



MECS
Modern Energy
Cooking Services



MECS
Modern Energy
Cooking Services

MECS Final Technical Report

Date: 25th August 2022

Organisation: African Centre for Technology Studies

Authored by: Joanes Atela, Emily Bolo, Tom Randa, Haron Akala, Paul Osogo, Victoria Chengo, & Salome Okoth

Executive Summary

Kenya is one of the many SSA countries facing a formidable clean cooking challenge. The majority of the population (81%) still relies on polluting fuels such as firewood (65%), charcoal (10%), and kerosene (6%) for their cooking needs (GoK, 2019). This has led to an array of interlinked development challenges: GoK (2019) estimates that in Kenya, 21,560 deaths/yr are caused by household in-door air pollution; 8-11Mton/yr. woody biomass is lost due to forest degradation, and 13.6 MtCO₂e/yr is emitted. Women and girls are disproportionately affected, with greater exposure to cooking smoke, as well as the drudgery of collecting fuel and lighting/tending fires, which results in missed educational and economic opportunities. There is a potentially transformative opportunity for Kenya's clean cooking sector to break out of this 'business as usual cycle' with electric cooking. On the one hand, the country has experienced increased connection to the electricity with three-quarters of the population now connected to some form of electricity but doesn't yet use it to meet most of their cooking needs. On the other hand, the country has an ambitious clean cooking target i.e. achieving universal clean cooking by 2028. As such, there is a growing need to connect the clean cooking ambition and the new opportunities in the electrification sector through the promotion of e-cooking.

Through engagement with clean cooking stakeholders in Kenya, e-cooking policy research, policy dialogues and opening up of e-cooking information hubs, the implementation of the MECS Kenya programme over the last 2-3 years reveals that Kenya's domestic policies are advocating for expanded access to electricity and its utility. The e-cooking agenda is now part of the National Government policy agenda- being promoted through the e-cooking National strategy as part of wider National clean cooking strategy and National Integrated Energy Plan. Similarly, Kenya's revised NDC recognised the role of clean cooking in climate change mitigation and adaptation with very strategic opportunities for e-cooking. While the e-cooking policy ecosystem is developing fast across sectors, the market ecosystem is also slowly progressing but still faces the challenge of underdeveloped value chain, financing, and general market awareness.

The MECS Kenya programme established the e-cooking hubs in four counties including Nairobi, Kisumu, Makueni, and Kitui and these are proving to provide strategic opportunities to develop e-cooking ideas from the supportive policy frameworks to actual adoption by different community groups. Additionally, these hubs are strategic in catalysing e-cooking awareness, technology and financing support thus promises to enhance the e-cooking markets and value chains from the grassroots and in an inclusive fashion. The demand stimulated through these hubs is also enhanced learning and exchange across context as emerging e-cooking champions actively begin to spearhead e-cooking agenda in their respective regions and create learning. Based on this learning, other counties are now beginning to replicate the model e.g., Kakamega county in the process of establishing its own e-cooking hub to promote e-cooking in the western region/counties. As part of supporting the grassroots e-cooking agenda, some counties have now started mainstreaming the e-cooking in their planning. For example, Makueni and Kisumu counties are planning to allocate resources to promote e-cooking through the third-generation integrated development plans (CIDPs).

The MECS Kenya programme has also succeeded in establishing an integrated e-cooking community of practice- working closely with the Kenya Power and Lightening Company and the Clean Cooking Alliance. This has enhanced a good working relation between stakeholders working in the clean cooking and electrification sector thereby strengthening a collective voice towards national policy change- an outcome that is currently anchoring the upcoming National e-cooking strategy.

Despite successes in strengthening the e-cooking policy agenda at national level, planning at county level, and stimulating consumer demand through awareness creating platforms (hubs), the linkage with the e-cooking appliance companies remains relatively weak. Most companies such as have continued to focus on established markets and still face challenges of venturing in the new markets in the counties due to uncertainty in financial models, lack of adequate e-cooking infrastructure among others. There is need to establish strategic Public-Private Partnerships (PPPs) focused on developing affordable and pro-poor financial and technological models for e-cooking that can then be deployed through the hubs to stimulate adoption and e-cooking markets interactions and take advantage of the huge and promising grassroots market and supportive policy environment. Additional studies to identify these opportunities are needed to take MECS to the next level.

'This material has been funded by UKAid from the UK government; however, the views expressed do not necessarily reflect the UK government's official policies.'

Table of Contents

Executive Summary.....	1
List of Acronyms.....	5
List of Figures	5
1 Introduction	6
1.1 Brief about the MECS projects.....	7
1.2 Aims and Objectives.....	7
Research and knowledge production	8
Impacts on the policy and industry landscape.....	8
2 The Project Implementation Approach	8
2.1 Overview	8
2.2 Strategic Partnerships	9
2.3 Techno-Policy Report.....	9
2.4 Cooking Diaries 3.....	10
2.5 Stakeholder Engagement Strategy.....	10
2.6 Community of Practice (CoP)	10
2.7. ‘Pika na Power’ Demonstration Programmes.....	10
2.8 Regional E-Cooking Hubs	11
3 Outputs	12
3.1 Overview	12
3.2 Knowledge Products	12
3.3 Policy Influence	12
3.4 Capacity Support.....	12
3.5 Awareness and Market Expansions	12
3.6 Engagements.....	13
3.7 External Engagements	13
4 Outcomes and Learning	13
4.1 Outcomes.....	13
4.1.1 Replication of the Regional E-cooking Hubs	13
4.1.2 National Strategy	13
4.1.3 Strengthened Working Relationships	14
4.1.4 Social Media Campaigns	14
4.2 Learnings.....	15
4.2.1 Investments.....	15
4.2.2 Partnerships	15

4.2.3 Strategy	15
4.2.4 Research and Evidence	15
4.2.5 Public Education.....	15
4.2.6 Reliable Electricity	16
5 Recommendations	16
5.1 Short Term Measures.....	16
5.1.1 Continuous demand stimulation on e-cooking.....	16
5.1.2 Public Education.....	16
5.1.3 Strengthening e-cooking CoP.....	16
5.2 Medium Term Measures.....	16
5.2.1 Develop EPCs with bigger capacities.....	16
5.2.2 Introduction of a wide range of energy-efficient appliances in the Kenyan market.....	17
5.2.3 E-cooking business models	17
5.2.4 Institution of more regional cooking hubs.....	17
5.2.5 Incorporate the e-cooking technology into the curriculum.....	17
5.2.6 Policy structure on sustainable subsidy program	17
5.3 Long Term Measures.....	17
5.3.1 Enhancing regional electricity grids and market integration.....	17
5.3.2 A policy that deals with wiring.....	18
Annexes.....	19
Annex 1: Project Activity.....	19
Annex 2: Project Output	22
The Kisumu’s E-Cooking Hub Launch	35
Photo story.....	35

List of Acronyms

ACTS	African Centre for Technology Studies
CCAK	Clean Cooking Association of Kenya
CoP	Community of Practice
COP	Conference of Parties
CIDPs	County Integrated Development Plans
EPC	Electric Pressure Cooker
FB	Facebook
HEPA	Health and Energy Platform for Action
GoK	Government of Kenya
KPLC	Kenya Power & Lighting Company
MECS	Modern Energy Cooking Services
MoE	Ministry of Energy
NDC	Nationally Determined Contribution
PPPs	Public-Private Partnerships
SCODE	Sustainable Community Development Services
SDGs	Sustainable Development Goals
SEACAP	Sustainable Energy Access and Climate Action Plan
SETA	Sustainable Energy Technical Assistance
SSA	Sub-Saharan Africa
TVETs	Technical and Vocational Education and Training

List of Figures

Fig 1: MECS Kenya Framework.....	7
Fig 2: Intersection between clean cooking and electrification.....	9
Fig 3: Map of Kenya highlighting the regions where the e-cooking hubs were launched.....	11

1 Introduction

This report provides key highlights of the lessons learnt in the implementation of the Modern Energy Cooking Services (MECS) programme in Kenya over the last 2-3 years. The programme was implemented by a team from the African Centre for Technology Studies and in this report, activities, lessons, and outcomes as well as next steps are presented.

In the context of clean energy transition, Modern energy services are crucial to human well-being and to a country's economic development. Cooking remains a central part of energy transition and core to the achievement of the UN Sustainable Development Goal No. 7 and the Paris Agreement – where most countries- through their Nationally Determined Contribution (NDCs) have outlined clean energy as key mitigation and adaptation area. Cooking is a basic livelihood activity where majority of the poor in developing countries directly interact with energy needs and the consequences of lack of it. As such, cooking provides a starting point for transitioning energy from traditional (detrimental options) to modern clean options and providing opportunity for nurturing energy entrepreneurship and poverty reduction among the poor majority and in line with SDG 1.

Kenya is one of the many SSA countries facing a formidable clean cooking challenge. The majority of the population (81%) still relies on polluting fuels such as firewood (65%), charcoal (10%), and kerosene (6%) for their cooking needs (GoK, 2019). This has led to an array of interlinked development challenges: GoK (2019) estimates that in Kenya, 21,560 deaths/yr are caused by household in-door air pollution; 8-11Mton/yr. woody biomass is lost due to forest degradation, and 13.6 MtCO₂e/yr is emitted. Women and girls are disproportionately affected, with greater exposure to cooking smoke, as well as the drudgery of collecting fuel and lighting/tending fires, which results in missed educational and economic opportunities. There is a potentially transformative opportunity for Kenya's clean cooking sector to break out of this 'business as usual cycle' with electric cooking. On the one hand, the country has experienced increased connection to the electricity with three-quarters of the population now connected to some form of electricity but doesn't yet use it to meet most of their cooking needs. On the other hand, the country has an ambitious clean cooking target i.e., achieving universal clean cooking by 2028. As such, there is a growing need to connect the clean cooking ambition and the new opportunities in the electrification sector through the promotion of e-cooking. It is worth noting that, the Government of Kenya is also taking on a leading role at global high-level political forums, including the new HEPA (Health and Energy Platform for Action), the High Level Dialogue on Energy and upcoming COP 26 (Conference of Parties), championing the clean cooking agenda and highlighting the need to drive forward progress by connecting with the electrification sector.

