034. The National Clean Cooking Communications Strategy was launched in June 2025 to operationalise demand-side behavioural change. The National Energy Efficiency Strategy (NEES) (2024 to 2034), supported by the EU and UNDP, was developed concurrently to complement the NCCS with appliance-efficiency standards. Tanzania's National Energy Compact (2025), developed under the continental Mission 300 initiative, commits USD 12.9 billion in total, including USD 4.04 billion from the private sector.



## 2.2 Key NCCS Provisions with Direct Market Relevance

NCCS Commitment	Status (2026)
80% national clean cooking access by 2034	Active national target; baseline now 23.2% (2025)
eCooking included as priority pathway (technology-neutral)	Operationalised; multi-fuel strategy confirmed
Import duty and VAT reductions on EPCs (by June 2026)	Pending implementation — highest-priority fiscal reform
TANESCO on-bill EPC financing (from June 2025)	Formally launched Oct 2025 as 'Konekt Umeme, Pika kwa Umeme.'
National Clean Cooking Fund (by June 2025)	Planned — not yet operational; critical finance gap
PAYGO financing deployment (by 2034)	Endorsed; limited scale to date
Biomass ban in institutions serving 100+ people	Enacted; institutional procurement demand activated
Quality standards for eCooking appliances	Under development via TBS; pending enforcement
TVET colleges incorporate clean cooking curricula (by June 2026)	In progress

## 2.3 Electricity Infrastructure and eCooking Readiness

Indicator	2026 Status
Generation capacity	3,404 MW (January 2025); Julius Nyerere HPP 2,115 MW operational
National household electricity access	71.2% (NBS 2025)
Urban household access	84% urban; 61% rural
Grid connectivity	National grid now reaches all 12,318 villages
Household connectivity	52.7% nationally (72.7% urban; 30.7% rural)
Clean energy share of generation	~70% (March 2025) — hydro, gas, solar
Mini-grids	100+ systems; >150 MW including SPPs and hydro; TaTEDO-SESO facilitated development of 21 solar mini-grid villages

Note: Although grid reach is extensive, Tier 4–5 electricity access can support consistently reliable use of high-power appliances, which remain limited in rural and peri-urban areas. Market segmentation should therefore be guided by not only electricity availability but also the quality and reliability of access to electricity. Shared metering in multi-tenanted urban housing is an underappreciated structural barrier: multiple households sharing a single meter creates billing disputes and disincentivises investment in energy-intensive appliances.

## 2.4 Household Fuel Mix

Despite policy progress, the cooking energy mix has not yet shifted proportionally. Fuel stacking by using multiple fuels simultaneously is practised by approximately 66.2% of households (URT, 2025) and is a near-universal urban behaviour. In Dodoma, the most common stacking patterns include LPG-charcoal (35%), firewood-LPG (24%), and firewood-charcoal (14%). Only 5% of urban households used LPG exclusively.

Fuel Type	National Share	Urban	Rural
Firewood	65.5%	Moderate	89.6%
Charcoal	44%	Dominant	Limited
LPG	24.6%	Growing	Minimal
Electricity (primary)	2%	~3–4%	0.4%
Biogas / other	Minor	Minimal	Minimal



