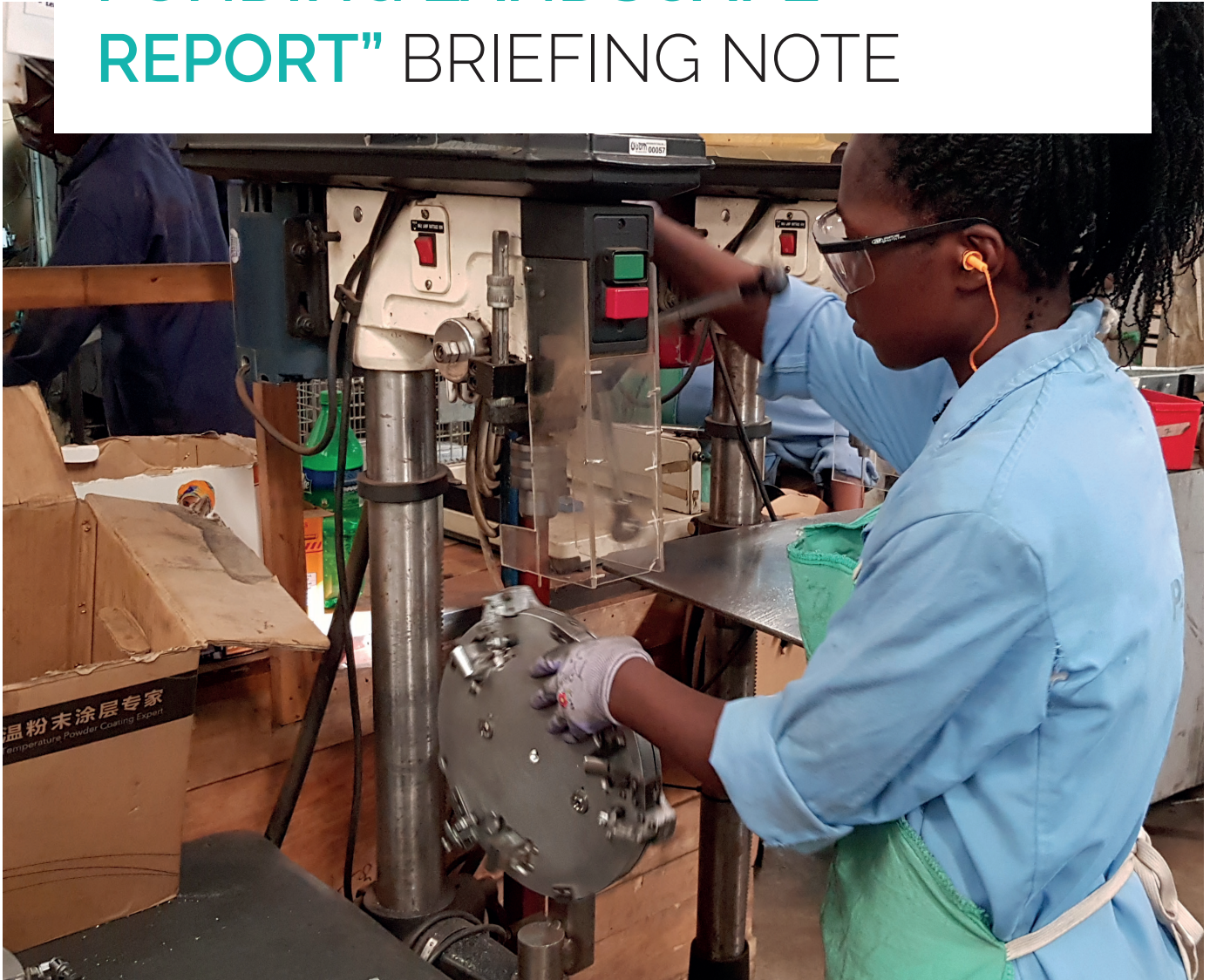


“MODERN ENERGY COOKING: REVIEW OF THE FUNDING LANDSCAPE REPORT” BRIEFING NOTE



FEBRUARY 2022

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INTRODUCTION

The Modern Energy Cooking: Review of the Funding Landscape report is the culmination of a major research partnership between Energy 4 Impact and MECS that aims to galvanize greater investment in the clean cooking sector. Taken as a whole, the five reports in the Financing Clean Cooking series comprise a comprehensive and unprecedented analysis of the financing mechanisms currently at play within the sector, whilst offering recommendations to donors on the critical interventions needed to support the growth of this vital industry.

Clean cooking has long been a woefully underfunded sector and the lack of investment perpetuates a reliance on cooking with biomass that comes with devastating health and environmental impacts. Whilst access to clean and modern energy cooking solutions is a key element of the UN's Sustainable Development Goals (SDGs), as enshrined in Goal 7 of the SDGs, clean cooking clearly remains a neglected component of the SDG Agenda, as more than 2.8 billion people globally still lack access to clean and modern energy cooking solutions. This is estimated to cause around 4 million premature deaths yearly due to the exposure of polluting cooking fuels, according to the World Health Organisation.

