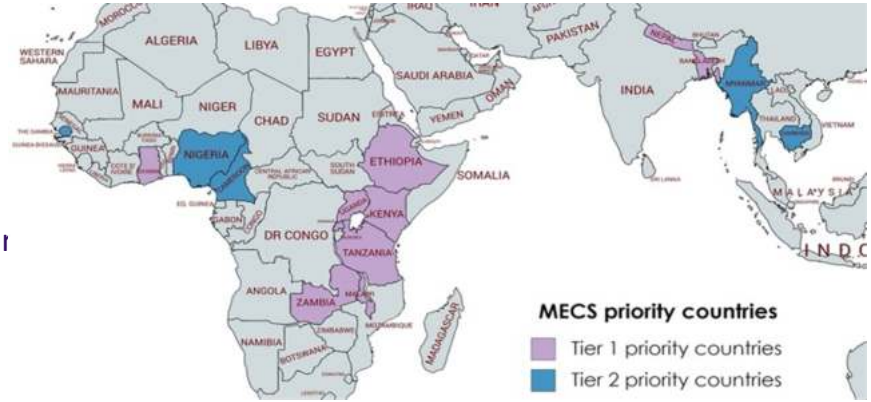
MECS
Modern Energy Cooking Services

Profiles of MECS Priority Countries

Dr Nick Rousseau
International Liaison Manager

April 2021



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ESMAP
Energy Sector Management Assistance Program

UKaid
from the British people

African Country Profiles

Updated 10th June2020

Cameroon

Key statistics

Total Population: 24.6 million
Electricity access (2017): 61%
Average Household size: 4.99
No. of Urban households: 2,745,932
Urban electricity access: 93%
Ease of doing business (score/rank): 46.1/167
Trading across border (score/rank): 16/186
Corruption Perception Index (score/rank): 25/100
Economic growth (GDP – 2017): 3.5%
Inflation of consumer prices (2016): 0.6%

Nature of openness to eCooking

To complete

Updated 10th June2020

Our activities:

Challenge fund projects

None

Other:

None

Planned:

- Cooking diary studies – urban and peri-urban, current cooking practices, aspirational practices
- National policy assessment
- Stakeholder workshops.

Support Networks

- Department for International Trade Cameroon
- Canada-Africa Chamber of Business

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More information available in the Cameroon Country Profile Information Document

Distributors

- Global Freightage Services Ltd
- Global Solution Sarl
- CAMADISC COMPANY LTD.

More information available in the Cameroon Country Profile Information Document

Retailers

- My Smart Bazaar
- UBuy

More information available in the Cameroon Country Profile Information Document

MECS Partners and others

MECS In Country Partner:

None

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Energy availability and projections and urban centres - Cameroon

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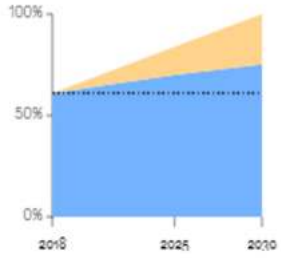
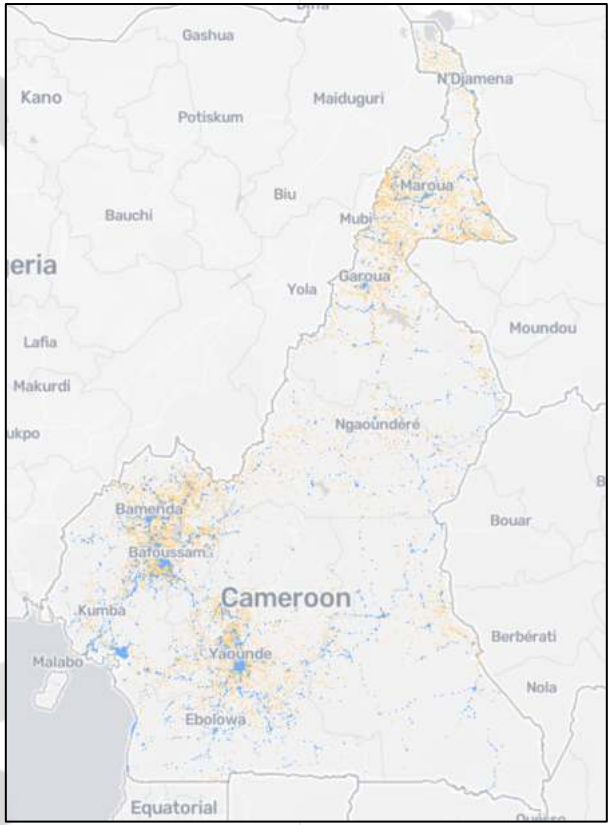
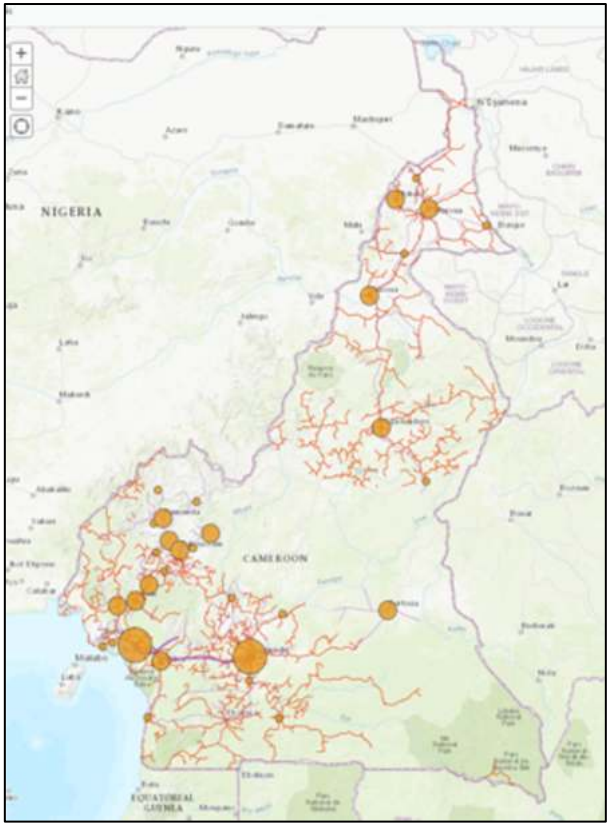
Summary

RESULTS FOR 2030

- Grid extension
- Stand-alone - Photovoltaic
- Mini-grid - Hydro







Legend

Populated Places Ranked II

RANK

- 5 (>0.05M)
- 4 (>0.1M)
- 3 (>0.5M)
- 2 (>1M)
- 1 (5M+)

Africa Grid II

voltage_kV

- ≤560.000000
- ≤420.000000
- ≤280.000000
- ≤140.000000

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Ethiopia

Key statistics

Total Population: 106 million
Electricity access (2017): 44%
Average Household size: 4.61
No. of Urban households: 4,687,602
Urban electricity access: 97%
Ease of doing business (score/rank): 48/159
Trading across border (score/rank): 56/156
Corruption Perception Index (score/rank): 37/96
Economic growth (GDP – 2017): 9.5%
Inflation of consumer prices (2016): 9.8%

Nature of openness to eCooking

East African country with greatest history of electric cooking - as a result of surplus of electricity for some years leading to very low tariff - 2c/kwh although it is now rising up to 8c/kwh.

Some locally made, very basic, electric cookers sold well. They used a lot of electricity and as the tariff rises consumers want more efficient devices.

Rapid programme of Government-supported minigrid development for rural electrification. The minigrid companies will want households to use electricity.

The concept of clean cooking has been adopted by Government and other development partners.

We are well connected to the PM and utility company.

Humanitarian settings (nearly 1m refugees) . use biomass to cook, damaging to the environment and creating conflict in host communities.

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Our activities:

Challenge fund projects:
N/A

Other:

- UCL – developing a map for the transitions that are possible to get the country to adopt clean cooking:
- Prototyping and Life Cycle Analysis,
- Policy influencing,
- Impact of eCooking on the grid, Study of behavioural aspects,
- Assessment of eCook and ethanol

Planned:

- We will be carrying out cooking diary studies to explore what kinds of devices could work and their implications - but not started yet. We do not yet know if EPC can cook a sufficient range of Ethiopian dishes.

