

# A2E

ACCESS TO ENERGY INSTITUTE

# I

## **#StopGuessing: How Data Reveals Clean Cooking Potentials**

February 15-18, 2021

IRENA - Off-Grid Renewable Energy Statistics Online Conference

# #1 Introduction A2EI

## ACCESS TO ENERGY INSTITUTE

A non-profit, collaborative R&D platform in the areas access to energy, clean cooking and productive-use.



Supported by:

IKEA Foundation



# #1 Our mantra: #StopGuessing



## #2 Data Gathering at A2EI - Smart Meter



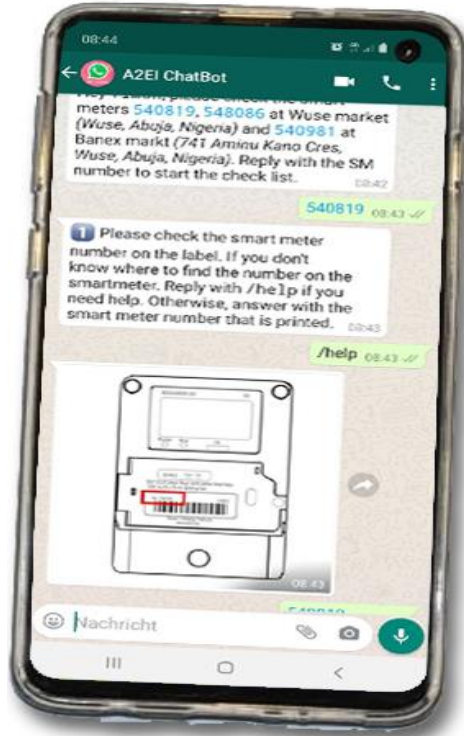
### Smart Meters

#### *Remote monitoring of AC electric appliances*

- Automated data retrieval
- Electricity data: Energy, power, etc.
- 5 or 1-minute data interval
- Internal storage for times of bad network



## #2 Data Gathering at A2EI - WhatsApp Bot



### Whatsapp Bot

### *Remote and automated surveying of pilot users*

- Allows researchers to get automated data easily from the field without traveling
- Uses the WhatsApp messenger as main channel for communication
- Pre-defined set of questions
- Verification process
- Look-up table with multiple languages



# #3 Clean Cooking Partners & Projects

## Partners

- Modern Energy Cooking Services (MECS)
- PowerGen Renewable Energy
- Nexleaf Analytics
- People, Energy & Environment Development Association (PEEDA)
- Practical Action (PAC) Nepal
- CREEC
- Rift Valley Energy
- Electrocook
- Atmosfair

## Projects

- 100 households with Electric Pressure Cookers (EPCs) in mini-grids in collaboration with MECS, PowerGen, Nexleaf around Lake Victoria, Tanzania
- 160 households with EPCs in rural micro-hydro grids with PEEDA in Nepal
- 60 households with EPCs and induction stoves in rural communities in collaboration with PAC in Nepal
- 150 households with EPCs in rural areas in collaboration with Rift Valley in Iringa, Tanzania

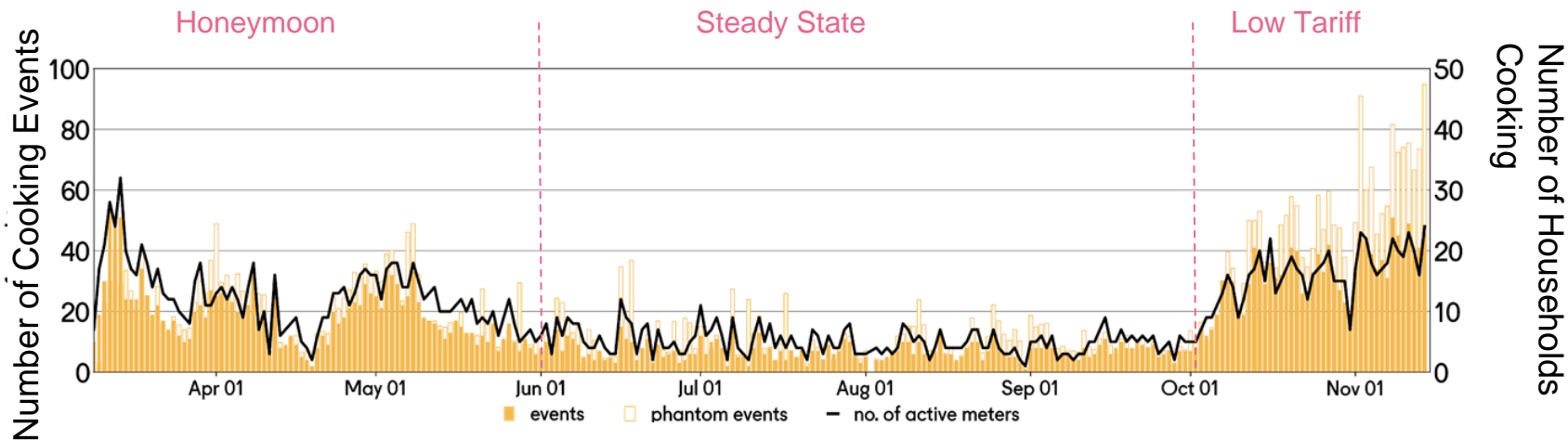


## #4 100 EPC Pilot Overview

- 100 participants at six different mini-grid villages
- Start: March 2020, data up to Dec, pilot on-going
- Electric pressure cookers (EPCs) connected to smart meters at 5-minute time resolution
- Tariff: First 7 months: \$1 per kilowatt-hour, then reduction to \$0.04 per kilowatt-hour



