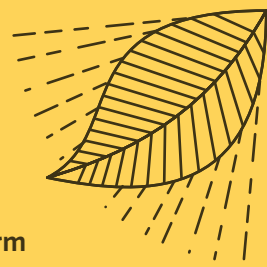
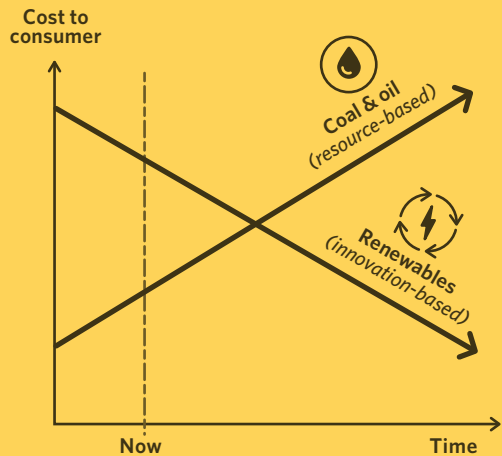


With 97% of Togolese households using biomass for cooking indoors, continued use has negative effects on health in the long term



Clean (or green or renewable) energy is tipped as the next best option to advance energy for cooking and lighting within Togolese households. However, the ability to secure the renewable sources of energy are dependent on households' capability to make better financial arrangements.

As it well known that the cost of renewable energy is high initially (investment cost), but tapers off over time signifies the point of decision making amongst households. However, households on their own are not able to raise the required investment capital to take advantage of the cleaner and greener sources of energy. For this to happen, requires financial service providers to understand the economics and viability in order to create custom design financial instruments to serve this need.



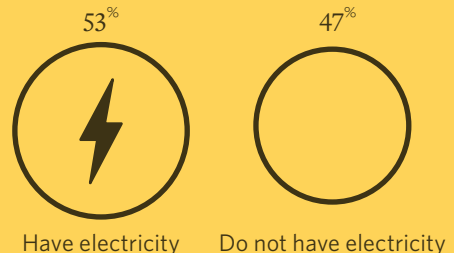
The cost of fossils versus renewables over time¹

1. <http://www.thegreenmarketoracle.com/2011/05/high-oil-prices-stimulate-renewable.html>

The challenge: households may understand benefits of clean energy and want to invest now but not enough financial resources to acquire the necessary resources to power their homesteads!

This clean energy dashboard will use data from FinScope Togo 2016 survey to map whether the opportunity to serve the willing households exists or not.

According to FinScope Togo 2016 results, about 53% of all households use electricity – most of which are in the urban areas.



Percentage of households with electricity



CEET (National electricity supplier)



Solar panel 1%



Household generator 1%



Neighbouring houses 8%

Do not use electricity 45%

45%

45%

Sources of electricity

Household energy landscape

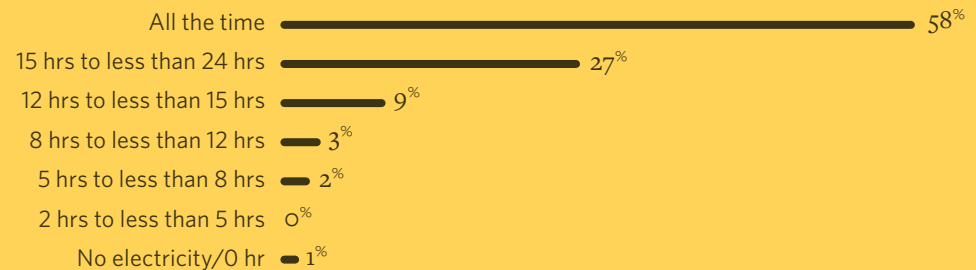
The sources of electricity are the national electricity supplier (CEET) with 45% and solar panel and generator with 1% each. However, there is 8% of households (123 thousand) that are free-riding on their neighbours' electricity to power their own households. This is an interesting problem as it means that the neighbour essentially bares the cost of the two households!