Our publications:

- **https://mecs.org.uk/download-category/ethiopia/**
- **Ethiopia: Cooking transitions. An analysis of Multi-Tier Framework Data for insights into transitions to modern energy cooking.**

Support Networks

- Ethiopian Investment Commission
- Ethiopian Chamber of Commerce & Sectoral Association (ECCSA)
- The Eastern Africa Association

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More information available in the Ethiopia Country Profile Information Document

Distributors

- MEWIT
- Potomac

More information available in the Ethiopia Country Profile Information Document

Retailers

- SLS Trading PLC
- Shegersoug.com

More information available in the Ethiopia Country Profile Information Document

Partners and others

In Country Partner:
Hilawe Tesema (Ethio Resources Group)
Vijay Modi (Columbia University).
Ethiopia Ethio Resource (research consultancy) – close links to Ministry of Energy
UNHCR

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Energy availability and projections and urban centres - Ethiopia

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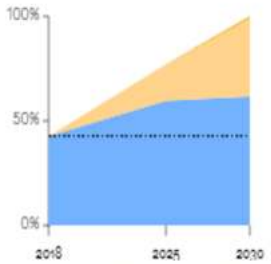
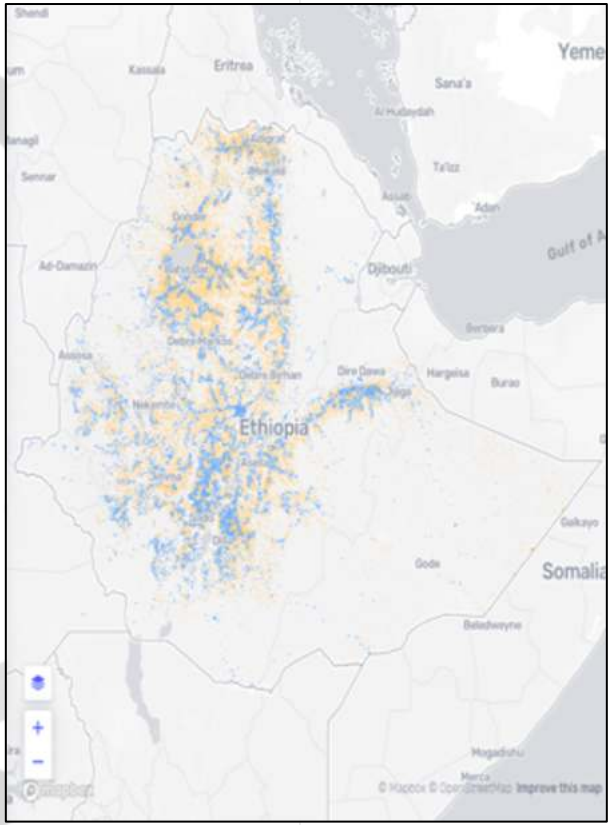
Summary

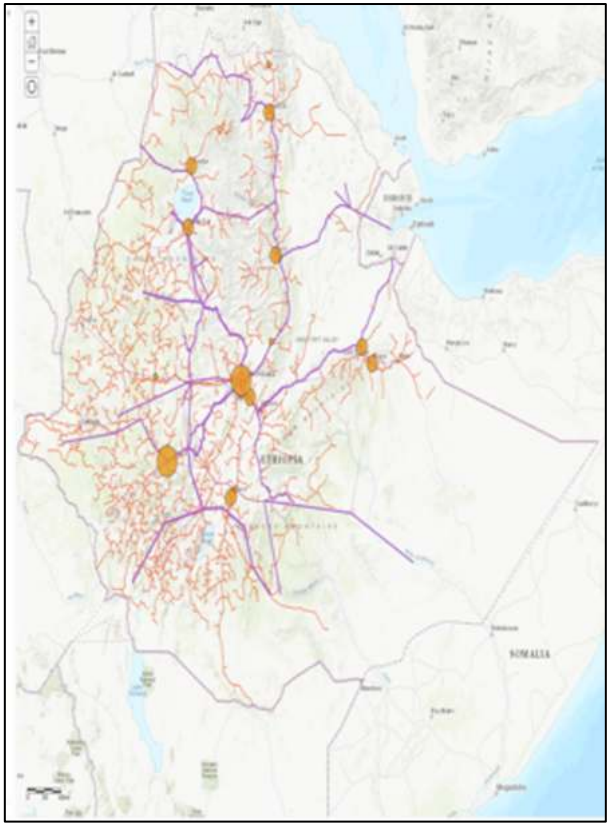
RESULTS FOR 2030

- Grid extension
- Stand-alone - Photovoltaic
- Mini-grid - Photovoltaic



POPULATION CONNECTED





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- ≤140.000000

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Gambia (The)

Key statistics

Total Population: 2.2 million
Electricity access (2017): 56%
Average Household size: 8.23
No. of Urban households: 163,013
Urban electricity access: 79%
Ease of doing business (score/rank): 50.3/155
Trading across border (score/rank): 67.8/115
Corruption Perception Index (score/rank): 37/96
Economic growth (GDP – 2017): 4.8%
Inflation of consumer prices (2016): .8%

Nature of openness to eCooking

Positive factors:

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Our activities:

Challenge fund projects:

…

Other:

- Co-creation of activities and field trials re consumer preferences related to MECS innovations

Planned:

..

Our publications:

Other publications and links:

Support Networks

- Gambia Chamber of Commerce & Industry
- The European Business Council for Africa
- Gambia Investment and Export Promotion Agency

More information available in the Gambia Country Profile Information Document

Distributors

- MP Electronics
- Gladius Gambia

More information available in the Gambia Country Profile Information Document

Retailers

- H.M. Enterprise
- MP Trading
- Maroun's Supermarket

More information available in the Gambia Country Profile Information Document

Partners and others

In Country Partner:
Global Hands – The Gambia (NGO)

Energy availability and projections and urban centres - Gambia (The)

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Summary

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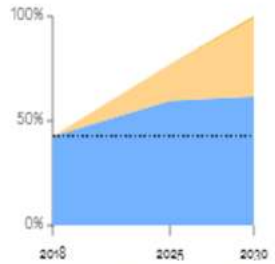
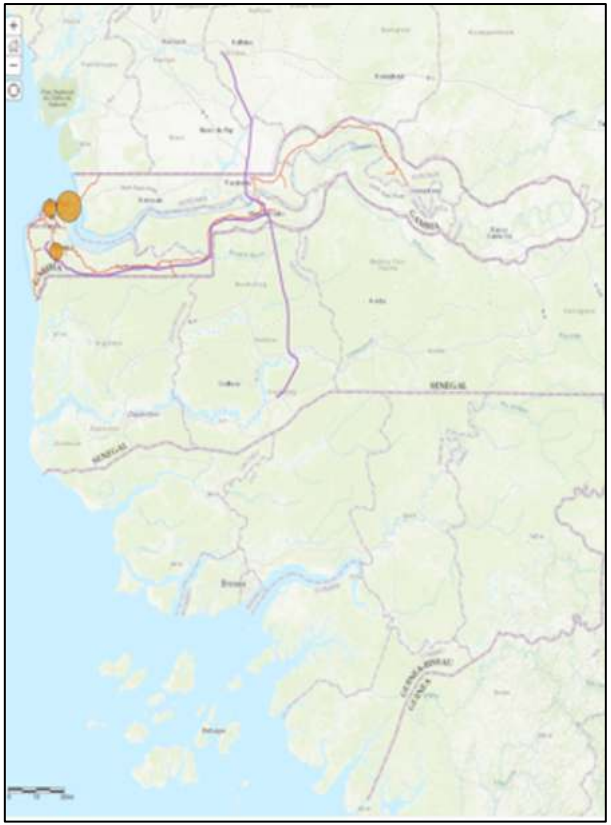
- Grid extension
- Stand-alone - Photovoltaic
- Mini-grid - Photovoltaic





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Ghana

Key statistics

Total Population: 29.1 million
Electricity access (2017): 79%
Average Household size: 3.49
No. of Urban households: 4,623,305
Urban electricity access: 90%
Ease of doing business (score/rank): 60/118
Trading across border (score/rank): 54.8/158
Corruption Perception Index (score/rank): 41/80
Economic growth (GDP – 2017): 8.1%
Inflation of consumer prices (2016): 12.4%

Nature of openness to eCooking

Positive factors:

Air pollution is recognised as one of the leading risk factors for premature death in Ghana. The combined effects of household and ambient air pollution are responsible for almost 23 000 deaths per year.

The aim of the present electrification scheme is to extend electricity power lines to connect about 59 000 new customers, with the ultimate goal of making electricity accessible to people in every part of the country.

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Our activities:

Challenge fund projects:
N/A

Other:

- International Development Agency (IDA) pipeline projects to include investments on clean cooking technology, business and policy innovation (also in Uganda and Zambia)

Planned:

- Working in 2 greater Accra municipalities, landscaping of cooking energy, stakeholder mapping and workshop, market baseline, cooking diary studies.

Our publications:

- **https://mecs.org.uk/download-category/ghana/**
- **Discrete Choice Modelling Survey in Ghana**

Other publications and links:

- **HEART Report - WHO**

Support Networks

- Department for International Trade Ghana
- Ghana National Chamber of Commerce & Industry
- The European Business Council for Africa

More information available in the Ghana Country Profile Information Document

Distributors

- Petpanoo Company
- Tropical Foods Logistics
- Goshmelo Shipping & Trading Ltd

More information available in the Ghana Country Profile Information Document

Retailers

- Happy Home Appliances
- Tonaton
- Melcom

More information available in the Ghana Country Profile Information Document

Partners and others

In Country Partner:
Kwame Nkrumah University of Science and Technology (KNUST)
Kintamp Health Research Centre
Simon Bawakyillenuo – Institute of Statistical, Social and Economic Research (ISSER).

