MECS global experiences

Joint ECO Nepal Workshop

12th April, 2022

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MECS Programme Aims & Outcomes

- Five-year £40 million programme funded by UK Aid (Oct 2018 – Sept 2023)
- 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.
- 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 – 15 priority FCDO countries in Africa and Asia (including Nepal) but actively engage with far more.

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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 and gas 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. ECO)
3. **Global tracking** modern energy cooking services. Attributes of modern energy cooking services defined and incorporated into SDG7.
4. **Scale up:** 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.

Transition pathways

Enabling transitions to modern energy cooking services in places such as schools, clinics, and humanitarian response

- Rapid Institutional cooking baseline research in Indonesia, Malaysia and Cambodia
- Fuel-efficient menus in the school feeding programme in Rwanda – with World Food Programme
- Large EPC testing (33l – 65l) in Schools – Lesotho.

Investigation of transitions in food processing, to enable more pre-cooked food

Example research (Modern Eating workstream) – ASEAN countries

- Understanding how people learn to cook
- Informal food vendors, their practices, habits and beliefs
- Food processing industries (usually SME level)

Technology and Business Innovation

Infrastructure adaptability to eCooking: Grid connected solar, load balancing and business models on mini-grids (solar, hydro, hybrid) & SHS

Alternative Fuels: Biogas bottling, new LPG business models, new LPG delivery mechanisms

Appliance adaption: Low voltage appliances, modified EPCs for specific markets

Energy Storage: Phase Change batteries, Recycled Lithium, Batteries with different Chemistries,

Business innovation: delivery models, market-testing, bottom of the pyramid, situational analysis, social media campaigns, employment implications

Social Inclusion: human-centred design, humanitarian, institutional and industrial cooking, **inc. consumer behaviour and preferences**

Kachione – Malawi. An eWant DC 5L electric pressure cooker (EPC) connected to two 280W solar panels - An Off-grid Solar Photovoltaic Electric Pressure Cooker system that costs only $200 in Malawi.

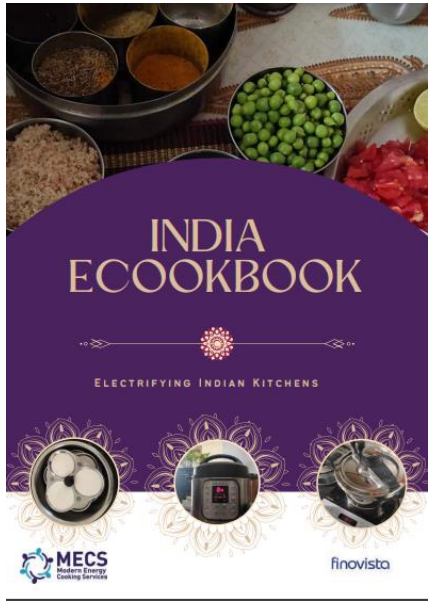
MECS Challenge Fund. PEEDA: Assessing electric cooking potential in micro hydropower microgrids in Nepal. https://mecs.org.uk/download-category/mecs-triid-report/

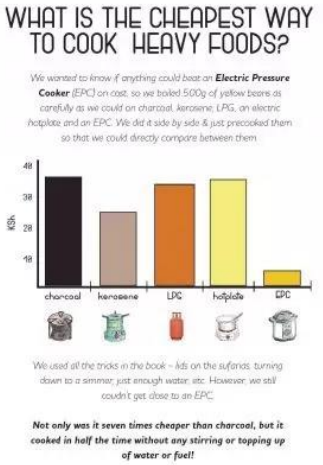
Understanding consumer preferences - eCookbooks

Key Achievement: eCookbooks for 8 countries developed:

Capture unique opportunities for transitioning to modern energy in each country context

- India eCookBook highlights value of EPCs and induction stoves for cooks further electrifying their kitchens.
- Zambia cookbook focuses on reducing loads on the grid.
- Uganda eCookBook focuses on the huge cost and time savings of eCooking in comparison with charcoal
- Nepal eCookbook raises awareness of health, social and particularly cost saving benefits of eCooking compared to LPG and firewood





