Electric Cooking:
From niche technology
to mainstream living

Increased ARPU from eCooking

Simon Batchelor, Director, MECS
For Powering the Clean Cooking Transition: The Emerging Role of Electricity Utilities, 20th Oct 2026
PPT draws on material from Jon Leary (MECS)

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"Data on weekly charcoal expenditure collected from responding households indicates that the **annual market value of charcoal** consumed by the residential sector alone is **KES 68 billion*** almost **40% more than what all domestic customers paid to Kenya Power in 2018** (according to Kenya Power's annual report)" (MoE, 2019)
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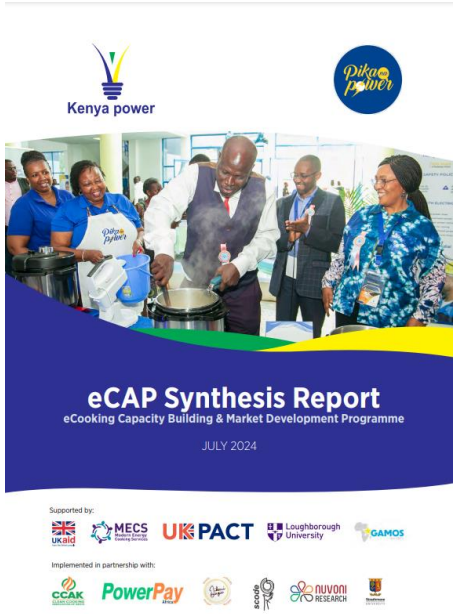
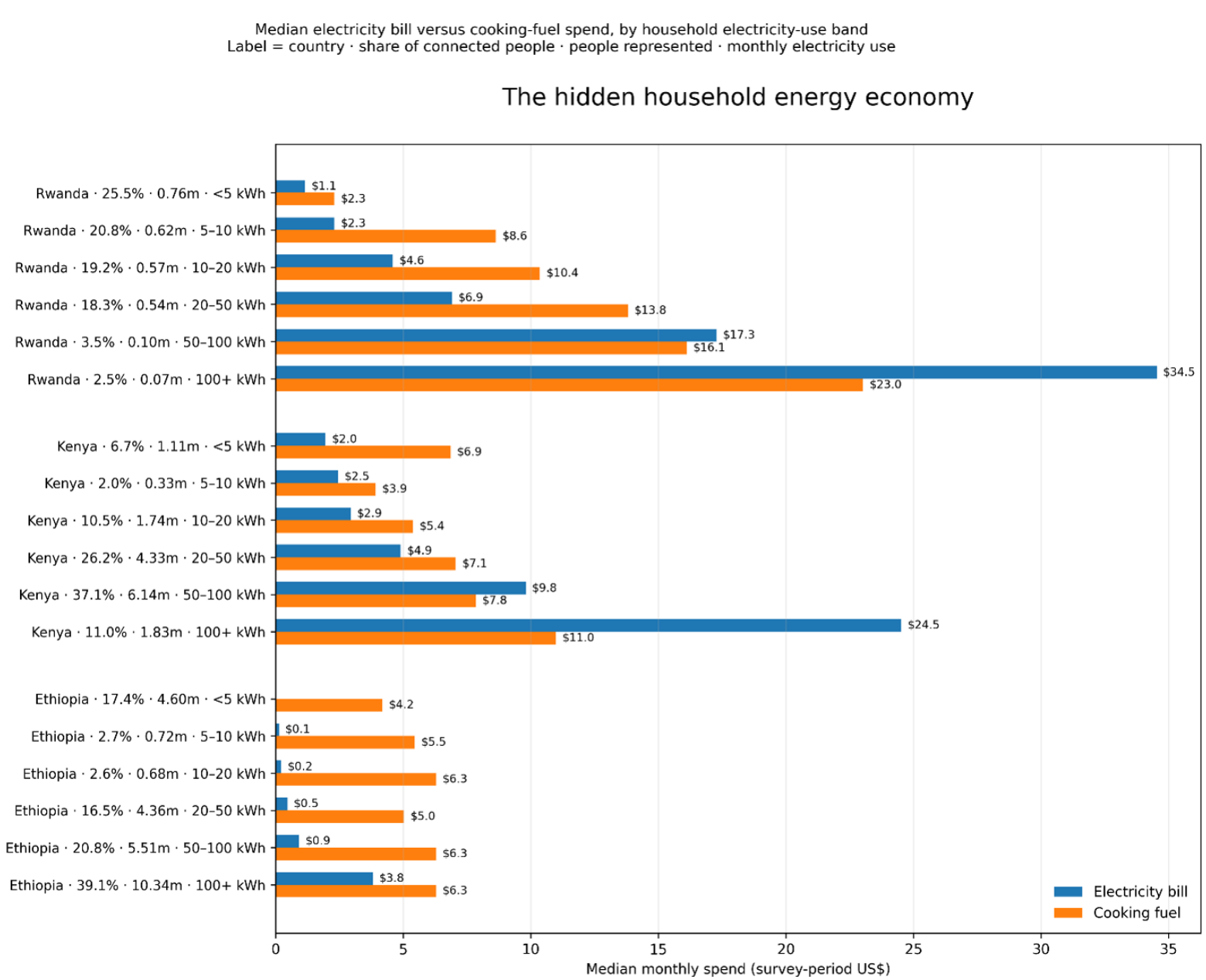
*$530m



