

**EFFICIENCY
FOR
ACCESS**

60__decibels

USE & IMPACT OF SOLAR TVS

Lean Data insights from Kenya, Rwanda,
Tanzania, Uganda

JANUARY 2020
EFFICIENCY FOR ACCESS COALITION & 60 DECIBELS



Credit: CLASP

Executive Summary

This report outlines findings from the off-grid TV sector in East Africa based on 3,920 phone interviews conducted by 60 Decibels in Kenya, Rwanda, Tanzania, and Uganda between June 2018 and June 2019. The customer interviews explored user characteristics, experience and satisfaction with products, and quality of life changes.

While there now exists a burgeoning market for small off-grid appliances like TVs, 80% of the users in this sample were accessing a TV for the first time. This study aims to provide deeper insights on the impact of first-time appliance ownership.

Usage & Impact

- News and entertainment were the most common genres of content watched on the solar TVs. 50% of customers said their quality of life had very much improved as a result of the TV; talking most commonly about having improved well-being including joy and family connection. ~90% felt their knowledge or awareness of current affairs, politics, and general knowledge had improved because of having the solar TV. 79% felt their stress levels had reduced since using the solar TV, and 83% said that their family was more connected.

Satisfaction & Experience

- 34% of customers had experienced challenges with using their solar TV. The most common challenge was connection/signal. Even so, solar TVs have a Net Promoter Score® of 38 which is good. Promoters value the quality of the solar TV and the affordable payment plans, Detractors complain about challenges they've experienced and poor customer service. 32% rated the solar TV as 'very good' value for money and 83% could not easily find an alternative to the company solar TV. However, 61% say they have to make unacceptable sacrifices to make repayments. 2% have to cut back on consumption to make repayments.

Profile & Aspirations

- A typical customer was male, age 39, purchasing alongside a solar home system. 9% used the solar TV for productive use. Solar TVs are being accessed by relatively wealthier customers with 30% living below the relative poverty line. Access to solar products may be de-risking future solar purchasing through increased trust; 34% are interested in a solar water pump and 31% in an additional solar TV.

Contents

Here's what you can find in this report. We hope you enjoy reading all about solar TVs and their impact in East Africa.

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“We are now always updated about what is happening and are learning better practices.”

Introduction

In an effort to scale markets for super-efficient appliances, Efficiency for Access and 60 Decibels partnered to explore solar TV customer experiences.

Thanks to

- > **UKAid**
- > **EnDev**
- > **PowerAfrica**

for generously supporting this program.

The Global LEAP Awards is an international competition that identifies the world's best off-grid appliances through rigorous product testing and quality assurance that, in the vein of Consumer Reports, provides potential buyers with valuable information about the extent and quality of available devices.

The Global LEAP Awards competition is paired with results-based financing (Global LEAP+RBF), providing financial incentives to mitigate early risk for distributors and helping them buy and roll-out large volumes of best-in-class off-grid appliances. The incentives are also aimed at facilitating new business partnerships for appliance suppliers that have invested in the production of high-quality off-grid appliances.

Global LEAP+RBF is implemented through the Efficiency for Access Coalition and managed by CLASP, with support from Power Africa, UK aid, Energising Development and USAID as part of its commitment to the Scaling Off-Grid Energy Grand Challenge for Development. The data contained in this report was collected as part of M&E for Global LEAP+RBF. To learn more, visit globalleapawards.org.

60 Decibels makes it easy to listen to the people who matter most. We are an impact measurement and consumer insights company that helps organizations around the world better understand their customers, suppliers, staff, and beneficiaries. Our proprietary approach, Lean DataSM, brings customer-centricity, speed, and responsiveness to impact measurement.

60 Decibels has a network of 150+ trained Lean DataSM researchers in 30+ countries who speak directly to customers to understand their lived experience and gather their feedback. By combining phone, SMS, and other technologies to collect data remotely with proprietary survey tools, 60 Decibels helps clients listen more effectively and benchmark their social performance against their peers.

60 Decibels has offices in London, Nairobi, New York, and Mumbai. To learn more, visit www.60decibels.com.

Data Collection

60 Decibels conducted phone interviews in Kenya, Rwanda, Tanzania, and Uganda between June 2018 and June 2019 with customers who purchased solar TVs from companies participating in the Global LEAP+RBF. These interviews were conducted by 60 Decibels Researchers in local languages.

We used a mix of baseline interviews – conducted within 4 weeks of purchase, follow up interviews with the same customers 3-4 months later, and one-off interviews – conducted 3 months after purchase for those we didn't talk to straight after purchase.

Throughout this report, to represent the 'typical' solar TV customer and their experience, we've used averages weighted by sales volumes in the Global LEAP+RBF.

To start off, let us share with you who we spoke to and who these insights represent.

Who did we talk to?

We heard voices across East Africa

3,920 interviews

Kenya: 2,214

Rwanda: 62

Tanzania: 475

Uganda: 1,169

65% response rate

2,370 customer voices heard

Kenya: 1,335

Rwanda: 62

Tanzania: 312

Uganda: 661

Companies included

Thanks for your participation! :)

- > Azuri
- > d.light
- > Fenix
- > M-KOPA
- > Mobisol
- > Pawame
- > SolarNow



Performance Snapshot

Solar TVs are out-performing the 60 Decibels Energy benchmark in 2/9 metrics



They perform particularly well on

- > No access to alternatives
- > Value for money

60dB Benchmark: 45+ Energy Companies
 160+ Projects
 26,500+ Customers
 17 Countries

	Solar TV Performance	60dB Energy Benchmark
Who Is Being Reached?	30% live in poverty	36%
	27% female	29%
	For 80%, first time they accessed a TV	80%
	> 83% say no good alternatives are available	80%
Depth of Impact	50% experienced significant quality of life improvements	58%
	Top 3 outcomes: improved well-being, joy and connectedness; feeling better informed and educated; convenience of owning own product	
Satisfaction & Service	Net Promoter Score® of 38	46
	> 81% rate the solar TV as good value for money	73%
	34% experienced challenges with the solar TV	35%
	3.1 Customer Effort Score	3.4

Solar TVs

In the past few years, appliances designed specifically for use with off-grid energy systems have moved from the fringes of the energy access dialog to its very centre.