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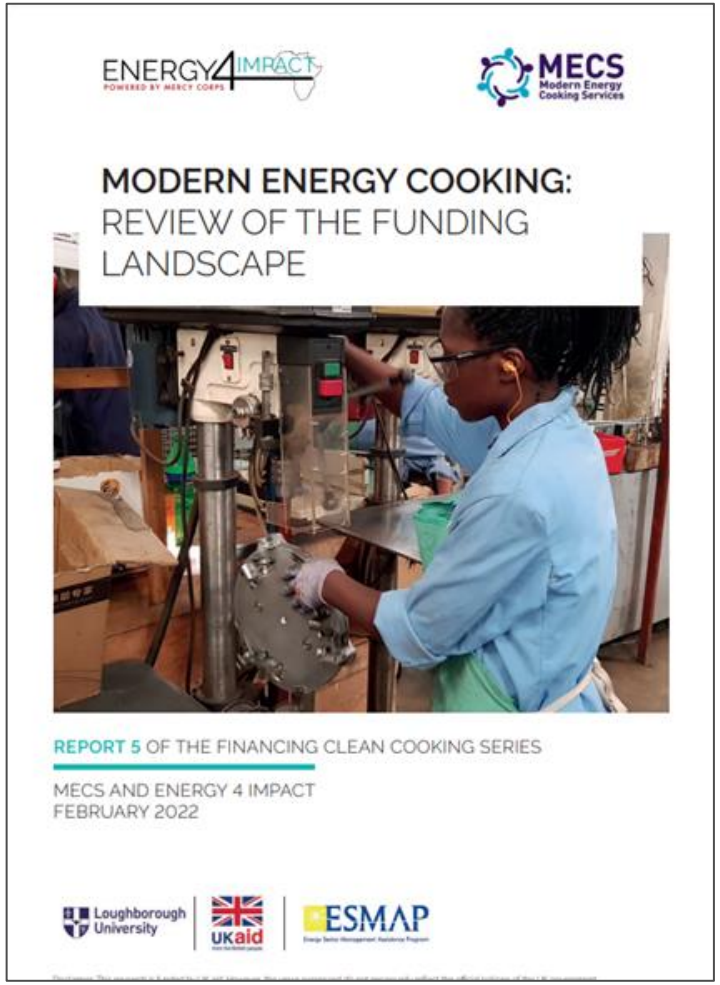
Scale up: Understanding finance for modern energy cooking

Series of five reports on different types of financing and financing strategies for clean cooking - with Energy4Impact.

- crowd-funding, appliance-finance, financing cooking in humanitarian settings, results based financing (RBF), and a review of the funding landscape for clean cooking.
- Lots of potential to leverage funding from electrification sector for ecooking (integrated planning)

NEFCO launched major new RBF initiative for clean cooking (€27.8 million initially)

- focused on higher-tier solutions including electric cooking.
- Design based on detailed advice provided by the MECS/Open Capital Advisors (OCA) collaboration on designing clean cooking RBFs.



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Scale up: Modelling and data

- Methodology developed with Climate Care for calculating certified CO2e emission reductions for metered clean cooking appliances.
  - strong interest from companies and projects due to recent sharp rise in carbon credit prices
  - MECS with Climate Care and ATEC Ltd, to pilot the use of the new certification process in Bangladesh and Cambodia using usage-tracking devices.