While there are clear technical and policy opportunities to leverage the gains in electrification to drive forward the clean cooking agenda, the country still experience various challenges including weak consumer demand and perception that cooking with electricity is expensive, weak supply chain for e-cooking including limited access to after-sales service for modern energy-efficient electric cooking appliances and high initial costs of energy-efficient appliances, which excludes poorer households for cash purchase and relatively lack of e-cooking policy agenda.

The purpose of the MECS Kenya programme, led by the African Centre for Technology Studies was therefore to work with the clean cooking, electrification stakeholders including national and county

government, civil society and clean cooking alliances, communities to catalyze adoption of e-cooking through action research, dialogues, technical support and building partnerships/connections between actors in this sector. This report therefore highlights the key activities, learnings and opportunities for next steps based on the implementation of the MECS Kenya programme over the last 2-3 years.

1.1 Brief about the MECS projects

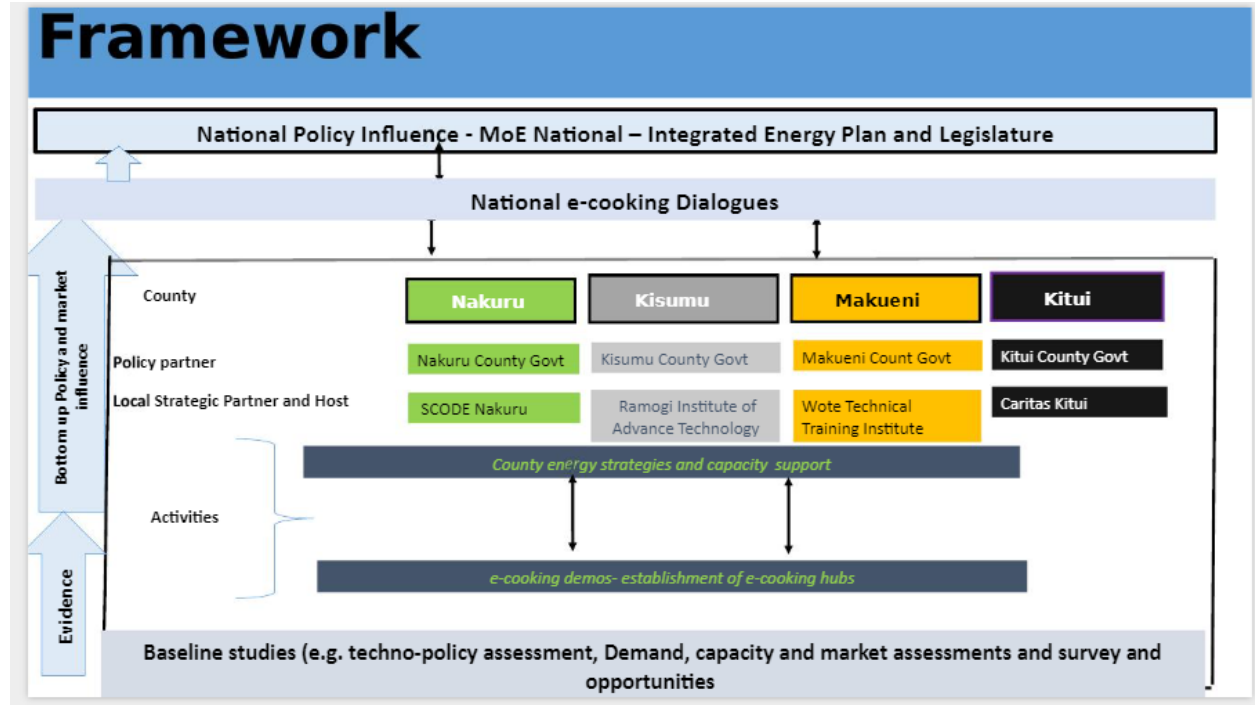


Fig 1: MECS Kenya Framework

The Modern Energy Cooking Services (MECS) programme is a £40 million (\$50.5 million) UK Aid-supported initiative aimed at promoting modern energy cooking services in the Global South. The programme works through a multi-partner program of activities, led by Loughborough University in the UK, to catalyze the transformation of the clean cooking and electrification sectors that can enable widespread uptake of modern energy cooking services. This could generate inclusive environmental and development benefits for the poor by enabling technological, institutional, and market innovations. In Kenya, the African Centre for Technology Studies (ACTS) is the national host of the Modern Cooking Services (MECS) program. The MECS Kenya programme has been implemented over the last one and half years under the leadership of the African Centre for Technology Studies. The programme builds on a long-standing mutual partnership between Loughborough University and the African Centre for Technology Studies. In implementing the MECS Kenya programme, the ACTS team has been very keen to safeguard and strengthen the partnership for more transformative energy agenda in Kenya.

1.2 Aims and Objectives

The aim of the MECS project is to catalyse the transformation of clean cooking through technological, institutional, and market innovations that enable long-term use of MECS to generate inclusive environmental and development benefits for the poor.

In Kenya, the aim was to identify local niches through which e-cooking can be catalysed as well as develop an action plan on how to build on the niches to influence policy, create awareness and linkages for e-cooking, and showcase e-cooking experiences beyond the country.

ACTS specifically worked with partner organisations in the East, West and Southern Africa region to pursue MECS transformations through multidisciplinary research evidence and policy options as a tool for convening various stakeholders and facilitating effective policies and business frameworks for MECS. This transformation covered two areas; namely research and knowledge production as well as impact on the policy and industry landscape where the following objectives were to be pursued:

Research and knowledge production

1. To improve and make available evidence of the various technological, social and policy pathways to MECS in the region including assessment of opportunities for transformative change through foresight, industrial mapping, historical and cultural studies.
2. To establish an integrated evidence-base on the MECs a 'one-stop shop' or knowledge platform where stakeholders/entrepreneurs/ governments can access and share relevant information on MECs in the Kenya.

Impacts on the policy and industry landscape

1. To support the design of a more integrated policy and business framework for MECS building in clean cooking solutions as central part of the clean energy planning, industrial policy, and linkages to SDGs.
2. To strengthen the emerging community of practice around MECs, enabling it to work to promote MECs in a more coordinated and collective fashion and creating awareness and business opportunities on MECS
3. To provide targeted support for capacity building and peer-learning activities among countries and regions as well as offer advice on resource mobilisation and promote partnerships/networking.

2 The Project Implementation Approach

2.1 Overview

The MECS Kenya project has been implemented by the African Centre for Technology Studies through both a multi-stakeholder and a multi-level approach. Interactive and inclusive methods were used where high-level policymakers, private organizations, technical institutions, and local champions, among others, were involved with the aim of bringing stakeholders from the clean cooking and electrification sector together, as can be seen from the diagram below.

