

Modern Cooking, Cambodia: Roadmap Summary Index

TRANSITIONING CAMBODIA FROM BIOMASS TO MODERN COOKING

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“The transition from biomass to modern energy cooking in a single country will likely occur in the coming together of the policy, the supply chain and the needs of the customers.” *Simon Batchelor, UK Research and Innovation Coordinator, Gamos*

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Table of Contents

Acknowledgements

1. Project Overview

- 1.1 MECS-IDE partnership objective
- 1.2 Purpose of this document

2. Why a Roadmap is Important

3. Defining Elements of the MECS Transition

- 3.1 The Big goal
- 3.2 High level issues to be addressed to ensure the MECS transition

4. Introduction to the MECS Cambodia Roadmap

- 4.1 Guiding design principles
- 4.2 Roadmap development process
- 4.3 Roadmap index
- 4.4 Roadmap

5. Conclusions and Next Steps

6. Annex

Note: This document is intended to act as a central repository of key learnings and insights produced during the course of the project. Links to research studies can be found in the annex.

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1. Project overview

Modern Energy Cooking Services (MECS) is a five-year program funded by UK Aid (through the Department for International Development - DFID). It aims to break out of a “business-as-usual” cycle by investigating how to rapidly accelerate a transition from biomass to ‘clean’ cooking (i.e. with electricity). iDE Cambodia has been working with the MECS program since 2019, firstly to gather foundational research around current practices, drivers and barriers in adopting modern energy cooking in Cambodia (MECS-TRIID), followed by a second project (MECS-ECO) to test different solutions through rapid prototyping and pilots.

The MECS program believes that *“the transition from biomass to modern energy cooking in a single country will likely occur in the coming together of the policy, the supply chain and the needs of the customers”*. This requires long term effort and commitment from the ground. As a result, MECS and iDE have formed an in-country partnership to gain a deeper understanding of the clean cooking ecosystem in Cambodia, building on the momentum of the two previous projects (MECS-TRIID and MECS-ECO), and accelerate the shift toward **clean electric cooking solutions** through engaging enablers and suppliers. iDE will facilitate collaboration and make links across public and private sector organizations in order to co-create an action plan with key stakeholders and experts with the aim to be implemented in 2023. This action plan will be aimed at identifying the most feasible and viable strategies that achieve maximum transition to MECS sustainably and equitably. The MECS-iDE journey is illustrated below.

1.1 MECS-IDE partnership objective

The MECS programme has partnered with iDE to deepen the understanding of modern energy cooking services in the Cambodian context. This relates to future customer needs and preferences, government policy landscape, practices and trends in cooking and the supply chains for modern energy cooking solutions in and for Cambodia, specifically around electric cooking. The objectives of this partnership, in respective phases were:

Phase 1: Create a comprehensive landscape analysis of modern energy cooking services within the context of Cambodia distilling information from three key actors: enablers (government, civil societies, etc.), suppliers (start-ups, manufacturers and distributors) and future customers (households and businesses). *See links to all published research in the Annex.*

Phase 2: Generate dialogue/ideas between actors, businesses and institutions (committed to clean cooking in Cambodia) to co-design an action plan for change through networking, workshops and brainstorming. *See links to the workshop event summary in the Annex.*

Phase 3: Build and develop the action plan/roadmap for change in Cambodia with the buy-in of key actors involved in the clean cooking sector. *See links to the workshop event summary in the Annex.*

1.2 Specific goal of this document

This document provides a summary of the process and outputs from phase 3 of the project focusing on the MECS Cambodia Roadmap

2. Why a Roadmap is Important

Cambodia, with a population of about 16.7 million, has overseen significant economic growth in the past decade to move from a low income to a middle income country. With a competitive business environment, a strong entrepreneurial spirit, and significant growth in recent years, Cambodia has also made significant strides in achieving its Sustainable Development Goals, namely around reducing the proportion of its population living in extreme poverty, improving access to primary education, water and sanitation coverage, promoting gender equality, and reducing child stunting.

However, despite these encouraging signs of development and economic growth, 69% of households continue to use solid fuels such as wood and charcoal as their primary fuel for cooking, affecting over 11 million people and leading to over 14,000 deaths annually. A typical wood fire exposes women and children to about 400 cigarettes worth of smoke an hour. Household air pollution (HAP) in kitchens from burning solid fuels, the concentration of smoke in the household environment, and the exposure to individuals, especially women and their children, are having significant impacts on people's health for no other reasons other than cooking food. Additionally, Cambodia has seen troubling rates of deforestation and forest degradation, with over a 40% reduction in forests in the last 30 years.