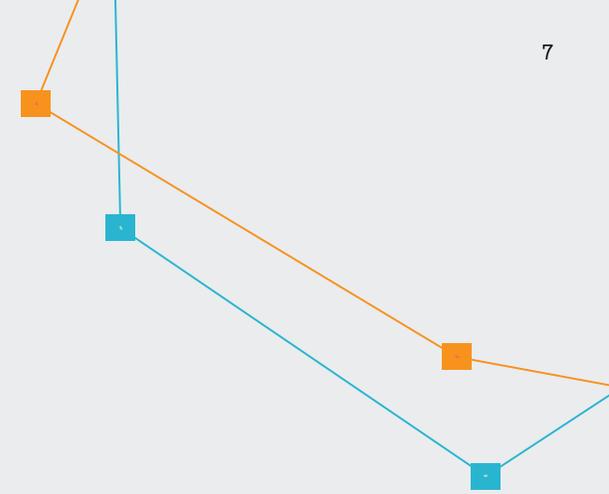
More off-grid communities are gaining access to basic energy services thanks to increased solar home system penetration and accelerating development of mini-grids. However, the full socio-economic and developmental benefits of energy access require higher levels of service that may only be possible with appliances.

Televisions represent the most in-demand appliance for off-grid households, the primary add-on for solar home system kits, and are approaching commercial maturity in leading markets.

The commercial ecosystem for off-grid TVs has evolved quickly over the past few years as the range of high quality, efficient off-grid TVs available in the market has expanded. Since 2014, the Global LEAP Awards has played a key role in supporting the development of the off-grid television market. At the inception of the program, the market for off- and weak-grid appropriate TVs was inhibited by the average customer's inability to pay and a limited pool of component suppliers.

The Global LEAP Awards program has identified best-in-class off-grid televisions through three rounds of Off-Grid Television competitions. Winners and Finalists in all rounds were also eligible to participate in [Global LEAP results-based financing](#) (Global LEAP+RBF), which provides financial incentives to appliance manufacturers and off-grid solar distributors that partner to distribute large quantities of Global LEAP Awards winning and finalist products.

Between 2017-19, Global LEAP+RBF facilitated the procurement and distribution of over 68,000 Global LEAP Awards Winning and Finalist TVs in Kenya, Rwanda, Tanzania, and Uganda sold to end-users by seven participating distributors. 60 Decibels conducted thousands of interviews with these end consumers to not only verify purchase of eligible products, but also collect additional consumer insights.



Customer Profile & Aspirations

- Who is a typical solar TV customer?
- Are customers using the solar TV for productive use? What are the changes in income?
- What is the income profile of customers?
- What are customer future aspirations?

“The TV is affordable because the payments required are small.”



Customer Profile

The registered customers of the solar TV are predominantly men (73%) ranging between age 17 and 87.

Some companies' customers were more likely to use their TV for productive use than others which may be shaped by price and marketing.

● Gender

Men are more often responsible for income-generating activities in the home related to the solar TV (84% vs. 16% women).

A typical customer was male, age 39, purchasing alongside a solar home system. 9% used the solar TV for productive use.

About the solar TV customer we spoke with

Data relating to customer characteristics (n = 2,355)

● Income

- 39% of customers had variable incomes (46% of these said it was seasonal)
- 9% use their solar TV for productive use; at their business or to supplement their incomes at home. The most common reported productive use was video halls.
- Customers reported an average income increase of ~\$14 weekly from these activities.

● Access

- 26% owned a solar product before this purchase
- 89% purchased the solar TV with a solar home system
- 20% owned a TV previously; 4% owned a solar TV before

● Profile

- 5.7 average household size
- 29% of customers had someone in their household who was educated to tertiary level, 32% to upper secondary, 22% to lower secondary, 17% to primary level, and 0% had no education.
- Disability profile: 1.7% of customers had someone in the household with a disability.

Income Profile

Solar TVs are being accessed by relatively wealthier customers with 30% living below the relative poverty line.