Traditional Cooking by Firewood



Traditional Cooking by Charcoal



Cooking by LPG



Biogas Plant

## 2.5 Key Ecosystem Actors

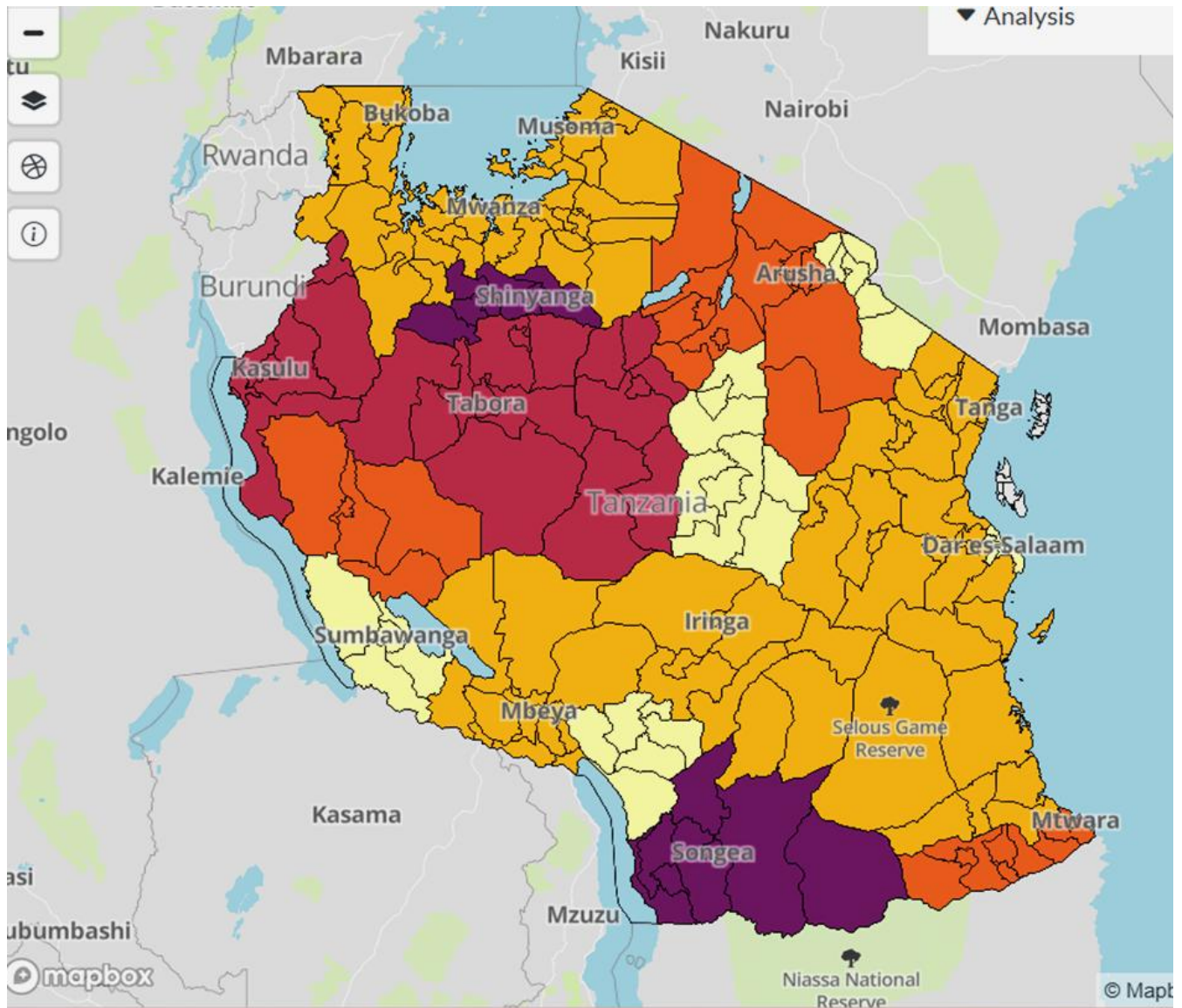
The enabling environment is populated by an expanding institutional ecosystem. Key actors include:

- TANESCO: On-bill financing scheme; employee eCooking programme; utility distribution channel for EPCs
- Rural Energy Agency (REA): Results-Based Financing subsidies for eCooking distributors; World Bank Performance-Based Financing
- MECS / Loughborough University: Evidence generation; 'Pika Smart' national demand-creation campaign; institutional pilots
- AECF Tanzania Clean Cooking Project (TCCP)
- CookFund (EU/UNCDF): Supply chain support and demand stimulation; urban/peri-urban focus
- SE4ALL / WFP: Accelerating Clean Cooking Transition in Schools — Kibasila Model Kitchen launched July 2025; target 50 schools
- MCFA / SIDA (Modern Cooking Facility for Africa): Results-based financing for eCooking distributors
- TaTEDO-SESO / SESCOM Ltd: Pioneer EPC distributor; 25,000+ EPCs; 3 regional service centres; JustGESI implementation; TANESCO OBF partner
- TANGSEN, TAREA, CCAT, TACCS: Advocacy, coordination, gender, and clean energy networks.
- SNV Tanzania has been implementing the EnDev Programme, which has increased access to clean, affordable, and efficient cooking technologies.