Energy availability and projections and urban centres - Ghana

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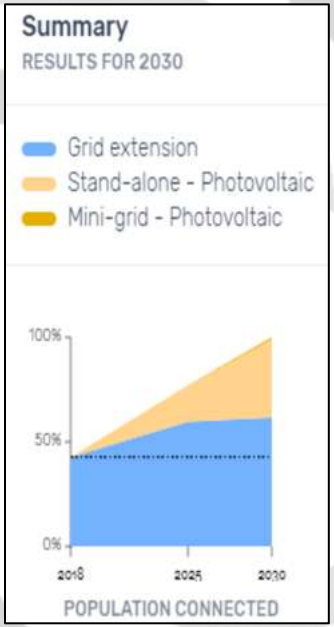

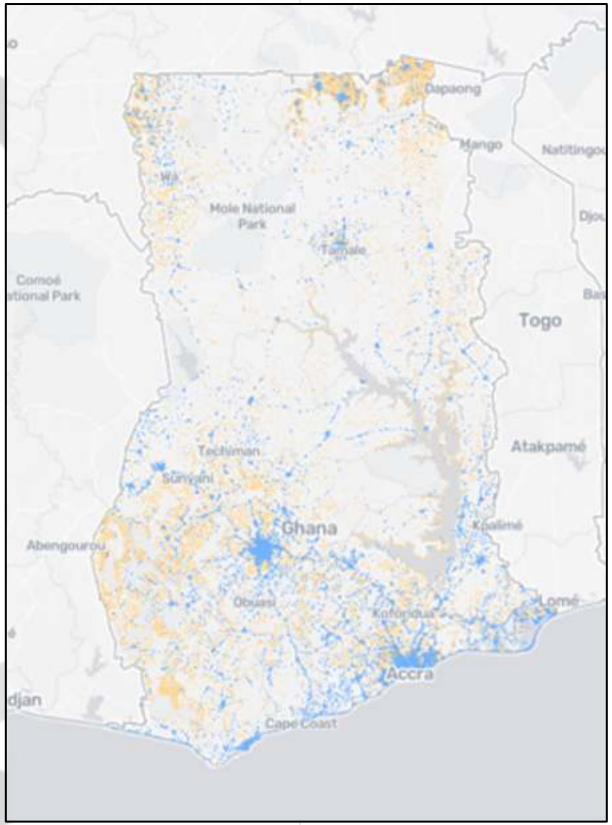

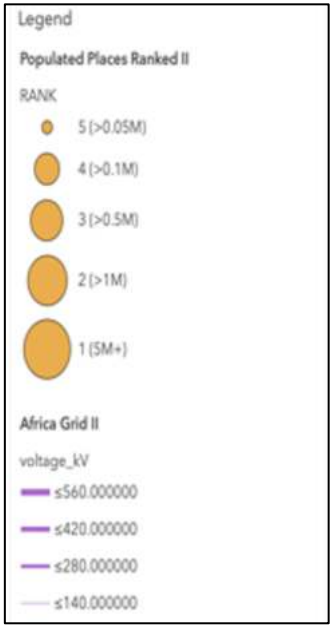

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Kenya

Key statistics

Total Population: 50.2 million
Electricity access (2017): 64%
Average Household size: 3.64
No. of Urban households: 3,664,788
Urban electricity access: 81%
Ease of doing business (score/rank): 73.2/56
Trading across border (score/rank): 67.4/117
Corruption Perception Index (score/rank): 28/137
Economic growth (GDP – 2017): 4.9%
Inflation of consumer prices (2016): 8%

Nature of openness to eCooking

Kenyan Government target is for 100% electricity access by 2022 – through a mix of grid and off-grid. The grid is expanding rapidly connecting many users within reach of the existing grid.

The aim is to connect 1 million customers per year. The Kenya Power customer base has steadily increased each year, by more than 3.7 million between 2014 and 2018

Very active commercial PV system market – estimated 200,000 rural households have a Solar Home System with 25k-30k sold each year.

Deforestation is a major issue and 64% of the biomass harvested for household fuel is classified as non-renewable (2014). Regulation and exhaustion of forests is likely to increase the price of charcoal. They are also increasing tax on kerosene. LPG is relatively expensive – 2.23 USD/Kg but prices are likely to fall.

Kenya's INDC has prioritised clean cooking as one way to reduce GHG emissions.

Imported electric stoves only attract 10% customs duty, down from 25% and 0% VAT.

At a recent event (Feb 2020), the Kenyan President showed great interest in MECS exhibition and took a solar electric prototype system.

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Our activities:

Challenge fund projects:

- Kisambara Ventures Ltd – encouraging use of Electric Pressure Cookers
- Power for All – MECS job census and campaign
- Bichaa Sasa – Women-women distribution model
- PayGo Energy – IoT LPG Cylinder Tag and Trace.
- M-KOPA UK Ltd – developing low cost sensors
- Sustainable Community Development Services (SCODE).

Planned:

- We are working with KLPC to set up a results based financing programme so they can sell electric cooking devices to their 7m customers.

Our publications:

- https://mecs.org.uk/download-category/kenya/
- **The Kenya eCookbook: Beans & Cereals Edition**
- **Cooking Diaries ProtocolV**

Support Networks

- American Chamber of Commerce Kenya
- Canada East Africa Chamber of Commerce
- Canada-Africa Chamber of Business

More information available in the Kenya Country Profile Information Document

Distributors

- Ideal Appliances Limited
- Hotpoint Appliances Ltd
- Nabico Enterprises Limited

More information available in the Kenya Country Profile Information Document

Retailers

- Samsutech
- Kenya Waterless Cookware
- Jendeka Holdings Ltd

More information available in the Kenya Country Profile Information Document

Partners and others

In Country Partners:

Joanes Atela – African Centre for Technology Studies: Jon Leary (link researcher). Baseline studies of MECS technologies and suppliers and manufacturing opportunities, cooking diaries 3.0, technology foresight scenarios, policy analysis, policy dialogue and influence, business facilitation/support.

African Centre for Technology Studies (ACTS)
Strathmore University
Moi University
University of Nairobi
NETFund
SCODE (NGO)
eCook Pioneers

Energy availability and projections and urban centres - Kenya

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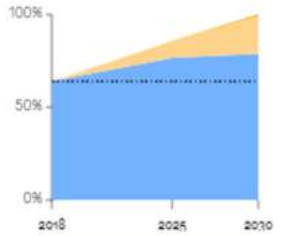
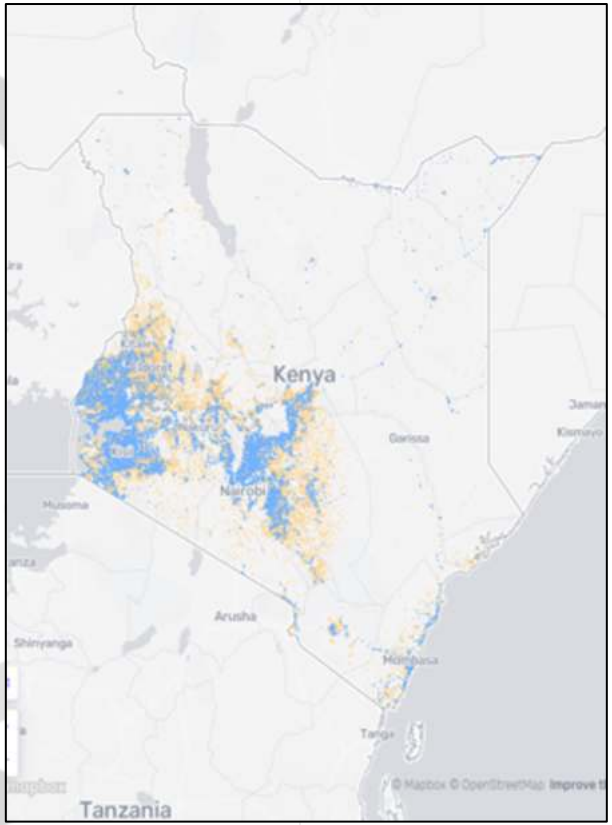
Summary

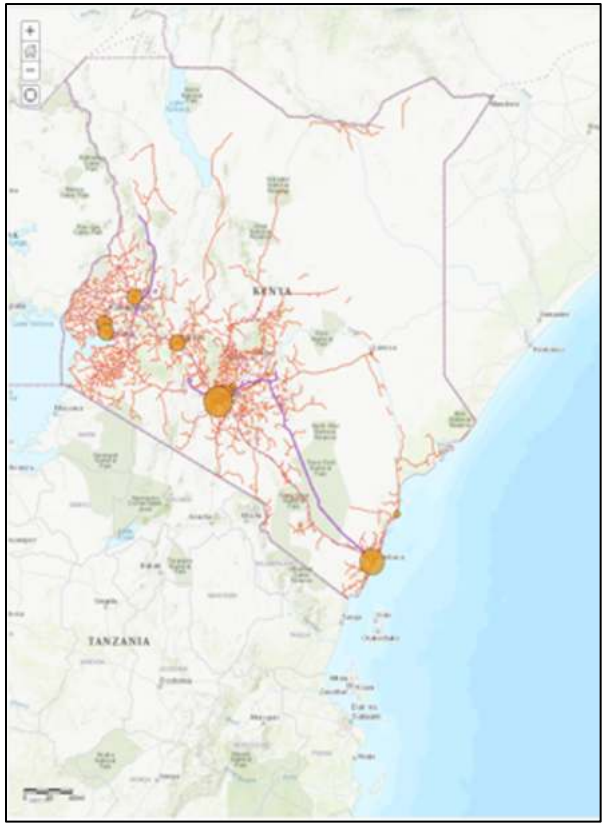
RESULTS FOR 2030

- Grid extension
- Stand-alone - Photovoltaic
- Mini-grid - Photovoltaic
- Mini-grid - Wind
- Mini-grid - Hydro



POPULATION CONNECTED





Legend

Populated Places Ranked II

RANK

- 5 (>0.05M)
- 4 (>0.1M)
- 3 (>0.5M)
- 2 (>1M)
- 1 (5M+)

Africa Grid II

voltage_kV

- ≤560.000000
- ≤420.000000
- ≤280.000000
- ≤140.000000

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Malawi

Key statistics

Total Population: 17.7 million
Electricity access (2017): 13%
Average Household size: 4.51
No. of Urban households: 654,857
Urban electricity access: 58%
Ease of doing business (score/rank): 60.9/109
Trading across border (score/rank): 65.3/127
Corruption Perception Index (score/rank): 31/123
Economic growth (GDP – 2017): 4%
Inflation of consumer prices (2016): 11.5%

Nature of openness to eCooking

To complete

Updated 10th June2020

Our activities:

Challenge fund projects:

- Sustainable OneWorld Technology CIC – Delivering pv-eCook at ground level
- Kachione, LLC – Customising Malawi-made solar electric cooking technology for very low income families via PayGrow method
- Cal Poly Corporation – developing phase change thermal storage capability (also in Ghana and Uganda)

Planned:

- Appliance testing (efficiency, safety, cooking),
- Cooking diary studies – urban, peri-urban & rural,
- appliance availability mapping,
- stakeholder workshops.