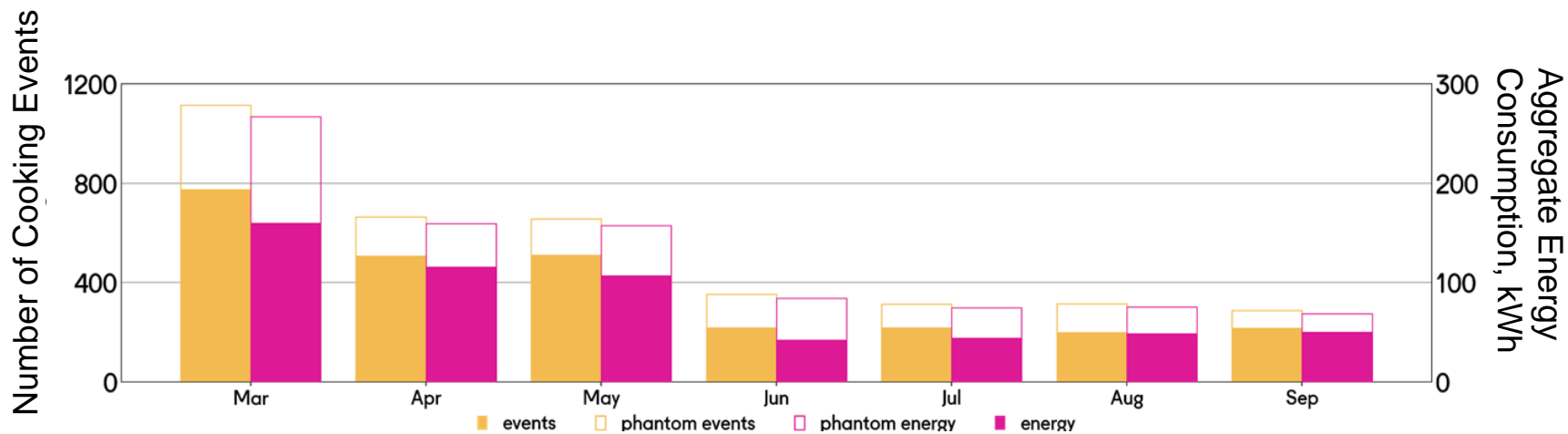
# #5 Findings - How Do People Cook With Electricity?



| Quartile | Smart Meter | Cooking Events | Share of Cooking Events Up to Quartile (%) |
|----------|-------------|----------------|--|
| 0        | #11         | 1              | 0%   |
| 25       | #34         | 11             | 3%   |
| 50       | #56         | 25             | 14%  |
| 75       | #77         | 51             | 36%  |
| 100      | #100        | 404            | 100%                                       |



# #5 Findings - What Does EPC Cooking Look Like at Scale?

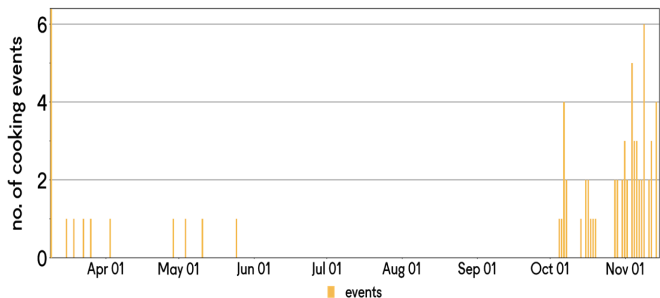




# #6 Collaboration Opportunities with A2EI



Smart Meters



Data analysis



Whatsapp Bot



Joint Pilot projects

# NEED COOKING DATA?

# A2EI

We want to support your projects to get better data by putting 1000 smart meters on electric cooking appliances globally. Contact [cleancooking@a2ei.org](mailto:cleancooking@a2ei.org) for more information.

## DOWNLOAD THE FULL DATA RELEASE

Interested to get the raw data? Download it here:  
[www.a2ei.org/news/clean-cooking-data-release](http://www.a2ei.org/news/clean-cooking-data-release)

Are you interested in future data releases? Do you have input, thoughts or ideas you would like to share with us? Please email us at [cleancooking@a2ei.org](mailto:cleancooking@a2ei.org).

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