## 2.6 Geographic Distribution of eCooking Adoption

Current eCooking adoption is concentrated in specific districts. WRI Energy Access Explorer analysis identifies high-to-medium adoption in: Hai, Moshi, and Rombo (Kilimanjaro Region — Tanzania's most advanced eCooking adoption zone and JustGESI primary research site); all Dar es Salaam districts; Dodoma; Kilombero; Shinyanga Urban; and select Tanga and Mtwara areas. Highest-potential expansion zones include the Lake Zone, Mwanza, Tabora, Shinyanga, and the Northern Corridor — informing market expansion sequencing for national distributors.

Map 1: Expected Electric Cooking Prospects after Adoption by 10% Population Connected to Grid and Mini-Grids



Source WRI (EAE)

Key



### 3.0 CONSUMER DEMAND AND MARKET SEGMENTATION

#### 3.1 Cuisine Compatibility and Economic Case

Approximately 92% of everyday Tanzanian dishes can be cooked by using an EPC, validated by longitudinal pilot evidence across urban, peri-urban, and rural contexts. For the most energy-intensive dishes (beans, makande, heavy stews), EPCs deliver the greatest cost and time savings. Under the domestic T1 tariff (TZS ~350/kWh), cooking a single meal costs approximately TZS 352 with electricity compared to TZS 2,000 to 3,000 when cooking with charcoal. This is a ratio of 4 to 6 times cheaper. EPCs reduce cooking time from 45 to 90 minutes to 20 to 35 minutes per meal, directly benefiting time-constrained female cooks.

#### 3.2 Market Segmentation

Market Segment	eCooking Potential	Primary Entry Point
Urban charcoal users (grid-connected; high charcoal spend; 1.24M urban HH)	Very High	OBF; demonstrations; SACCOS credit
Urban LPG users (affluent; already paying for modern fuel)	Very High	Commercial channels; appliance stacking models
Peri-urban households (transitional fuel; partial grid access)	High	PAYGo; community agent networks; mini-grid bundling
Rural electrified households (mini-grid/SHS customers)	Medium–High	Mini-grid operator partnerships; tariff incentives
Institutions — schools, health facilities, catering	Very High	Institutional procurement; dedicated financing
SMEs — restaurants, food vendors, women's enterprises	High	Microfinance: impact business models

#### 3.3 Consumer Demand Drivers and Barriers

Key drivers include: cost savings (4–6× cheaper than LPG/charcoal); time savings (up to 344 hours per household per year); health benefits (elimination of indoor air pollution); convenience (multitasking; reduced fire hazard); demonstration effect (peer adoption strongly accelerates uptake); on-bill financing and mobile money penetration (65%+ of population enabling PAYGo/instalment payments). The following are some of the key barriers to reducing demand for EPCs from end-users.

Key Barrier	Current Status and Strategic Response
High upfront appliance cost (primary barrier — 86% could not afford without financing)	Rapidly improving: TANESCO OBF, SACCOS credit, RBF subsidies, all addressing this
'Electricity is too expensive' perception	Persistent but contested; public campaigns + bill comparisons are effective counter
Taste and cultural preferences for biomass cooking	Slowly improving through demonstrations and peer adoption; requires sustained BCC
Grid reliability concerns (peri-urban, rural)	Improving nationally; shared metering in rental housing also a structural issue
Fuel stacking inertia	Normal in the early adoption phase; full switch accelerates with financing and familiarity
Limited awareness of the EPC range and compatibility	Improving through pilots; 'Pika Smart' campaign; community demonstrations

### 3.4 Primary Research Insights (JustGESI KII Study, 2026)

TaTEDO-SESO's 2026 primary research — 32 key informant interviews across four regions — confirms and enriches these market dynamics:

- Affordability ranked first as the dominant barrier across all stakeholder categories — including government, private sector, CSOs, users, and non-users
- Electricity reliability ranked second; misconceptions about cost ranked third
- EPC users report genuinely positive experiences — convenience, time savings, efficiency — though grid outages perpetuate fuel stacking
- Many non-users expressed conditional willingness to adopt if training and financing are provided — indicating a large, activatable latent demand pool
- Direct trial and community demonstration, not abstract awareness, are the most powerful conversion tools
- Social diffusion from satisfied users is among the most effective adoption triggers; referral programmes should be systematically activated

*Primary Research Finding: 'Many people still do not understand how electric cooking works and assume it is too expensive.' (Non-user KII respondent) | 'Electric cooking is fast and convenient compared to charcoal.' (User KII respondent). These contrasting perspectives confirm that hands-on demonstration — not abstract awareness — is the conversion trigger.*

## 4.0 GENDER, EQUITY AND SOCIAL INCLUSION (GESI)

GESI is not merely a social development concern in the eCooking Sector, but also a market design imperative. Women are the primary end-users and are most directly affected by cooking technology choices, yet they frequently lack the decision-making authority and financial autonomy to drive household appliance purchases.