Even though 53% of all Togolese households have access to electricity, only 58% have electricity all the time. Presented differently, 30% of all households have access to electricity all the time. A worrying situation. Could renewable energy be the solution in such a context?

Furthermore, there are about 232 000 households that have indicated that the current electricity is not sufficient for their needs.



30% of all households have access to electricity all the time



Availability of electricity

Togo

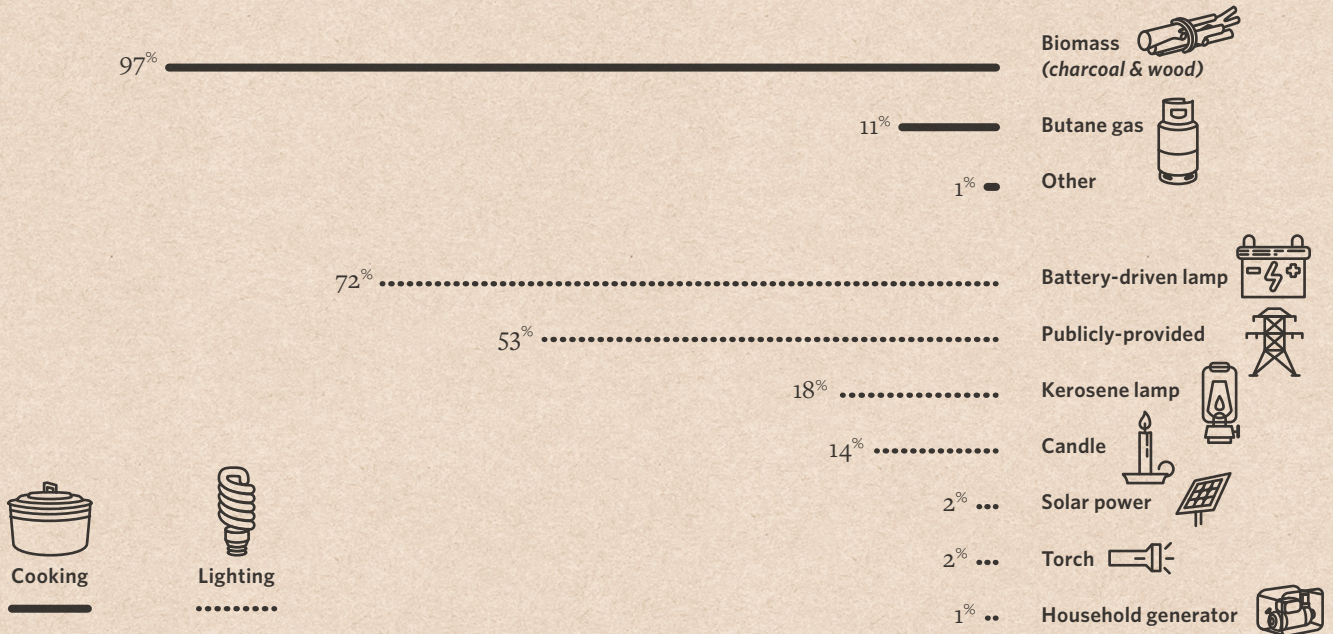
CLEAN ENERGY



Interestingly, there is a visible lack of use of electricity for cooking purposes in Togo.

The most relied on source is biomass (combination of charcoal and wood) with 97% and butane gas with 11%. This means that within households, there is greater emission of carbon gases which is harmful to human health over time. Additionally, this leads to wider negative impact on the environment as deforestation may result - since in order to get wood, trees have to be cut.

The majority of Togolese households use battery driven lamps (72%) as a source of lighting followed by the use of electricity (53%), Kerosene lamp (18%) and candles (14%). Solar, which is part of the renewables only accounts for 2%.



Energy type used for cooking vs. lighting

Overview of clean energy

When asked whether there is a demand for solar home systems, 64% of household representatives replied in the positive. Though interest may be there, service providers would need to assess whether this is viable.

