



‘Gold Standard Carbon Financing Measured and Metered Energy Cooking Device Methodology’

ACEF 2023 Deep Dive Workshop

-Empowering and Enabling market development on clean cooking in the Asia-Pacific-

14/06/2023

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MECS Programme Aims & Outcomes

- Eight-year £40 million programme funded by UK Aid (Oct 2018 – March 2026)
- Aim: to ‘**break out of business-as-usual**’ approaches and rapidly accelerate the transition from polluting fuels to genuinely clean cooking (electric/gas) on a global scale.
- Particular, but not exclusive, focus on electric cooking
- Intended outcomes
 - Market-ready range of innovations (technology and business models) which lead to improved choices of affordable, reliable and sustainable modern energy cooking services for consumers.
 - MECS principles adopted in the SDG 7.1 global tracking framework
 - Modern energy cooking services incorporated in energy policies and planning.
- Global engagement – a range of countries in Africa and Asia.



MECS outputs

1. **Transition pathways.** Evidence and research into the factors driving transitions to modern energy cooking services (including in institutions and humanitarian situations)
2. **Technology and business Innovation** that make electricity more efficient, practical, more desirable and affordable for poor households (consumer preferences).
Innovation in business models, financing & private sector delivery of mecs
Challenge funds for simulating innovation (e.g., Supply Chain)
3. **Global tracking** modern energy cooking services. Attributes of modern energy cooking services defined and incorporated into SDG7.
4. **Finance work:** Operational models for scaling developed and tested, feasibility of finance mechanisms for scaling tested, understanding the factors for effective supply chains
5. **Changed the narrative on cooking** – pushing MECS results into practice for those involved in wider energy access policy and programming.



Carbon Finance is important part of MECS Scale up Finance Programme

Broad objective is to Catalyse Finance to support transition to MEC- other initiatives include;

- Acumen Pilots and report to promote Patient Equity investment
- Financing Clean Cooking Series of reports including a major Landscape Report
- RBF work including Kenya EPC and support to Endev/Nefco/WB
- E-cooking initiatives including both off grid and utility level work and OBF
- Impact Finance including supporting the Clean Impact Bond
- Collaborations with MDBs/DFIs to promote their involvement in MEC
- Different research initiatives and related publications

USING A PAYGO SYSTEM

By using PayGo's platform, you can bring the luxury of fast, clean, and affordable cooking all the way to your customer's door





Carbon Credit Market Background

- Growing awareness/policies suggested a trend to higher prices and more funding
- High emission savings from MECS devices compared to lighting/SHS e.g., around 2-5 tonnes CO₂e per annum
- Higher prices available for MEC projects due to high SDG co-benefits: Health, Gender, Livelihood and Environmental
- New opportunities arising from smart data features of MEC devices
- Overall, carbon credits represented an outstanding opportunity to promote clean cooking by reducing appliance costs and improving company/project profitability and viability
- Where could MECS play a role ??



Background to the Methodology work

- Discussions with Gold Standard and Climate Care identified the opportunity to introduce a revised methodology for metered clean cooking appliances
- Two main elements to the new approach;
 1. To use actual metered energy use as the basis on which to calculate emission reductions so improving accuracy and reducing costs
 2. To potentially use high-quality third-party data (e.g., World Bank MTF analysis) for Baseline fuel usage calculations
- Significant consultations with some leading NGOs, Companies, CCA and ESMAP/Ci-Dev showed a strong interest in MECS promoting this opportunity.
- Considered better to produce a whole new procedure than ad hoc changes





Start of the Methodology work

- Climate Care won the tender to act as advisor to MECS (conducted in mid 2020)
- MECS then appointed Climate Care to develop a new streamlined approach for calculating emission reductions for Electric Cooking and other Metered Cooking Devices.
- The project had 2 phases:
 - Phase 1: Climate Care was to adapt the existing Gold Standard methodology for certification of GHG emission reductions from modern cooking appliances.
 - Phase 2: Once the new methodology was approved by Gold Standard, Climate Care has to take a project through the new methodology and lead the project to registration.