### 4.1 The Gender Paradox

The gender paradox for cooking in Tanzania contexts refers to the contradiction where women are the primary, often exclusive, actors in cooking and household energy management, yet they possess the least



access to money, decision-making power, and cleaner, more efficient technologies to perform cooking tasks. The following are gender paradox issues related to the transition to eCooking in Tanzania

- 72% of mainland Tanzanian households are male-headed (NBS, 2025): men control financial decisions that determine technology adoption
- Women bear 2–4 hours of daily cooking labour and suffer the greatest HAP health impacts, yet rarely decide what technology to buy
- Female-headed households show stronger attachment to traditional cooking methods — gender-differentiated behaviour change strategies are necessary

- The World Bank (2024) estimates USD 12 billion in annual losses from female productivity lost to cooking and firewood collection — a compelling eCooking value proposition

*A CSO respondent captured this paradox: 'Women are responsible for cooking, but they do not decide what technology to buy.' This must directly inform marketing and distribution strategy.*

## 4.2 Economic and Social Barriers for Women

- Limited financial autonomy — women often lack income control for appliance purchases, even where they manage household food/fuel budgets
- PAYGO and instalment schemes requiring male co-signatories or formal employment documents systematically exclude women in informal work
- Wealth and education are the strongest predictors of clean energy adoption (Ndifwa et al., 2025): targeted subsidies for lower-income women are essential
- Cultural cooking identity and taste beliefs are more prevalent among female-headed households, requiring gender-differentiated BCC

## 4.3 GESI-Aligned Market Opportunities

GESI Opportunity	Commercial Advantage and Evidence
Women-led distribution networks (SESCOM Morogoro pilot)	Higher conversion rates, stronger customer relationships, and lower acquisition costs
SACCO-linked EPC financing (integrated into women's SACCOS)	Ready-made distribution and credit infrastructure; reduced acquisition cost
CookFund programme women-empowerment objective	Access to grants for enterprises with demonstrated GESI outcomes
REA RBF programme: additional incentives for women-owned enterprises	Direct financial benefit for qualifying eCooking businesses
TANGSEN distribution pilots — 235 stoves in Ikungi District	Demonstrates the demand-creation potential of gender-focused distribution partners
Time-savings messaging (344 hrs/household/year saved)	High resonance with female decision-influencers and household economic arguments

## 4.4 Institutional eCooking and Gender

The biomass bans for institutions serving more than 100 people have created immediate institutional procurement demand. The Kibasila Primary School eCooking Model Kitchen (launched in July 2025, SE4ALL/WFP/Government of Tanzania/MECS) serves as the national replication model. The model was targeted for replication in 50 government schools by the end of 2025. EPCs ranging from 45L to 80L have been installed. TaTEDO-SESO has previously validated the feasibility of 40L EPCs for schools and catering. Youth engagement through the Jiko Class program (Nukta Africa) is building broader social acceptance of eCooking across gender lines.



*Institutional EPC Testing at TaTEDO-SESO*



*Institutional EPC use at Kibasila Primary School*

## 5.0 SUPPLY CHAIN AND APPLIANCE MARKET

### 5.1 Appliance Market Overview

The Tanzanian eCooking appliance market is entirely import-dependent, nascent but growing, and characterised by quality inconsistency, affordability barriers, and limited after-sales infrastructure. Over 16 appliance types are available commercially, spanning EPCs, induction stoves, rice cookers, kettles, air fryers, hotplates, and microwaves. The absence of local manufacturers is attributed to small market size and underdeveloped industrial supply chains; the NCCS mandates the development of local manufacturing capability from July 2025 onwards.