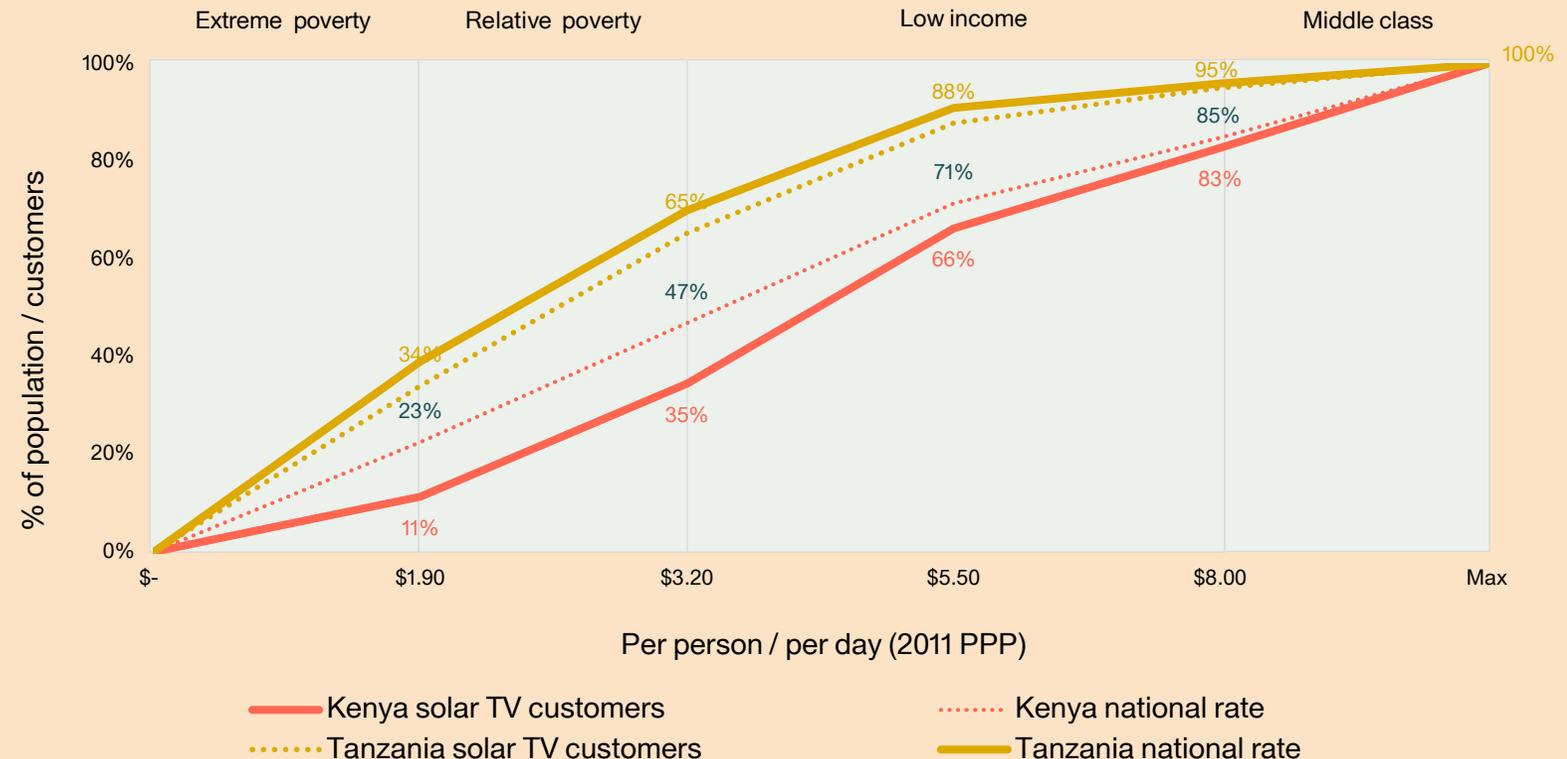
Using the Poverty Probability Index[®] we measured the income profile of solar TV customers and compared it to country national rates. This reveals whether solar TVs are under- or over-penetrating certain income segments. You can think of it as a way of gauging inclusivity.

Relative to national poverty rates, solar TVs are, at present, being accessed by slightly wealthier customers. This is not particularly surprising as the solar TV market is still relatively nascent and not inexpensive.

We have not included Uganda and Rwanda solar TV customers as by disaggregating at this level would mean company results would become identifiable.

Income distribution of solar TVs relative to Kenya and Tanzania national rates

% living below \$xx per day (2011 PPP) (n = 2,029)



Future Aspirations

We asked some questions to find out what aspirations customers had for accessing new and different appliances or devices. This may provide insight for companies when thinking about offerings, cross-product marketing, and selling.

Access to solar products may be de-risking future solar purchasing through increased trust.

● Gender

There wasn't much difference between male and female customers apart from interest in improved cookstoves; 31% of women interviewed were interested, 19% of men.

34% are interested in a solar water pump and 31% in an additional solar TV.

Interest in purchasing other solar products

Multiple choice (n = 1,429)



34% would like to purchase a solar water pump; 1% already owned



18% wanted to buy an improved cookstove, 4% already owned



31% would like to buy an additional or upgraded solar TV



17% would like to purchase a solar fan, 1% already owned



24% say they'd like an additional or upgraded solar home system



12% are looking to buy a solar radio; 44% already owned

“When I finish with the payments for the TV, I might get the water pump to use around the farm.”

Exploring Usage & Impact

- How are solar TVs improving quality of life?
- Have there been changes in knowledge and awareness?
- Have there been changes in family connectedness and stress?
- What are solar TV customers watching?

“We are very grateful for the service [company] provides to people because it helps to improve our life and live a modern life having electricity and watching TV.”



Quality of Life

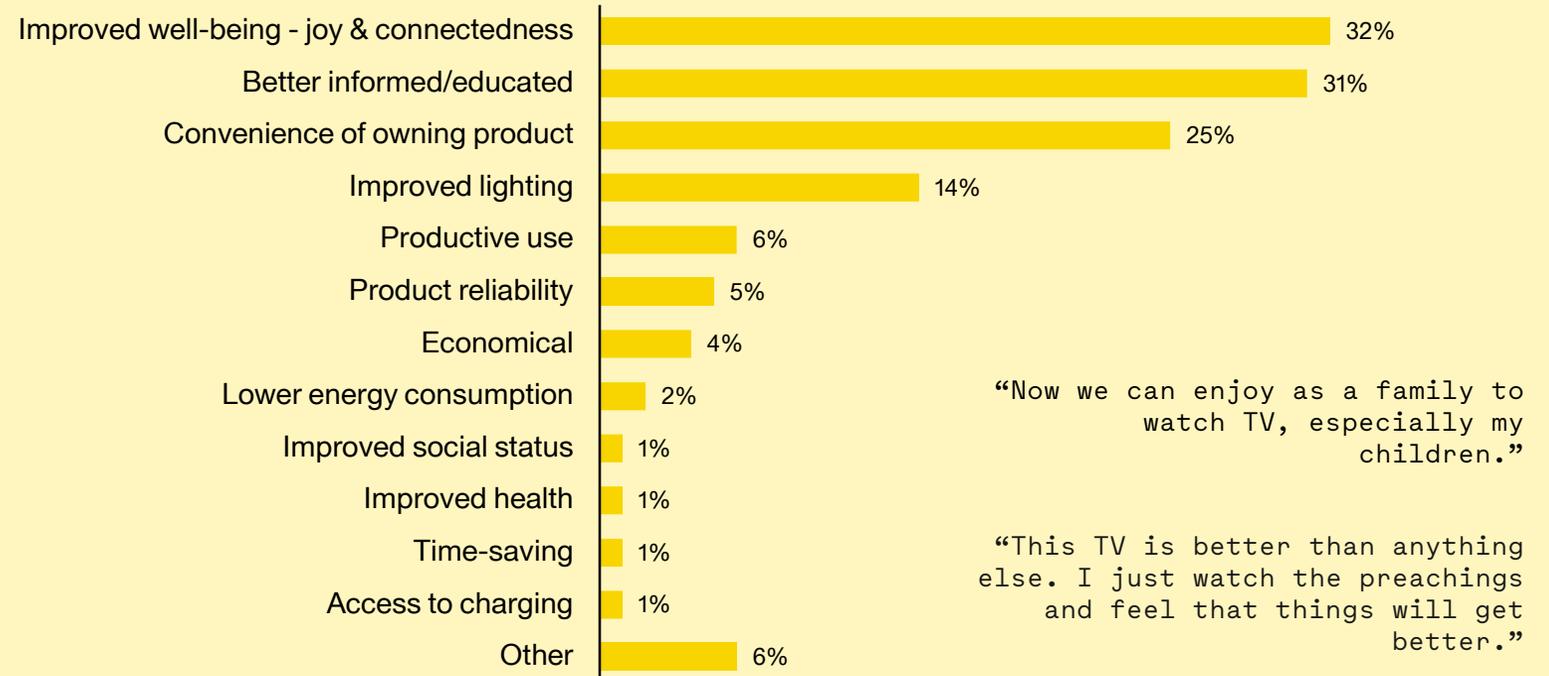
50% said their quality of life had very much improved as a result of the TV. Customers most commonly talked about having improved well-being including joy and family connection.

