



ENERGY ASSESMENT





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 CULTURE





CULTURE

CATCHING BUSES

Public transport is really easy - just go to the depot and tell them where you are going. Buses can also be stopped on the side of the road. Buses will not always go directly where you want so you may have to walk a little way sometimes.

HAGGLING

Shopkeepers will notice you're not a local. Don't be afraid to start at half or two-thirds of the price, but ultimately the rule is to pay the amount that you feel comfortable with and remember that what is a little difference for you could be much bigger for someone else.

CHRISTIANITY

Malawians are very religious and speak often about God and church so be respectful.

SHAKING HANDS

When shaking hands it is a mark of respect to touch your right elbow with your left hand when shaking. This is particularly important when greeting village elders.

THANKYOU!

Malawians love manners so always say thank you (Zikomo!) - this will build really good rapport and mutual respect.





LANGUAGE

Bho Bho/ Wawa *Hello! (only use with youth)*

Tiwonana *Good bye!/ See you later*

Muli bwanji? *Hi, how are you?*

Mwadzuka bwanji? *Good morning, how are you?*

Mwaswela bwanji? *Good afternoon/evening,
how are you?*

Ndiri bwino *I'm good.*

Ndiri bwino, ka inu? *I'm good, and you?*

Zikomo *Thank you. (used liberally)*

Zikomo kwambili *Thank you very much.*

Tsiku la bwino *Have a good day!*

Muyende bwino *Travel safe!*

Dzina lako ndi ndani? *What is your name?*

Dzina langa ndine ... *My name is ... -*

Eya *Yes*

Aye *No*

Pepani *Excuse me / Sorry*

Zimachitika *'Shit happens'*





THE PROBLEM

88% of the Malawian population does not have electricity

Rural Malawian households spend 15% of their income on lighting

Kerosene lamps have many detrimental health affects

An individual kerosene lamp produces 200kg of carbon dioxide per year

Demand for on-grid electricity outstrips supply by over 33% at peak times

Using a kerosene lamp is the equivalent to inhaling the smoke from 2 packets of cigarettes per day *according to the world bank*





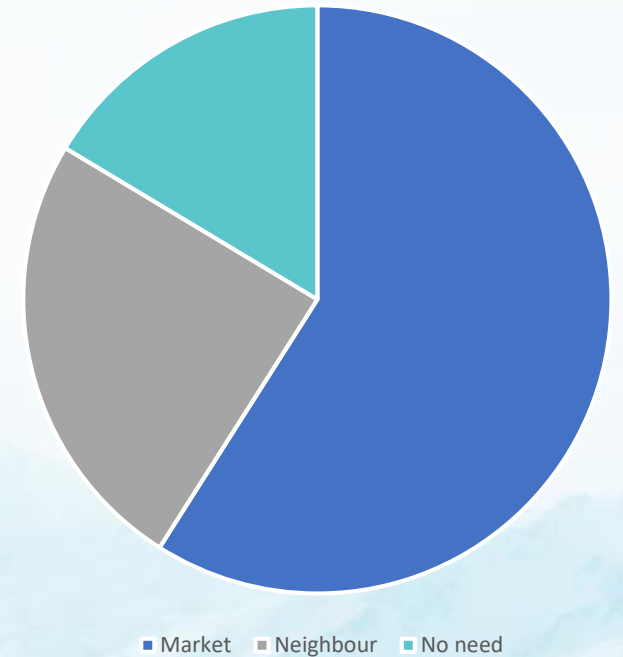
FINDINGS

85% of people interviewed have NO access to electricity

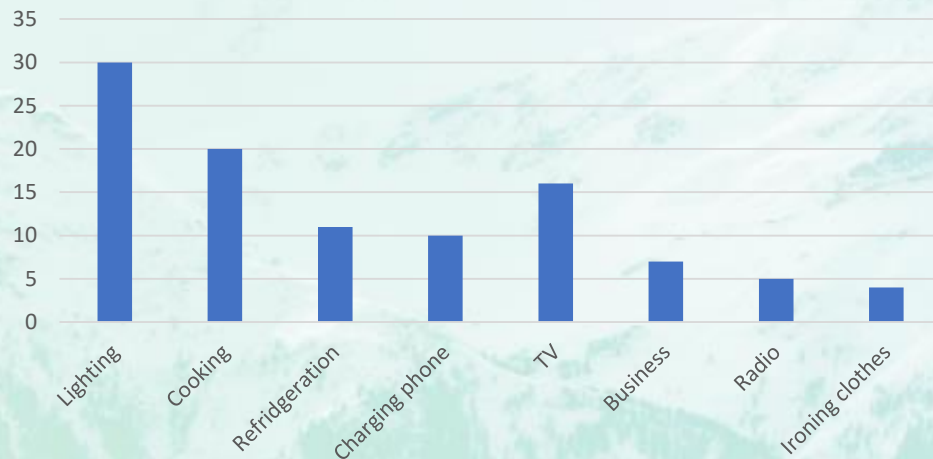
LIGHTING and COOKING are the most wanted use for electricity

68.7% of responders used either kerosene lamps or candles as their prominent lighting source

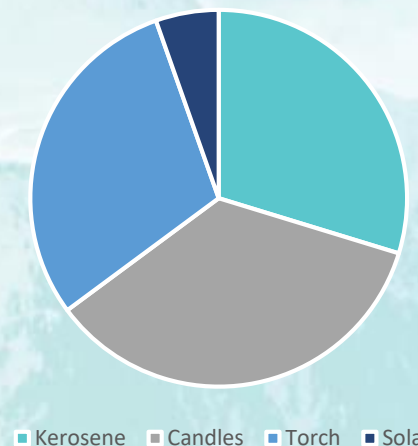
When you need electricity where do you go?