Support Networks

- Malawi Confederation of Chambers of Commerce & Industry
- UK-Malawi Business Group

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More information available in the Malawi Country Profile Information Document

Distributors

- Deekay
- Akbanies

More information available in the Malawi Country Profile Information Document

Retailers

- 265Energy
- Game
- Shoprite
- SPAR

More information available in the Malawi Country Profile Information Document

Partners and others

In Country Partner:
Mzuzu University

Loughborough University

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Energy availability and projections and urban centres - Malawi

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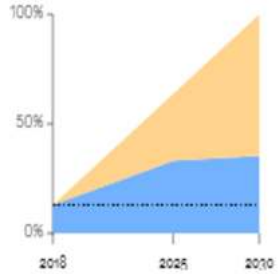
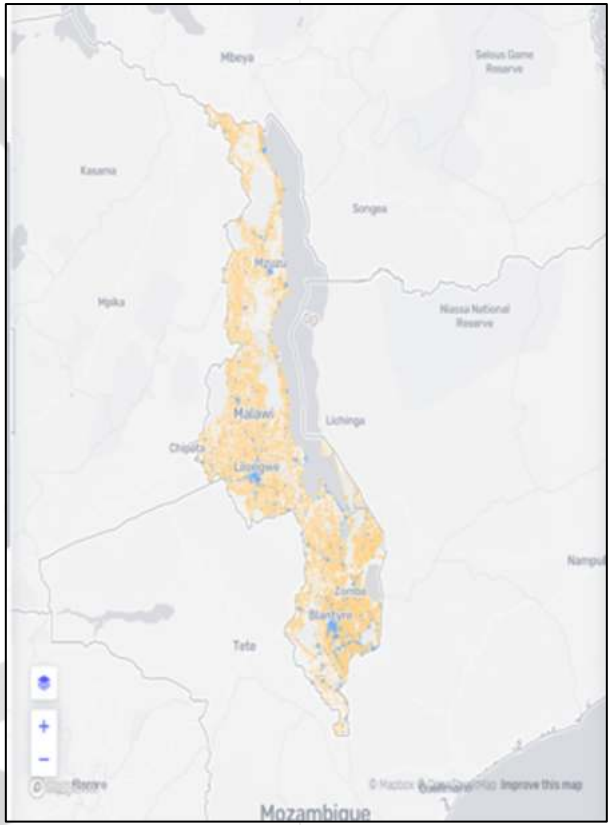
Summary

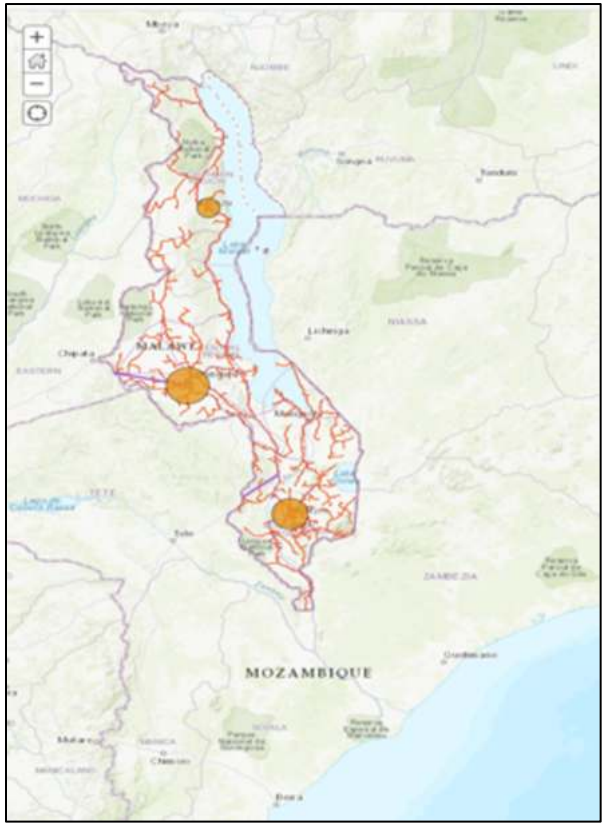
RESULTS FOR 2030

Grid extension

Stand-alone - Photovoltaic







Legend

Populated Places Ranked II

RANK

5 (>0.05M)

4 (>0.1M)

3 (>0.5M)

2 (>1M)

1 (5M+)

Africa Grid II

voltage_kV

≤560.000000

≤420.000000

≤280.000000

≤140.000000

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Nigeria

Key statistics

Total Population: 191 Million
Electricity access (2017): 54%
Average Household size: 4.9
No. of Urban households: 19,289,501
Urban electricity access: 87%
Ease of doing business (score/rank): 56.9/131
Trading across border (score/rank): 29.2/179
Corruption Perception Index (score/rank): 26/146
Economic growth (GDP – 2017): 0.8
Inflation of consumer prices (2016): 16.5

Nature of openness to eCooking

To complete

Updated 10th June2020

Our activities:

Challenge fund projects:

- Climate and Development Centre, Alex Ekwueme Federal University – Enhancing LPG access for semi-urban populations
- International Development Agency (IDA) – pipeline projects inc electric cooking pilot

Other:

- Energy on the Move
- Low Energy Inclusive Appliances (LEIA) programme

Support Networks

- Canada-Africa Chamber of Business
- Department for International Trade Nigeria

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More information available in the Nigeria Country Profile Information Document

Distributors

- A 2 Z Electro House Ltd
- Extrotronics

More information available in the Nigeria Country Profile Information Document

Retailers

- Kara.com
- Jumia
- Nexus Appliances

More information available in the Nigeria Country Profile Information Document

Partners and others

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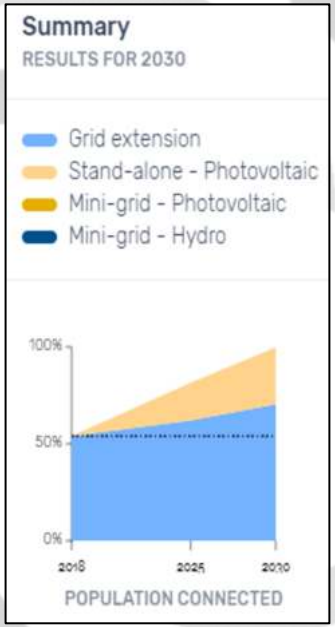
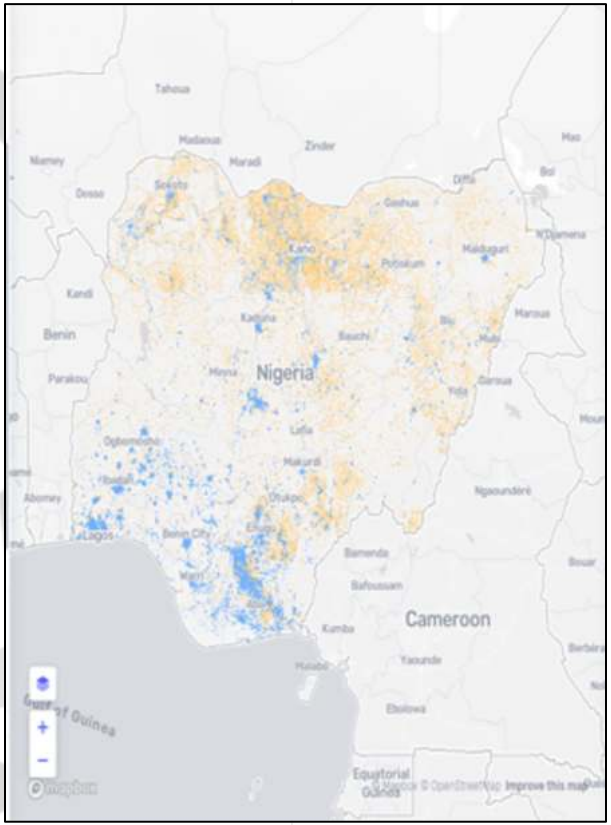
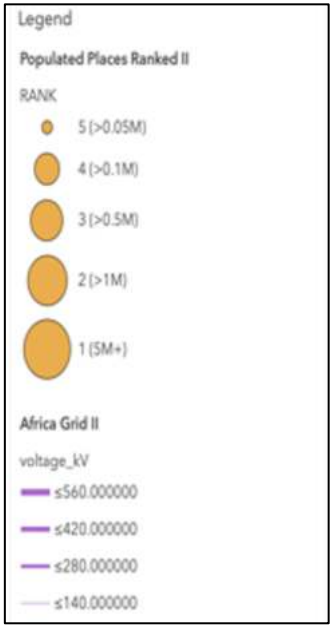
Energy availability and projections and urban centres - Nigeria







Updated 10th June2020

Rwanda

Key statistics

Total Population: 12 Million
Electricity access (2017): 34%
Average Household size: 4.26
No. of Urban households: 481,628
Urban electricity access: 85%
Ease of doing business (score/rank): 76.5/38
Trading across border (score/rank): 75/88
Corruption Perception Index (score/rank): 53/51
Economic growth (GDP – 2017): 6.1
Inflation of consumer prices (2016): 8.3

Nature of openness to eCooking

Small country with a stable and positive Government – can get things done.