### 5.2 Key Market Actors and Pricing

Actor	Market Role and Distinguishing Feature
SESCOM Ltd (TaTEDO-SESO subsidiary)	Pioneer importer; own-brand EPC (Global LEAP recognised); 25,000+ EPCs; 3 service centres; women-led sales networks; DRC export
Smart-ware Tanzania	Broad appliance range; established retail presence
Newmatic Kitchen Tanzania	Kitchen appliance specialist
Electro-Master, KODTEC, Westpoint, Nikai, Singsung, Delsa	Commercial imports through hardware/electronics retail chains
ATEC	PAYGo induction cooking — emerging PAYGo model for eCooking
PowerUP	PAYGo EPCs designed for Sub-Saharan African markets
TANESCO distribution channel	EPCs offered at the point of grid connection via on-bill financing (from Oct 2025)

Appliance	2022 Price Range	2026 Indicative Range	Trend
Electric Pressure Cooker (EPC)	TZS 180–190K (~USD 77–81)	TZS 50–300K (~USD 20–116)	Declining; VAT/duties remain
Rice Cooker	TZS 44–460K	TZS 40–400K	Stable; wider range
Hotplate / Induction Cooker	TZS 137K–1.1M	TZS 100–900K	Moderate decline
Microwave	TZS 175–750K	TZS 150–600K	Slight decline

VAT and import duties are estimated to inflate consumer EPC prices by 18 to 30%. Fiscal reform on eCooking appliances represents the highest-impact, lowest-cost public intervention to accelerate adoption. Weak enforcement of energy performance standards has allowed low-quality imports to erode consumer trust and reinforce perceptions that electricity bills are high.

### 5.3 Distribution Channels

- TANESCO on-bill channel: EPCs offered at the point of grid connection; cost recovered through monthly electricity bills — transformative new channel
- Community agent networks: SESCO's model of training women sales agents, leveraging SACCOs and community trust
- Retail outlets: hardware and electronics shops in urban centres, increasingly stocking EPCs
- Institutional procurement: schools, hospitals, government agencies — activated by biomass ban
- TaTEDO-SESO Sustainable Energy Support Centres: three centres providing distribution, consumer education, and after-sales
- Digital and mobile platforms: mobile-first ordering and payment systems with mobile money integration

### 5.4 After-Sales Service

After-sales service is a critical determinant of long-term adoption success. A consumer with an unrepaired appliance becomes a permanent market detractor. TaTEDO-SESO and SESCO maintain Tanzania's most comprehensive eCooking after-sales network — trained technicians at three regional centres, direct spare parts importation, and DRC export capacity demonstrating supply chain resilience. Sector-wide after-sales infrastructure development, including technician training at vocational colleges (NCCS mandate), is essential to build consumer confidence at scale.

### 5.5 Pilot Evidence

Pilot	Lead Actors	Key Findings
Longitudinal mini-grid EPC pilot — Northern Tanzania (14 months)	A2EI, MECS, Nexleaf, PowerGen	EPC use 8× more frequent after tariff reduction; users saved ~2 hrs/day; 60% reduction in traditional stove use
Grid-connected EPC pilot — Morogoro	SESCOM, Nexleaf, TAFORI	50 HHs assessed via cooking diaries and data loggers; validated financing model viability
Institutional eCooking — Dar es Salaam schools	TaTEDO-SESO	40L EPCs viable for schools; cost and performance outcomes validated
Battery-supported eCooking pilot	MECS, TaTEDO-SESO	Battery integration viable for areas with intermittent grid
TANESCO on-bill financing launch	TANESCO, TaTEDO-SESO, SESCO, MECS	Launched Oct 2025; first utility in Africa; targets T1 tariff customers nationally
Kibasila eCooking Model Kitchen	SE4ALL, WFP, GoT, MECS	First institutional school kitchen; 45–80L EPCs; 50-school scale-up target for 2025
TANESCO employee eCooking scheme	TANESCO, Ministry of Energy	~1,000 EPCs taken up in a single week; 11,000 subsidised stoves planned

## 6.0 FINANCING LANDSCAPE

Financing is the single most critical enabler and the most significant remaining gap in Tanzania's eCooking scale-up. The 2025 Tanzania Clean Cooking Retreat specifically prioritised financing as a central theme. The paradox is stark: eCooking is economically superior to charcoal and LPG, but it is not yet socially acceptable and financially accessible to most households. The savings are immediate and recurring; the cost is upfront and prohibitive. Research shows 86% of EPC buyers could not have afforded the appliance without financing (CLASP, 2020).