METHODOLOGY FOR METERED & MEASURED ENERGY COOKING DEVICES (MMECD)

- New approach to quantify GHG impact from metered cooking devices through direct measurement of energy or fuel. Covers Electric, LPG, Biogas, and Bio-ethanol cookstoves.
- Reduced survey and monitoring transaction costs for project developers, whilst at the same time increasing reporting accuracy
- Most MEC cookstove developers have monitoring and data processing technologies to support PayGo and CRM needs
- *“A key advantage of clean over improved cookstoves in this respect is the ability to derive much more accurate estimates of project stove use through directly monitoring useRisk averse credit buyers would do well to seek out such projects”*



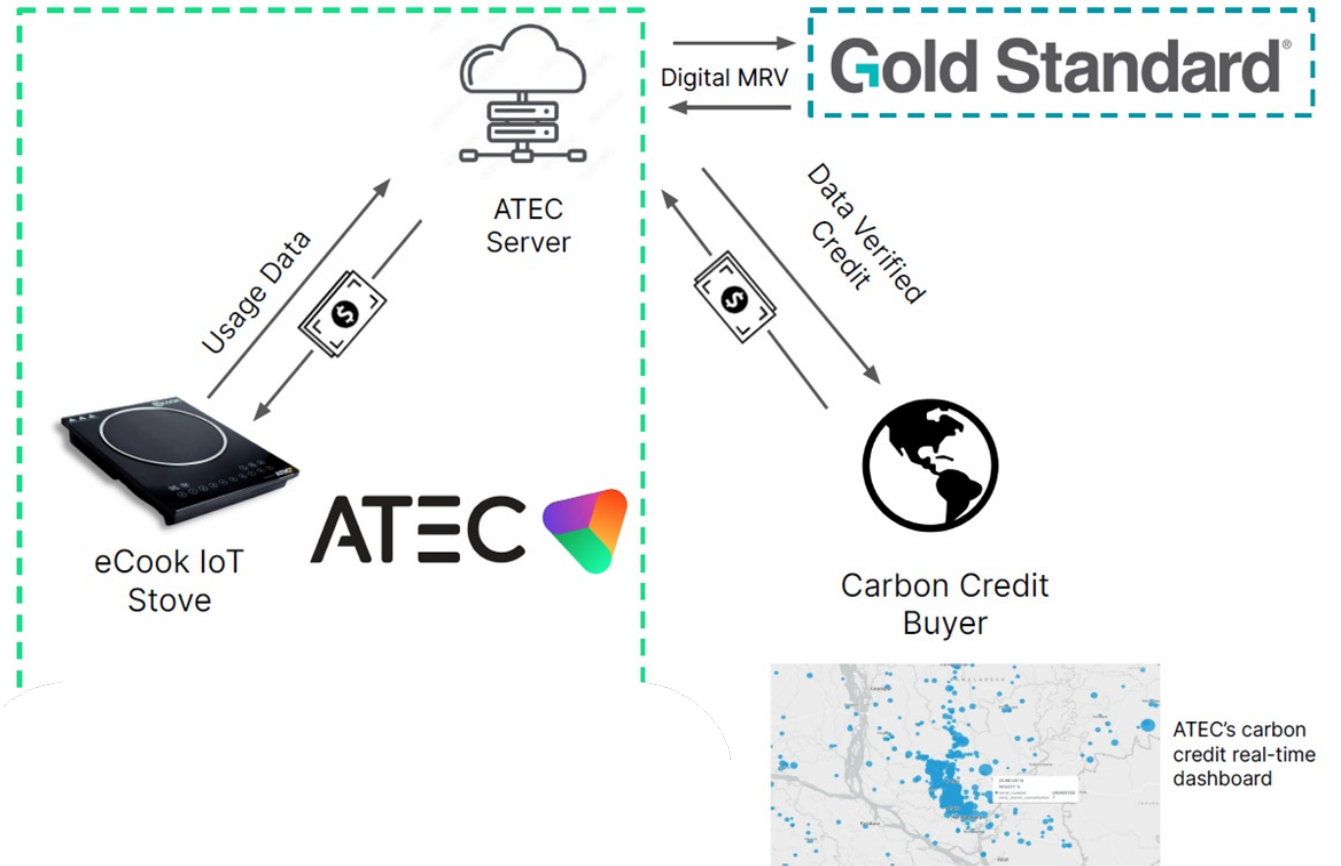
Developing and piloting MMECD

- The first version of the methodology used ratio of the efficiencies of the project device and the traditional stove replaced to work out how much of the baseline fuel use is avoided (and hence emissions offset)
 - Efficiencies estimated using Water Boiling Test
- But efficiency in a WBT doesn't do justice to the energy performance of the most efficient cookstoves (eg Electric Pressure Cookers), which deliver a different energy service.
- The second version of the methodology also allows use of the ratio of specific energy consumption to cook a stated dish or meal.
 - GS quote MECS analysis of cooking data as suggested default values for SEC



Developing and piloting MMECD

- Pilot
 - The initial pilot includes around 6,000 units of induction stoves for Cambodia and Bangladesh for the first year of credited-project
 - Market outlook until 2025
 - 230,000+ credits for Bangladesh
 - 148,000+ credits for Cambodia





