

Deep Dive Workshop on Electric Cooking - The Way Forward

Organized by India Smart Grid Forum

Theme address – Electric Cooking - The Way Forward



Presented by

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Modern Energy Cooking Services*



Thursday, 17th June 2021 | 17:30-19:00 (India) | 20.00 - 21.30 (Manila)

My points will be

- The enduring problem of cooking with polluting fuels
- SDG 7.2 is lagging, and yet India and ASEAN countries are making significant gains.
- New targets emerging for net zero carbon – will cooking energy still be carbon?
- Electric cooking – strangely neglected.
- Thought to be expensive, but not when you consider **energy efficient appliances**
- Comparison with mobile phones and LED
- Of course phones have taken hold because they are often on **pay as you use** contracts
- Affordable, ‘pay as you go’, examples.
- What about the upfront appliance cost?
- How many devices?
- Will it taste ok?
- Need to mitigate peak loads? – energy storage

The enduring problem of cooking with polluting fuels
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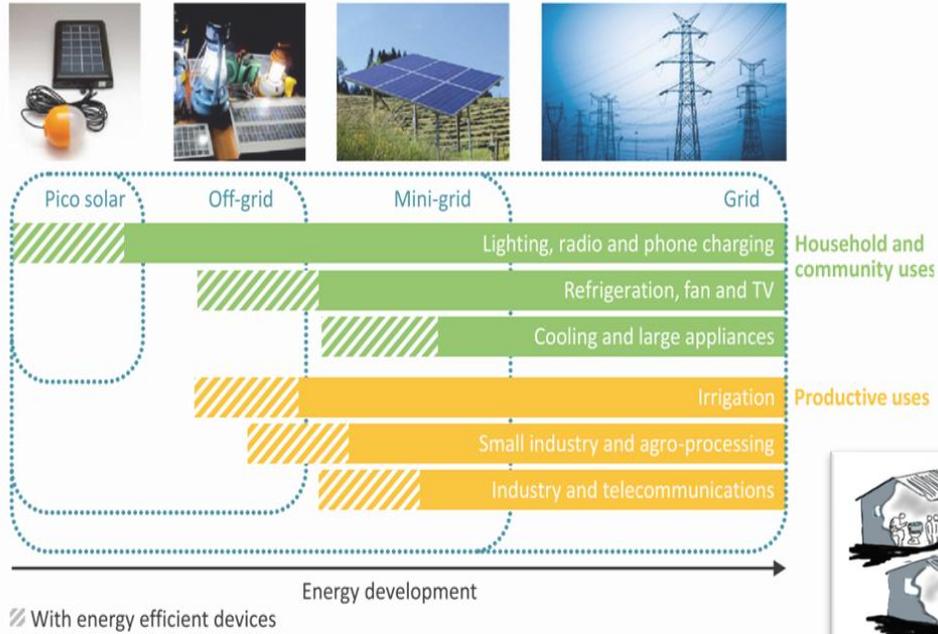
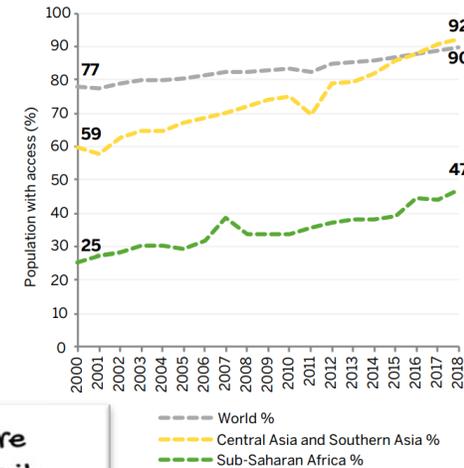


FIGURE 1.8 • Evolution of electricity access (percentage of population with access), 2000-18



Electric cooking – strangely neglected.