To gauge depth of impact; to see how meaningful or transformative the TVs are for families, the 60 Decibels Researchers asked customers about whether their quality of life had changed as a result of the purchase. 93% of customers said that their quality of life had improved; 8% said there was no change; no customers said their quality of life had got worse.

To better understand what outcomes customers are experiencing and what matters most to them, we asked those we talked to to describe the changes in their quality of life. This question is open-ended to allow customers to define impact for themselves and provide additional insights on what customers really value.

Reasons explaining changes in quality of life

Open-ended, coded by 60 Decibels (n = 1,561)



Awareness & Knowledge

~90% felt their knowledge or awareness of current affairs, politics, and general knowledge had improved because of having the solar TV.

We asked customers if they had experienced any changes to their knowledge or awareness of current affairs, politics, and general knowledge since using the solar TV in the months they have had it.

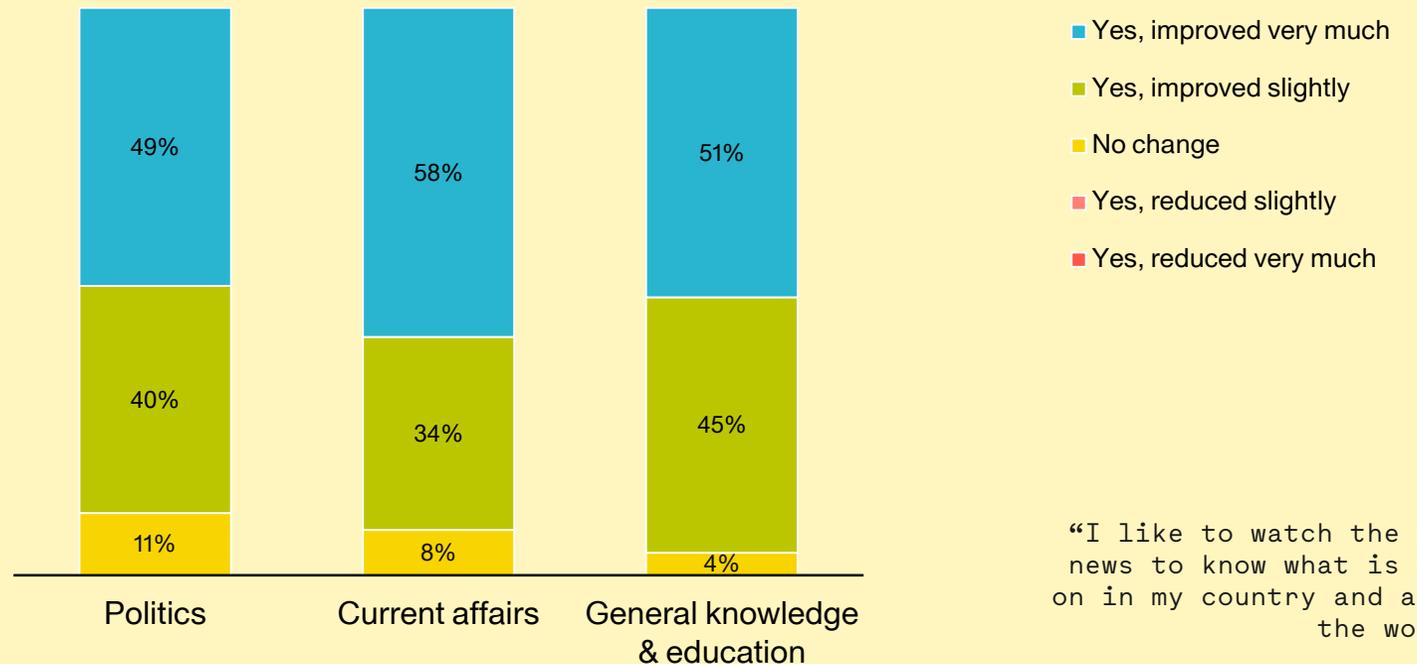
Access to news and information via off-grid televisions and other connectivity-enabling devices (e.g., off-grid Wi-Fi routers) can contribute to higher levels of education access and achievement (SDG 4) and foster positive behaviour change, including financial decision-making, family planning, literacy, and political participation and voice.

● Gender

Men were slightly more likely to report a very much improved awareness of politics (54% vs. 50% of female customers).

Changes in customer and family's knowledge of awareness of....

Multiple-choice question (n = 1,684)



“I like to watch the daily news to know what is going on in my country and around the world.”

Family Connectedness

79% felt their stress levels had reduced since using the solar TV, and 83% said that their family was more connected.

The most frequently mentioned reason for reduced stress was less boredom and better entertainment (25%). Other common responses were more time spent on relaxation and reducing stress (24%), and increased happiness within the family (21%).