### 6.1 Consumer Financing Models

Financing Model	Description	Status in Tanzania (2026)
TANESCO On-Bill Financing (OBF)	EPC cost repaid through the monthly electricity bill; leverages a 2M+ customer base and LUKU prepayment infrastructure	Launched Oct 2025 ('Konekt Umeme, Pika kwa Umeme'); first utility in Africa; targeting T1 customers across all regions
PAYGo	Mobile-enabled instalment payment; established in the solar sector	Limited for EPCs; ATEC exploring for induction; NCCS mandates national roll-out
MFI and SACCO Credit	Microfinance and SACCO loan products	Underutilised; promising pilots via women's SACCOs; NMB TZS 100 billion facility available, TaTEDO SESO and SESCO in Kilimanjaro.
Carbon Finance	Revenue from verified carbon credits channelled as subsidies	Africa cookstove carbon credits exceeded USD 107M in 2024; Tanzania Article 6 framework under development
Results-Based Financing (RBF)	Grants/payments to distributors contingent on verified sales outcomes	Active — MCFA/SIDA; REA RBF programme (World Bank PBF); EU CookFund
Grants	Donor grants for programme costs, subsidies, and pilots	Primary driver of current eCooking activity; required for market-building stage
Equity and Impact Investment	Private equity or DFI financing for importers/distributors	Emerging; SESCO exploring; clean cooking investment in Africa USD 675M in 2023
AECF TCCP	USD 3.75M blended finance for SMEs in clean cooking; women-owned enterprise bonus	Active; 60,000+ HH target

## 6.2 TANESCO On-Bill Financing — Tanzania's Highest-Impact Scale-Up Opportunity

Formally launched on 9 October 2025 as 'Konekt Umeme, Pika kwa Umeme' (Connect Electricity, Cook with Electricity), TANESCO's on-bill financing programme is a transformational milestone, the first utility in Africa to enable customers to repay eCooking appliances through monthly electricity bills.

- TANESCO has 5+ million grid-connected customers — an immediate, scaled potential customer base requiring no new distribution infrastructure
- The model uses existing LUKU prepayment meter infrastructure, minimising implementation costs
- It directly eliminates the upfront cost barrier — the primary structural constraint to EPC adoption
- It aligns corporate and development incentives: stimulating electricity demand improves TANESCO's load factor and commercial viability
- Phase 1 targets T1 domestic tariff customers across all regions; expansion to D1 lifeline tariff customers planned
- Demand signal validated: TANESCO employee payroll deduction scheme (August 2025) saw ~1,000 units taken up within one week



Launching on-bill financing by the Dar es Salaam Regional Commissioner, Hon. Albert Chalamila, at Mwembeyanga Grounds, Dar es Salaam

*If scaled to TANESCO's 5+ million customer base, the on-bill financing model could reach hundreds of thousands — ultimately millions — of urban and peri-urban households. No other single financing mechanism has comparable scale potential. This makes the OBF programme the most impactful single intervention for eCooking in Tanzania, and a global model for utility-led clean cooking scale-up.*

## 6.3 Carbon Finance

Carbon finance is an emerging supplementary instrument. Global revenue from clean cookstove carbon credits in Africa exceeded USD 107 million in 2024 (up from USD 25 million in 2020). In February 2025, the Integrity Council for the Voluntary Carbon Market (ICVCM) approved three methodologies meeting Core Carbon Principles: Gold Standard's Metered and Measured approach, TPDDTEC, and Verra's VM0050. Tanzania's default non-renewable biomass fraction (FNRB) stands at 51% (UNFCCC, 2012), validating carbon credit opportunities for eCooking projects. TaTEDO-SESO and SESCO are exploring the integration of carbon MRV frameworks into their eCooking programmes. Progress at COP29 (Baku, 2024) operationalised the Paris Agreement Crediting Mechanism (PACM), creating new pathways for verified mitigation activities.