CONVERTING EXISTING EXPENDITURES ON POLLUTING FUELS INTO ELECTRICITY UNITS OFFERS A LUCRATIVE ADDITIONAL REVENUE SOURCE FOR UTILITIES

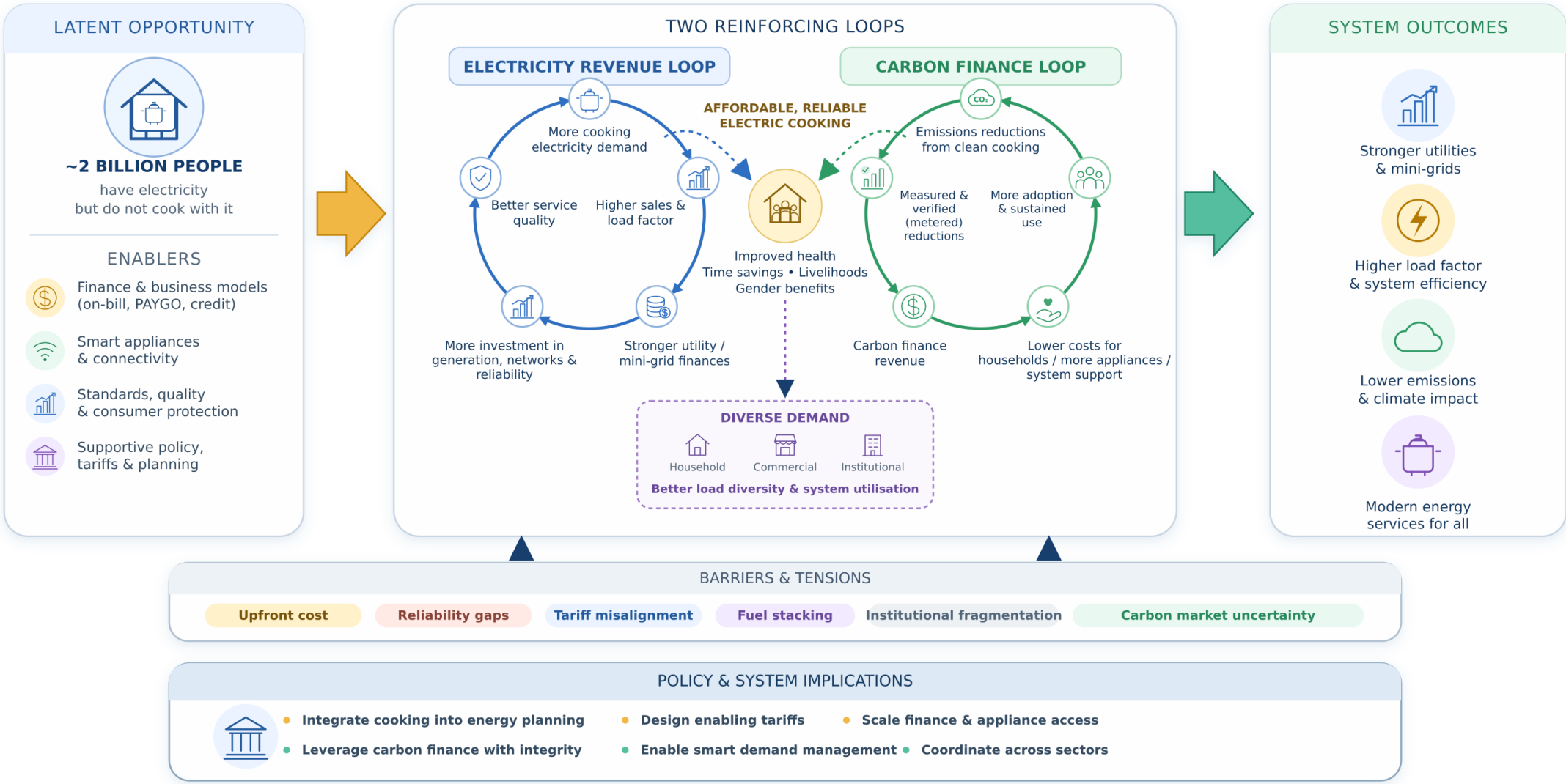


- Using Multi Tier Framework Data
- Slightly old now at 2018/19 but shows the principle.
- HHs with electricity bucketed according to electricity consumption.

Note:

- the really low e'consumers, spend two to three times their e'bill on cooking fuel.
- Cooking is a predictable demand/need, so the high e'consumers also spend on cooking, and its more about number of people than wealth per se.