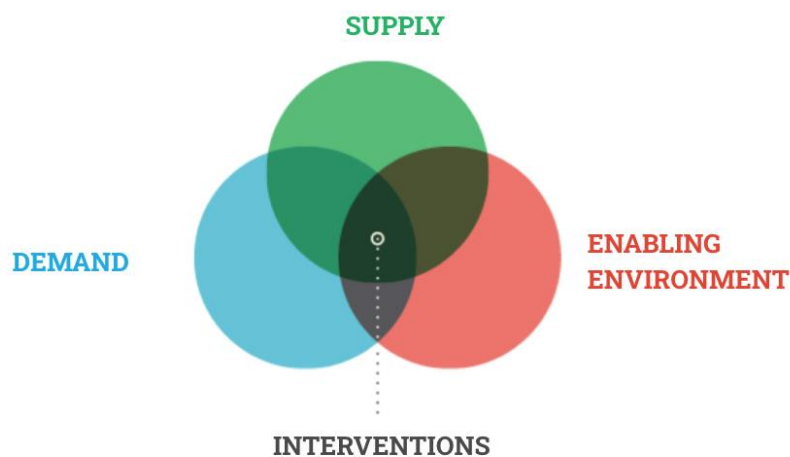
Cambodia is at a tipping point and has the opportunity to continue its trend of positive growth and reach its important development goals of empowering women, further reducing child mortality, improving the health of its population, and ensuring environmental sustainability by pursuing one comprehensive set of actions. Sustained adoption of modern cooking solutions (electricity and LPG), including cookstoves and cooking fuels, is a tangible means to making progress on all of the aforementioned goals. However, a large-scale transition from biomass to genuinely modern and clean cooking energy, in Cambodia, requires a systemic long-term effort, and alignment and collaboration between different organizations achieving progress towards a common goal.

To best ensure this, iDE hosted the Modern Energy Cooking in Cambodia workshop series, through which we defined what stakeholders in the Cambodian Clean Cooking sector can do to catalyse the thriving market for modern cooking solutions. The outputs from this event contributed to developing a comprehensive summary of intervention options necessary to affect change, and will provide interested parties (donors, entrepreneurs, NGOs, and policymakers) with a menu of ways to get involved in scaling up the widespread adoption of clean cooking technologies in Cambodia. We built a shared understanding of the policy, supply and demand side factors affecting the transition to modern cooking and then collaboratively brainstormed and developed intervention options. This led to the creation of

the final MECS Cambodia Roadmap. The roadmap outlines what is needed to kick-start and collectively develop the market of modern cooking solutions, to achieve progress towards a big ambitious goal: **Ensuring access to affordable, reliable, sustainable modern cooking energy for all households in Cambodia**

3. Defining Elements of the Modern Energy Cooking Transition

3.1 The Big Goal: Ensuring access to affordable, reliable, sustainable modern cooking energy for all households in Cambodia