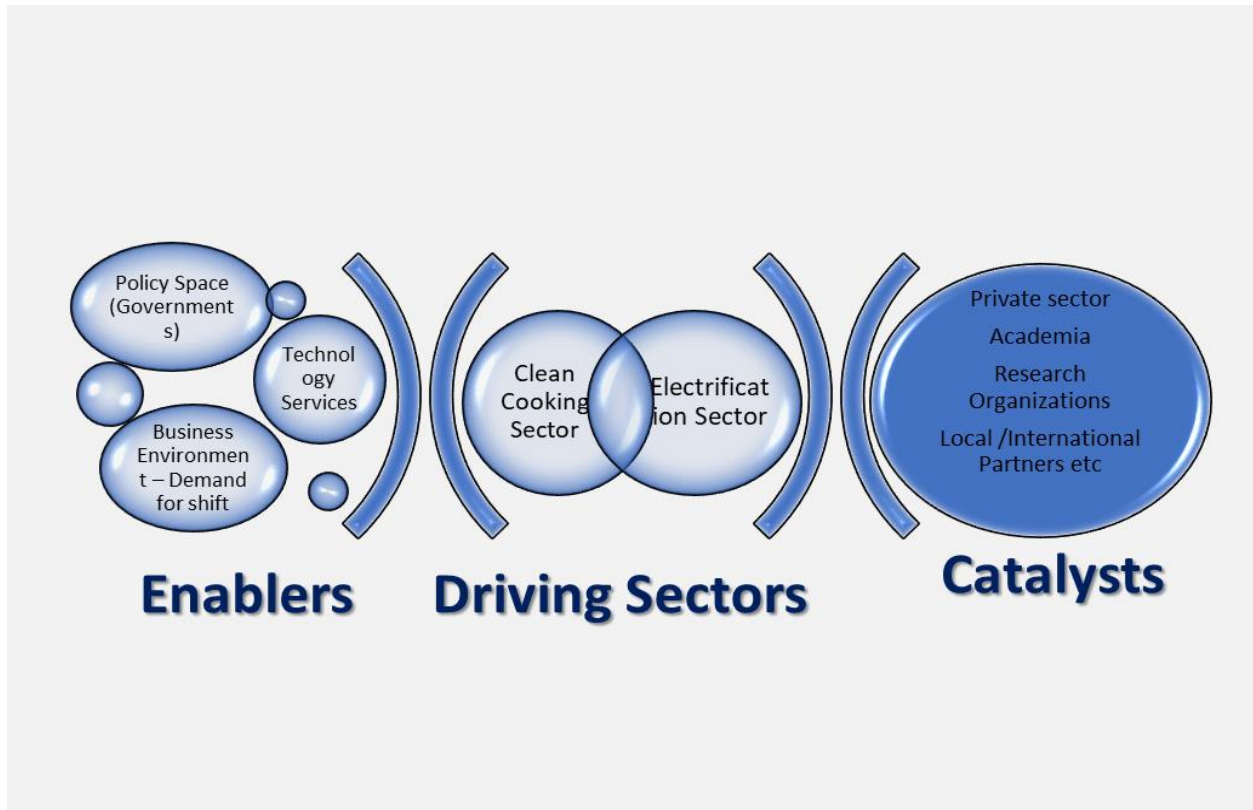


Fig 2: Intersection between clean cooking and electrification

2.2 Strategic Partnerships

The MECS study evolved to create a strong agenda for e-cooking in Kenya. Over the last 20 months of implementation, the project built strategic partnerships for more strategic positioning of e-cooking in Kenya’s policy agenda. Strategic knowledge products produced by the MECS Kenya team such as the [techno-policy analysis](#) and the [stakeholder engagement strategy](#), are currently being used as reference documents for the National e-cooking strategy and the National Integrated Energy Plans. The cooking diary 3 was similarly designed in partnership with Kenya Power & Lighting Company (KPLC) building on the MoU already signed. Besides, the Kenya MECS team completed the cooking diaries component of the IIED cooking diaries study in Kitui and produced reports.

2.3 Techno-Policy Report

Already the techno-policy report published is providing a good foundation for the foresight studies. The techno-policy has been shared widely with more than 3,000 different stakeholders during the clean cooking week. Currently, the Ministry of Energy is using the techno-policy and stakeholder engagement documents to frame and define ToRs for the Kenya e-cooking strategy. Moving forward, the techno-policy will inform policy and technology foresight that will feed into Kenya’s e-cooking strategy. Already there are ongoing discussions with the Ministry on the potential role of the MECS team significantly contributing to the e-cooking strategy, alongside the ongoing [Sustainable Energy Technical Assistance \(SETA\) project](#), and a meeting on the same was held in the last week of January 2021.

2.4 Cooking Diaries 3

The Kitui baseline survey was further used to target other counties, which have been profiled, and their potential for e-cooking adoption mapped through the County Profiles that are available and detail both the opportunities and the possible challenges to be addressed. Cooking diaries 3.0 plan which was completed with the concept ready for implementation in the first quarter of the year played a key role in informing the techno-policy foresight by ushering in strategic consumer experiences around e-cooking. The cooking diaries provided a great opportunity for scaling-up wider awareness through county e-cooking hubs (existing County Energy centres where e-cooking has been introduced and commitments made to work with MECS) and to link up with the emerging new projects such as the UK-PACT for scaled-up e-cooking demonstrations in the target counties.

2.5 Stakeholder Engagement Strategy

Building on the stakeholder engagement strategy, the MECS Kenya team scaled-up awareness and demand stimulation for e-cooking in partnership with key players in the clean cooking field. Notably, the MECS Kenya team partnered with the Clean Cooking Alliance of Kenya to co-convene/contribute to the [clean cooking week - strengthening the e-cooking agenda](#) in Kenya in December 2021 and a blog of the same developed. A draft MoU between MECS Kenya and CCAK was developed, outlining key areas of collaboration including the co-convening of the community of practice, monthly e-cooking dialogues, e-cooking demonstrations, and wider sensitizing of CCAK members on e-cooking.

2.6 Community of Practice (CoP)

As part of awareness, the MECS Kenya team executed two national e-cooking dialogues in the last quarter of 2021 and has already partnered with both CCAK and KPLC in convening additional monthly ones from February 2022. Additionally, the MECS Kenya team co-convened together with CCAK and launched the e-cooking Community of Practice. The launch set the stage for forthcoming monthly dialogues meant to explore the existing and emerging e-cooking opportunities for e-cooking in the country. The team has developed a list of strategic topics for each of the dialogues scheduled to run for the next six months. Following the launch, a WhatsApp group was formed to enable members exchange ideas related to e-cooking. The platform has 119 participants drawn from different parts of Kenya and beyond. Information about upcoming monthly dialogues is also communicated through the platform to spur interest in the topics to be tackled. Moreover, the team shares various e-cooking activities on social media including Tweeter, Facebook, WhatsApp groups, and blogging groups, amongst others. Some of the platforms we have engaged with include: Let's Cook Kenya Meals FB group.

2.7. 'Pika na Power' Demonstration Programmes

ACTS through the MECS project also supports the weekly KPLC's '*Pika na Power*' demonstrations programme at KPLC. The programme is meant to create awareness, enhance the capacity of the public participants on e-cooking and thus generate evidence of the effectiveness, efficiency, convenience, and affordability of e-cooking in Kenya. Different technology providers get the chance to showcase their energy-efficient electric appliances to the participants, making it easier to make informed decisions on the appliances to buy for different cooking needs. So far, more than 100 demonstrations have been carried out through the program and participants have greatly benefited from the demos.

2.8 Regional E-Cooking Hubs

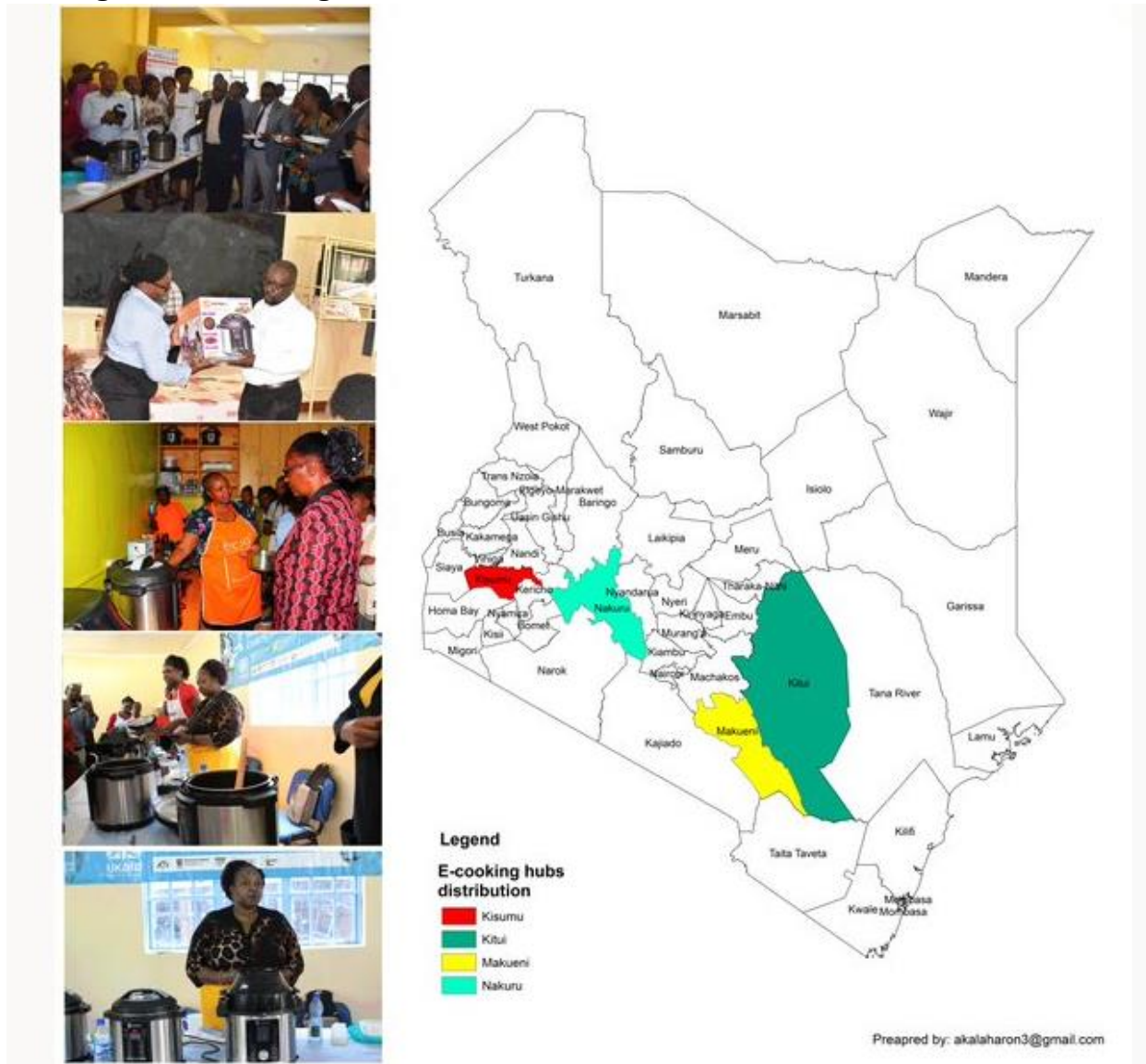


Fig 3: Map of Kenya highlighting the regions where the e-cooking hubs were launched

Finally, ACTS together with its partners in the clean cooking and electrification sectors established four regional e-cooking hubs in [Nakuru](#), [Kitui](#), Makeni, and Kisumu. The hubs are meant to catalyze electric cooking adoption through policy influence and simulate demand through regular demonstrations that are to be run by identified local champions in the respective regions. The hubs allow local capacity building in e-cooking, technology skills transfer, business model testing, and research designs, thus informing local policy development and strategies. With the hubs in operation, electric cooking can rapidly scale up as an aspirational solution for the many people who are still struggling to cook with unclean fuels. Seed funds will be awarded to the four hubs to keep them running for the local communities to be sensitized on e-cooking continuously. Some challenges were experienced while trying to come up with the dates for instituting the hubs. Considering that the exercise was to be done in partnership with the host institutions and organizations, ACTS did not have a final say on the dates. While ACTS had established tentative dates for the different hubs to be launched, the dates had to be readjusted to accommodate the presence and participation of the relevant stakeholders, something interfered with specified times with which the events were to take place.