While investment into clean cooking as part of the energy sector was traditionally almost exclusively sourced from international public funding for improved and lower-tier biomass cookstoves, the sector has experienced a rapid transition over the last three to five years. This is due to the growing viability of modern energy cooking solutions, such as electricity, biogas, LPG and ethanol. These developments present a new window of opportunity to unlock the financing needed for an inclusive and just transition to modern energy for cooking. The new report *Modern Energy Cooking: Review of the Funding Landscape* by the Modern Energy Cooking Services Programme (MECS) and Energy 4 Impact provides an overview of the funding landscape for modern energy cooking solutions, based on desk research and surveys and interviews with 60 clean cooking companies, funders and organisations. It outlines recommendations on how financing institutions could support emerging clean and modern cooking technologies to achieve modern energy access for all.

The new report, the fifth in the *Financing Clean Cooking series*, shows that higher-tier clean and modern cooking technologies have become more widely accessible and affordable to low-income populations, who until recently were limited to lower-tier improved cookstoves using biomass.

EMERGING DRIVERS WITH POTENTIAL TO CATALYSE SCALING UP OF THE CLEAN COOKING SECTOR

The data from the surveys and interviews found that the increased accessibility has been largely driven by diversification and innovation of cooking appliances, fuels and business models. More companies are now entering the clean cooking market, including utilities, mini-grid developers, and solar home system companies, as well as enterprises offering liquified petroleum gas ("LPG"), ethanol and biogas for cooking. This, combined with technological innovations, has resulted in a reduction in appliance costs as well as improved energy efficiency and performance. Consequently, the sector is becoming more profitable and has strong potential for scaling up, provided that this is supported by innovative and diverse financing options.

The new data in the report identifies three key drivers, which are crucial for scaling and transforming the modern energy cooking sector.

SMART DATA TECHNOLOGY

Modern energy cooking companies are increasingly using "smart data" features and pay-as-you-go ("PAYGO") technologies which can remotely track the usage of fuels and enable digital payments which reduce transaction costs. Digital payment solutions are attractive for (lower-income) customers and smart-data features enable a more accurate tracking of fuel consumption and energy efficiency. The latter further unlocks the opportunity to access carbon credits, which is becoming an increasingly



**MORE THAN 2.8 BILLION PEOPLE
GLOBALLY STILL LACK ACCESS
TO CLEAN AND MODERN ENERGY
COOKING SOLUTIONS**

important financing source for companies due to the high emissions savings of modern energy cooking solutions. Certification agencies are designing frameworks to facilitate digital reporting of the emission savings. The recently approved *carbon certification methodology for metered clean cooking devices* by Gold Standard, which was co-developed by MECS and ClimateCare, underlines this trend. The new methodology will enable clean cooking companies to more easily access carbon finance to catalyse greater scale, increase profitability, and ultimately bring new funding resources into the sector.

Smart data can also potentially be used to streamline impact measurements and reporting in other areas such as health, gender, livelihoods and environment at a lower cost. This should in future facilitate companies' access to impact funding provided by donors and private investors.

EMERGENCE OF VIABLE ENERGY-EFFICIENT COOKING APPLIANCES

Secondly, although the efforts to enhance access to clean energy have progressed rapidly in the last decade, around 789 million people are still without reliable access to electricity.¹ Even more people globally lack access to clean cooking. The significant investments in grid and off-grid networks of more than 100bn USD per year, which includes financing for improving electricity access of around 31bn USD annually are not yet mirrored by similar funding efforts for clean cooking access. Investments into clean cooking access however only amounted to 133mio USD annually², which is significantly less than what is required to reach those still cooking with solid biomass. According to IEA, around 153 million people globally have gained access to electricity annually but approximately 2 billion people with access to some form of electricity continue to cook with biomass,³ which constitutes a huge untapped potential for electric cooking.

MECS, in collaboration with ESMAP, have clearly demonstrated that grid-based electric cooking is already viable in many settings due to new energy-efficient appliances such as electric pressure cookers (EPCs).⁴ This is further aided by the recent falling prices of lithium-ion batteries and solar photovoltaic (PV) power and the rising cost of alternative fuels, such as charcoal and kerosene. Furthermore, behavioural research by MECS through the cooking diaries methodology has demonstrated the excellent user experiences for cooking a wide range of local dishes with EPCs, in particular.⁵



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These developments in conjunction with the rapid progress in the off-grid energy sector support the emergence of electric cooking using cost-effective energy-efficient appliances as a viable market. By integrating clean cooking in energy planning, the very large investments being directed at the electricity sector can be leveraged to promote clean cooking. This opens up a new dimension for rapidly scaling clean and modern cooking solutions. There is a growing recognition in the clean cooking community on the need to reposition clean cooking within the wider energy access framework to unlock universal modern energy access for all (SDG 7) by 2030.