## 6.4 Closing the Affordability Gap — Blended Finance Architecture

Instrument	Closes Which Gap?
On-bill financing (TANESCO)	Affordability of entry — spreads cost over 6–24 monthly bill cycles
PAYGo (mobile-enabled)	Affordability + accessibility for variable-income households
MFI and SACCOS credit	Affordability + women's access through community-based lending
Import duty and VAT exemption	18–30% price reduction for all consumers
Carbon finance revenue	Cross-subsidises EPC costs; rewards verified adoption via MRV
Results-based financing	Market stimulation + affordability — rewards distributors for verified sales
Grants (donor)	Risk mitigation for investors in early-stage market building

## 7.0 RELATIVE COST OF eCOOKING

### 7.1 Electricity Tariff Structure

Tariff Category	Rate (TZS/kWh)	Implications for eCooking Economics
Lifeline tariff (D1) — low-use (<75 kWh/month)	~100 TZS/kWh (~USD 0.04)	Most favourable economics; EPC payback ~6 months; savings ~USD 17/month vs charcoal
Domestic tariff (T1) — standard	~350 TZS/kWh (~USD 0.13–0.15)	Compelling economics for urban users; payback ~10 months; savings ~USD 11/month vs charcoal
Mini-grid tariff	Up to 1,600 TZS/kWh (~USD 0.62–0.69)	Beans and makande still cheaper by EPC even at this tariff; usage 8x after tariff reduction (A2EI pilot)

*Economic Case: At the domestic T1 tariff, EPC cooking is 4–6 times cheaper than LPG and significantly cheaper than urban charcoal for energy-intensive dishes. Deputy PM Biteko has noted: TZS 352 per meal with electricity vs. TZS 2,000–3,000 with charcoal. The EPC payback period is approximately 6–10 months — an exceptional consumer investment return when financing bridges the upfront cost.*

### 7.2 Health and Environmental Economics

Cost / Impact Category	Estimated Value
Annual premature deaths from household air pollution	33,024 (World Bank, 2024)
DALYs lost from HAP	1,414,699 per year
Net social benefit — 40% urban charcoal-user transition	USD 220 million per year
Women's time saved — 40% urban charcoal transition	429 million hours per year (344 hrs/HH/year)
CO <sub>2</sub> equivalent emissions reduced	1.3 million tonnes per year
Annual cost of inaction (World Bank, 2024)	USD 39 billion (USD 25B health; USD 12B female productivity; USD 2B climate)
Forest loss attributable to biomass demand	469,420 hectares per year (2015–2020)



Demonstrating eCooking by Different Stakeholders

## 8.0 RECOMMENDATIONS AND 2026–2030 ACTION PLAN

The 2026 recommendations build on those advanced in 2022, updated to reflect the NCCS 2024–2034 context, JustGESI primary research, accumulated pilot learning, the TANESCO OBF launch, and the rapidly evolving financing landscape. All recommended interventions converge on shared priorities: reducing upfront cost, increasing awareness and demand, and strengthening delivery systems for sustained adoption.

### 8.1 Priority Actions for 2026–2028

Priority	Action	Lead Actor(s)
1	Scale TANESCO on-bill financing to 100,000 HHs — target existing T1 and D1 customers, not only new connections	TANESCO, Ministry of Energy, SESCO, TaTEDO-SESO
2	Remove/significantly reduce import duty and VAT on EPCs — before NCCS June 2026 deadline	Ministry of Finance, Ministry of Energy, Tanzania Revenue Authority
3	Launch national eCooking awareness campaign with TANESCO and Ministry of Energy; scale 'Pika Smart' community-level deployment	Ministry of Energy, TANESCO, CCAT, TACCS, NGO partners
4	Establish and enforce quality standards for eCooking appliances through TBS	Tanzania Bureau of Standards, Ministry of Energy, EWURA
5	Scale institutional eCooking to 500+ schools and health facilities with dedicated procurement and financing	Ministry of Education, WFP, SE4ALL, TaTEDO-SESO
6	Operationalise carbon finance MRV under CCP-approved methodologies; channel revenues to consumer subsidies	NCMC, Ministry of Energy, SESCO, TaTEDO-SESO, carbon actors
7	Establish national eCooking monitoring database aligned with NCCS M&E; deploy IoT monitoring (SESCO model)	Ministry of Energy, SESCO, TaTEDO-SESO, development partners
8	Mobilise working capital for EPC importers to enable bulk procurement and reduce consumer prices	DFIs, NMB, FSD Africa, impact investors