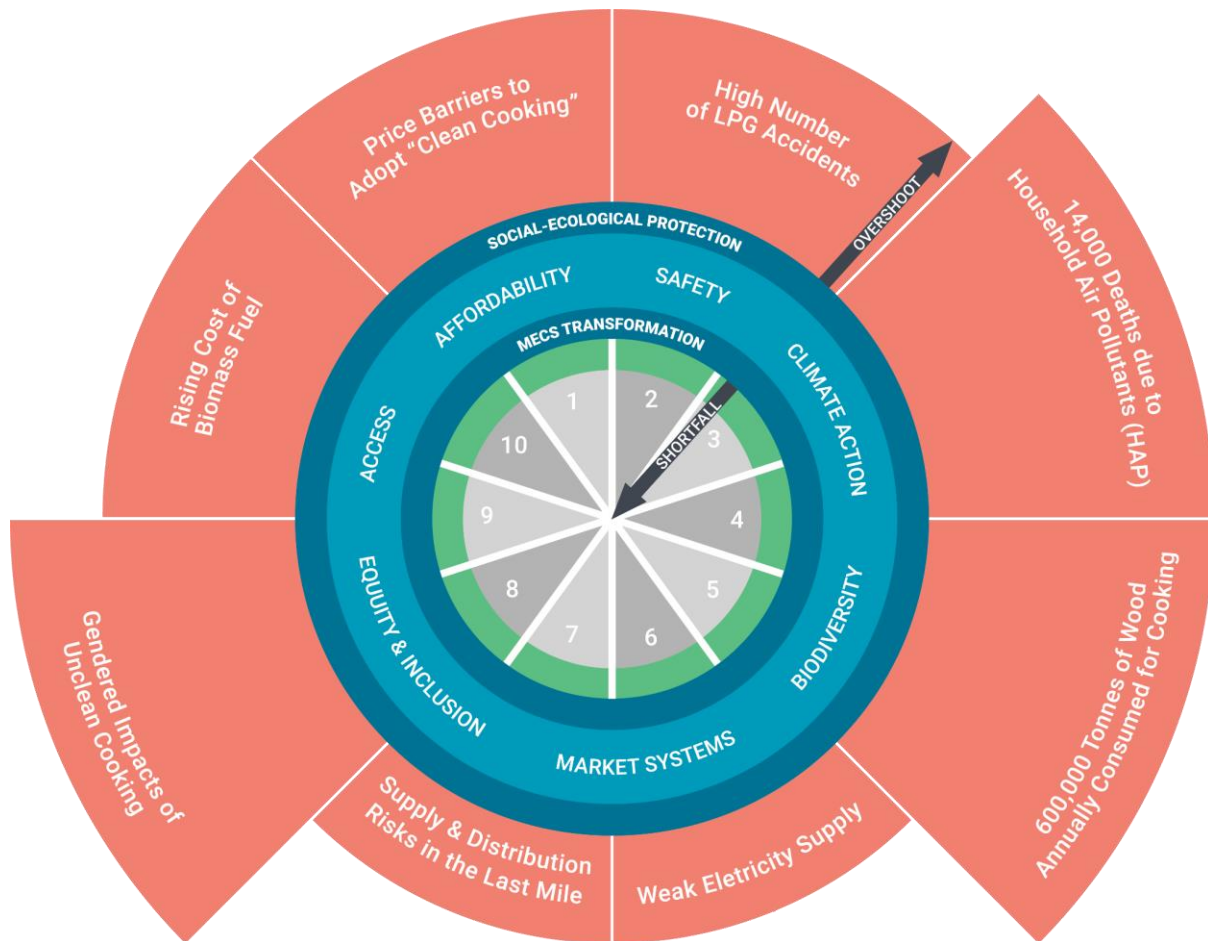


Graphic: MECS Theory of Change

To achieve the above goal, we used the MECS Theory of Change framework to organize intervention options and key activities per the three strategic axes:

- **Enhance demand** by understanding and motivating potential users, developing better and more technology, providing consumer finance and creating innovative distribution models to reach remote consumers;
- **Strengthen supply** by attracting more finance and investment, accessing carbon finance, enhancing market intelligence, and creating inclusive value-chains;
- Foster an **enabling environment** by engaging national and local stakeholders, building the evidence base for the benefits of stoves, promoting international standards and rigorous testing protocols, and enhancing monitoring and evaluation.

3.2 High level issues to be addressed to ensure a large scale transition to modern cooking



Graphic: The Donut for MECS transition in Cambodia

To achieve the big goal of ensuring access to affordable, reliable, sustainable modern cooking energy for all households in Cambodia, the above diagram outlines eight high level challenges that we are overshooting in **RED**. These are negative impacts that need to be reduced as much as possible. Reducing the impacts connected to these factors will allow socio-ecological protection to people and the environment - moving us closer towards the goal.

Ensuring a large-scale transition requires us to think about developing solutions enabling the **BLUE** sections: affordability, access, safety, climate action, biodiversity, equity and inclusion, and strengthening market systems.

Finally, intervention categories in the inside **GREEN** slices within this diagram lay out what interventions could look like. It is these slices that are defined in greater detail in the MECS roadmap.