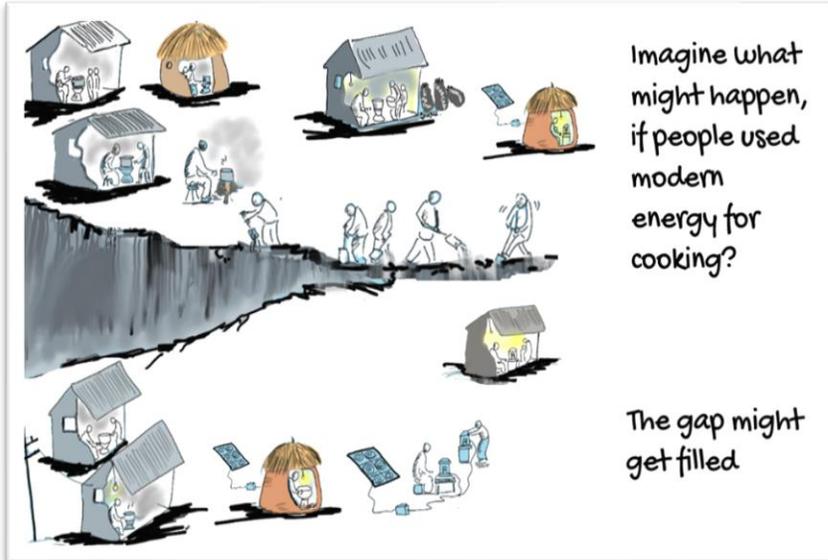
Even where grid electricity reaches, many people still cook with biomass

Grid and Off-grid have both focused on light and 'productive use'.

and that's created a gap, a chasm.

Between those working on clean cooking,

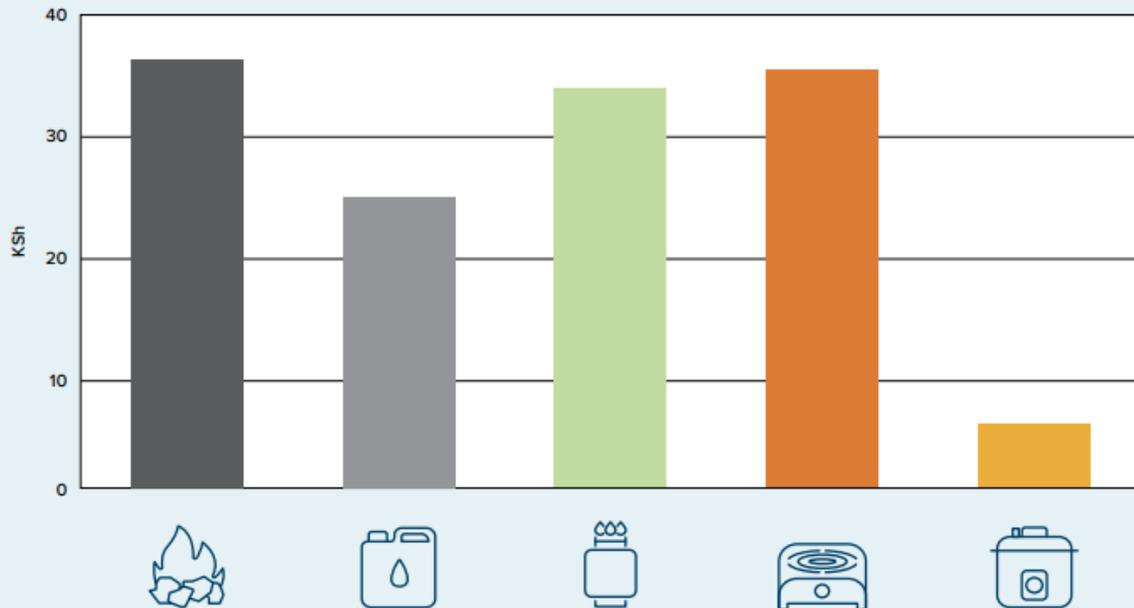
and those working on modern energy.



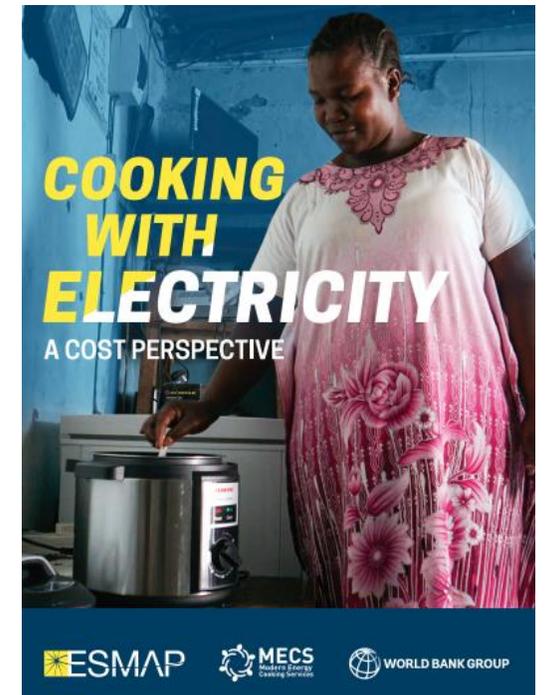
Electric cooking – strangely neglected.