Recent release of the Biomass Energy Strategy and the need to reduce the amount of biomass used.

Some interest from Ministry of Infrastructure in eCooking

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Our activities:

Challenge fund projects:

…

Other:

- University of Sussex – innovation systems work

Planned:

..

Support Networks

- The European Business Council for Africa
- The Eastern Africa Association
- Rwanda Development Board

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More information available in the Rwanda Country Profile Information Document

Distributors

- Honest General Enterprises
- ERI –RWANDA

More information available in the Rwanda Country Profile Information Document

Retailers

- Iduka
- Yubeyi.com

More information available in the Rwanda Country Profile Information Document

Partners and others

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ESMAP Energy Sector Management Assistance Program

UKaid from the British people

Energy availability and projections and urban centres - Rwanda

MECS

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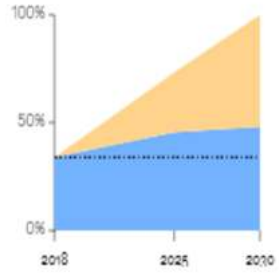
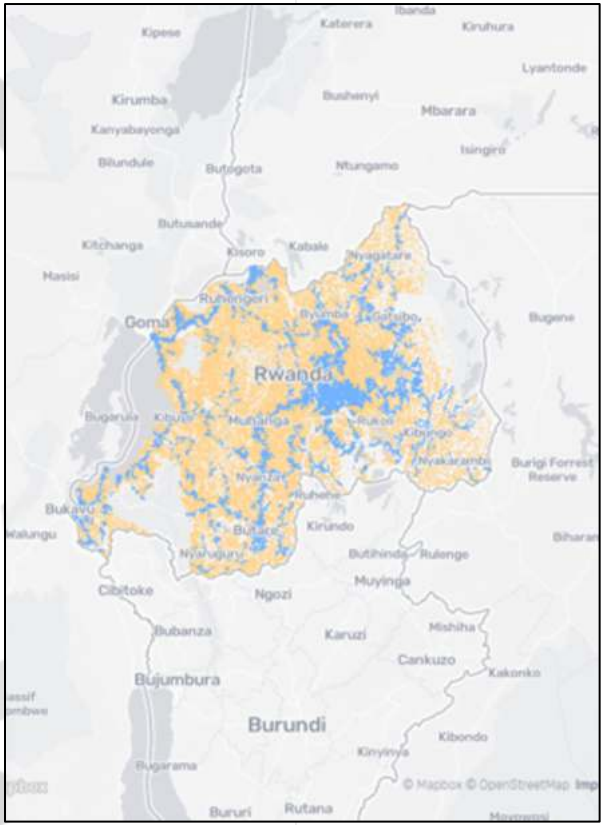
Grid extension

Stand-alone - Photovoltaic





Legend

Populated Places MECS

RANK

- 5 (>0.05M)
- 4 (>0.1M)
- 3 (>0.5M)
- 2 (>1M)
- 1 (5M+)

Africa Grid II

voltage_kV

- ≤560.000000
- ≤420.000000
- ≤280.000000
- ≤140.000000

Updated 10th June2020

Loughborough University

ESMAP Energy Sector Management Assistance Program

UKaid from the British people

Tanzania

Key statistics

Total Population: 55 Million
Electricity access (2017): 33%
Average Household size: 4.85
No. of Urban households: 3,725,373
Urban electricity access: 65%
Ease of doing business (score/rank): 54.5/141
Trading across border (score/rank): 20.2/182
Corruption Perception Index (score/rank): 37/95
Economic growth (GDP – 2017): 6.8%
Inflation of consumer prices (2016): 5.3%

Nature of openness to eCooking

Major cities are electrified and in the last couple of years the Government has made a big push for rural electrification.
Many in rural areas have electricity through Solar Homes Systems and minigrids – PowerGen, PowerCorner are major minigrid companies. Even when they connect communities to the grid the minigrid remains.

Big focus on Electric Pressure Cookers.??

Frequent blackouts and voltage fluctuations on TANESCO grid suggest supporting electric cooking appliances with a battery would enable much more widespread adoption of electricity as a primary cooking fuel. Voltage instability can affect cooker performance as much as blackouts. TANESCO has a high dependence on hydropower, which is likely to lead to further load shedding in future dry seasons

Cooking diaries show that **smaller households with efficient appliances can cook using TANESCO's 75kwh/month lifeline tariff**

TANESCO is still unable to cover its costs. Importantly though, **eCook offers TANESCO the opportunity to increase its revenue per connection**

Time of use tariffs could incentivise off-peak cooking. Tariffs on private mini-grids are high, but efficient appliances are likely to be cost effective.

Our activities:

Support Networks

- The Eastern Africa Association
- Canada Easy Africa Chamber of Commerce

MECS

More information available in the Tanzania Country Profile Information Document

Distributors

- Sole Sanyo
- Freedom Electronics

More information available in the Tanzania Country Profile Information Document

Retailers

- ZoomTanzania
- Jumia
- NidaDanish

More information available in the Tanzania Country Profile Information Document

Partners and others

In Country Partner:
Estomih Sawe and Jensen Shuma – Tanzania Traditional Energy Development Organisation (TaTEDO) – also has a private sector arm that can act as distributor of EPCs

Science, Technology and innovation policy Research Organisation (STIPRO)
Access to Energy inst – AtEI. In Arusha.

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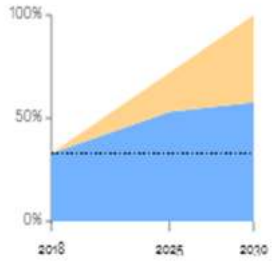
Energy availability and projections and urban centres - Tanzania

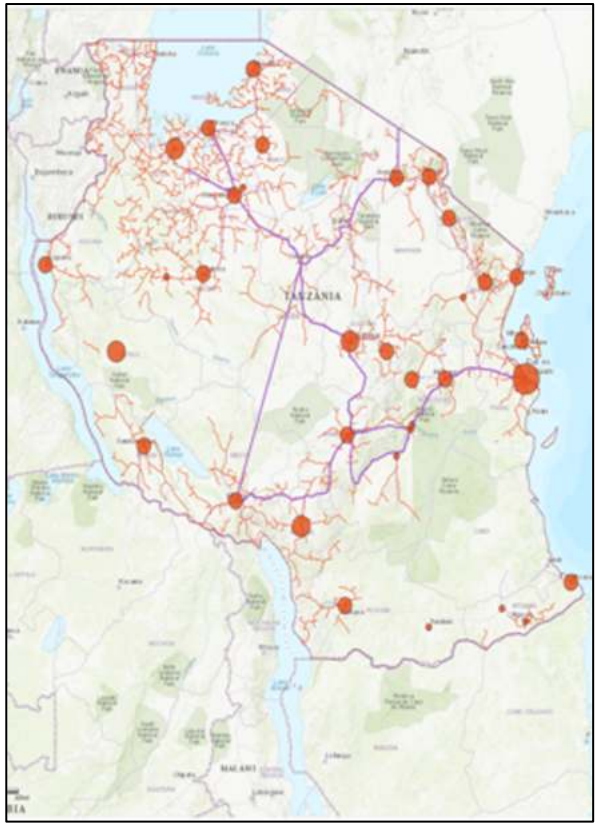
MECS

Summary

RESULTS FOR 2030

- Grid extension
- Stand-alone - Photovoltaic
- Mini-grid - Photovoltaic





Legend

Populated Places MECS

RANK

- 5 (>0.05M)
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- 2 (>1M)
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Africa Grid II

voltage_kV

- ≤560.000000
- ≤420.000000
- ≤280.000000
- ≤140.000000

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Updated 10th June2020

Uganda

Key statistics

Total Population: 41 Million
Electricity access (2017): 22
Average Household size: 4.53
No. of Urban households:2,107,736
Urban electricity access: 57%
Ease of doing business (score/rank): 60/116
Trading across border (score/rank): 66.7/121
Corruption Perception Index (score/rank): 28/137
Economic growth (GDP – 2017): 3.9%
Inflation of consumer prices (2016):

Nature of openness to eCooking

Positive factors:-

Good connections with the Ministry of Energy

In ???, Minister of Energy recognized that EPCs are not on sale in the country and – summoned retailers to ask why?

Recent Government (draft) energy policy says it plans to "promote and incentivise switching from biomass to alternative efficient fuels and technologies, e.g. LPG, biogas, **electric pressure cookers**, solar cookers, etc"

Updated 10th June2020

Our activities:

Challenge fund projects:

- Pesitho ApS – alternative energy solutions for cooking in refugee settlement

Other:

- International Development Agency (IDA) pipeline projects to include investments on clean cooking technology, business and policy innovation (also in Ghana and Zambia)

Planned:

- Mapping of existing policies, institutions, economic and social processes, stakeholder mapping, consumer preferences and understanding barriers to adoption, identify opportunities for scale up/deep.