4. Introduction to the MECS Cambodia Roadmap

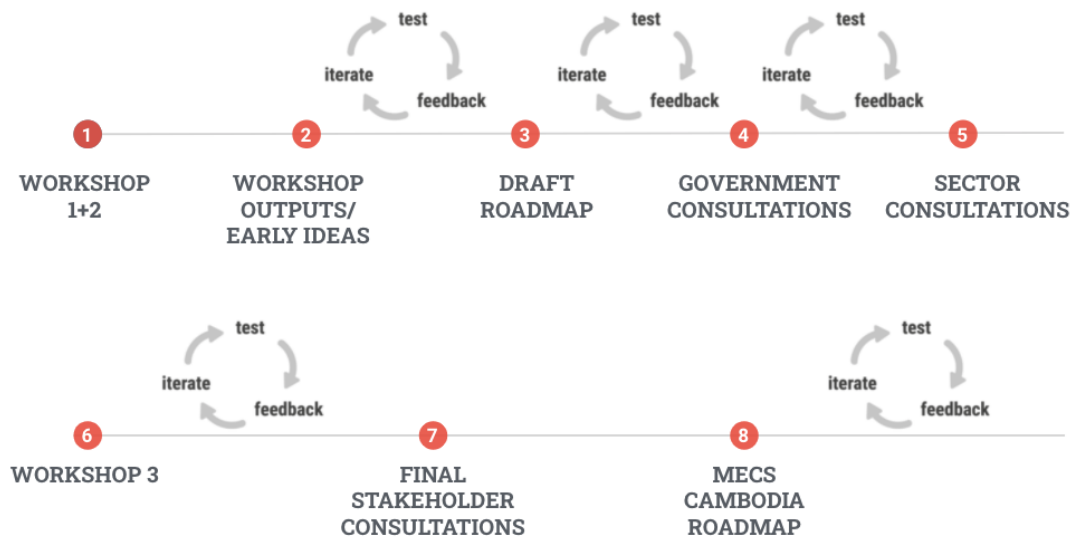
The Modern Energy Cooking in Cambodia Roadmap is a strategic plan for boosting Innovation, Investment and Impact of modern cooking solutions in Cambodia. The aim of this roadmap is to serve as an open source repository of initiatives/interventions that could help us to achieve the desired large-scale transition. The roadmap is owned collectively by the “sector”, and has been adapted and refined over time by stakeholders. It is designed to be a guiding tool that could help align stakeholders in the sector on key priorities, impactful interventions and partnership opportunities.

4.1 Design Principles

Stages of the roadmaps development have been guided by the following Design Principles:

1. **Move from abstract to concrete** *‘make interventions explicit and grounded in action’;*
2. **Advocate collective action** *‘as a sector’;*
3. **Connect interventions with each stakeholder** *‘who could do what’;*
4. **Build trust and collaboration** *‘by involving a wide range of stakeholders in the interventions development process’;*
5. **Employ and advocate for bottom up approaches** *‘inspire actions from all levels of stakeholders at national and subnational levels’;*
6. **Don’t criticize organizations** *‘celebrate wins and identify opportunities for beneficial impact’;*
7. **Rural first** *‘focus interventions and activities on rural households first’;*
8. **Solutions oriented in advocacy** *‘don’t focus exclusively on negative impacts of traditional cooking’;*
9. **Use local perspective and voice:** *‘Consider what is appropriate to communicate to a Cambodian audience’;*
10. **Complement organization’s existing priorities** *‘establish FIT with overlapping agendas of different stakeholders.’*

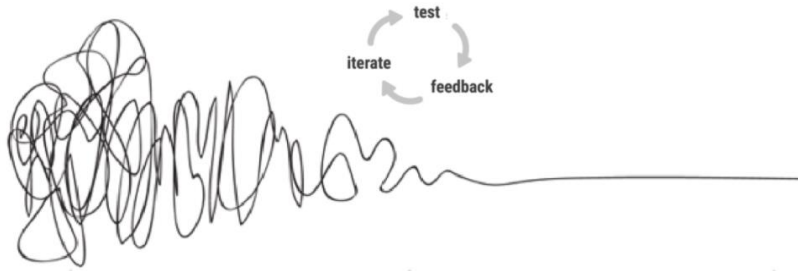
4.2 Roadmap Development Process



Graphic: Roadmap development process

Following research conducted in Phase 1 of the project, iDE hosted the Modern Energy Cooking in Cambodia workshop series, through which we defined what stakeholders in the Cambodian Clean Cooking sector can do to catalyse the thriving market for modern cooking solutions. We invited different stakeholders to share knowledge, trigger dialogue and collaboration enables organizations to make links across policy making, public and private sector organizations. Stakeholders from the MoE, MISTI, UNDP, SNV, ATEC and iDE shared insights from their ongoing work and we broke out in separate teams to brainstorm on some opportunity areas that could help achieve the big goal.

We built a shared understanding of the policy, supply and demand side factors affecting the transition to modern cooking and then collaboratively brainstorm and developed intervention options and relative roadmap. The outputs from this event contributed to developing a comprehensive summary of intervention options necessary to affect change, providing interested parties (donors, entrepreneurs, NGOs, and policymakers) with a menu of ways to get involved in scaling up the widespread adoption of clean cooking technologies in Cambodia.