Thought to be expensive, but not when you consider energy efficient appliances

FIGURE C.5 Cost of preparing 500 grams of dried yellow beans using most popular fuels in urban Kenya



Note: Costs are based on prices in Nairobi in July 2018.
Source: Leary, Fodio Todd, et al. (2019).



Comparison with mobile phones and LED

NEW DELHI: India's Energy Efficiency Services Ltd (EESL) plans to offer 600 million LED (light-emitting diode) bulbs in rural areas at ₹10 per piece, without any government support or subsidy, according to a top executive at the state-run firm.

The lowest globally priced LED bulb to be offered by EESL by leveraging scale, will come as a boost for Make in India and will also give India's climate change strategy a shot in the arm under the proposed Gram UJALA (Unnat Jyoti by Affordable Lighting for All) scheme.

<https://www.livemint.com/news/india/rural-areas-to-get-600-million-led-bulbs-at-rs-10-apiece-without-govt-subsidy-11596971172091.html>



Image - Francesco Fiondella

Of course phones have taken hold because they are often on **pay as you use** contracts



Ecoa

“I was surprised to realize that my electricity bill has remained almost the same after buying the ecoa and cooking with it frequently. My budget has reduced by half because I no longer refill my gas every month or have to buy paraffin.”

Catherine Wanjiru
Ecoa User, Kiganjo, Kenya.

<https://burnstoves.com/>

- Affordable, ‘pay as you go’, examples.

@COOK Electromagnetic Induction Stoves

Induction technology stoves that makes cooking cleaner, safer and more efficient for household cooking.

<ul style="list-style-type: none"> Safest and easiest cooking solution. Affordable to BoP households via PAYGO instalment options. GSM connectivity allows live data such as payments, GPS, electricity consumption and unit health updates. 	<ul style="list-style-type: none"> Most efficient cooking solution on the market. Studies in Cambodia and Bangladesh have shown a 50% reduction in running costs compared to LPG. 3 year warranty.
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- What about the upfront appliance cost?
- Credit association awareness
- Results Based Financing
- Carbon Credits

News

New innovative methodology; measures carbon emission reductions from the use of electric and other metered cooking devices

<https://businessinthenews.co.uk/2021/05/10/new-innovative-methodology-measures-carbon-emission-reductions-from-the-use-of-electric-and-other-metered-cooking-devices/>

To accelerate access to clean cooking, innovative ways for scaling up investment are needed. The World Bank has used results-based financing (RBF) widely in the health and climate impact sector. Drawing on this experience, the Bank is working to support approaches in which impact-driven funds could be deployed to pay for verified climate, health, and gender impacts from clean cooking interventions. If such capital could be unlocked, it could serve as an innovative way to: (i) attract other funds that target public benefits of climate, health, and gender interventions; (ii) develop the market for clean cooking solutions by catalyzing private investment, innovation, and risk taking; and (iii) over time, mainstream approaches to quantify the benefits of clean cooking into national policies and budgetary allocations. This type of RBF approach can build on recent progress in developing methodologies to measure health, gender, and expanded climate (black carbon) benefits.

https://www.esmap.org/esmap_ci-dev_pave-way-for-scalingup-innovative-financing-in

- How many devices?



- How many devices?

eCooking in Households



KHICHI,
PORRIGE, DALIA



Potato/Egg/Veg
etables Boiling



DRY
VEGETABLES



CHANA/CHOLA
/ RAJMA



GRAVY
VEGETABLE



RICE/PULOV/
BIRYANI



ALL TYPES OF
PULSES



IDLI/DHOKLA/MOM
OS all Steam Cook
foosd

- Will it taste ok?

Efficient Device to **STEAM, PRESSURE COOK, STIR FRY, SAUTE, SLOW COOK** Indian Recipes. Can take care of more than **80% of Cooking needs** in the kitchens of Indian Households and help India transition to **Clean Cooking**

Mr Vimal Kumar

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Programme Lead – India,
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3Ltr to 8Ltr EPCs can be
effectively used by Indian
Households to cook their **Daily
Meals and delicacies**

- Need to mitigate peak loads? – energy storage
- Rapid discharge - Lithium Titanate now on market (@\$200/kWh storage ex factory)?
- Phase change materials – for new ‘rural’ approaches. 300 and 500W from Solar



So points were

- The enduring problem of cooking with polluting fuels
- SDG 7.2 is lagging, and yet India and ASEAN countries are making gains.
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Question and Answers

Thank You

For discussions/suggestions/queries email:

research@gamos.org