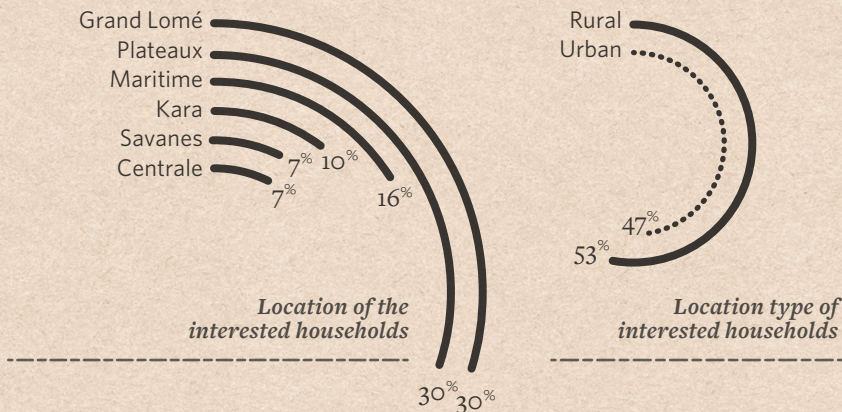
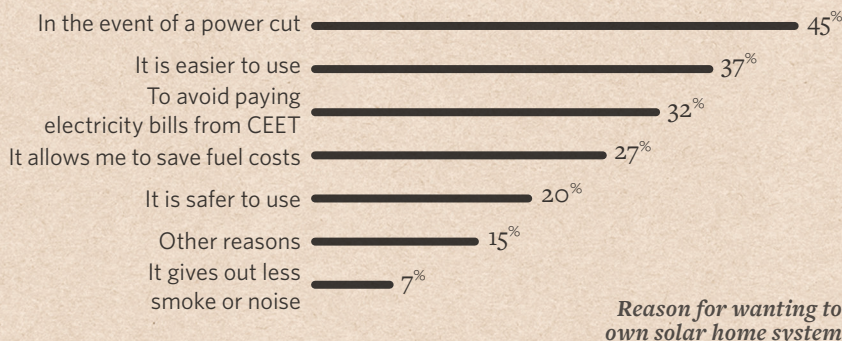
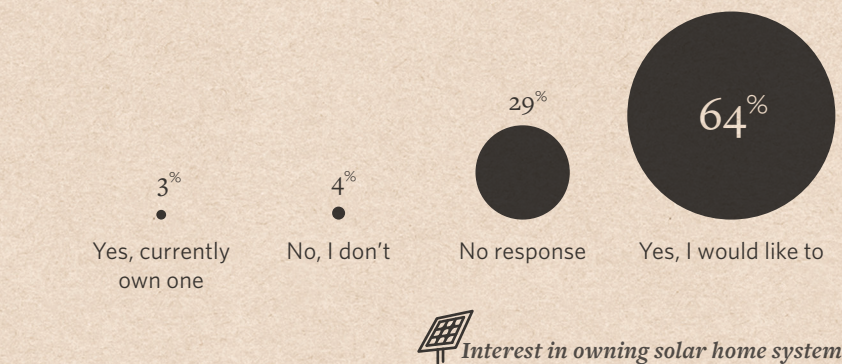
Of those who want to own some type of solar home system (64%), the leading reasons are in anticipation of power cuts (45%), ease of use (37%) and to avoid paying electricity bills from the national provider (32%). This suggests that there is some higher level of understanding about the benefits of solar systems.

Characteristics of households interested in solar home systems

Most of the households interested in solar home systems are located in Grand Lomé and Plateaux (30%) respectively followed by Maritime (16%).

Interestingly, of the households that are interested in acquiring solar home systems, most source their income from their informal businesses (32%) and those who are involved in farming (26%). This makes it even harder for these households to produce formal documentation to prove their financials. Therefore an unconventional methods has to be sought in order to enable them to acquire renewable energy sources.