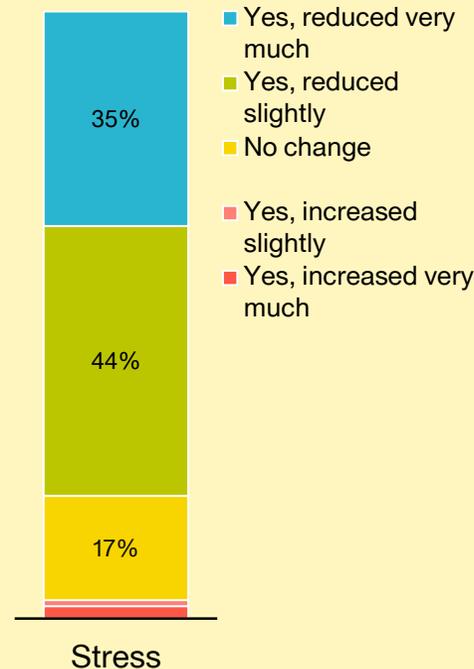
The most common reasons for improvements in the way the family connected were spending more time together as a family (48%) and interacting together more due to the TV (20%).

● Gender

Female customers were slightly more likely to say that their TV had created 'no change' in the interconnectedness of their family (20% vs. 15% of male customers).

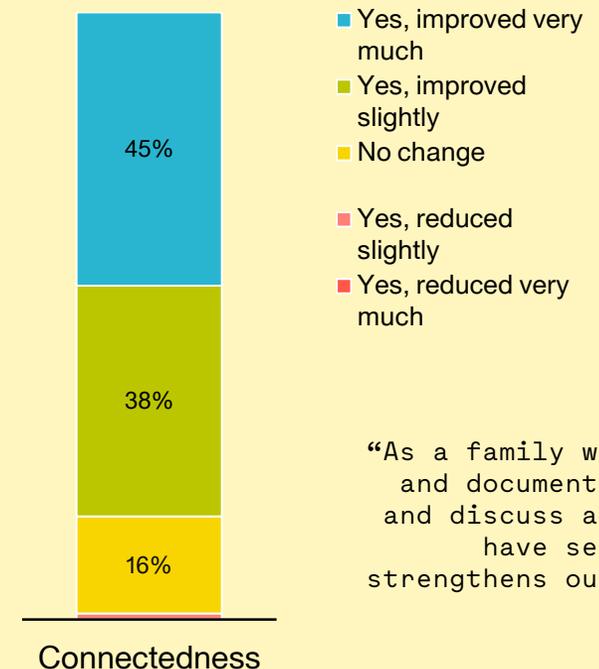
Changes in customer or family stress levels

Multiple-choice question (n = 1,742)



Changes in the way the family connects

Multiple-choice question (n = 1,742)



“As a family we watch movies and documentaries together and discuss about events we have seen on TV; this strengthens our relationship as a family.”

Viewing Patterns

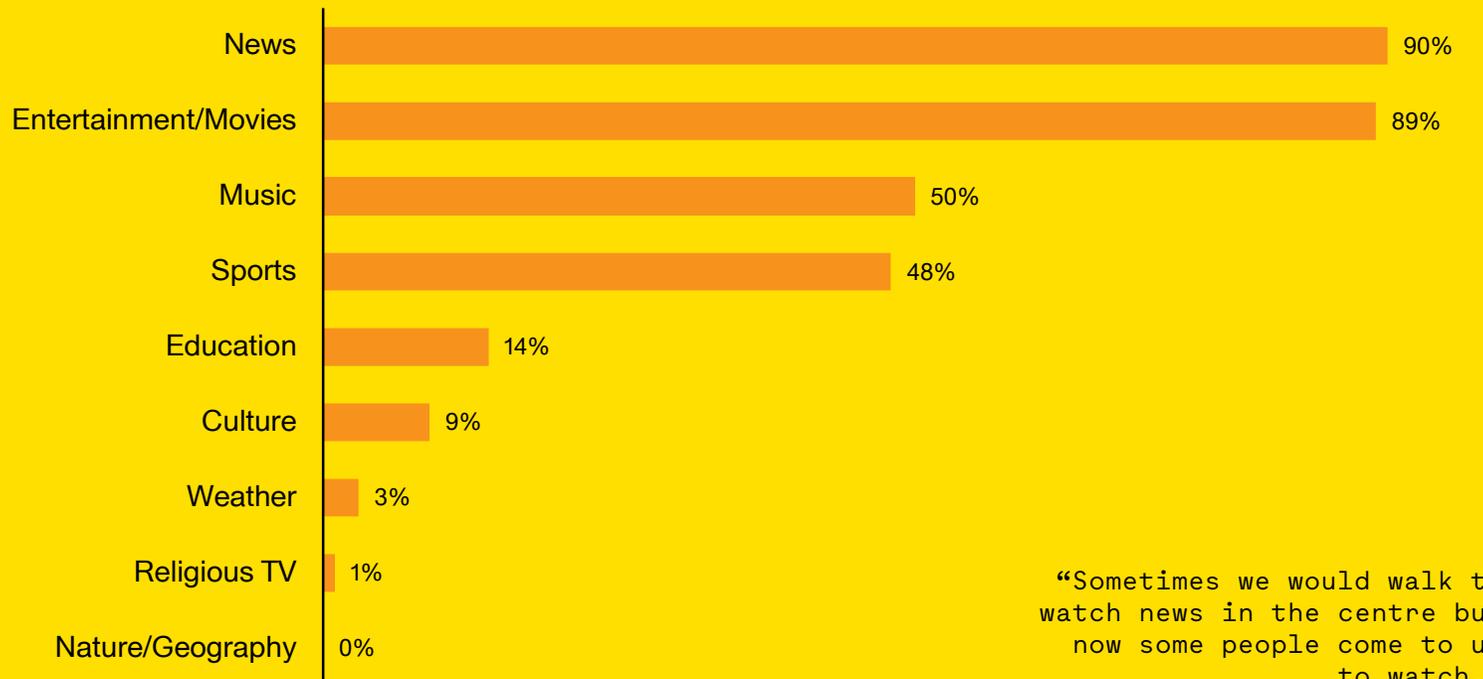
We asked customers at baseline what they thought they would use the TV for and then post-purchase at follow up we asked them what they did use the TV for. Interestingly, there was little difference.