- Ethiopia has very low tariff, so e'spend is dwarfed by cooking spend.

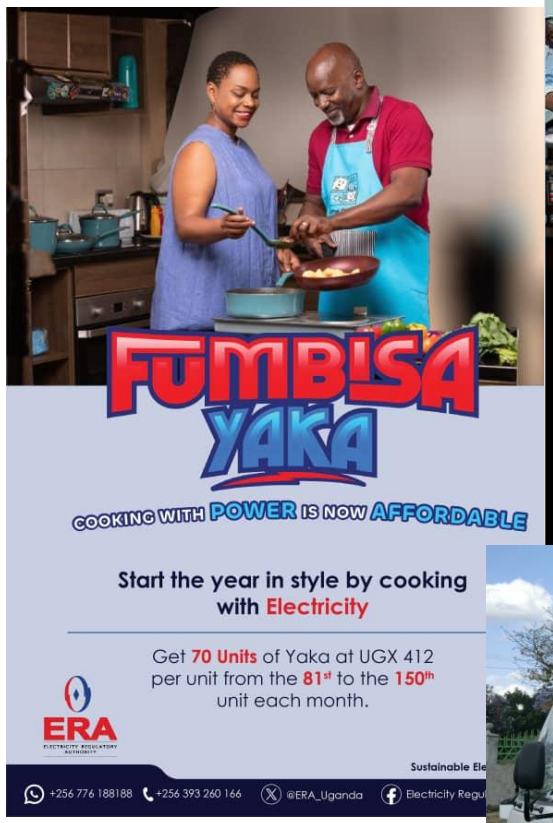
Flips a problem to an opportunity



Utility-enabled revenue loop

- A new wave of modern energy transition catalysed by innovative East African utilities
- Leveraging utility infrastructure and systems to stimulate demand by electrifying cooking
- Enhancing the financial viability of the power sector & increasing the social & environmental impact of electricity access

- Precedent set in 1934 in USA!
- The Role of Government Agencies in Consumer Financing