3 Outputs

3.1 Overview

Sustainability and scaling up on the use of modern energy cooking has been key in supporting the national and sub-national government to achieve Vision 2030, Big 4 agenda, among other long-term frameworks. It is important to note that access to electricity in the entire country has been improved over the recent time. There is thus the need to sensitize the general public on why they ought to adopt clean cooking technologies. Through the existing stakeholder engagement, the Kenya MECS programme has partnered with different actors who are key players in the energy ecosystem. This has proven to be key in pioneering and promoting the initiative across the country.

3.2 Knowledge Products

Through the project, several materials have been generated that are meant to enlighten relevant stakeholders on varying issues that relates to e-cooking. For example, the techno-policy report is one knowledge product that is currently being used as a basis for other foresight studies and strategies. More information about other resources that have been generated so can be found in Annex 2.

3.3 Policy Influence

For the e-cooking technology to be adopted on a wide scale, suitable policies related to e-cooking have to be formulated and implemented. With the e-cooking CoP in place, an avenue was created where monthly dialogues on different topics can be facilitated. It is also a platform where stakeholders in the clean cooking and electrification sector are brought together to champion the e-cooking agenda so as to encourage its large scale adoption throughout the country. Furthermore, the CoP acts as a platform where relevant data/information on e-cooking is shared among the different stakeholders to stimulate demand for the technology. As a result, an enabling e-cooking environment will be created that will allow policymakers to formulate policies that endorse electric cooking in the country.

3.4 Capacity Support

Considering that a big population of those who use biomass for their cooking needs are located in rural areas, more awareness about the harmful effects associated with the use of the fuel has to be created at the grassroots level and alternative solutions recommended. The regional e-cooking hubs approach proved to be a good outreach idea that could address the problem of biomass use. For example, the technology was well received by the participants in Makueni during the regional e-cooking hub launch in the county who had no prior information on the same. Owing to the awareness creation opportunity, 20 per cent of those who were present made purchase requests for EPCs doubled up as air fryers. Energy-efficient appliances like EPCs fit well with the cooking cultures of the local communities in Kenya due to their versatility and they can be very desirable to customers, unlike improved cook stoves. With proper and continuous awareness, they can be the next big thing like the revolutions seen in mobile phones and mobile money that realized transformative change by unlocking latent demand among consumers for aspirational services through innovations in technology and business models.

3.5 Awareness and Market Expansions

The weekly e-cooking demonstrations at the Pika na Power centre are a good avenue where the public can be reached and informed about the different e-cooking technologies available to the market. It is open to the general public and participants get the chance to sample different meals prepared through the technology. Likewise, participants get to witness for themselves the little number of units used in the preparation of various dishes, something that helps them to demystify the existing myth that it is

costly to cook with electricity. As a result, the e-cooking market is slowly expanding as many people have begun to show interest on the appliances.

3.6 Engagements

Through the 2021 clean cooking week, actors from the electrification and clean cooking sector were brought together to develop new partnerships to explore the emerging opportunities for e-Cooking in Kenya. ACTS, the Kenya Power and Lighting Company (KPLC) and Jikoni Magic worked together to deliver a powerful mix of over 20 live cooking demonstrations throughout the week designed to challenge false perceptions around cooking with electricity. Different energy-efficient appliances such as induction cookers, air fryers, and EPCs were used, and energy meters plugged against each to generate evidence of the actual electric units used. By allowing attendees to see, smell, and taste for themselves just how easy it is to cook with electricity, how delicious the food can be and how little it really costs, they were convinced about the effectiveness of the technology.

3.7 External Engagements

The MECS Kenya team has strategically participated in more than 10 clean cooking workshops and climate change forums organized by other partners within and outside the country to promote the e-cooking agenda. For instance, in 2020, the MECS Kenya team attended the COP 25 event where they got the opportunity to talk about the MECS Kenya project. Other workshops that the team has participated in include but are not limited to the UN talks on MECS, the Sustainable Energy Access and Climate Action Plan (SEACAP) workshop, SETA workshop, and the recent one-week air quality workshop held in Naivasha, Kenya where an opportunity arose to address issues of indoor air pollution. Later this year, the team is intending to participate in the Clean Cooking Forum 2022 in Accra, Ghana organized by the Clean Cooking Alliance.

4 Outcomes and Learning

4.1 Outcomes

4.1.1 Replication of the Regional E-cooking Hubs

The MECS Kenya programme established the e-cooking hubs in four counties including Nairobi, Kisumu, Makueni, and Kitui and these are proving to provide strategic opportunities to develop e-cooking ideas from the supportive policy frameworks to actual adoption by different community groups. Additionally, these hubs are strategic in catalysing e-cooking awareness, technology, and financing support thus promises to enhance the e-cooking markets and value chains from the grassroots and in an inclusive fashion. The demand stimulated through these hubs is also enhanced learning and exchange across context as emerging e-cooking champions actively begin to spearhead e-cooking agenda in their respective regions and create learning. Based on this learning, other counties are now beginning to replicate the model e.g., Kakamega county which intends to establish its own e-cooking hub in October 2022 to promote e-cooking in the western region/counties. In addition, Practical Action Kenya is contemplating duplicating the same in Narok and Turkana counties as well as support the Kakamega e-cooking hub launch to make it a success. The hubs have thus demonstrated that they are an ideal platform where bigger audiences can be reached and sensitized on e-cooking.

4.1.2 National Strategy

The e-cooking agenda is now being discussed by the government alongside the national clean cooking strategy with the intention of coming up with an e-cooking national strategy. Different counties are

also now integrating e-cooking into their county energy plans through the SETA project where MECS Kenya is keen to support them in the process. They are eager to include e-cooking in their county integrated development plans (CIDPs). For example, Makueni and Kisumu counties are planning to allocate resources to promote e-cooking through the third generation CIDP.

Through engagement with clean cooking stakeholders in Kenya, e-cooking policy research, policy dialogues and opening up of e-cooking information hubs, the implementation of the MECS Kenya programme over the last 2-3 years reveals that Kenya's domestic policies are advocating for expanded access to electricity and its utility. The e-cooking agenda is now part of the National Government policy agenda- being promoted through the e-cooking National strategy as part of wider National clean cooking strategy and National Integrated Energy Plan.

4.1.3 Strengthened Working Relationships

A good working relationship has been created among the various partners. Enthusiastic champions in different parts of Kenya are fostering and spearheading the e-cooking agenda in their respective regions, something that creates room for cross-learning. For example, the e-cooking champions from Kitui readily agreed to share their experiences with their counterparts from Makueni, considering that Makueni had no prior champions. In so doing, it became easier to disseminate the e-cooking information to the participants, as the champions from Kitui are people that they can relate with coupled with the fact that they are from the same ethnic grouping. Moreover, due to the conducive environment that has been created, technology providers like Sayona and Von Hotpoint are supporting the initiative and offering their services and support to all the pertinent stakeholders. Most importantly, because of the hubs, relations, and partnerships between institutions like KPLC, CCAK, and private sectors like SCODE and CARITAS have been strengthened. The same likewise applies to technical and vocational education and training institutions (TVETS) where a strong partnership has been established, considering that they are keen to integrate e-cooking into their curricula and also work closely with the technology providers to transfer tech skills to the locals.

4.1.4 Social Media Campaigns

There is a potentially transformative opportunity for Kenya's clean cooking sector to break out of this 'business as usual cycle' with electric cooking. On the one hand, the country has experienced increased connection to the electricity with three-quarters of the population now connected to some form of electricity but doesn't yet use it to meet most of their cooking needs. On the other hand, the country has an ambitious clean cooking target i.e., achieving universal clean cooking by 2028, and hence the need for an e-cooking strategy that will catalyse the adoption of the technology.

Various forums and social media platforms that have been created so far have proved to be vital in disseminating e-cooking information to the public. All e-cooking information, events, and opportunities get to be shared with a wider audience through outlets such as Twitter, Facebook, WhatsApp, and YouTube among others, thus bringing them up to speed with any recent developments in the technology.

4.2 Learnings

4.2.1 Investments

The investment in e-cooking technology has mainly been linear given that it has focused more on the technology providers. More investment thus ought to be allocated to research and policy to facilitate the formulation of policies that are informed by research.

4.2.2 Partnerships

Partnerships emerged to be a key component in the journey towards transitioning the Kenyan population to e-cooking in terms of integrating multidisciplinary and transdisciplinary teams. By bringing in the different actors on board, the planning process and the actual implementation of the project became easier since every actor had a specific role to play that was aligned with their function. Besides, it was easy to address all the questions that were raised by the potential consumers of the technology to their satisfaction. For example, questions about electricity were directed to KPLC representatives while those on after-sale services were directed to technology providers and so on.