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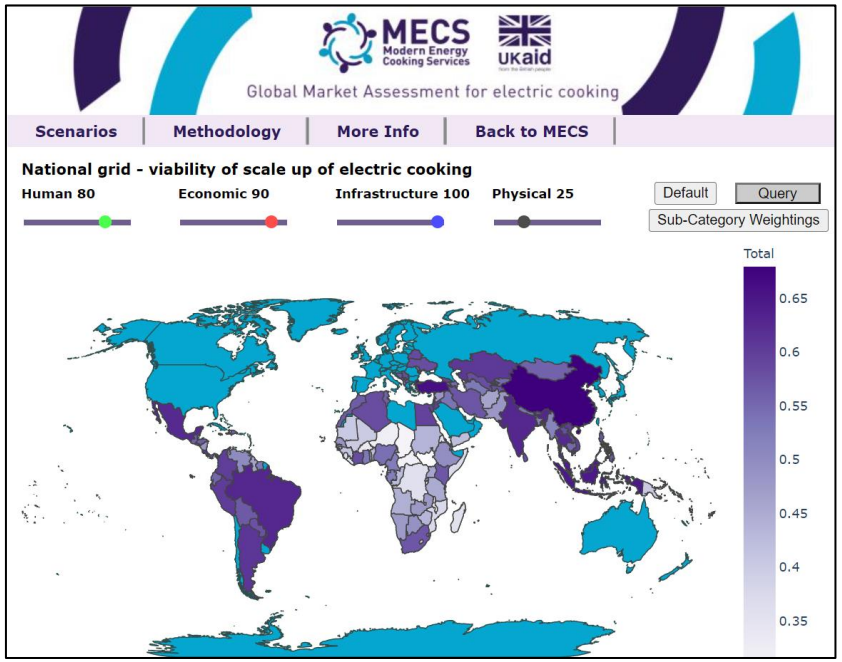
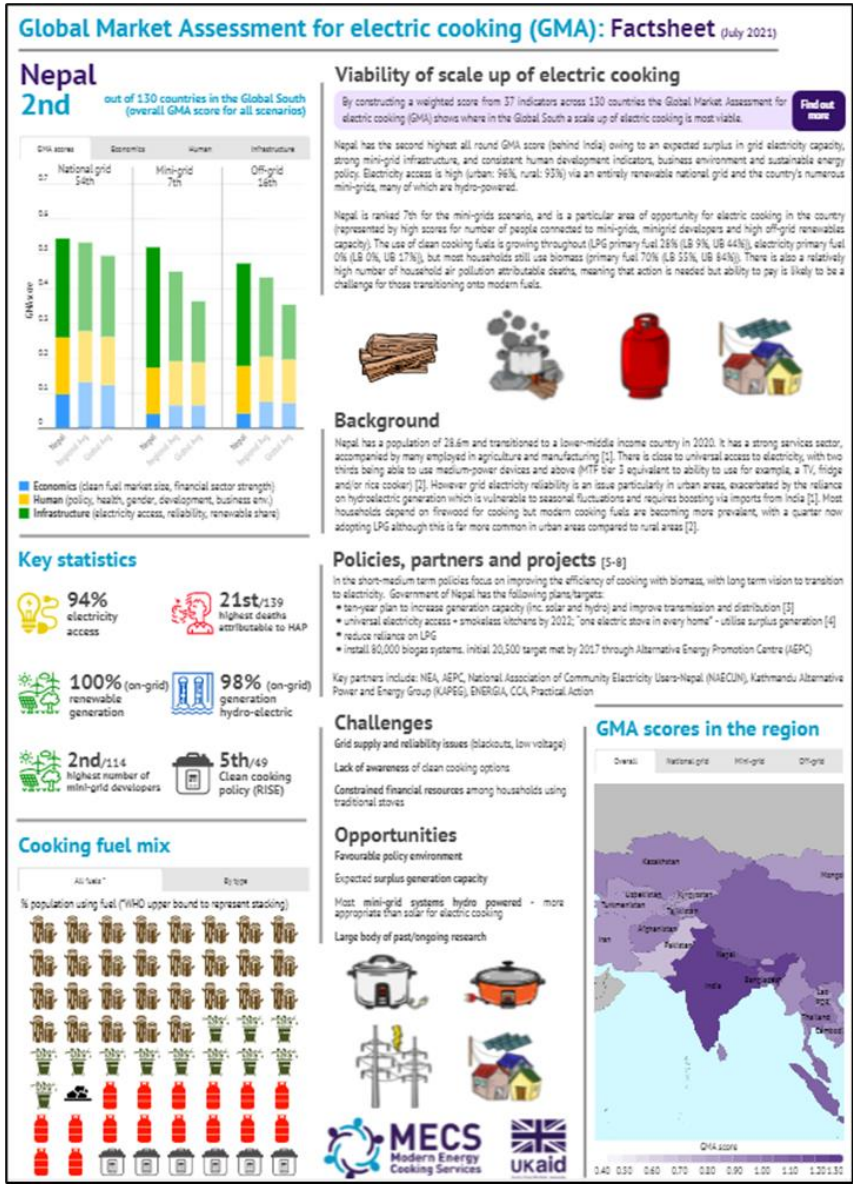
Scale up: MECS Global Market Assessment





- Provides score on the viability of electric cooking scale up from 37 indicators
- 130 countries in the Global South.
- Provides a score for national grid, mini-grid and off-grid (standalone) supported electric cooking.
- Online tool allows users to change individual indicator weightings, and explore all data sets (https://gma.mecs.org.uk/)

Scale up: Supply chains

- Understanding the factors for an effective supply chain
- Working with different companies allows us to learn from their experiences
- Knowledge from in-country partners is invaluable to secure data about device availability and market conditions
- Looking to initiate conversations with retailers to offer solutions more pro-actively and put in orders for more stock.
- ECO projects – key role in stimulating the beginnings of a supply chain

Delivering on intended outcomes

Outcome. MECS principles adopted in the SDG 7.1 global tracking framework

- Data sets and data collection guidelines developed by ESMAP

Outcome. Modern energy cooking services incorporated in energy policies and planning.

- Kenya's Ministry of Energy national eCooking Strategy
- Uganda 2020 Development Plan and Energy Policy.
- PEEDA's MECS research and Nepal NDC's implementation plan

Outcome. Market-ready range of innovations which lead to improved choices of affordable, reliable and sustainable modern energy cooking services for consumers.

- Range of innovations already available through collaborations with in-country partners
- Next steps – taking to scale