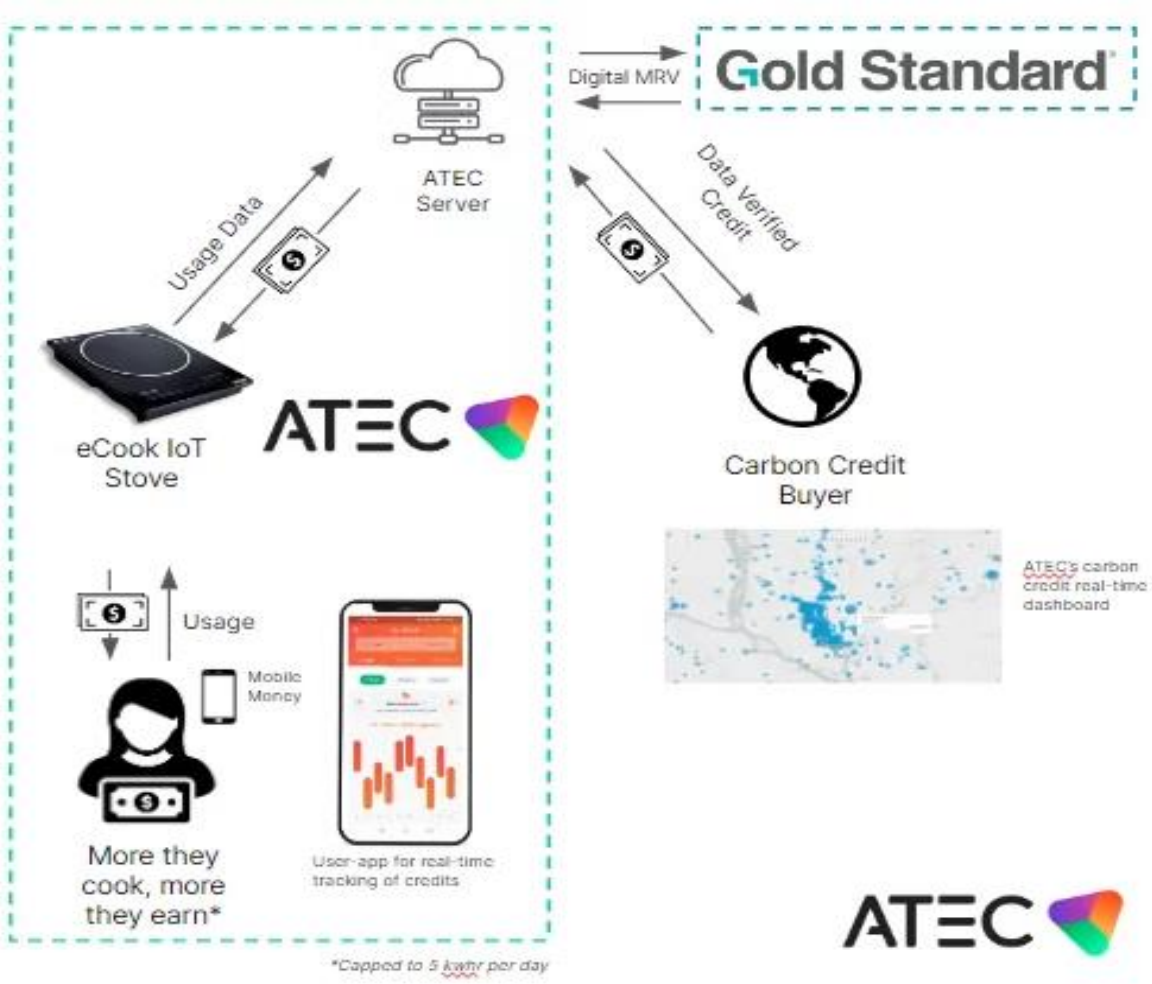


Figure – diagrammatic representation of passing the carbon credits to the consumer

Carbon loop

Had an issue of integrity.

But electricity can be measured

So new crop of appliances with Internet of things (IoT) reporting on actual use.

Can also be done through smart meters.