4.2.3 Strategy

Owing to the active promotion of e-cooking as a technology that can help address the twin global problems of clean cooking and electrification, the attention of policymakers in the country has been captured. The e-cooking ambition of the Kenyan Government and stakeholders is further reflected in the efforts by the parastatal Kenya Power and Lighting Company (KPLC) through its Pika Na Power programme which is already working with a wide range of stakeholders including ACTS under the MECS project to create awareness and develop the market for e-cooking. Because of the constant publicization of the technology and the benefits associated with its use, the Ministry of Energy, Kenya is now in the process of developing a National E-cooking Strategy alongside the National Clean Cooking Strategy. This is a big win for e-cooking technology considering that it has been prioritized above other available clean cooking options. The strategy should thus have an implementation plan that will help facilitate the adoption of the e-cooking technology from the national, sub-national to local levels.

4.2.4 Research and Evidence

While research has helped to generate evidence on the effectiveness of the e-cooking technology in terms of the little time and number of units used in the preparation of different meals, more research still needs to be done. This will help inform the National E-cooking Strategy that is currently being developed as well as help investors estimate the proportion of funds to allocate to different activities.

4.2.5 Public Education

Through the project, it was discovered that several people who own energy-efficient electric cooking appliances are not making use of them either because they are not aware of how to use them or because they are afraid to cook with them. It is, therefore, important for technology providers to make it their duty to educate those who buy electric appliances from them. For example, Sayona Providers are planning to visit the participants from Makueni who recently purchased EPCs doubled up as air fryers in the third week of August and educate them on how to effectively make use of the appliances.

4.2.6 Reliable Electricity

While Kenya has an electrification rate of over 70 per cent, power is still not reliable in different parts of the country, something that makes many people hesitant about embracing e-cooking. From the remarks made by some residents through the various social media platforms, there is no value for money when one buys an electric cooking appliance and then uses it only once a week.

5 Recommendations

5.1 Short Term Measures

5.1.1 Continuous demand stimulation on e-cooking

Many people are still not aware of energy-efficient e-cooking appliances. They still have the mentality that cooking with electricity is expensive as they relate electric cooking with appliances such as burners and coils. As such, more awareness needs to be created and the public educated on how to effectively utilize the appliances to their maximum capacity. This may be achieved by strengthening the already established e-cooking hubs and weekly demonstrations carried out to create more awareness on the technology. Besides awareness on e-cooking, the participants get the chance to learn how various dishes are prepared and, in the process, add to their cooking knowledge. This helps address the frustrations of many Kenyans who do not know how to cook as evident from the recent short calls on MECS, and thus present a win-win situation to participants.

5.1.2 Public Education

Education aimed at enlightening the people on how to use the e-cooking technology and changing the existing perceptions on food items prepared using electric appliances. Many people are buying appliances that they do not know how to use. Better yet, many young couples are currently being gifted with energy-efficient appliances during their wedding ceremonies which they have no idea how to operate or are apprehensive about using and therefore not utilizing them as they should. This consequently calls for the need for the public to be educated for them to make informed decisions before making purchase requests on such equipment.

5.1.3 Strengthening e-cooking CoP

The e-cooking CoP plays a central role of influencing e-cooking policy in Kenya. The monthly dialogues should thus be held continuously to trigger useful conversations around e-cooking which may find their way in the policy agenda. Through the CoP meetings, actors get to talk about issues that either facilitate or hinder the adoption of the technology and get to recommend strategies that would create an enabling environment for e-cooking.

5.2 Medium Term Measures

5.2.1 Develop EPCs with bigger capacities

The current EPCs models are ideal for people with small families and may not be effective for those with larger families or even for commercial purposes. Given that a majority of institutions and eatery businesses tend to use firewood and charcoal to cook, and thus greatly contribute to climate change through the emission of greenhouse gases, it is crucial that they transition to clean cooking. With EPCs with bigger capacities, it will be easier to convince them to shift to e-cooking for the many benefits associated with it.

5.2.2 Introduction of a wide range of energy-efficient appliances in the Kenyan market

There is a need to introduce a variety of e-cooking appliances such as induction cookers into the Kenyan market. With more awareness creation, more people are going to buy the idea of e-cooking. Should that happen, the supply of equipment like induction cookers may not be able to meet the demand and may thus act as a barrier to the effective transition to electric cooking.

5.2.3 E-cooking business models

Considering the high upfront cost of energy-efficient electric cooking appliances, there is a need to have financial plans that will allow those with minimal income to procure the appliances given that they are the ones that mostly use biomass for their cooking needs. With access to finance mechanisms, it will be easier to promote the uptake of e-cooking. Hence there is a need to have flexible payment systems like PayGo, which is very difficult for distributors to initiate/provide as they are not credit institutions.

5.2.4 Institution of more regional cooking hubs

Given the effectiveness of e-cooking hubs in stimulating demand for e-cooking, additional e-cooking hubs ought to be established in other regions. In doing so, it will be easier for users to have centres that they can easily access and have all the questions or issues they may have about the technology addressed without having to travel for long distances looking for the same.

5.2.5 Incorporate the e-cooking technology into the curriculum

The e-cooking idea may have to be streamlined in the curriculum of tertiary institutions of learning. Students in the hospitality and electrical departments may benefit from such a course and may act as sources of employment to them once they graduate from school.

5.2.6 Policy structure on sustainable subsidy program

The government should provide a policy structure on a sustainable subsidy program. Persons/businesses that have embraced e-cooking and are promoting clean cooking, for example, may be exempted from taxes given their actions/businesses are contributing to the reduction of emissions. This will make it possible to embed e-cooking in the climate change agenda through NDCs which aim to minimize emissions and adapt to the effects of climate.

5.3 Long Term Measures

5.3.1 Enhancing regional electricity grids and market integration

Improving the regional integration of energy markets, can support the addition of various renewables at a lower cost. This could be achieved through resource complementarity, which in turn can help balance the power system and increase cost-efficiency. This includes enhancing support to regional energy infrastructure and providing technical assistance to develop the required institutional and human capacities. Simply constructing a grid and establishing the technical means of an electricity connection by building a transformer or transmission lines does not automatically translate to access and usage. Other barriers to access such as lack of policy to connect those living in informal housing, fragmented distribution infrastructure, and poverty are important factors holding back access and

usage. Important gains in solar technology have enabled stand-alone solar home systems (SHS) and mini-grid options to develop rapidly. However, grid infrastructure is still important in providing electricity access. Efforts to facilitate regional electricity grids and market integration of power markets and scaling up variable renewable energy should be encouraged.

5.3.2 A policy that deals with wiring

Most of the people being connected to the grid in the last mile program cannot afford proper wiring thus the need for a policy where a loan can be obtained that comes with the connection for consumers to get suitable wiring. Devoid of that, users may opt for cheap wiring that may contribute to accidents like burns.

References

1. IEA, I. E. A. (2016). *World Energy Outlook, 2016*.
2. Raufman, J., Blansky, D., Lounsbury, D.W., Mwangi, E., Lan, Q., Olloquequi, J., & Hosgood III, D. (2020). Environmental Health Literacy and Household Air Pollution-Associated Symptoms in Kenya: A Cross-Sectional Study. *Environ Health*. 19(89): 1-6.
3. Sola, P., Cerutti, P., Zhou, W., Gautier, D., Liyama, M., Schure, J., Chenevoy, A., Yila, J., Dufe, V., Nasi, R., Petrokofsky, G., & Shepherd, G. (2017). The Environmental, Socioeconomic, and Health Impacts of Woodfuel Value Chains in Sub-Saharan Africa: A Systematic Map. *Environ Evid*. 6(4): 1-16.

Annexes

Annex 1: Project Activity

Activity	Description	Deliverables
<p>Baseline studies of MECS technologies and suppliers and manufacturing opportunities</p> <p>Year 1 (August 2019- Dec 2019)</p>	<p>This study will provide an understanding of what MECS technologies are available in Kenya; specifically, the strength of local manufacture to leverage such opportunities. It will complement and also borrow from the in-depth analysis of local innovation undertaken by part of the project y being conducted by SPRU, University of Sussex. While this WP will mainly focus on technology analysis, it will leverage on emerging opportunities to reflect on associated policy environment (legislation, regulation, etc.) that is supportive or otherwise for industry players and this will feed into more in-depth policy analysis and outreach prescribed under WP 2)</p>	<p>Techno-policy report/journal article</p>
<p>Cooking Diaries 3.0</p> <p>Year 1 (August 2019- June 2020)</p>	<p>This study will gain further details on how people cook so as to inform the design of new MECS technologies and facilitate the development of facilitator policy support. This will involve the selection of 40 households in the three study counties (Nairobi, Nakuru and Kisumu), each representing different cultural cooking, eating, and living habits (lake, coast, nomadic, farming cultures). It will also enable a stronger comparison of differences across urban, peri-urban, and rural locations than previous versions of the study. Convening of the project partners and stakeholders planned under WP 2 will be utilised to create awareness and capacity building based on findings.</p>	<p>Cooking diaries 3.0 Report</p>
<p>Technology Foresight Scenarios</p> <p>Year 2 (July 2020 – June 2021)</p>	<p>This study will develop three potential scenarios (radical, incremental, and no change) of what the future of MECS technology in Kenya will look like and with reflections on Africa. The work will also assess the implications of each of these futures for business, policy, and community stakeholders. This study will be used to assist stakeholders develop planning strategies for the future to ensure the longevity of MECS technologies and their successful introduction. As such the exercise will overlap with those of WP2 and 3.</p>	<p>Techno-Policy foresight workshop report</p>
<p>Policy analysis</p> <p>Year 1 /2 Aug 2019 – June 2021)</p>	<p>Building on the assessments undertaken during the inception phase and past studies, in-depth policy and institutional analysis will be undertaken focusing on Kenya but with reflection on the broader EA/African region to identify opportunities for incentives and institutional enablers for MECS, both at national and regional levels, currently and in the future; and to develop effective and inclusive partnership frameworks for MECS business models. A mapping of the <i>energy policy and institutional systems</i> at national and county levels in Kenya will be completed with a reflection on the broader global and EA/African region. This</p>	<p>Monthly e-cooking dialogues in collaboration with CCAK</p>