## 8.2 Strategic Recommendations by Dimension

Dimension	Recommended Actions
Policy and Governance	Fully operationalise NCCS implementation framework with budget allocation; establish dedicated eCooking coordination unit in MoE; advocate urgently for EPC VAT/duty exemption; operationalise the National Clean Cooking Fund; enforce appliance quality standards
Financing	Scale TANESCO OBF to 100,000 HHs by 2028; expand to D1 lifeline customers; develop EPC credit products with leading MFIs and women's SACCOS; operationalise carbon finance MRV under CCP-approved methodologies; expand RBF instruments
Supply Chain	Provide working capital to importers for bulk procurement; enforce appliance quality standards urgently; support local assembly (NCCS mandate); diversify supply for larger-format EPCs (10L+); develop national after-sales service network via vocational training
Consumer Demand	Scale national BCC campaign; integrate community-level peer-facilitated demonstrations; embed eCooking in school curricula; activate referral networks from satisfied users; target women's groups and SACCOS
GESI	Design financing products that work for women (remove male co-signatory requirements); route credit through women's SACCOS; integrate GESI-disaggregated monitoring; fund women as eCooking sales agents and technicians
Utility Integration	Formalise eCooking as TANESCO demand-stimulation strategy; expand on-bill financing (OBF) to existing tariff 1 (T1) customers; develop specific eCooking tariff incentives; link smart meter data to financing repayment monitoring
Mini-grid and Off-Grid	Partner with mini-grid operators to bundle EPCs with connections; pilot DC solar eCooking appliances; advocate for cost-reflective mini-grid tariffs; expand TaTEDO-SESO's 21-village mini-grid model
Monitoring and MRV	Establish the National eCooking Monitoring System (NeMS) integrated with NCCS Monitoring and Evaluation (M&E), deploying IoT/smart monitoring (SESCOM's Digital eCooking Intelligence Platform); integrate Carbon Monitoring, Reporting, and Verification (MRV) from programme inception; require GESI-disaggregated data in all funded programmes
Distribution Networks and after-sales services to last-mile users	Develop strong last-mile distribution networks through local agents, community-based organizations, individual retailers, and mobile-enabled delivery models, along with eCooking supporting centres to increase EPC uptake while enhancing the reduction of the appliance and services costs.



Practising eCooking for potential users

## 9.0 CONCLUSION

Tanzania has made decisive and demonstrable progress since 2022. The NCCS (2024 to 2034), the tripling of clean cooking access from 6.9% to 23.2% between 2021 and 2025, the launch of Africa's first utility on-bill financing programme for eCooking appliances, and the accumulated learning from multiple longitudinal pilots have transformed the eCooking landscape from one of feasibility demonstration to genuine scale-up readiness.

The fundamentals remain compelling. EPCs can cook over 92% of everyday Tanzanian dishes at a cost 4 to 6 times lower than LPG and significantly below urban charcoal for the most energy-intensive meals. The EPC payback period is approximately 6 to 10 months. The net social benefit of a 40% urban charcoal-user transition is estimated at USD 220 million per year.

The barriers to scale are no longer technical. They are financial, behavioural, and institutional, and each now has credible, tested solutions: TANESCO on-bill financing, carbon finance, MFI and SACCOS credit, import duty reform, quality standards, national awareness campaigns, institutional procurement frameworks, and gender-inclusive delivery models.

Phase	Period	Defining Characteristic
eCooking Feasibility Stage	2018–2022	Proof of concept; pilot programmes; early market actors
Market System Strengthening	2022–2024	Policy adoption, evidence consolidation, and financing models developed
Scale-Up Stage — Now	2024–2030	NCCS implementation; on-bill financing at scale; thousands to millions
Systems Transformation	2030+	eCooking as the new normal; full NCCS 80% target achievement

*The window is open. Tanzania now has the strategy, the technology, the partners, the political will — and proven financing models — to make eCooking the new normal for millions of households. TaTEDO-SESO and SESCOM and others stand at the centre of this ecosystem — as pioneer distributors, advocates, evidence-generators, technical innovators, and partners to TANESCO, the Ministry of Energy, and international programmes. Coordinated action, sustained financing, and scale-up of proven models at a pace commensurate with the NCCS 2024–2034 ambition is what remains.*

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