Voluntary and Compliance markets

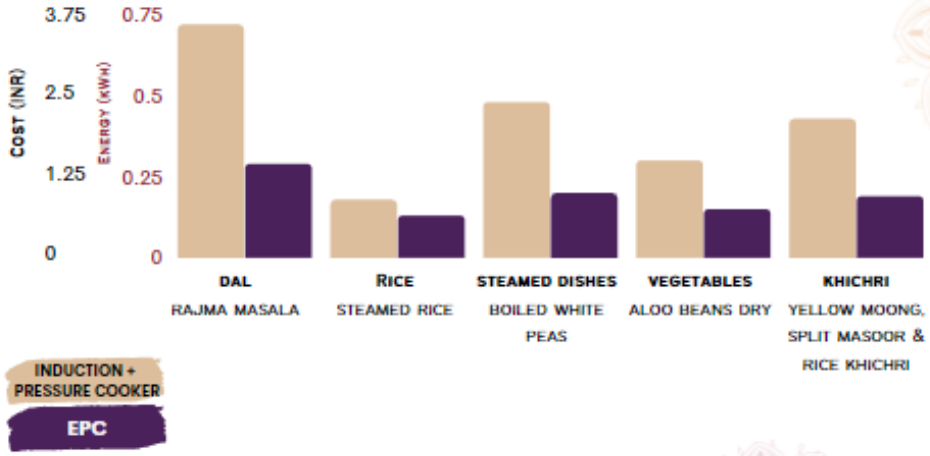
Article 6.2 and 6.4

INDUCTION VS EPC

ENERGY & COST

The EPC is more energy-efficient and therefore more cost-effective than the induction stove and pressure cooker combination for the dish types we tested because:

- the EPC is insulated, so **less heat escapes**
- the EPC is **fully automated**, so it turns the heating element off as soon as it reaches pressure

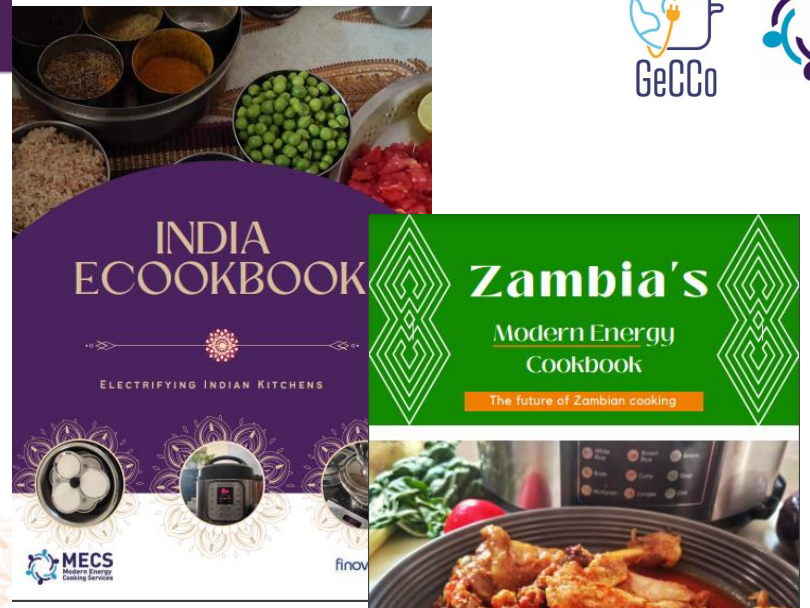


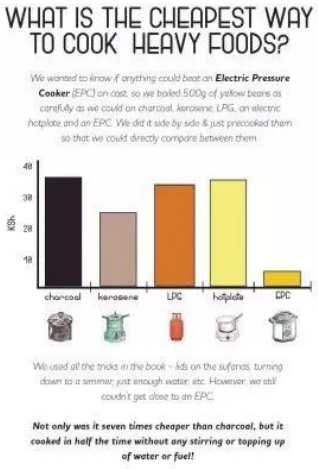
BEST PERFORMER

EPC

50%

Average cost saving with EPC





But does it fit the culture, modern habits, taste and cost of users?