CHANGING FINANCING LANDSCAPE

The third key driver for the scaling of the clean cooking sector is a changing financing landscape. In the past, multilateral development banks (MDBs) and other large development finance institutions (DFIs) have neglected the cooking sector in their mainstream operations, as improved cookstove projects did not correspond with the larger investment profiles they normally target.

The emergence of modern energy cooking solutions increasingly provides an opportunity for these institutions to scale up their engagements and investment into the clean cooking sector. With the growing market and diverse players entering the modern energy cooking sector, there is a need for the large DFIs to bring their expertise and resources from the energy access space in support of the clean cooking sector. There are opportunities for the public and private sector energy teams of these large DFIs to provide specific support for the sector. This includes opening up lines of credit to support consumer finance – which was instrumental in

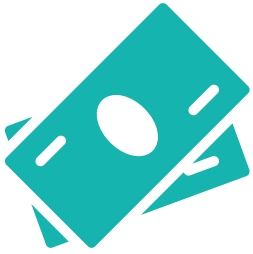
1. Source: ESMAP 2020. https://www.esmap.org/cooking_with_electricity_a_cost_perspective

2. Source: SE4All, 2021. <https://www.seforall.org/system/files/2021-10/EF-2021-UL-SEforALL.pdf>

3. Source: IEA, 2020. <https://www.iea.org/reports/sdg7-data-and-projections/access-to-clean-cooking>

4. MECS/ESMAP. *Cooking with Electricity a Cost Perspective*. 2020. <https://mecs.org.uk/cooking-with-electricity-a-cost-perspective/>

5. See: MECS, 2020. <https://mecs.org.uk/publications/ecook-kenya-cooking-diaries/>



A FURTHER CHALLENGE IS HOW TO MANAGE CURRENCY RISK ARISING FROM PRODUCT SALES IN CURRENCIES PRONE TO DEPRECIATION

accelerating the rollout of solar home systems and lighting products over recent years - and various other initiatives to support innovations in the clean cooking sector.

HOW CAN WE CAPITALISE ON THESE DEVELOPMENTS?

Despite the positive prospects for the scaling of the modern energy cooking market, our research found that clean cooking companies are still facing substantial challenges to scaling up. One major challenge which some fast-growing clean cooking companies face is how to fund their receivables (both trade and carbon credits) against a relatively small equity capital base. Successive rounds of capital raising to fund organic growth are one approach to solving this problem. However, sourcing equity funding is challenging, especially for companies in developing markets and countries. Some companies are resorting to more creative funding solutions to promote scaling with some success, such as special purpose vehicle structures. However, the challenge of providing equity finance to the sector is still present.

A further challenge is how to manage currency risk arising from product sales in currencies prone to depreciation, as is the case in many low- and middle-income countries.

The new report by MECS and Energy 4 Impact presents several recommendations for potential interventions by donors and other funders to address some of these challenges and support the scale-up of the modern cooking sector. These include:

- Link clean cooking more strongly to wider energy programmes of large MDBs and other DFIs and integrated energy plans of national governments. Large-scale investment in electrification should be leveraged to promote clean cooking and wider research on financing options can support this further.
- Provide R&D grant funding to encourage further technology and business innovation.
- Promote innovative financing solutions that address the problems of fast-growing companies facing capital constraints to effectively scale-up, whilst offering de-risking instruments for smaller businesses and start-ups.
- Use the opportunities created by new digital technologies to promote impact funding solutions.

CONCLUSION

Overall, the report illustrates the positive prospects for scaling up financing to the clean cooking sector, in part due to the rapid technological advancement, diversification and innovation in recent years. It suggests that the "new" clean cooking market involves multiple business models which requires a broader understanding of how clean cooking can benefit more from large scale energy investments. Furthermore, the report points towards the need for stronger collaboration between companies, financing institutions and international organisations to facilitate sustainable sectoral growth. This will be crucial to ensuring an inclusive and just transition to modern energy cooking for all.

This report is part of the *Financing Clean Cooking series* which aims to facilitate the transition to clean cooking through financing and investment. The series is targeted at a diverse range of public and private stakeholders in clean cooking, including NGOs, donors, investors and suppliers. The other reports in this series looked at **Crowdfunding for clean cooking**, **End-user finance for appliances**, **clean cooking Concessions for displaced people** and **Results-based financing**. These are available on the MECS website: <https://mecs.org.uk/publications/>

Please get in touch with MECS and Energy 4 Impact for further information.
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