

Project Outline

Modern Energy Cooking Services (MECS) is an eight-year research programme funded by UK Aid (FCDO). We are a geographically diverse, multicultural and transdisciplinary team working in close partnership with NGOs, governments, private sector, academia and research institutes, policy representatives and communities in 16 countries of interest to accelerate a transition from biomass to genuinely 'clean' cooking.

MECS has now an array of data and access to a number of models that can help decision makers (Government, Private Sector, International Agencies and NGOs) apply integrated energy planning inclusive of cooking to their country. However, the data and models are somewhat scattered, and few of them have a friendly front end or dashboard that guides the decider through their specific context.

The vision for this work is of a single spreadsheet (or database) which will have a graphical interface – a Visualization of Key Data and Decision (VKDD) tool. Users will be able to specify elements such as fuel, appliance, size of family, spend profile of user, emission factor for grid based technologies, etc (with default values being available if these are an unknown for a specific context); and once the sheet 'calculates', the user is presented with comparative costs, load profiles (for use with electricity planning), the benefits of a switch of fuels including an indicative carbon saving, etc in clear numbers and graphs that can be easily exported for reports.

The examples given of the inputs and outputs is not exhaustive, and the consultant will work with the MECS team to ensure the model covers all items often requested by our partners.

A number of complex models are available for integrated energy planning which seek to create detailed costings and find optimization scenarios. Most of those rely on the modeler making assumptions about things such as load profile etc. The intention here is to provide a tool that can test different assumptions, in different contexts (e.g. country, urban/rural, grid/off grid etc) and enable modelers to clearly articulate them.

For example, a modeler might assume that households of 5 persons use 2kWh per day for 3 meals, and the country they are modelling might have a tariff of \$0.12 per unit. Many models then compare this electricity use with the local LPG price and assume that people refill their 12kg cylinders 3 times a year. The complex models such as OSeMOSYS or the Clean Cooking Explorer will then determine uptake based on those two fuel prices.

The intention of the VKDD is that it enables modelers and decision makers who know the context they're interested in, but may not know the nuances of cooking, to triage and explore their assumptions before they're plugged into one of the more complex models.

For example, is 2kWh of eCooking actually equivalent of 12 refills of LPG rather than 3? What are the differences if the eCooking device is a highly efficient induction stove or an EPC? If the consumption was raised to 2.5kWh per day – what does that energy represent in terms of LPG increase?

Scope of Work

MECS is seeking a consultant to work with members of the wider team to:

- Use recent publications about the various models available for energy planning (e.g. OSeMOSYS, Clean Cooking Explorer etc.) to ensure the work dovetails (where possible) with those model requirements for assumptions.
- Collect and collate reports and papers that present data and evidence that will inform the VKDD tool
- Create a simplified spreadsheet (with graphics/visualization) that enables a user via inputs or sliders to explore the cost effectiveness of eCooking compared with alternative fuels, and if possible, creates load profiles for use in other modelling,
- Create a guidance document or help pages so the tool can be used easily
- Create a guidance document that promotes the tool and enables potential users to access the tool.

Deliverables, budget, and duration

All deliverables must be completed and delivered no later than **31st January 2025**. The consultant should demonstrate in their response to these ToRs how the work can be completed within the time available.

Deliverables

- A data repository of the papers/reports/ data sources used in tool development
- A spreadsheet (or other software) based tool that meets the brief
- A help document navigating the user through the tool
- An 'invitation' document outlining the benefits and uses of the tool.

Payment is contingent on successful completion of all deliverables.

Deliverable	Payment value
Contract signing	30%
Submission of the first draft of the spreadsheet/tool for review	20%
Completion and acceptance of all deliverables	50%
Total	100%

The budget should provide a breakdown of days allocated to each task with a suitable day rate. Where there are a team of people the costs for all individuals should be broken down.

Responding to these ToRs

The University will accept the quotation which is the best value for money i.e. a balance between cost and quality. Shortlisted organisations may be invited to an interview (online) to finalise selection.

Responses should be a maximum of 12 pages (plus up to 3 CVs, 2 pages each).

Please send all responses to mecs@lboro.ac.uk with the subject 'VKDD'. All proposals must be received by **Thursday 26th September 2024, 23:55 BST.**

Each submission will be evaluated based on the following combination of price and quality:

Quality	Score
Appreciation and understanding of the task	5%
Quality of proposal and approach	30%
Skills, expertise and experience of consultant/organisation team members including evidence of similar work completed	30%
Proposed management of the activities including Gantt chart	5%
Price and costs	30%
Total	100%

Contract Management

This contract will be managed by Dr Louise Medland All deliverables should be emailed to them on or before the date required. Loughborough University reserves the right to request the consultant to make revisions to the deliverables if they do not meet the required quality. The consultant will be required to make these revisions at no additional cost to Loughborough University.

Appointments to discuss the overall progress against the contract will be agreed at mutually convenient times to the consultant and the project manager.

Ethical considerations

All research must be in line with the [Code of Practice for research, Promoting good practice and preventing misconduct](#) (UK Research Integrity Office, 2009).

The UK Research Integrity Office (UKRIO) is an independent charity, offering support to the public, researchers and organisations to further good practice in academic, scientific and medical research. Its confidential advice service is available to free of charge to individuals (members of the public, research participants, patients, researchers and students) and subscribing organisations. Their advice service can be [accessed here](#).

At a minimum, participants must not be subjected to physical, social, legal or psychological harm. Due consideration and ethical steps must be taken into safeguarding all participants, especially the vulnerable. A detailed Participation Information Sheet explaining the full scope of the study, what confidentiality entails, and that no participants will be forced into participating, must be provided at recruitment. Participants are to be made aware that participation is fully voluntary and there are no repercussions if they choose to no longer participate in the study at any point in time. Participants should, ideally, sign a consent form which includes consent for the use of photographs and videos.

Confidentiality must be maintained at all times. With regards to confidentiality and privacy of participation, participants must be informed that their anonymity will be maintained in any outputs and that all identifiable markers will be removed from any data sets that are published.

The consultant will be responsible for securing any research or ethical permissions needed from local authorities in each of the field work locations. There may be additional ethical, or research clearance needed for this kind of user centric design research in the chosen country.

MECS is funded by UK Aid through the Foreign and Commonwealth Development Office. It is a partnership between researchers, innovators, policy makers, and ESMAP drawing on their expertise and relevant work from around the world to co-construct new knowledge with practitioners and the private sector. It is led by Loughborough University, UK.