Increasing customer satisfaction, while stimulating demand for power

UTILITY-ENABLED ECOOKING

Utilities can help customers switch to electric cooking — building trust, easing access, keeping cooking affordable and enabling sustained use

THE UTILITY-ENABLED CUSTOMER JOURNEY

1. **BUILD TRUST**
2. **ENABLE ACCESS**
3. **MAKE IT AFFORDABLE**
4. **ENABLE SUSTAINED USE**

INTERVENTION AREAS

AWARENESS & CAPACITY BUILDING

- Public awareness campaigns and cooking demonstrations
- Advocacy with policy and county leadership
- Training for technicians, retailers and staff
- Skills and delivery-partner networks

SUPPLY CHAIN & CUSTOMER SERVICE

- Support local distribution and last-mile delivery
- Reliable appliance supply, servicing and quality assurance
- Integrate eCooking into new-connection programmes
- Fast, accountable customer support

PRICING & FINANCE

- eCooking tariffs and broader price restructuring
- Leverage concessional and development bank finance
- Enable PAYGo and OBF models
- Blend carbon, RBF subsidy and consumer finance

ENABLING ENVIRONMENT & GRID READINESS

- Supportive national strategy, policy and regulation
- Metering, connection and tariff readiness
- Grid capacity, reliability and demand management
- Standards, data and monitoring frameworks

OUTCOMES

HIGHER CUSTOMER SATISFACTION

Trust, choice and reliable support around a service customers value

MORE IMPACTFUL USE OF POWER

Electricity used for a daily need, replacing polluting cooking fuels

SUSTAINED LOAD & REVENUE GROWTH

Regular, predictable demand that strengthens the utility business

VALUE OF COLLABORATION

COLLABORATION UNLOCKS SUSTAINED ECOOKING USE

Utilities and appliance providers each hold part of the solution — partnership removes barriers neither can solve alone

U

UTILITY

Trusted brand + broad reach

- Existing billing and metering systems
- Household consumption data
- Innovative consumer financing models, e.g. OBF

COLLABORATION

APPLIANCE PROVIDER

Customer insight + delivery capacity

Appliance supply, servicing and after-sales •

Innovative consumer financing models, e.g. PayGo •

A

FIVE PRACTICAL COLLABORATION LEVERS

1

SHARE DATA

Link IoT eCooking usage data with customer billing data to see who cooks and when

2

ALIGN INFRASTRUCTURE

Get metering, distribution network and internal wiring ready for electric cooking loads

3

CO-MARKET

Combine trusted utility channels with appliance provider insight and financing

4

MANAGE DEMAND

Use IoT and time-of-use tariffs to shift cooking away from peak

5

BLEND FINANCE

Combine RBF, OBF, PAYGo & carbon to overcome upfront cost barrier & encourage sustained use with targeted tariff structures

VALUE FOR UTILITIES

Increased electricity sales and customer satisfaction

Increased load visibility to enable planning

Ability to actively manage peak demand

SHARED OUTCOME

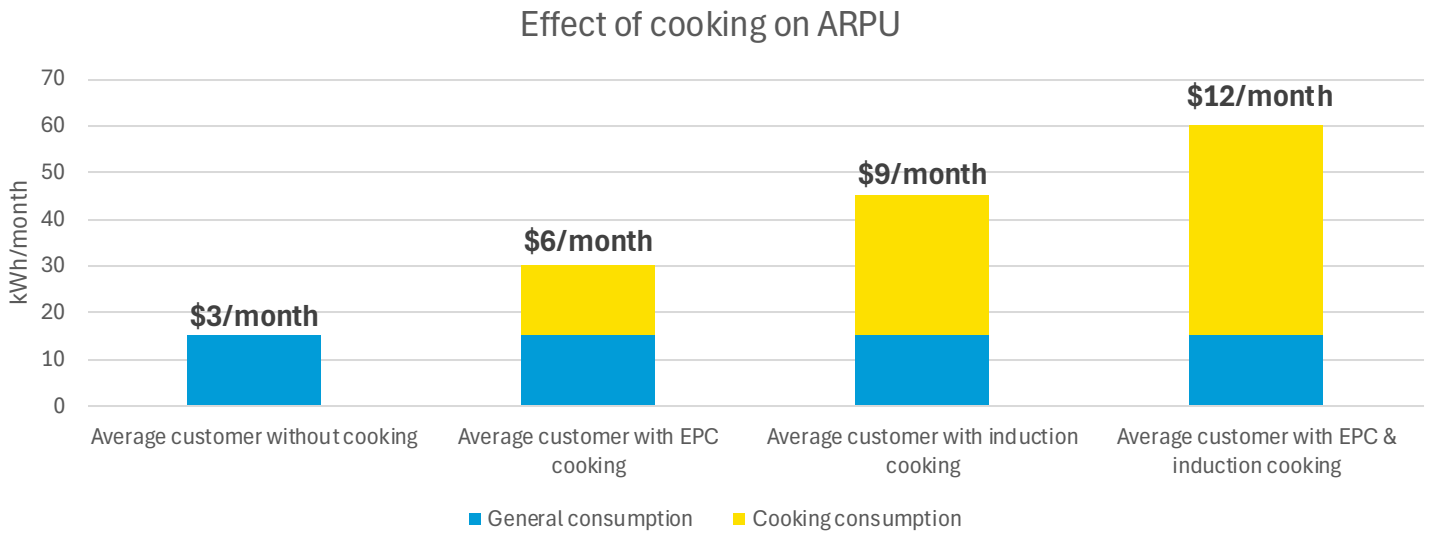
More customers acquire, use and keep using modern, energy-efficient eCooking appliances