We also thought it'd be useful to find out about access within the household so we asked who in the household (if anyone) didn't use the TV; in general, everyone did, but sometimes children who were too young to use it did not have access. We'd love to further explore gender dynamics, access and usage.

News and entertainment were the most common genres of content watched. This matched what customers thought they would use the TV for when they purchased it.

Genres of content customers are watching

Multiple choice (n = 2,090)



“Sometimes we would walk to watch news in the centre but now some people come to us to watch.”

Satisfaction & Experience

- How satisfied are solar TV customers?
- What's driving satisfaction?
- Does satisfaction vary by country?
- What is the customer challenge rate? How easy is it for customer to get issues handled?
- What challenges are customers facing?
- Is the solar TV good value for money?
- Are there available alternatives?
- Are solar TV customers over-indebted?

“I request that someone comes and teaches us how to use our system; right now we are not fully utilising it. I called [company] customer care but could not understand their advice, they assumed that we know.”



Customer Satisfaction

Solar TVs have a Net Promoter Score® of 38 which is good, and very close to the 60 Decibels Energy Benchmark.

The Net Promoter Score® is a gauge of satisfaction and loyalty. Anything above 50 is considered very good. A negative score is considered poor.

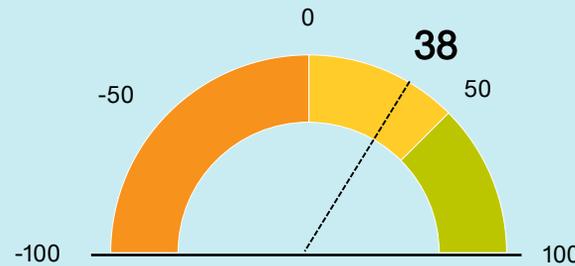
Asking respondents to explain their score explains what they value and what creates dissatisfaction. These details are on the next page.

Gender

There is little difference in NPS by gender; 32 for male customers, 30 for female.

Net Promoter Score® (NPS)

Q: On a scale of 0-10, how likely are you to recommend the solar TV to a friend or family member? (n = 1,746)



NPS = % Promoters — % Detractors

9-10 likely to recommend

0-6 likely to recommend

NPS Benchmarks

Selected 60 Decibels Benchmarks (n = 175+ companies, 80,000+ respondents)

Lean Data Global average 175+ companies	42
East Africa average 55+ companies	40
Sector average 40+ companies	46

“I give a 10 because living in the rural areas is sometimes a challenge since there is less access to grid electricity and rather than staying in the dark, the solar home system and the TV gives us light and keeps us always informed.”

Satisfaction Drivers

Promoters value the quality of the solar TV and the affordable payment plans. Detractors complain about challenges they've experienced and poor customer service.

46% are Promoters.

They LOVE:

1. Quality; durability, reliability, and energy efficiency.
2. Clear picture quality.
3. Affordable payment plans.

“It has good lighting, I get to watch my favourite shows and once I am done with payments, it will become mine completely. Plus payment is easy since it is in installments.”

46% are Passives.

They LIKE:

1. Quality, efficiency, convenience
2. Ease of use

But complain about:

1. High product payments
2. Product issues; TV signal, battery strength, and channel variety.

“It is a good TV with modern features, and it has very clear pictures. I can say it is the latest technology TV, although its energy consumption should also be improved.”

8% are Detractors.

They DISLIKE:

1. Challenges with the solar TV; particularly poor or unreliable TV signal.
2. Poor customer service; including long response time, unprofessional and unhelpful agents/staff.

“The company does not help when you have an issue. Agents should respond better. I am one of the first people to have this solar TV but the company's response has made me not recommend the system to others.”

Customer Challenges

34% reported challenges with using their solar TV. The most common challenge was connection/signal.

Of the 34% who experienced challenges, 76% said that their challenge had not yet been resolved.

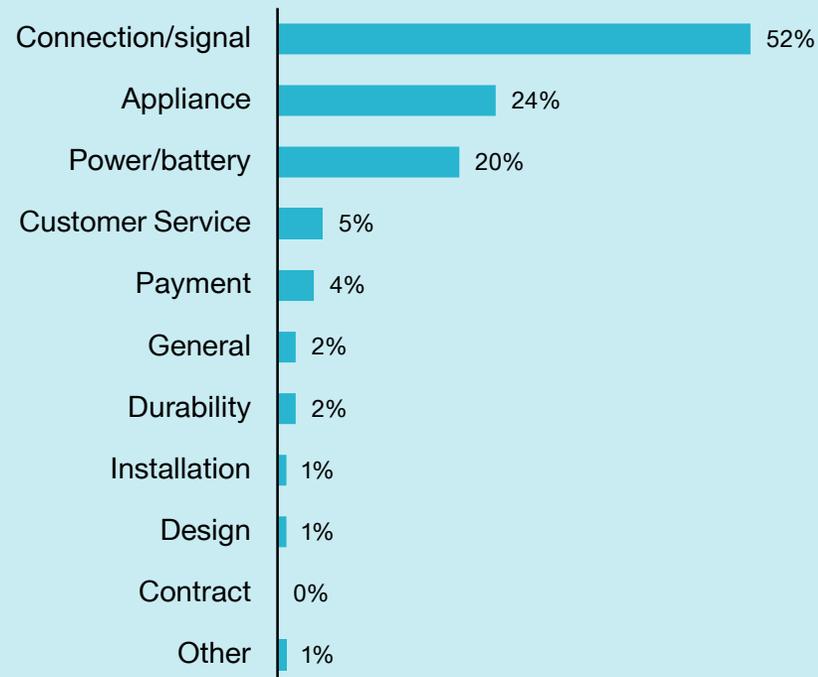
The Customer Effort Score (CES) is 3.1 out of 5. The CES indicates how easy customers feel it is to get an issue handled, with a high score being a positive result.