It can be noted that households in the rural areas (53%) are more interested in solar systems to power their homesteads. Other

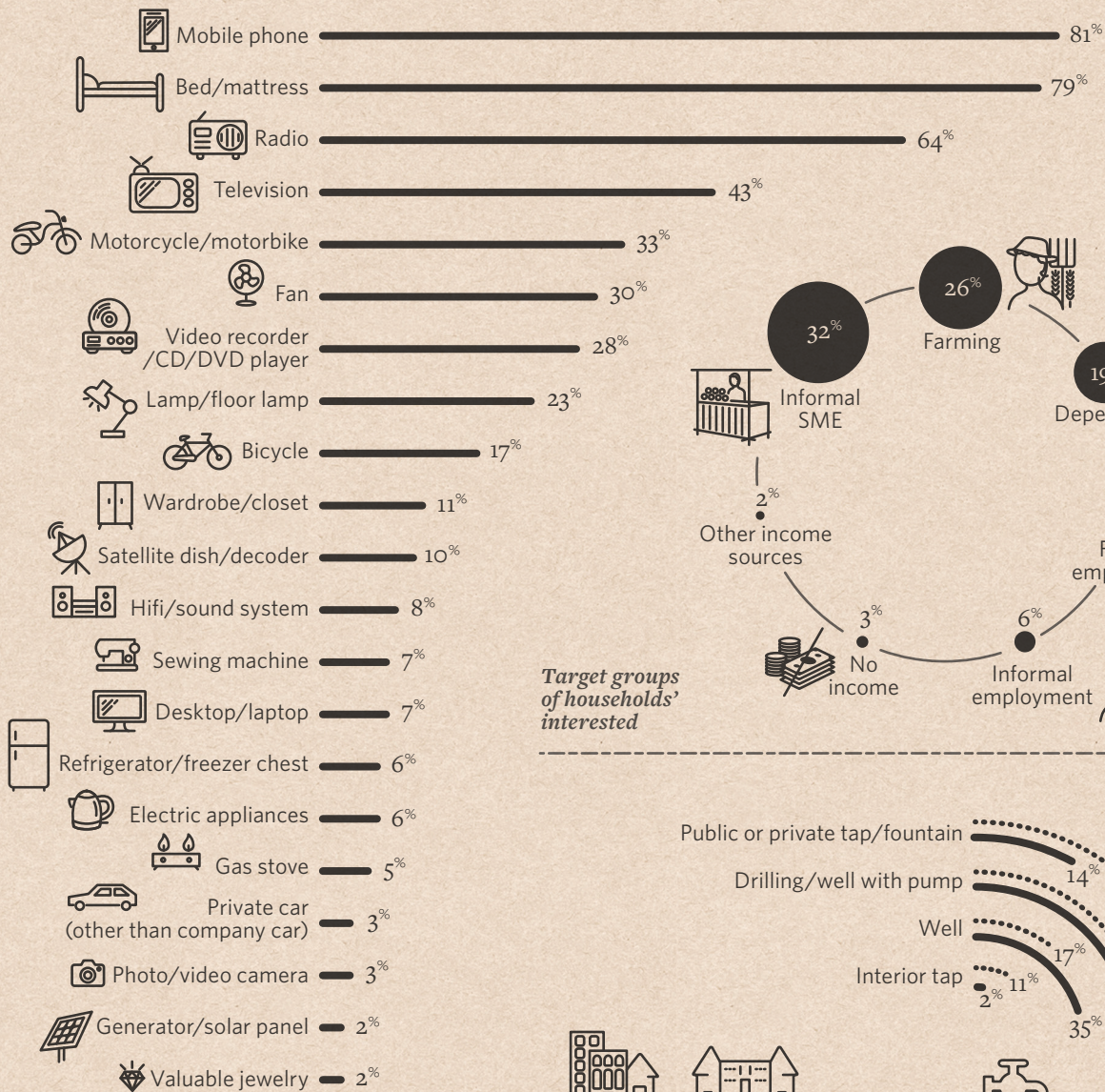


benefits of realising this ambition is that it may help fast-track rural development as electricity would be available. Which is more justification to consider creative financial arrangements for them to acquire these renewable energy sources.