Activity	Description	Deliverables
	<p>will involve some sort of <i>multilevel analysis of energy systems to identify linkages, coherences, convergences, implementation deficits for MECS and to identify opportunities for integration and impact</i>. The multi-level gap and opportunity analysis will also aid some general political economy analysis – feeding into WP 4 ‘Stakeholder Convening’. Additionally, policy foresight studies will be undertaken through key informants to understand the critical policy junctures and future landscape and associated opportunities.</p>	
<p>Policy dialogue and influence</p> <p>Year 1 & 2 October 2019- August 2021</p>	<p>Following the analysis of the current situation of the Kenyan and broader African industry environment for MECS; the project will work with relevant authorities to advocate for changes to taxes and tariffs as well as other regulatory and legislative advances that would facilitate increased supply and demand for MECs across Africa.</p> <p>Aligning clean cooking agenda and technologies with the RE plans of the study counties will be key – i.e., working with the counties to review and update the RE plans with new MECS technology and policy ideas and aligning these to the identified opportunities, among others. The three focus counties will be models which could be adapted to other counties through the Maarifa Centre (https://maarifa.cog.go.ke/experiences-innovations/) and the county renewable energy hub. The Maarifa Centre is a platform for sharing information among the 47 counties of Kenya on new innovations. ACTS established an MoU with the Council of Governors to support the setting up of the centre. ACTS also have working MoUs with Nairobi County http://blog.acts-net.org/bloggers/acts/38-nairobi-disaster-risk-hub-mou-nairobi-city-government and will establish others.</p>	<p>Contribute to the National e-cooking strategy and the Integrated Energy Plan through the window of Energy efficiency</p>
<p>Entrepreneurship support</p> <p><i>Year 1/2</i></p>	<p>There are significant barriers to entry for entrepreneurs in this business. These include lack of business plans, limited business skills and difficulties in accessing finance. To address these challenges, ACTS, through the support for a consultant and young entrepreneurs and innovators, will develop business models (technology and market ideas) that can link private sector interests to the social setting of the majority of energy poor. However, such entrepreneurs need training and support. We will work with the business consultant to pilot the plans in the three focus counties. A small challenge fund will be established to support the piloting process in the counties - basically involving capacity building and linkage to incubation and innovation centres such as KCIC and manufacturing centres such as TechBridge Invest as financiers working with a local Kenyan bank (such as CBA). This might also include linking community energy</p>	<p>Business facilitator framework</p>

Activity	Description	Deliverables
	initiatives in these counties to private and public investment opportunities.	
Demand stimulation and awareness-building into possible opportunities in Years 3-5 <i>Year 1/2</i>	Demand stimulation and awareness- building into possible opportunities in Years 3-5 This work will be targeted around the dissemination of the first e-cookbook and an allied campaign for energy efficient cooking across Africa. This will include utilising the various dedicated policy workshops under WP 2 in addition to running several dissemination events including running cooking demonstrations, video documentaries, working with African food bloggers and TV chefs to encourage a debate on energy-efficient cooking and the relative merits of MECS technologies; development of energy efficient information campaign material (for TV, radio and print distribution) in the three East African focus countries.	Social media engagement and enhanced website for MECS activities in Kenya. Support KPLC e-cooking demonstration studios and engagements, and link to county e-cooking hubs. Entrepreneurship demonstrations and establishment of e-cooking hubs.
<i>Sustainability dialogues:</i> Years 1 & 2	<i>Annual sustainability dialogues:</i> ACTS will leverage on the sustainability dialogues convened under the Africa Sustainability Hub to engage research and policy actors in the MECS space. These dialogues are aimed at promoting discussions	Co-convene quarterly community of practice together with CCAK and KPLC
<i>Stakeholder convening workshops (WP 2):</i> Year 1 & 2 <i>October 2019- August 2021</i>	The policy workshops convened under WP 2 will also be utilised as a means of bringing together stakeholders and engaging them on MECS activities. This makes stakeholders engagement and outreach to be integrated throughout the two-year project circle. This policy convening aims to build relations between the ongoing MECS processes in Kenya and the policy processes. It will facilitate engagement and strengthen partnerships for building research/technology policy relations (stakeholders/research-policy interphase) for the culture change towards MECS.	Monthly e-cooking dialogues in collaboration with CCAK
Community of Practice Year 1 & 2		Monthly e-cooking dialogues in collaboration with CCAK
Further plans Years 3-5	Skills and training and awareness events and upscaling business and policy opportunities; In addition, and building	Entrepreneurship demonstrations

Activity	Description	Deliverables
	on the work with school educators above, a series of schools cooking challenges will also be launched to create interest amongst both qualified teachers as well as the next generation of cooks.	and strengthening of e-cooking hubs/information and capacity building centres in each of the four case study counties (Kitui, Nakuru, Kisumu and Makueni) in collaboration with KPLC and CCAK

Annex 2: Project Output

NO	TITTLE	Brief	AUTHORS	Links
1.	Multi-stakeholder engagement strategy towards accelerating the adoption of e-cooking in Kenya	The strategy highlights the importance of stakeholders in unlocking and/or enabling opportunities for transforming the clean cooking agenda, not just as a standalone pursuit, but as a development pursuit with multiple benefits. The brief shows that whereas multiple opportunities exist to enhance the adoption of e-cooking and transform the clean cooking agenda for Kenya, these opportunities can mainly be actualized through strategic building of relationships and partnerships between the various actors who have different complementary strengths and aspirations. This approach to stakeholder engagement is likely to break the historical silos characterizing the clean cooking landscape and place the clean cooking agenda in Kenya within a wider developmental opportunity, thereby creating multiple and multi-sectoral benefits in line with the aspirations of the SDGs.	Joanes Atela, Jon Leary, Tom Randa, Victoria Chengo, Joel Onyango, Syprose Ochieng, Mourine Chepkemoi, & Paul Osogo	https://mecs.org.uk/wp-content/uploads/2021/11/Multi-stakeholder-engagement-strategy-for-accelerating-e-cooking-in-Kenya_23112021.pdf
2.	Techno-policy space for E-Cooking in Kenya	The techno policy report is part of the Modern Energy Cooking Services (MECS) engagement in Kenya. It highlights key technology opportunities for clean energy	Joanes Atela, Jon Leary, Tom Randa, Victoria Chengo, Joel Onyango,	https://mecs.org.uk/wp-content/uploads/2021/11/Techno-Policy-

NO	TITTLE	Brief	AUTHORS	Links
		transition and low carbon development in Kenya through electric cooking. Insights are based on the analysis of relevant documents and engagements with a range of stakeholders through consultative meetings, dialogues, and learning sessions.	Syprose Ochieng, Mourine Chepkemoi, & Paul Osogo	Spaces-for-E-cooking-in-Kenya_23112021.pdf
3.	Implementation of the MECS Programme in Kenya – a reflection on the progress and challenges		Joanes Atela	
Policy Briefs				
	Policy Brief- Accelerating inclusivity in MECS in Kenya Pol	The policy brief focus on options for accelerating inclusivity of the vulnerable groups that would promote MECS in Kenya. The brief explores the enablers for the acceleration and provides for policy recommendations in the energy sector to promote MECS options. The brief recognises the lack of incentives, quality of products, and lack of standards as some of the barriers for the acceleration, and further explores options in modern energy cooking services that require policy and stakeholder support to thrive, meet user needs and contribute to the achievement of access to modern cooking services by all.	Syprose Ochieng , Mourine Chepkemoi, Joel Onyango, Jon Leary, Winnie Khaemba, Joanes Atela, Victoria Chengo	
	Enabling e-cooking in Kenya: A strategic multi-stakeholder approach		Joanes Atela, Jon Leary and Victoria Chengo	
Workshop reports				
	Policy workshop report on the opportunities and		Syprose Ochieng, Mourine	

NO	TITTLE	Brief	AUTHORS	Links
	challenges of MECS in practice building on the experiences of the MECS challenge fund winners in Kenya		Chepkemoi, Joanes Atela, Jon Leary, Joel Onyango, Victoria Chengo,	
	Policy workshop report on accelerating inclusivity in MECS	<p>The overall objective of the workshop was to promote dialogue among strategic clean cooking, development, and electrification stakeholders in Kenya. The specific objectives for African Centre for Technology Studies (ACTS) through the Africa Research and Impact Network (ARIN) and Loughborough University hosting the dialogue included exploring policy interventions that could promote inclusion of traditionally marginalised groups; identify policy gaps; and explore policy options to accelerate e-cooking.</p> <p>The 8th September 2020 dialogue stimulated discussions around policy interventions that could promote the inclusion of women, persons with disabilities, and other disadvantaged groups in the production of modern energy cooking services. The workshop comprised participation of policymakers from National and county governments, women entrepreneurs, and the private sector players. The dialogue included a key presentation, a panel session, and plenary discussion.</p>	Syprose Ochieng, Mourine Chepkemoi, Joel Onyango, Joanes Atela, Jon Leary, Victoria Chengo,	
	Policy workshop report on cooking diaries Kenya policy dialogue	<p>The report was based on a virtual workshop organized by African Centre for Technology Studies on 3rd November 2020. The target audience was Kenya’s policy makers. The workshop brought a diverse group of policy makers from the government, private sector, public& private institutions and so on. The event was part of an ongoing policy dialogues in</p>	Mourine Chepkemoi, Syprose Ochieng, Joanes Atela, Jon Leary, Joel Onyango, Victoria Chengo,	