Developing and piloting MMECD



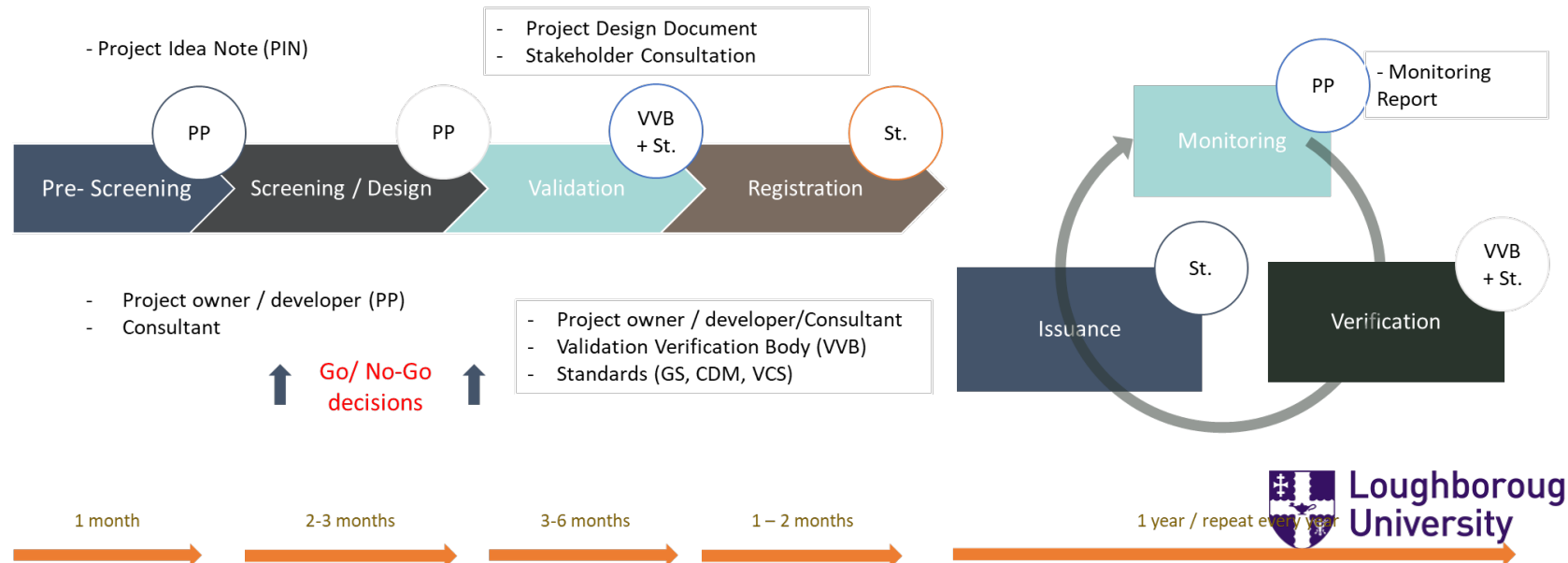
- Pricing
 - Secured an initial fixed pricing of around 8 USD per t/CO₂e for the first year
 - expected to rise to between 14 and 15USD within the next few years.
- Benefits
 - Lower the consumers' purchase cost of stoves by around 50%
 - Potential further development: "Cook-to-Earn"
 - use of digital sim-based usage measurement to create incentive payments to encourage use of the new cooking devices.
 - Utilising the 'PAYG' technology, incentive payments are to be made directly into the mobile money account of the user.



Lessons learned – MMECD Implementation

- Timeline

- The actual timeline of the project pilot design certification/validation of 13 months so far
- Much longer than anticipated max. 12 months for the reversal claim of carbon credits
- Future estimated timeline certified within five to six months.





Lessons learned – MMECD Implementation

- Steep Learning Curve
 - Establishing **default values**, Fraction of Non-Renewable Biomass (fNRB) due to different default values UNFCCC proposed and academic values.
 - Lack of **country specific wood-fuel use data** - required increased efforts and capacity for the project implementer.
 - Comprehensive **stakeholder consultations** – extended certification process requires extended documentation and clarity for all stakeholders involved.
 - **DMRV application** - integration of appliance usage-dashboard with live-usage data into the certification and credit issuance process is a steppingstone



MECS

Lessons learned – MMECD Implementation

- Diverse portfolio of technologies and cooking types, far beyond the simple hotplates.
- Insulation is a key to improving efficiency; pressurisation can further reduce energy needs.
- Air fryers, effectively small convection ovens, are new efficient cooking devices in the dialogue around cost-of-living crisis in Europe; may come to LMICs.
- Test methods and standards, and impact methodologies, will need to keep up.



Thank you for listening!