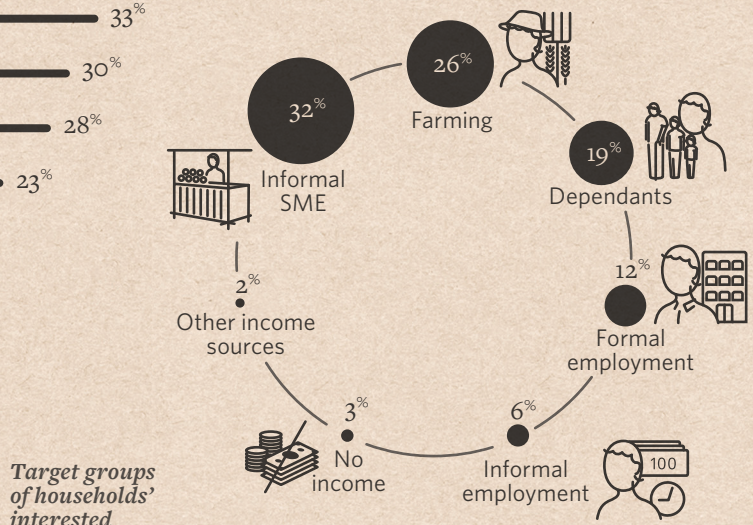
To further assess whether the investment into solar home systems is viable, the households asset register was used to ascertain if the need for solar is justified. Of those interested, these households

have electric appliances and assets that could be powered by renewable energy such as mobile phones (81%), radio (64%), television (43%), fan (30%) and satellite decoder (10%). Other than use solar for water heating and lights, there seems to be a justified need for it.

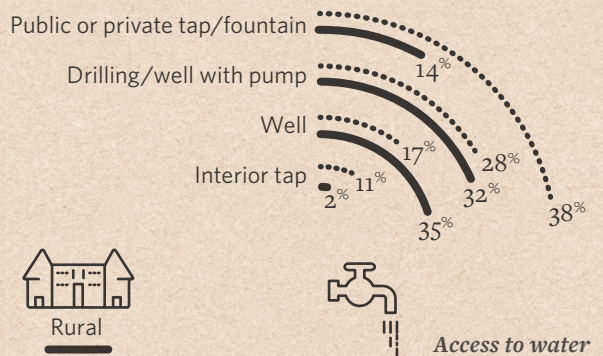
Financing the solar home systems In order for households to bankroll the investment capital of the solar home systems, they have to prove financial



Asset ownership



Target groups of households interested



Access to water

capability or have collateral. Indeed the interested households (64%) have some assets that could be used for the purposes of collateral such as private cars, generator or other valuable assets. The idea is not to 'repossess' them but to serve as an entry point for these households to access the investment capital.

Other possibilities is to use their sources of income, savings or credit history as ways to assess their financial capability

to service debt in the event credit is advanced to them.

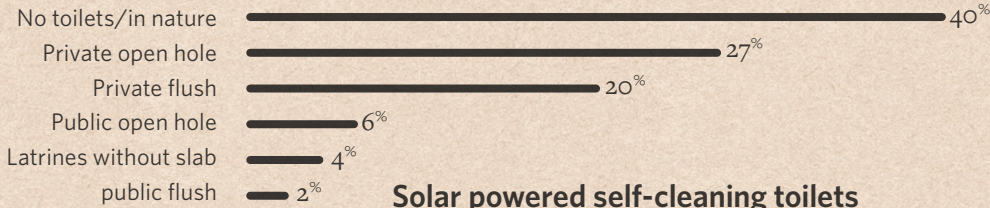
Clean energy beyond solar home systems

Clean energy transcends sources of energy to light up a house and cook food. The merits of clean ensure that households have access to clean water sources and other resources essential to households and improve the quality of life.

It can be noted from results above that 38% of urban households have interior taps, public or private tap, with 28% sourcing their water from a well with a pump/drilling while 17% use a well. With the advent of renewable energy to pump water from deep pockets of the earth, it would facilitate the extraction of water, including powering the water cleaning systems – which most of the times is powered by solar panels.