The 60 Decibels Researchers asked customers to explain the challenge(s) they had faced or were facing. The challenge rate focuses on customer experience and so issues could have arisen due to mismatched customer expectations, misuse, or a technical fault.

Unresolved challenges affect overall customer satisfaction and may result in negative word of mouth, which would be particularly detrimental for appliances new to the market such as solar TVs.

Proportion of customers reporting challenges

Closed question (n = 2,356)



Regardless of the issue they were experiencing, unresponsive or delayed agent or staff communication or action exacerbated customers' dissatisfaction.

“For about one month my TV did not have any signal. I managed to call customer care but up to now no help has been offered.”

“The TV screen turned black and I could not watch anything. I called the customer care and they said that they are coming but until now no-one has come.”

“[Company] response is very slow. They will lose customers because they told me not to pressure them. I was really angry because that was rude.”

Value & Alternatives

32% rated the solar TV as ‘very good’ value for money. 83% could not easily find an alternative to the company solar TV.

Many of the core indicators have patterns between them; value for money also closely tracks against customer satisfaction ratings (NPS), which is often shaped by challenge rates.

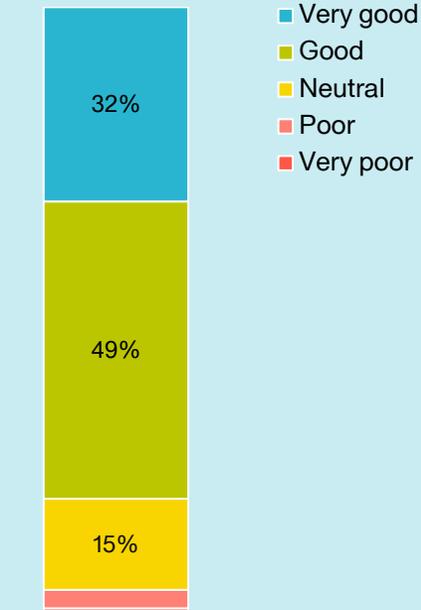
Availability of alternatives provides insight into the competitive landscape and the degree to which companies are providing a scarce product or service. This was highest in Kenya and lowest in Tanzania.

● Gender

Female customers were slightly less likely to perceive good alternatives to the solar TV they purchased (75% vs. 69% of male customers felt they could not find a good alternative).

Perceived value for money

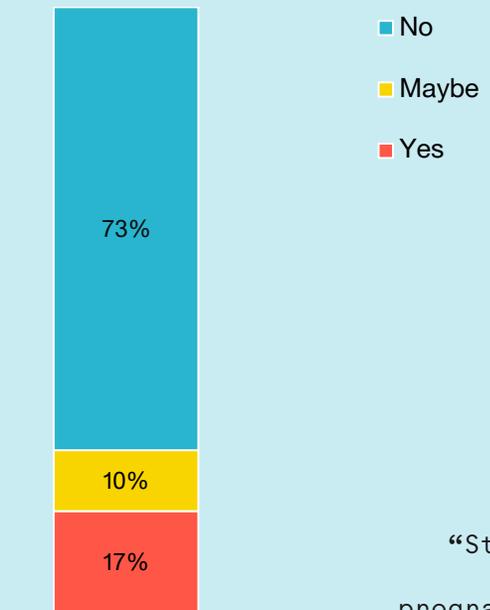
Multiple choice (n = 1,753)



Perceptions on access, choice, and availability

Could you easily find a good alternative to the [company] solar TV?

Multiple choice (n = 2,022)



“Stress has reduced because we watch programs that makes us happy.”

Over-Indebtedness

Of the 99% of solar TV customers who bought the solar TV on credit, we investigated how they felt about their repayments and whether customers ever struggled to make repayments for their solar TV or solar home system + TV package.

12% of customers report having other loans or credit in addition to the solar TV finance. This was lowest in Tanzania, and higher than average in Kenya with 48% reporting having two loans, and 20%+ having three or more.

● Gender

In 77% of households, the loan repayments are the responsibility of the male adult in the household.

61% say they have to make unacceptable sacrifices to make repayments. 2% have to cut back on consumption to make repayments.



56% used regular income to pay off their loans, 19% used savings, 3% borrowed from friends/family.



61% have had to make unacceptable sacrifices in order to make repayments; of these half say it's 'rarely'.



3% say their solar product repayments are a heavy burden, 40% say they are a burden, 57% say they are not a problem.



100% of those who had made unacceptable sacrifices had made them for other reasons before purchasing their solar TV.



2% regularly have to cut back on consumption to make repayments, 12% do sometimes, 76% never have to.



6% have had to take out another loan to help with their solar TV repayments.

Sector Insights

- Which features do customers most value?
- By company: ranking core Lean Data indicators

“I think all features are available in this solar TV so I don’t think there is any feature extra I would want.”



Valuable Features

Customers were positive about the solar TV features. In addition, they would like more diverse channels, different TV sizes, and a sound system to enjoy music on.

We asked customers to rate their satisfaction with different features to identify any particularly appealing or detracting elements of the solar TV. Overall, the results were positive.