Our publications:

- **https://mecs.org.uk/download-category/uganda/**
- **Discrete Choice Modelling Survey, Uganda**

Support Networks

- The Eastern Africa Association

More information available in the Uganda Country Profile Information Document

Distributors

- Translink
- Burhani Distributors
- Dembe

More information available in the Uganda Country Profile Information Document

Retailers

- Half Price Supermarket
- Kweli
- Jumia Uganda

More information available in the Uganda Country Profile Information Document

Partners and others

In Country Partner:
Uganda Cleaner Production Centre (UCPC)
Uganda Ministry of Energy
Mary Abbo and Agnes Naluwagga – **Ministry and Centre for Research in Energy and Energy Conservation (CREEC) (uni of Makalari)**

Energy availability and projections and urban centres - Uganda

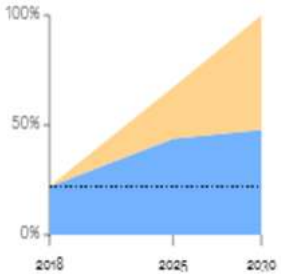
MECS

Summary

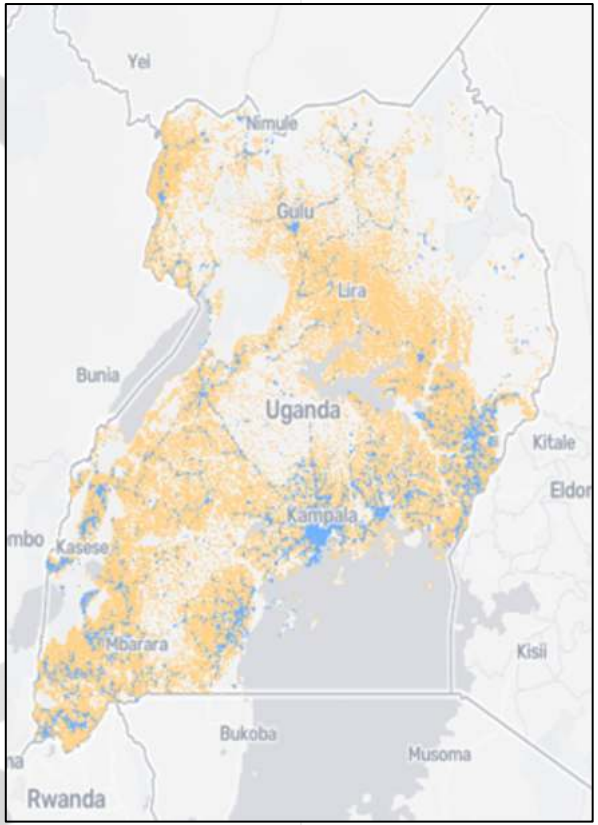
RESULTS FOR 2030

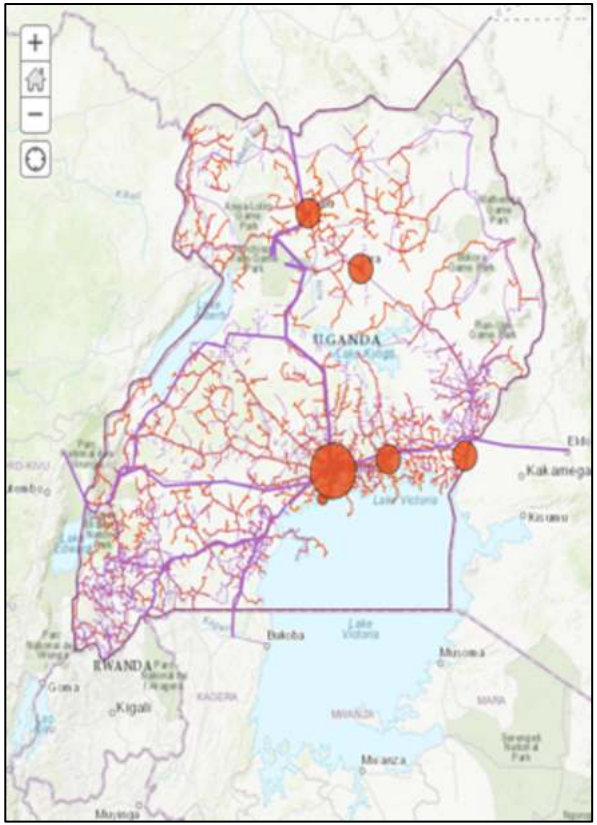
Grid extension

Stand-alone - Photovoltaic



POPULATION CONNECTED





Legend

Populated Places MECS

RANK

5 (>0.05M)

4 (>0.1M)

3 (>0.5M)

2 (>1M)

1 (5M+)

Africa Grid II

voltage_kV

≤560.000000

≤420.000000

≤280.000000

≤140.000000

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Updated 10th June2020

Zambia

Key statistics

Total Population: 16,853,688
Electricity access (2017): 40%
Average Household size: 5.13
No. of Urban households:1,411,899
Urban electricity access: 75%
Ease of doing business (score/rank):66.9/85
Trading across border (score/rank): 56.9/155
Corruption Perception Index (score/rank): 34/113
Economic growth (GDP – 2017): 3.4%
Inflation of consumer prices (2016): 6.6%

Nature of openness to eCooking

Positive factors:-

- They have a history of cooking with electricity but then electricity provision got worse. So there are a lot of homes with some old style western cookers but they are not used. The cooking diaries indicated that it is highly likely that many more than 2 million Zambians own an electric hotplate
- Although electricity prices have recently increased from 0.05 to 0.09USD/kWh, the cooking diaries have shown that cooking with an electric hotplate is still cost comparable with charcoal.
- In 2013, 12% of Zambians (2 million) were already using electricity as their primary fuel, however recent load-shedding caused many of these people to revert back to charcoal.
- The focus groups, kitchen laboratory experiments and cooking diaries showed cooking with electricity is highly compatible with Zambian cuisine and modern energy-efficient appliances are highly desirable to everyday Zambian cooks. They have similar food to Kenya.
- LPG is not yet popular in Lusaka, as it is currently expensive and is perceived as unsafe.
- We have good connections to ZESCO(utility) and with the Government Ministries
- The focus groups, cooking diaries and national policy and markets review showed that electricity is the aspirational fuel for most households in Zambia. The grid is overloaded with inefficient hotplates and ovens, meaning there is an opportunity to promote off-the-shelf energy-efficient appliances, in particular, EPCs.
- Whilst adding a battery into the system raises the upfront cost, breaking it down into manageable repayments on a par with how people currently pay for biomass using innovative financing mechanisms make it affordable.

Updated 10th June2020

Our activities:

Challenge fund projects:

Other:

- International Development Agency (IDA) pipeline projects to include investments on clean cooking technology, business and policy innovation (also in Ghana and Uganda)

Planned:

- LPG market – demand, supply and barriers, consumer behaviour- EPCs, lobbying of policy makers for clean cooking scale up.

Our publications:

- **https://mecs.org.uk/download-category/zambia/**
- **eCook Zambia Prototyping Report**
- **Opportunities and Challenges for eCook Zambia**
- **eCook Zambia Discrete Choice Modelling**
- **eCook Zambia National Policy and Markets Review**
- **eCook Zambia Focus group discussions**
- **eCook Zambia kick off meeting**
- **eCook Zambia Design Challenge workshop**

Support Networks

- Department for International Trade Zambia
- Zambia Chamber of Commerce and Industry

MECS

More information available in the Zambia Country Profile Information Document

Distributors

- Defy Appliances
- Shreeji Investments

More information available in the Zambia Country Profile Information Document

Retailers

- Tigmoo
- Radian Stores

More information available in the Zambia Country Profile Information Document

Partners and others

In Country Partner:

- Nancy Serenje and Francis Mwila – **Centre for Energy, Environment and Engineering Zambia Ltd (CEEEZ)** Centre for Energy, Environment and Engineering Zambia.).
- Department of Energy, ZESCO (Zambia Energy Services Company), REA (Rural Electrification Authority), ERB (Energy Regulation Board), the private sector, NGOs, traditional leaders and academia as key actors.

Loughborough University

ESMAP Energy Sector Management Assistance Program

UKaid from the British people

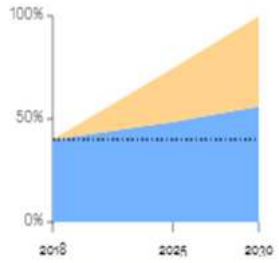
Energy availability and projections and urban centres - Zambia

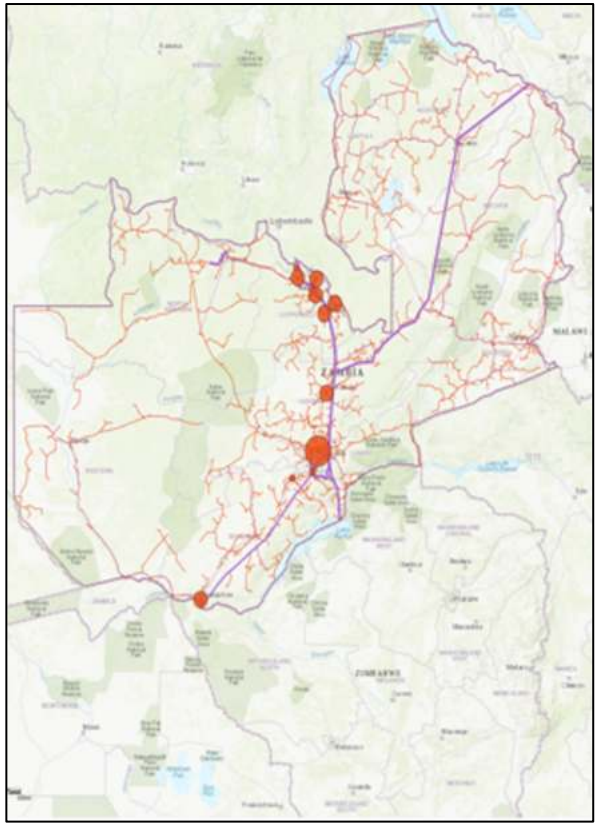
MECS

Summary

RESULTS FOR 2030

- Grid extension
- Stand-alone - Photovoltaic
- Mini-grid - Photovoltaic





Legend

Populated Places MECS

RANK

- 5 (>0.05M)
- 4 (>0.1M)
- 3 (>0.5M)
- 2 (>1M)
- 1 (5M+)