Access to ablution facilities



Solar powered self-cleaning toilets

The Bill and Melinda Gates Foundation in partnership with Caltech have created a self-cleaning solar powered toilets at a cost of \$1000². The toilet is able to convert human waste into hydrogen and fertiliser. However in Togolese context it may be hindered by access to finances where majority of adults earn personal monthly income less than FCFA 35 000 (\$60).

Further noting that 40% of households do not have any type of ablution facilities and 20% have private flush toilets, it creates a compelling case for solar powered toilets.

Harnessing renewable energy is more than just solar home systems, its applications are wide and far reaching.

2. <http://www.sustainia.me/items/self-cleaning-solar-powered-toilet/>

Other benefits of clean energy

- Reduce emission of carbon monoxide – the continued use of coal based fossils results in emission of carbon monoxide within households which is harmful to human health
- Reduce emission of carbon dioxide in to the atmosphere – in order combat toxic gases into the atmosphere, renewables offer an alternative of cleaner and greener sources of energy
- Access to clean water and other essential resources -
- Rural development – it was noted that more households in the rural areas are interested in solar home systems. Realising the possibility of electricity in these remote areas, will foster faster rural development as electricity would be available. For example, industries such as manufacturing, milling may be able to setup shop at these areas which in turn creates more jobs and more productivity.
- Cost over time – as it was illustrated at the beginning, cost of renewables decreases over time compared to the cost of fossils
- Better quality of life – greener and cleaner energy means that less harmful gases are decreased and results in better quality of air, health and life in the long term

Summary

Data is crucial informing both the service providers and policy makers on the opportunities that renewable energy brings. However, not understanding the mechanics and economics of how to realise these clean energy benefits is itself a limitation.

FinScope Togo 2016 data provides a unique opportunity to understand the potential market to serve the unserved and underserved with respect to clean energy. In the not so distant future, Togolese households could easily start enjoying a better life with cleaner environment and quality of life.



- Repeat cycle ●
- First cycle ●
- Potential first cycle ●
- Underway ▲

FMT | FinScope

The MAP country data dashboards

The MAP country data dashboards are a subset of the larger FinScope Consumer Survey, with the data and insights presented in the dashboards being drawn and summarised from the nationally representative FinScope survey for that country. (More information and data on FinScope can be requested from info@finmark.org.za).

The data used in this focus note is from the FinScope Consumer Survey Togo 2016, which is part of UNCDF's Making Access Possible Programme. This note offers a detailed understanding of the demand side consumption and financial demand patterns for young and more senior adults.

Togo's population is largely comprised of the youth, which has specific and unique

implications for financial inclusion strategies. Financial products and services present opportunities to integrate the youth into the mainstream economy.

The country-specific dashboards focus in on the areas that have emerged, during the country's FinScope data survey process and research, as strategic for financial inclusion interventions. The details and salient points highlighted via the dashboards will help financial services providers, policymakers, as well as investors, to develop products and services tailored to meet the differential needs of segments within each dashboard focus area.

Published June 2017

About the Making Access Possible Programme

Making Access Possible (MAP) is a multi-country initiative to support financial inclusion through a process of evidence-based analysis feeding into a financial inclusion roadmap jointly implemented by a range of local stakeholders.

MAP was initiated by the United Nations Capital Development Fund (UNCDF) and is implemented in partnership with FinMark Trust and the Centre for Financial Regulation and Inclusion (Cenfri). In each country, MAP brings together a broad range of stakeholders from within government, the private sector and the donor community to create a set of practical actions aimed at extending financial inclusion tailored to that country.

About FinScope Togo

The FinScope survey is a research tool which was developed by FinMark Trust. It is a nationally representative survey of how individuals source their incomes, and how they manage their financial lives.

The FinScope survey is dynamic and the content is evaluated by a number of stakeholders including the private sector, NGOs and Government to ensure that the most relevant consumer data is collected. It also forms an important component of the Making Access Possible (MAP) methodology.



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