Desired use for electricity in the home



What is your main source of lighting?





FINDINGS

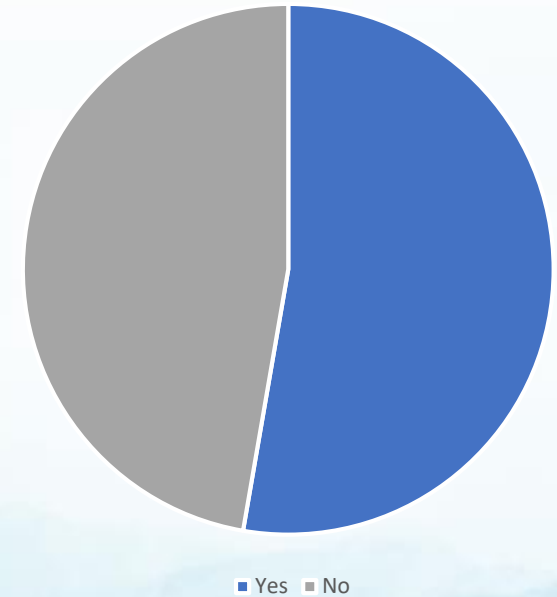
MOBILE PHONES

53% of responders owned a mobile phone

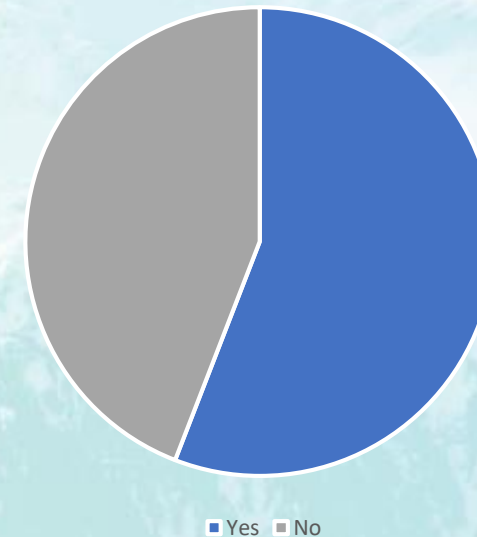
However, 94% of phone owners possessed a 'non-smart' phone

56% of phone owners considered charging their phones a problem

Do you own a mobile phone?



Is charging your mobile a problem?



Data from surveys conducted by us in rural Malawian communities





STAKEHOLDERS





WHO ARE THEY

A social enterprise founded in 2008.

Owned by Solar Aid, a major international charity

Distributor of solar lights in Malawi and neighboring nations

INSIGHTS + PROJECTS

Distribution: A major problem due to lack of agents. Agents must have 300 000Kw to purchase their first shipment.

Other distribution channels include using the education system. Sunny Money approaches principles

MOVING FORWARD

Sunny Money appeared very eager to meet with Project Everest and to share information.

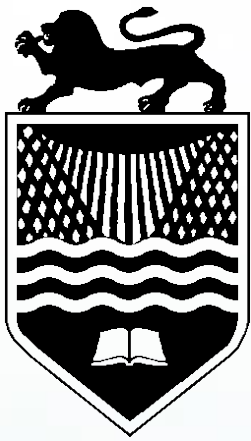
If this relationship is fostered, there would be the possibility to 'piggy-back' on their shipments to establish supply chain logistics if needed.

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The Malawi Polytechnic University

WHO ARE THEY

A college of the University of Malawi. Has the departments Engineering, Applied Sciences, Built Environment, Commerce and Education and Media Studies.

Located in Blantyre.

INSIGHTS

Important research facilities that could be very important for the energy project moving forwards.

Strong initiatives in community work. Strongly involved with WASHTED, another important stakeholder.

MOVING FORWARD

Continue developing a strong relationship to allow for interns to increase expertise and decrease language barriers.

Reaching out to different departments would be important to acquire different skill sets.

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WHO ARE THEY

WASHTED works closely with the Polytechnic University of Malawi to improve living standards in Malawi in various ways, in particular rural Malawi.

They currently are running projects focusing on creating renewable energy solutions for rural villages, in particular 'pico' solar.

INSIGHTS

From meeting with both the director and deputy of WASHTED, much was learnt. Their eagerness to work with Project Everest was established immediately.

WASHTED has many partnerships with foreign universities and countries

MOVING FORWARD

The next step with WASHTED would be to generate a memorandum of understanding (MoU) to signify a non-binding yet official agreement of collaboration.

Their eagerness to work with Project Everest has the potential to greatly benefit the energy, but also the other teams in Malawi.

CONTACT

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 IDEATION





USB Solar

From the early prototyping stage, the need for an inverter in any basic solar powered system was present. However, from the survey data, we discovered that 2 key uses the rural communities desired could be achieved with DC power.

Lighting and phone charging can both use DC power which completely removes the need for an inverter, a large and costly device.

Furthermore, by sending the power to a USB charging circuit, battery health can be upheld while costs can remain low.

Further prototyping of this must take place to ensure it is fit for purpose.





Distribution

Taking an existing solar product, such as the Sun King range, and creating a distribution network would be another way to proceed.

This approach is similar to the model used by the social enterprise Sunny Money.

Particular distribution routes to explore would be using local agents financially commissioned to sell the products in rural communities. Another route would be using the education system to influence the perception of solar with children which would affect the family's perception.

Financing

Another route for ideation to continue and develop would be using micro-financing.

Small loans, subscriptions and pay-as-you-go plans give individuals with little savings the opportunity to purchase a good, which in this case will increase their wellbeing.

This model is currently being used by NGOs in other fields and has the potential to be applied to electricity within Malawi.





**PROJECT
EVEREST**

THANKS FOR READING