Africa Grid II

voltage_kV

- ≤560.000000
- ≤420.000000
- ≤280.000000
- ≤140.000000

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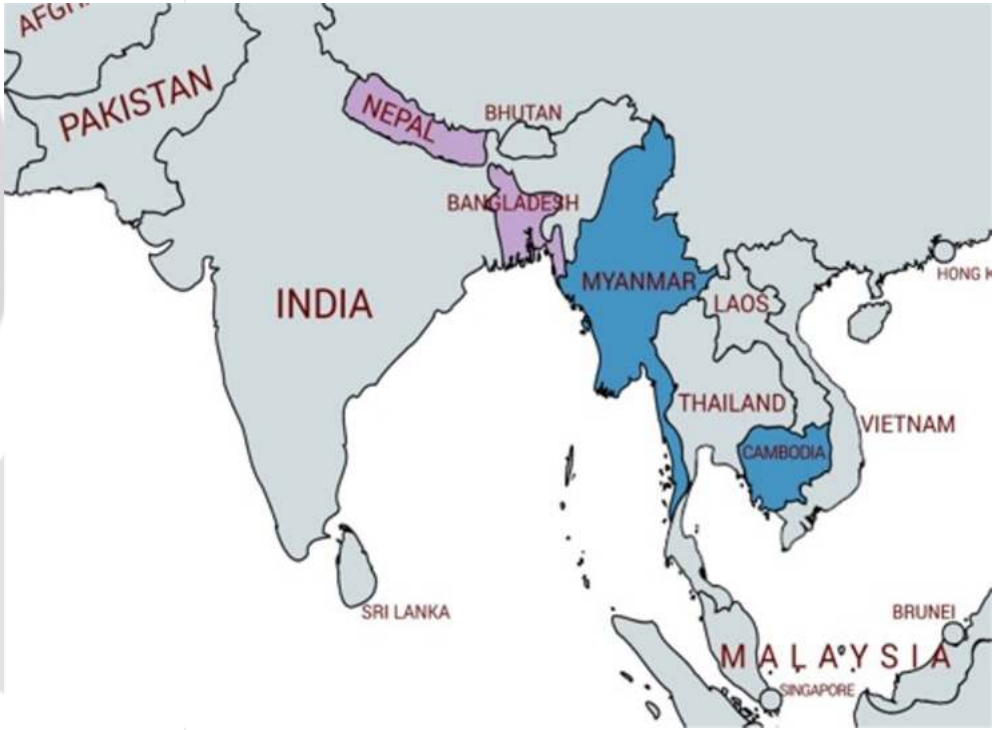
Updated 10th June2020

South East Asia Country Profiles



Updated 10th June2020

Bangladesh

Key statistics

Total Population: 163 million
Electricity access (2017): 88%
Average Household size: 4.5
No. of Urban households: 12,723,262
Urban electricity access: 99.5%
Ease of doing business (score/rank): 45/168
Trading across border (score/rank): 32/176
Corruption Perception Index (score/rank): 26/146
Economic growth (GDP – 2018): 7.9%
Inflation of consumer prices: 5.5%

Nature of openness to eCooking

Updated 10th June2020

Our activities:

Challenge fund projects:

- UIU – inverterless grid connected solar PV based cooking

Other:

- Solar Nano-Grids (SONG) project
- Energy on the Move
- Low cost energy-efficient products for bottom of the pyramid

Planned:

- Appliance testing (efficiency, safety, cooking),
- Cooking diary studies – urban, peri-urban & rural, appliance availability mapping
- Appliance testing
- Collaboration with Power Division on implications of increased electricity use from eCooking stakeholder workshops.

Our publications:

- **Report: A Renewable Energy Act for Bangladesh**

Support Networks

- British Bangladesh Chamber of Commerce & Industry
- Bangladesh Chamber of Commerce & Industry Hong Kong (BCCIHK)
- The Metropolitan Chamber of Commerce and Industry (MCCI), Dhaka
- American Chamber of Commerce in Bangladesh
- : International Chamber of Commerce Bangladesh (ICCB)
- International Business Forum of Bangladesh (IBFB)
- Bangladesh Investment Development Authority
- Foreign Investors' Chamber of Commerce & Industry (FICCI)
- Canada Bangladesh Chamber of Commerce and Industry

More information available in the Bangladesh Country Profile Information Document

Distributors

- Esquire Electronics
- Explorer Limited

More information available in the Bangladesh Country Profile Information Document

Retailers

- MK Electronics

More information available in the Bangladesh Country Profile Information Document

Partners and others

In Country Partners:

Rezwan Khan - United International University (UIU)
Uttam Saha - Practical Action Bangladesh

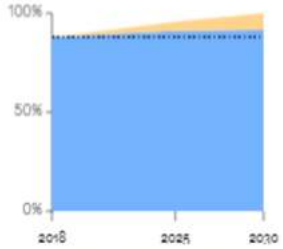
Energy availability and projections and urban centres - Bangladesh

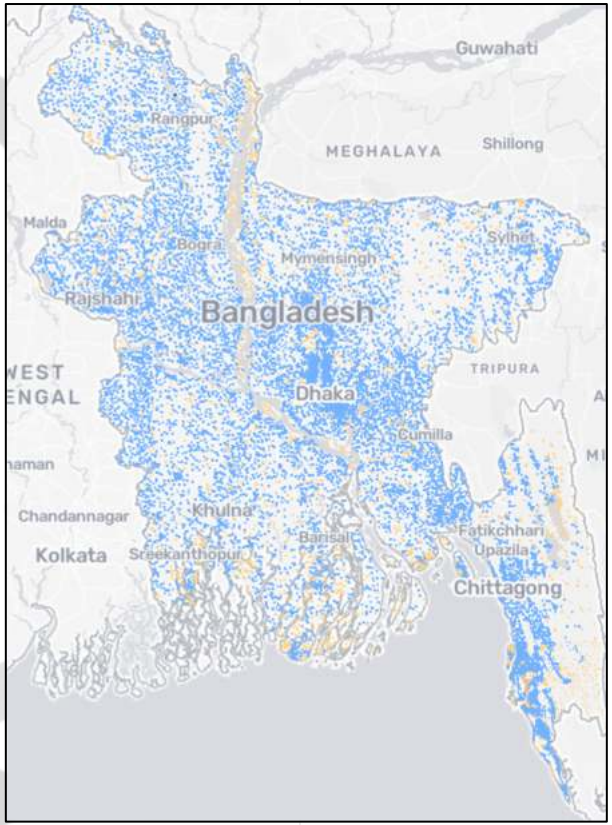
MECS

Summary

RESULTS FOR 2030

- Grid
- Stand-alone - Photovoltaic
- Mini-grid - Hydro
- Mini-grid - Photovoltaic





Legend

Populated Places Ranked II

RANK

- 5 (>0.05M)
- 4 (>0.1M)
- 3 (>0.5M)
- 2 (>1M)
- 1 (5M+)

Africa Grid II

voltage_kV

- ≤560.000000
- ≤420.000000
- ≤280.000000
- ≤140.000000

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ESMAP Energy Sector Management Assistance Program

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Updated 10th June2020

Cambodia

Key statistics

Total Population: 16.5 million
Electricity access (2017): 89%
Average Household size: 4.61
No. of Urban households: 798,040
Urban electricity access: 99%
Ease of doing business (score/rank): 53/144
Trading across border (score/rank): 67.8/118
Corruption Perception Index (score/rank): 20/162
Economic growth (GDP – 2018): 7%
Inflation of consumer prices: 2.9%

Nature of openness to eCooking

Positive factors:

- Rural Cambodians spend up to 20 hours a week collecting firewood, and approximately 1.5 hours a day on cooking. As 33% loss in forest cover in the past 40 years from logging for cooking purposes, people travel longer distances to collect firewood or pay more.
- Estimated 11,900 deaths annually due to solid fuel use in the HH (ATEC, 2018).
- Household use small-LPG, charcoal for grilled meat and electric rice cookers. There has been a sharp increase in adoption of electric rice cookers - rice is a staple. They are seen as affordable and aspirational cooking technology for cooking rice.
- A widespread negative connotation towards LPG canisters/tanks. Incidents can go unaddressed due to a lack of after sales service from distributors.
- The majority of survey participants showed a preference of electric cookstoves - driven by taste, cost and convenience.
- Families want control over their energy consumption patterns and currently do not have the means to track this for themselves. Early findings indicate that smart energy meters are a powerful behavioural nudge that could encourage HHs to adopt electricity.