NO	TITTLE	Brief	AUTHORS	Links
		Kenya in the Energy sector lead by ACTS, MECS country partner. The aim of the policy dialogue was to seek input from policy makers on their key research questions regarding cooking with electricity to inform the design of the upcoming cooking diaries study in Kenya.		
	Policy workshop report on Consumer financing for e-cooking		Jon Leary, Mourine, Nick	
	Cooking Diaries Kenya Policy Dialogue Report	The report was based on a virtual workshop that was organized by African Centre for Technology Studies on 3rd November 2020. The targeted audience was Kenya's policy makers. The workshop brought a diverse group of policy makers from the government, private sector, public & private institutions and so on. The event was part of an ongoing policy dialogues in Kenya in the Energy sector lead by ACTS, MECS country partner.	Mourine Chepkemioi, Jon Leary, Syprose Adhiambo and Joanes Atela	https://www.acts-net.org/images/Publications/MECS/Cooking-Diaries-Kenya-Policy-Dialogue-Report.pdf
Blogs				
	Working towards a more heterogeneous and inclusive participation to attain universal access to modern energy cooking services (MECS) in Kenya.	Inclusivity in the energy sector is important if sustainable energy for all is to be achieved. In the modern energy cooking discourse, exclusions continue to persist with no express provisions on cooking in the Energy Act substantiating the fact that energy initiatives on cooking are mostly left out of discussions and policy frameworks. The participation of women, people living with disability, youth and marginalized groups in construct, diffusion and distribution of clean energy has been insufficient leading to gender disparities in the energy sector. To enrich the participation of women in the clean cooking sector, numerous	Syprose Ochieng, Mourine Chepkemioi	

NO	TITTLE	Brief	AUTHORS	Links
		partners have tried to complement government endeavors.		
	Can cooking with electricity help Kenyans Better cope with Covid-19?	COVID-19 had a broad range of impacts on the way people cook. It made many more vulnerable, with less certainty about what the future holds. However, cooking with electricity offered a lifeline to many, with the health benefits and cost and time savings in many cases magnified.	Mourine Chepkemoi, Jon Leary,	https://mecs.org.uk/blog/can-cooking-with-electricity-help-kenyans-better-cope-with-covid-19/
	What Kenyans want to know about EPCs	We know that Electric Pressure Cookers (EPCs) can revolutionise someone's kitchen, however marketing an EPC is a difficult job if you don't have the facts at hand! The article thus reflects on the main questions asked by visitors at the MECS booth where EPCs were being showcased at GOGLA's Global Off-grid Solar Forum and Exhibition event in Nairobi on 18 th -20 th Feb 2020, shortly before the world went into lockdown.	Mourine chepkemoi, Jon Leary,	https://mecs.org.uk/blog/what-kenyans-want-to-know-about-epcs/
	Cooking with Eletricity in Kenya- a culinary tour of transformative opportunity	People often say that 'seeing is believing', however when it comes to cooking, people need to see, smell and taste before you can really start to convince them. That's what makes live cooking demonstrations so effective. Clean cooking experts from across the world visited Nairobi for the Clean Cooking Forum in 2019, many of whom attended a side trip to Kenya Power's modern demonstration kitchen at Electricity House. The session aimed to showcase the compatibility of electric cooking with Kenyan cuisine using live cooking demonstrations. The demonstrations are a powerful way to change perceptions about cooking with electricity.	Jon Leary, Mourine chepkemoi, Wairimu Njehi, Agnes Kalyonge	https://mecs.org.uk/blog/cooking-with-electricity-in-kenya-a-culinary-tour-of-a-transformative-opportunity/
	Leveraging on partnerships to upscale MECS in Kenya.	The Modern Energy Cooking Service (MECS) programme understands that stakeholders are key in the clean cooking pursuit, hence they are	Syprose Ochieng, Mourine Chepkemoi	

NO	TITTLE	Brief	AUTHORS	Links
		<p>devoted to leaving no one behind in their activities and mission around transitioning to clean cooking. It is broadly recognized that building relations among stakeholders and nurturing collective dialogue and action is key to catalyzing the transition to clean cooking by creating ownership, resource and knowledge sharing, technology awareness, and innovative market development for continued MECS agenda. To effectively engage stakeholders in Kenya, ACTS has developed a bottom-up approach model that will allow them to inclusively engage the strategic stakeholders in the four focus Counties (Nakuru, Nairobi, Kisumu and Kitui) through the demonstration centres, practical case studies and impact stories that would activate a catalytic behavioural change towards MECS.</p>		
6	Global Aspirations and Local realities: Reflections on Domesticating SDG 7 through the adoption of electric cooking in Kisumu, Kenya		Oge Madubunyi, Victoria Chengo	
7	Enabling e-cooking in Kenya: A strategic multi-stakeholder approach	<p>Cooking with electricity presents a strategic opportunity for a large-scale clean energy transformation in Kenya in line with SDG7's goal to achieve universal access to energy. With over 73% of households already connected to electricity and plans for reaching those remaining there is a real opportunity now for e-cooking. The blog underscores how strengthening the linkages between Kenya's well-established clean cooking sector and its thriving electrification sector is key to unlocking opportunities for</p>	Joanes Atela, Victoria Chengo, and Joel Onyango	https://mecs.org.uk/blog/unlocking-e-cooking-in-kenya-through-a-strategic-multi-stakeholder-approach/

NO	TITTLE	Brief	AUTHORS	Links
		transforming the clean cooking agenda.		
8	Eating through power cuts with EPCs	In November 2019, a team from MECS spent the day with Burn Manufacturing visiting participants in a pilot scheme to test user preferences and collect feedback on electric pressure cooking. In one outstanding case, the participant, Emily, experienced power cut while still cooking. However, after about 15 minutes, power came back. Emily, out of faith or curiosity, opened the lid, to reveal perfectly cooked rice despite the EPC having been switched off for a while. Evidently, it had just managed to pressurise before the power cut. The hiccup demonstrates one of the most important characteristics of the EPC in weak-grid contexts: that insulation can mitigate blackouts.	Jacob Fodio Todd, Jon Leary, Mourine Chepkemoi	https://mecs.org.uk/blog/eating-through-power-cuts-with-epcs/
9	Catalyzing Modern Energy Cooking Services in Africa-bridging the gap between clean cooking and development through e-cooking Statement submitted to the UN High Level Dialogue on Energy: https://www.un.org/en/hlde-2021/page/hlde-september-2021	MECS partner The African Centre for Technology Studies (ACTS) participated in the United Nations High-level Dialogue on Energy (HLDE) held in September 2021, and connected the critical link between electricity access and cooking. MECS is delighted that our shared narrative on clean cooking was communicated during the HLDE via a presentation by Dr Joanes Atela (Director Partnerships, ACTS & Convener, Africa Research and Impact Network). MECS is collaborating closely with Dr Atela and the rest of the ACTS team on accelerating access to clean cooking in Kenya. Dr Atela's pre-recorded video presentation during the HLDE formed part of the session on Raising Collective Ambition on SDG 7 and Climate Action. The video recording of the Session can be accessed here where (Dr Atela's presentation starts from 10:39:40).	Joanes Atela	https://mecs.org.uk/blog/catalyzing-modern-energy-cooking-services-in-africa-bridging-the-gap-between-clean-cooking-and-development-through-e-cooking/

NO	TITTLE	Brief	AUTHORS	Links
	Kenya MECS team & KPLC discuss future collaborations for tapping into the huge potential for rolling out electric cooking solutions nationwide	On 14 th April 2021, the MECS team in Kenya led by the African Centre for Technology Studies (ACTS) met with a team from the Kenya Power and Lighting Company (KPLC). The meeting aimed to discuss the potential areas of convergence in eCooking (electric cooking) that MECS and KPLC can collaborate on. The engagement opened opportunities for KPLC such as the <i>Shamba Shape-up</i> TV programme feature, collaboration with BURN Manufacturing on the <i>Jikokoa</i> stove, among others.	Victoria Chengo, Syprose Ochieng, Mourine Chepkemoi, Joanes Atela, Paul Osogo, and Jon Leary	https://mecs.org.uk/kenya-mecs-team-kplc-discuss-future-collaborations-for-tapping-into-the-huge-potential-for-rolling-out-electric-cooking-solutions-nationwide/
10	E-cooking Buyer's Guide .	EPC product design does not always reflect the needs of the everyday cooks using the appliances. The lack of consumer-focused design inhibits EPC uptake in potentially high impact, but currently underserved markets. To address the challenge, the 2020 Global LEAP Awards Electric Pressure Cooker Competition included an innovative usability testing process. From January to March 2021, nine Global LEAP Awards Winne and Finalist EPCs from eight companies participated in the usability testing in Nairobi, Kenya. The results can be used to identify the best EPCs that meet the needs of everyday cooks in high impact markets.	Jon Leary	
	E-cooking agenda getting a new boost as MECS Kenya, KPLC and CCAK collaborate to build a joint activities and e-Cooking Community	The blog from the MECS Kenya team at the African Centre for Technology Studies (ACTS) describes the formation of an eCooking (electric cooking) Community of Practice (CoP), which aims to bring together Kenya's clean cooking and electrification sectors. The CoP builds upon existing collaborations between the Clean Cooking Association of Kenya (CCAK), Kenya Power and Lighting Company (KPLC) and ACTS and aims to create a community	Tom Randa, Paul Osogo, Joanes Atela, & Jon Leary	https://mecs.org.uk/blog/e-cooking-agenda-getting-a-new-boost-as-mecs-kenya-kplc-and-ccak-collaborate-to-build-a-joint-activities-and-ecooking-