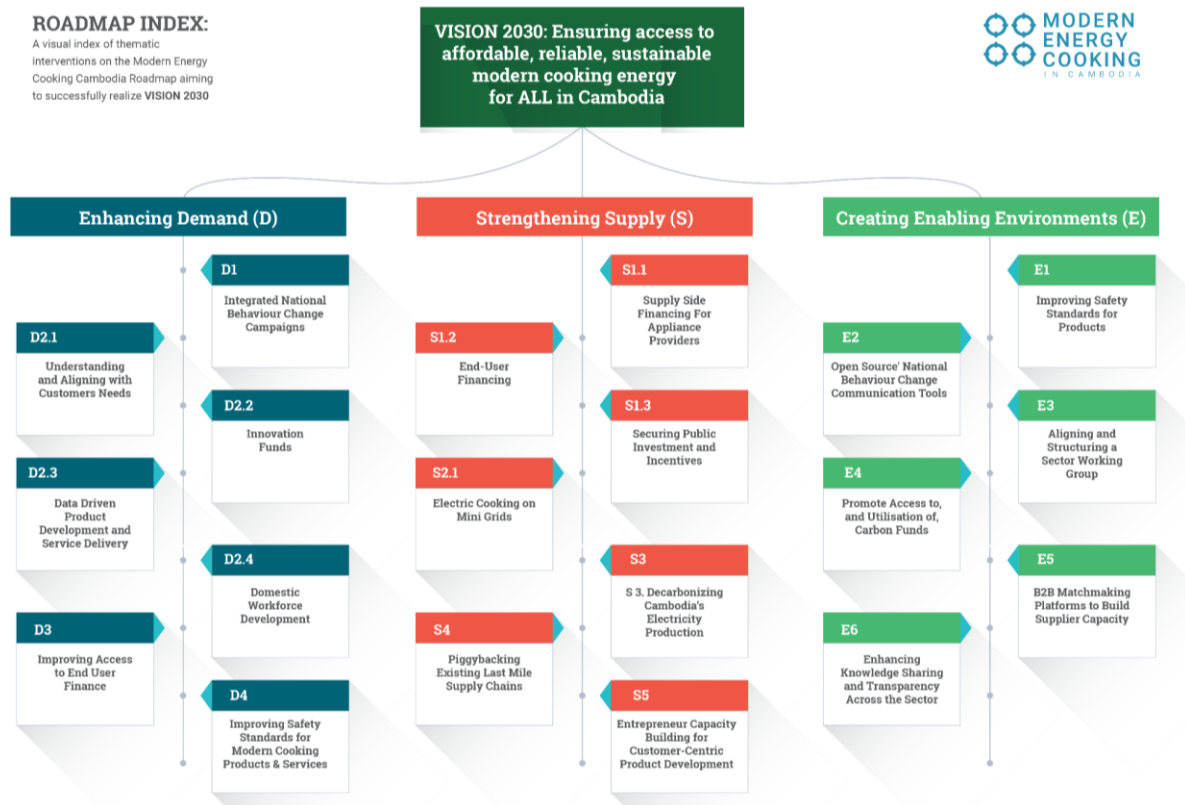


Messy interventions roadmap first!
Make it, test it, get feedback, change it

Final roadmap shared with the sector is designed for smooth execution, clarity and long term impact

These emerging outputs were analysed then developed into a draft roadmap, and were refined through 4 consultation sessions with the government line ministries and other sector stakeholders. Staying true to our iterative process, the team refined the interventions and activities in the roadmap to ensure sufficient validation of the assumptions around the outlined interventions. Doing this ensured that the final roadmap shared with the sector was designed for smooth execution and impact. Moving forward we expect further iterations and refinements to the roadmap in order to develop it into an action plan which details concrete and time-bound interventions to move the sector forward.