Updated 10th June2020

Our activities:

Challenge fund projects:

- iDE – understanding knowledge, perception and behaviours driving cooking energy choices

Other:

- Exploring futures of alternative cooking
- iDE project to uncover aspirational ways for people to adopt new forms of modern energy cooking

Our publications:

- https://mecs.org.uk/download-category/cambodia/
- Exploring Futures of Alternative Cooking in Cambodia

Support Networks

- Cambodia Chamber of Commerce
- Cambodia Business Association
- Council for the Development of Cambodia
- American Chamber of Commerce in Cambodia
- EuroCham Cambodia
- The British Chamber of Commerce in Cambodia

More information available in the Cambodia Country Profile Information Document

Distributors

- DKSH
- Goodhill Enterprise

More information available in the Cambodia Country Profile Information Document

Retailers

- AEON
- La Rue
- Home Living

More information available in the Cambodia Country Profile Information Document

Partners and others

In Country Partner:
International Development Enterprises (iDE)

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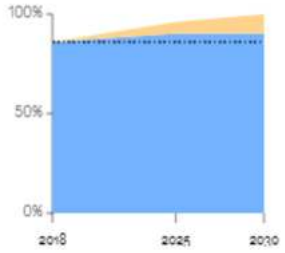
Energy availability and projections and urban centres - Cambodia

MECS

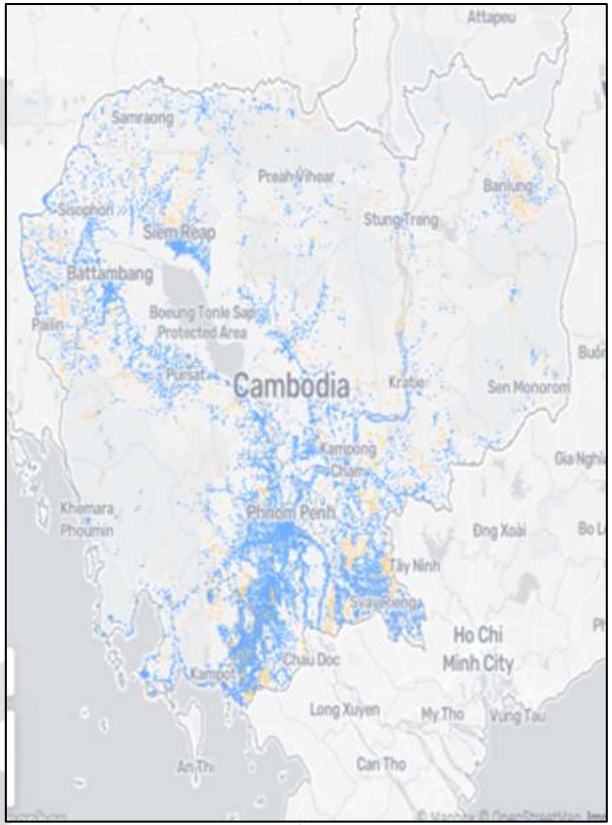
Summary

RESULTS FOR 2030

- Grid
- Stand-alone - Photovoltaic
- Mini-grid - Photovoltaic



POPULATION CONNECTED



Legend

Populated Places Ranked II

RANK

- 5 (>0.05M)
- 4 (>0.1M)
- 3 (>0.5M)
- 2 (>1M)
- 1 (5M+)

Africa Grid II

voltage_kV

- ≤560.000000
- ≤420.000000
- ≤280.000000
- ≤140.000000

Loughborough University

ESMAP Energy Sector Management Assistance Program

UKaid from the British people

Updated 10th June2020

Myanmar

Key statistics

Total Population: 54 million
Electricity access (2017): 70%
Average Household size: 4.22
No. of Urban households: 3,835,703
Urban electricity access: 96.30%
Ease of doing business (score/rank): 47/165
Trading across border (score/rank): 48/168 (of 190)
Corruption Perception Index (score/rank): 29/130 (of 198)
Economic growth (GDP – 2017): 6.8%
Inflation of consumer prices (2017): 4.6%

Nature of openness to eCooking

Positive factors:

Evidence from the focus groups suggests that appliances such as electric pressure cookers (EPCs) can make cooking much easier, which may encourage more men to cook.

Myanmar cuisine compatible with battery-supported electricity, with many energy-efficient appliances that fit well with Myanmar cuisine already available on the market

Grid electricity in Myanmar is among the cheapest in the world. However, Myanmar's ageing electrical generation & distribution infrastructure is in need of major investment. eCook systems can offer decentralised energy storage

This work in Myanmar has shown that moving directly to insulated energy-efficient appliances such as rice cookers, insulated red electric frying pans and Electric Pressure Cookers (EPCs) is more attractive than hotplates

Deforestation is greatly reducing the quantity & quality of woodfuel available across Myanmar, forcing many to start paying for their fuel and to look for alternatives to biomass.

There are an estimated 6,000 mini-grids in operation across the country, some of which have already enabled electric cooking for their customers. With an average of 100 HH connected to each, making a total potential market of 600,000 HHs. Mini-grid-eCook presents a significant opportunity in Myanmar and is particular attractive on run-of-the-river hydropower systems.

Updated 10th June2020

Our activities:

Challenge fund projects:
GenDev Centre for Research and Innovation LLP – identifying drivers/barriers and develop innovation strategy for clean cooking using LPG (also in Nepal)
AMPERES – e-waste to e-cook piloting modular power-pack using recycled lithium-ion technology
Other: N/A
Planned:

Our publications:

- https://mecs.org.uk/download-category/myanmar/
- **Cooking Diaries Protocol**
- **Innovate UK reports – Myanmar multi-stakeholder workshop**
- **Opportunities and challenges for eCook Myanmar**
- **eCook Myanmar Discrete Choice Modelling**
- **eCook Myanmar National Policy and Markets review**
- **eCook Myanmar Prototyping Report**
- **eCook Myanmare Cooking Diaries**
- **eCook Myanmar Focus Group Discussions**
- **Modelling eCook in Myanmar – A discussion of the outcomes of a participatory cooking workshop**

Support Networks

- The British Chamber of Commerce Myanmar
- American Chamber of Commerce Myanmar
- European Chamber of Commerce in Myanmar
- Consult-Myanmar Company Limited
- Directorate of Investment and Company Administration (DICA)

More information available in the Myanmar Country Profile Information Document

Distributors

- DKSH
- Sales Agents

More information available in the Myanmar Country Profile Information Document

Retailers

- MK Electronics:
- Shop (An Alibaba Company)
- Myanmar Plaza

More information available in the Myanmar Country Profile Information Document

Partners and others

In Country Partner:
Renewable Energy Association of Myanmar (REAM) – NGO
Dipsi?

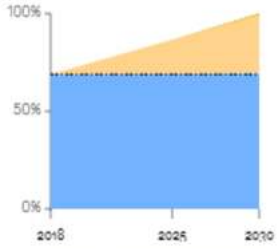
Energy availability and projections and urban centres - Myanmar

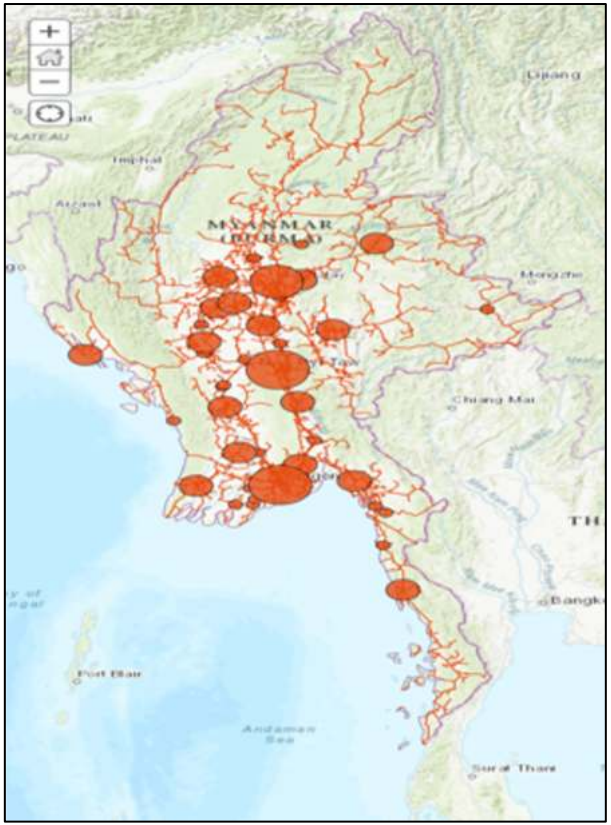
MECS

Summary

RESULTS FOR 2030

- Grid
- Stand-alone - Photovoltaic
- Mini-grid - Photovoltaic
- Mini-grid - Hydro





Legend

Populated Places MECS

RANK

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Africa Grid II

voltage_kV

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Updated 10th June2020

Loughborough University

ESMAP Energy Sector Management Assistance Program

UKaid from the British people

Nepal

Key statistics

Total Population: 28.6 million
Electricity access (2017): 96%
Average Household size: 4.42
No. of Urban households: 1,259,901
Urban electricity access: 99%
Ease of doing business (score/rank): 63/94
Trading across border (score/rank): 85/60
Corruption Perception Index (score/rank): 34/113
Economic growth (GDP – 2017): 8.2%
Inflation of consumer prices (2016): 8.8%

Nature of openness to eCooking

Positive factors:

Updated 10th June2020

Our activities:

Challenge fund projects:

- GenDev Centre for Research and Innovation LLP – identifying drivers/barriers and develop innovation strategy for clean cooking using LPG (also in Myanmar).

People, Energy & Environment Development Association (PEEDA) – Assessing electric cooking potential in micro hydropower micro-grids

Other:

- Role of biogas in Nepal
- Role of energy in informal settlements
- Energy on the Move

Support Networks

- Nepal-USA Chamber of Commerce
- Nepal Chamber of Commerce
- Invest Nepal
- Nepal Britain Chamber of Commerce
- Federation of Nepalese Chambers of Commerce & Industry
- Britain Nepal Chamber of Commerce

More information available in the Nepal Country Profile Information Document

Distributors

- B.S TRADE INTERNATIONAL
- Navin Distributors
- Sagtani Group

More information available in the Nepal Country Profile Information Document

Retailers

- Okdam
- Hamro Kitchen

More information available in the Nepal Country Profile Information Document

Partners and others

In Country Partner:
??