NO	TITTLE	Brief	AUTHORS	Links
		where the pioneers of Kenya’s emerging eCooking sector can freely exchange information on the latest developments in this fast-moving sector and forge new strategic partnerships.		community-of-practice/
	MECS East Africa Launch	On 14 th -15 th May 2019, Modern Energy Cooking Services (MECS) was officially launched in East Africa, a region of strategic importance to the programme. The five-year research and innovation programme will focus on how to enable the world’s 3 billion people who still cook with biomass to transition to modern and truly “clean” cooking solutions, such as electricity or gas. The 2-day workshop was held at Strathmore University Energy Centre and brought together key players from the East African national and local governments, NGOs, private sector, academia, financiers.	Mourine Chepkemoi, Jon Leary, Victoria Chengo, Jacob Fodio Todd & Karen Chepkurui	https://mecs.org.uk/mecs-east-africa-launch/
	Exploiting the e-Cooking Opportunities in Kenya is Good for Populace Health	It is often said that health is wealth and it’s the desire of everyone, the society, and the community to be healthy. However, this desire is usually less realized as human and ecosystem health are often negatively impacted in our daily interactions and operations. Most interestingly, many households cook with or spend on some unclean cooking fuels periodically oblivious of the fact that the choices of cooking fuels determine the health of the individuals, households, and society progressively. The blog underscores the health benefits associated with the adoption of clean cooking technologies, and in particular, e-cooking.	Emily Bolo, Tom Randa, Joanes Atela, Paul Osogo, & Salome Okoth	https://mecs.org.uk/blog/exploiting-the-e-cooking-opportunities-in-kenya-is-good-for-populace-health/
	Nakuru hosts the first County E-Cooking Hub Launch in Kenya	The blog tells the story of the launch of the Nakuru e-Cooking Hub, which took place on the 26th of April 2022. This was the first in a series of e-Cooking Hub launches, which set the	Sheila Chepkorir, Paul Osogo, Ruth Wambui, Diana Kosgei, Jon	https://mecs.org.uk/blog/nakuru-hosts-the-first-county-e-cooking-hub-

NO	TITTLE	Brief	AUTHORS	Links
		benchmark for the next three in Kitui, Makueni and Kisumu Counties.	Leary, Emily Bolo, Tom Randa, Joanes Atela, Haron Akala, Salome Okoth, John Maina, Anastancia Kamau, Mercy Kamau, Francis Gitonga, and Beryl Onjala	launch-in-kenya/
	E-cooking Hub Launch in Kitui County	The blog highlights the events that transpired during the e-cooking hub that was launched in Kitui on May 11th, 2022. From the launch, it emerged that there is a strong potential for e-cooking in Kitui and that CARITAS Kitui can play a vital role in making this change happen.	Emily Bolo, Diana Kosgei, Tom Randa, Joanes Atela, Paul Osogo, Haron Akala, Salome Okoth, Ruth Wambui, Sheila Chepkorir, Jon Leary, Florence Ndeti, Kelvin Kitonga, and Beryl Onjala	https://mecs.org.uk/blog/e-cooking-hub-launch-in-kitui-county/
Impact Stories				
	Experience with the Electric Pressure Cookers with Ms Conceptor Bartore	The article presents the experiences of Ms. Conceptor with an EPC that she received during the cooking diaries 2 and how it has transformed her life considering that her work demands a lot of time from her.	Mourine Chepkemoi, Jon Leary	
	1 st time experience with EPC from Juliana and Kelvin		Syprose Ochieng, Jon Leary	
COUNTY BRIEFS				
	Nakuru County Brief	Nakuru County exhibit numerous opportunities for E-cooking development based on the enabling environment being created in terms of technological advancement in clean cooking technologies, research	Paul Osogo	

NO	TITTLE	Brief	AUTHORS	Links
		and innovation, partnership, policy development and electrification opportunities.		
	Nairobi County Brief	The brief explores the eCooking opportunities in Nairobi that presents a good avenue for the adoption of the eCooking technology.	Mourine Chepkemoi	
	Kitui County Brief	The brief highlights efforts by both County government and Non-governmental Organization (NGO's) or community-based organizations (CBOs) in Kitui county to explore various initiatives geared towards promoting clean cooking and electrification. There exist several initiatives and interventions by both the government and the private sector that offer an opportunity for clean cooking and electrification acceleration within the County.	Syprose Ochieng	
	Kisumu County Brief	The brief exhibits the relatively high opportunity for e- cooking development that Kisumu has in various spheres with the majority in the electrification, policy landscape, socio-economic, cooking technology, research, and development spaces.	Tom Randa	
MOU's				
	ACTS/Caritas MOU	MOU signed and hub launched where local champions train the general public and advocate for use of electricity for cooking.	Paul Osogo	
	ACTS/SCODE MOU	MOU signed and hub launched where local champions train the general public and advocate for use of electricity for cooking.	Paul Osogo	
	ACTS/KPLC MOU	MOU signed working relationship agreed upon	Jon Leary, Joanes Atela, Paul Osogo,	

NO	TITTLE	Brief	AUTHORS	Links
			Mourine Chepkemoi	
	ACTS/WOTE MOU	MOU signed and training undertaken	Paul Osogo	
	ACTS/RIAT MOU	MOU signed hub launched to train and carry out advocacy on electric cooking.	Paul Osogo, Joanes Atela	
Other reports in Drafts				
	Cooking Dairies follow up report	The cooking dairies follow up report outlines the key insights that will drive the future developments of eCooking in Kenya and other similar research. The goal of the follow-up study was to learn more about how Kenyan households cook and how well energy efficient appliances operate now that they have had them for about two years. Participants who took part in a cookery survey in 2018 were interviewed over the phone for the study. The survey was conducted among families in Nairobi and its vicinity. (Donholm, karobangi south, baba dogo, Athi River and kasarani areas).	Mourine Chepkemoi, Syprose Ochieng, Joanes Atela, Jon Leary, Joel Onyango, Victoria Chengo,	
	Cooking Dairies 3.0 Concept Note		Jon Leary, Mourine Chepkemoi, Joanes Atela, Jon Leary, Joel Onyango, Syprose Ochieng, Victoria Chengo	
	Working paper: Understanding the Technology and Market analysis of MECS in Kisumu County		Syprose Ochieng	
	Cooking Dairies Kitui- Validation workshop report		Tom Randa, Haron Akala, Mourine Chepkemoi, Syprose Ochieng	

NO	TITTLE	Brief	AUTHORS	Links
	E-cooking hub launch report	<p>Cooking is a daily activity and as such, the choice of fuel used in the process matters. The continuous overreliance on charcoal and firewood for cooking not only impacts the health of those directly involved but also contributes to the deterioration of the environment in the long run. Conscious decisions have thus to be made by all regarding the choice of fuel to embrace. The report hence e-cooking hubs proved to be good avenues where information on electric cooking could be disseminated, and the public educated on the benefits associated with the adoption of clean cooking technologies. The journey of a thousand miles begins with a step. The hubs are, therefore, just the beginning of a revolution that is meant to transform the cooking sector significantly from the use of biomass to electricity for cooking.</p>	Emily Bolo, Tom Randa, Joanes Atela, Paul Osogo, Haron Akala, & Salome Okoth	
	Impact story booklet	The story booklet narrates the experiences of different people following their interaction with EPCs and biogas aimed at creating awareness on clean cooking technologies and spur interest on the same.	Emily Bolo	
	Why adopt e-cooking	The blog is meant to encourage e-cooking as a clean cooking option that Kenyans can take advantage of considering the high prices of LPG instead of having to revert to the use of biomass.	Emily Bolo, Tom Randa, Joanes Atela, Paul Osogo, et al.	
	Debunking the myths about e-cooking through demonstrations	The blog makes use of practical demonstrations to prove that indeed cooking with electricity is not expensive.	Emily Bolo, Tom Randa, Joanes Atela, Paul Osogo et al.	
	E-Cooking Hub Launch in Makueni County	On the 16 th of June 2022, Makueni's eCooking hub was launched at Wote Technical and Training Institute where eCooking was introduced in the region and identified champions trained and tasked with the	Emily Bolo, Tom Randa, Joanes Atela, Paul Osogo, Salome Okoth, & Haron Akala	

NO	TITTLE	Brief	AUTHORS	Links
		responsibility of catalyzing its adoption. The technology was well received by the participants who saw its effectiveness first-hand after a series of practical demonstrations. The event was graced by the presence of county government officials who saw the usefulness of the technology and the need to create policies that facilitate its uptake.		
	The Kisumu's E-Cooking Hub Launch	The Kisumu e-cooking hub was launched on the 29 th of June 2022. The technology was well-received by all people who were present. The County Chief Officer specifically promised to be a good ambassador of the technology in the entire county of Kisumu. He intends to target corporate societies/saccos, women in energy enterprises, and other small enterprises. He wants the technology to penetrate the market since in so doing, it will be easier for the county government to achieve the 100% renewable energy transition	Emily Bolo, Joanes Atela, Tom Randa, Salome Okoth, Haron Akala, & Paul Osogo	
	Photo story			
Videos				
	Several video recordings of presentations and stakeholder engagements as well as capacity building			