

# Low-cost energy-efficient technologies for Kenya (the LCT project)

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## Results and next steps

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Funded by:



# Breakout on 'evaluating' USES programme

- Get into groups, choose chair and rapporteur
- Work to answer your given question – 20 mins. Flip chart.
- Post flip charts and circulate, adding to each flip chart (chair and rapporteur stay with their flip charts) – 15 mins.
- Feedback by rapporteurs - 5mins each (three key issues each)
- Discussant
- General Q and A



# The project

## A project involving:



# What have we been doing?

- Runs from 2015 to January 2018 (but NCE?)
- The aim of the project is to understand better the demand for low cost energy efficient technologies and to promote the innovation of new or improved products for the Kenyan base of the pyramid market.
- There are two main streams of work to the project:
  - A ‘500 watt clinic in a box’ i.e. energy efficient healthcare delivery systems.
  - Energy efficient domestic appliances especially

# Findings and outputs – clinic in a box

## Findings

- Key to the success of the clinic is an integrated suite of technologies; testing these takes time
- An ultra-low-cost (<\$20) infant warmer using passive heat can work for 8 hours at a time (testing continues)
- The business model for the clinic requires a PPP; this has implications on who accesses the facilities (BoP 1 vs BoP 2)

### Publications:

- Mitra, S and Buluswar, S. (2015) “Universal Access to Electricity: Closing the Affordability Gap” Annual Review of Environment and Resources Vol. 40 (261-283)
- NextBillion.net blog

## Outputs

- First "500 watt" Universal Clinic is being piloted. Delivery platform through partnership between NWH (Kenya) and the Tata Trusts in India.
- Two of the products in the clinic are at the last stages of regulatory approval
  - Ultra low-cost infant warmer (<\$20)
  - A solar “direct-drive” vaccine refrigerator. This fridge costs <25% of current options on the market.

# Findings and outputs – cookstoves

## Findings

- More understanding of how people cook is essential to understanding what new technologies will break through in a low innovative market.
- The time for cooking with electric using solar PV is possible – pilot tests necessary. Kenyans will cook with electric.
- Insights on demand side factors for innovation and sustainable development.

### Publications:

- 3 conference papers
- Cheruiyot, M., et al (2018). Demand side contextual drivers of inclusive innovation: the case of Kenya's energy efficient appliances sector (to be submitted to *Innovation and*

## Outputs

- One NGO (RECI) developing business plan for commercialisation of a two-burner forced draft stove
- Two women's cooperatives (Nairobi and Mombasa) training on production of fireless cookers and working with business mentor to develop initial business plan (in progress)
- Life hack for a cookstove fan to increase efficiency of lighting stoves and subsequent 'Washapap' design challenge (in progress)

# Outcomes and impacts – overall

## Expectations

- Impacts:
  - 3 devices developed for the market creating avenues for new business opportunities for businesses in Kenya.
  - Positive attitudes towards the 3 developed technologies' ability to improve wellbeing
- Outcomes
  - High quality research findings enable policy-makers and practitioners to take up the opportunities and challenges associated with scaling up sustainable energy for development.

## Reality

- 3+ technologies being bought to market
- Outcome evaluation still in process re: positive attitudes
- E-cook work has led to new (successful) proposals being developed
- Businesses in Kenya receptive to findings and acting on them
- Paper on demand side innovation is getting a good reception in the innovation studies



# Cooking: Simon, Mourine, Jacob Health: Shashi

Talk to us:





# Next steps/ Follow up

## Final activities of the project

- Complete set up of fireless cooker co-ops support & Washapap design challenge
- Cooking diaries report
- A final paper on innovation hubs
- A paper on e-cooking options
- Outcome evaluation report

## And/ or new project ideas

- Understanding African cooking and impacts on energy consumption (link with other projects that ongoing through Innovate UK) – cooking efficiently

NB: 3+ technologies continue being rolled out post project end