4.3 Roadmap Index



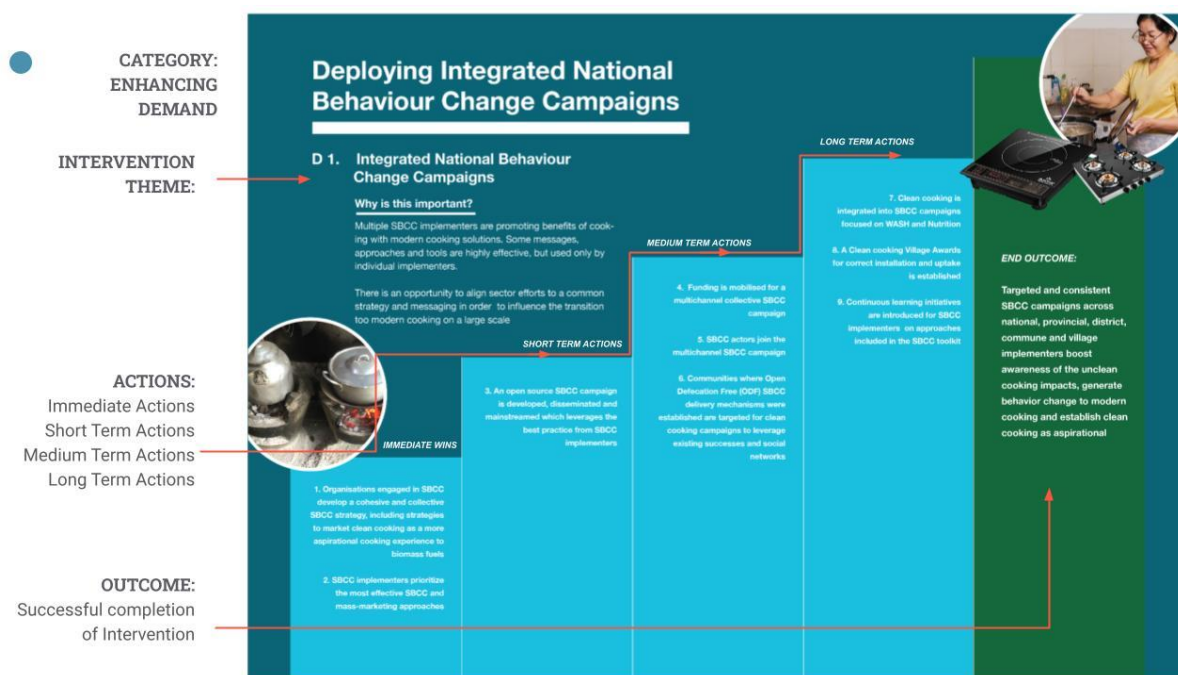
Graphic: Roadmap Index

The information in the roadmap is organized per the MECS theory of change framework:

- **OVERALL CATEGORIES:** Enhancing Demand, Strengthening Supply, Creating Enabling Environments;
- **INTERVENTIONS:** There are a total of 22 interventions that detail solutions necessary to achieve the end goal;
- **ACTIONS:** Steps (immediate, short term, midterm and long term actions) necessary to successfully complete the intervention.

4.4 How to Read the [Roadmap](#)

Each card in each of the categories of Supply, Demand and Enabling Environment has been colour coded, with the background colour changing to orange, dark blue and green, respectively. Within each card is the main intervention, and activities plotted on a timeline in terms of immediate, short term, medium term and long term actions. Completing these activities will ensure an outcome defined in the green box - bringing us one step closer to achieving vision 2030.



Graphic: How to read the roadmap

5. Next Steps for the Roadmap

It is critical that the sector comes together around one robust, comprehensive, and above all coordinated plan to work towards **ensuring access to affordable, reliable, sustainable modern cooking energy for all households in Cambodia**. It is imperative that the momentum gained during this process of roadmap development is not lost, and this roadmap is developed beyond the scope and timeline of this project. This roadmap is merely the first step in the development of a fully-fledged National Action Plan to accelerate uptake of Clean Cooking in Cambodia. After this initial roadmap plan is agreed by all relevant parties, including the public

sector, private sector, civil society, and research institutions, the sector must then transition from planning to action.

This National Action Plan development process will require concerted collaboration and access to larger pools of funding to lead to successful implementation. This will ensure that the sector is aligned and able to leverage collective action to meet the sector vision articulated above.

The next steps should focus on execution of the plan, including the development of the key performance indicators and targets, developing an implementation plan with roles and responsibilities, a timeline for completion, and a process for evaluating progress towards the ultimate goal of total adoption of clean cookstoves and fuels throughout Cambodia.

6. Annex

Phase 1:

- [Landscape Analysis](#) and [Clean Cooking Stakeholder Ecosystem map](#)
- [Cooking Diaries Study](#)
- [Discrete Choice Modelling Study](#)
- [Supply Side Summary](#)
- [Deepening Understanding of Cambodian context around cooking habits and practices of people living with disability and the elderly](#)

Phase 2:

- [Workshops 1 and 2](#)

Phase 3:

- [Workshop 3](#)
- [Distilled Summary of Key Insights](#)