VALUE FOR APPLIANCE PROVIDERS

Expanded reach and lower acquisition cost

Stronger consumer trust and credibility

Deeper after-sales relationships



COOKING CAN MORE THAN DOUBLE A.R.P.U.

Assumptions:

- KPLC's average domestic customer consumption: 15 kWh/month
- EPC typical consumption: 0.5 kWh/day, 15 kWh/month
- Induction typical consumption: 1 kWh/day, 30 kWh/month
- KPLC average domestic tariff: 0.2 $/kWh

Can more demand bring increased investment returns?

Of course in theory yes, as long as tariff is a cost recovery tariff.

But solid evidence can be seen in a

Minigrid illustration – actual 2000 customers

Without ecooking Grid cost $1.5m

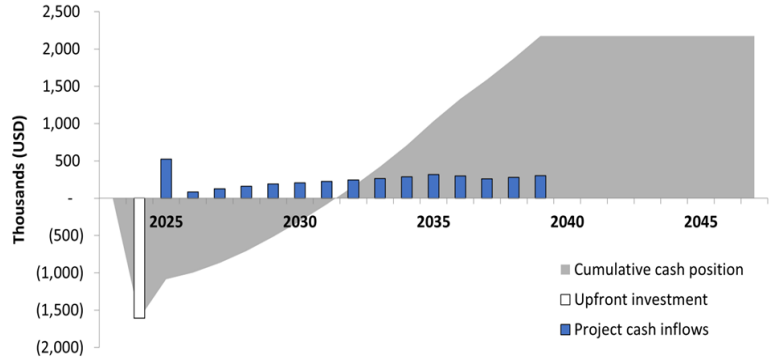
With ecooking for 50% households, $1.8m

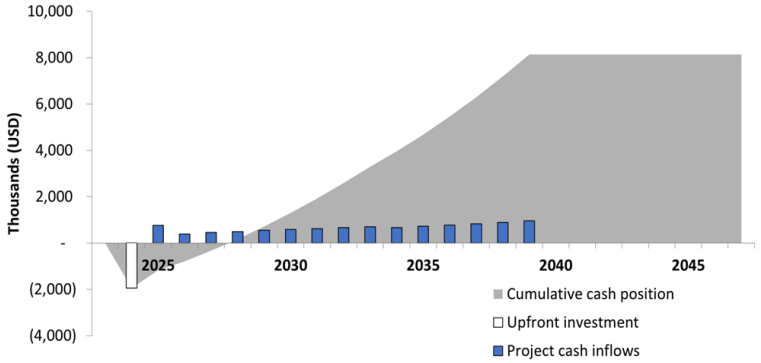
Revenue increase 157%

NPV 487% increase

Payback drops from 9 years to 4 years

(Caveat – I chose the best one!)





CONCLUSION

- Cooking presents a lucrative opportunity for utilities to increase customer satisfaction, whilst strengthening their bottom line
- East African utilities are at the forefront of this new wave of innovation, but many of the lessons they are learning could be replicated in other contexts
- Our second speaker Irene, leads the charge in Tanzania and will explain more.
- Our third speaker Tamara, will bring in the value of Energy Efficient appliances offered through a revolving fund.