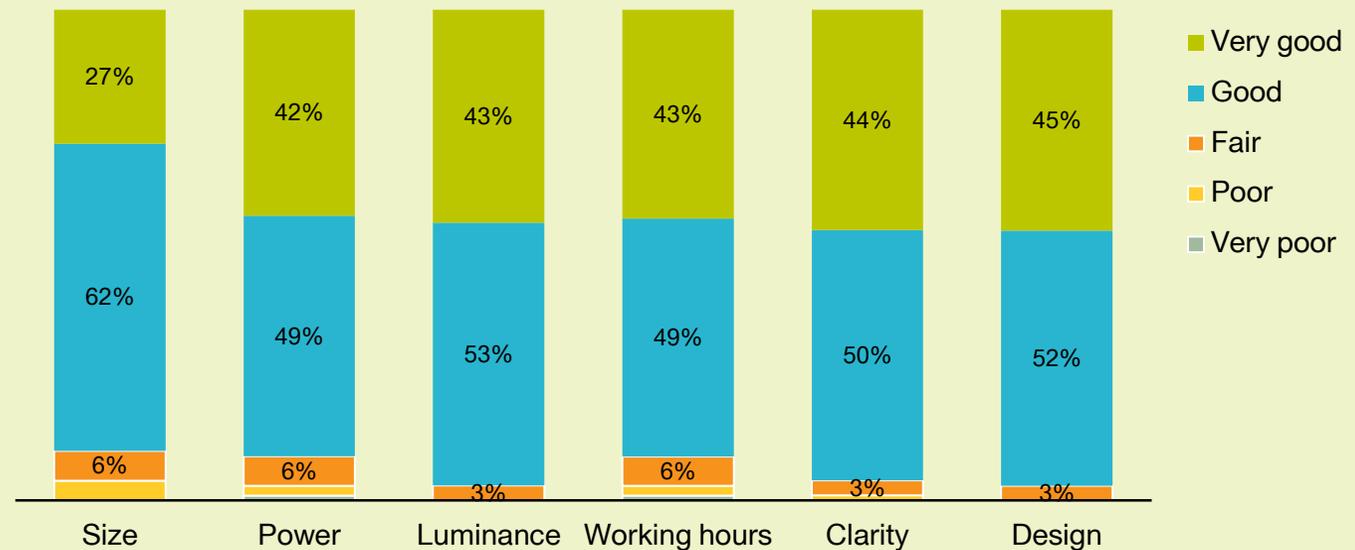
When asked if there were additional features that customers would have liked to have seen in their TV, the most frequently mentioned features were more diverse channels, different TV sizes, and a sound system to enjoy music on.

Gender

There was little difference in ratings by feature by gender, however, women were slightly more likely to think the design was good or very good than men (97% vs. 94%).

Rating by feature

Multiple choice (n = 1,429)



Customer Voices

We love hearing customer voices.
Here are some that stood out.

“[Company] has good products but I cannot recommend to any of my friends because the customer service is the worst.”

Positive feedback

“We are very grateful for the service [company] provides to people because it helps to improve our life and live a modern life like having electricity and watching TV.”

“The solar TV lights well and the battery is good. My neighbour’s like it; they come to watch.”

“I am really happy to have the products from [company]. I have heard of their fame in the good products so I am happy to also have the products.”

Opportunities for improvement

“We as men like sports channels like the premier league, but it is not on this [company] TV. For good marketing, we need these channels because they will pull more people to buy.”

“[Company] products are good but expensive so if possible reduce the prices.”

“I was surprised that I had to pay for the installation, I thought it was free. [Company] should open a service centre closer.”

“[Company] should respond to our complaints faster because now seriously three months without feedback is very poor.”

Constructive criticism

“I request that someone comes and teaches us how to use some parts of the [company] system, right now we are not fully utilising it. I called the customer care but could not understand their advice, they assumed that we know.”

“Since I got the [company] system, I have been paying money but they are doubling the amount for me which is bad. They should be coordinated; this discourages me from convincing other customers.”

“Ladies in the customer care centre talk badly with customers; they should improve.”

“[Company] should continue with this service because it makes even us people with lower income to use it because of the credit system that they have so all of us can afford to use it and enjoy good light and TV in our houses.”

“I have loved [company] because with Zuku I’m able to watch many channels that keeps us busy. Continue with the good work.”

Ranking Core Indicators

You can see there is quite a range in terms of customer experience by the solar TV companies in the RBF.

Company C demonstrates that even if challenge rates are high while testing a new product, if you deliver good customer service (CES), it's likely that customers will be satisfied and believe the value for money is good.

● Recommendation

Invest in customer service and after-sales care. It matters. Customers notice.

Exploring the performance of companies in the RBF can offer insights into effective business models, policies, and practices.

Ranking by performance on core indicators

	Net Promoter Score®	Challenge rate	Customer Effort Score	Value for money
Company A	75	20%	3.0	88%
Company B	40	51%	3.6	79%
Company C	35	44%	3.3	87%
Company D	20	24%	3.3	89%
Company E	13	71%	2.1	83%
Company F	12	11%	3.2	57%
Company G	9	28%	1.7	61%

Ranked by NPS.

Conclusions

Solar TVs lead to diverse and meaningful impact for users and have the potential to support income-generating activities.

Customers face challenges characteristic of a nascent market and also provide unique insight into their experience.

“Some programs make us happy when we watch them on the solar TV and this makes our life better.”

Off-grid TVs can improve the lives of people living in underserved communities.

Key conclusions and ongoing efforts

- Off-grid solar TVs drive a diverse and meaningful suite of developmental impacts for end-users. Most TV customers reported improved quality of life overall, while a large majority reported improvements in knowledge of current affairs, reduced stress, and greater family connectedness.
- Solar TV customers face challenges characteristic of a nascent market. Many consumers report experiencing technical and after-sales service challenges. Further research is needed on how to best address these challenges to support continued growth of the sector. For instance, as the primary challenge experienced by solar TV customers is around connection/signal, innovation in content delivery (e.g., through cached content or partnerships with paid-per-view service providers) could present an important commercial opportunity.
- Off-grid TVs have the potential to support income-generating activities. While this segment of solar TV customers is small, there is a need to help quantify the impacts and opportunities here.
- Scaling the market for off-grid TVs has the potential to deliver disproportionate benefits to consumers living below the poverty line. With growing demand, further innovation on cost-reduction strategies for solar TVs will enable BoP customers to access solar TVs and experience benefits.
- End-users of solar appliances provide unique insight on their experience with these products. Continued dialogue with solar TV customers is crucial to understanding their experiences and informing decision-making, design and delivery of this technology.

Share Insights

#listenbetter

Please do share insights in this report to fuel discussions, inform decisions, and share insights.

The 60 Decibels and CLASP teams would love to hear your thoughts, as well, of course!



Example email template to share the report with staff & partners

I thought you might be interested in this new report from 60 Decibels and the Efficiency for Access Coalition on the impact of solar TVs in East Africa. Here's a link to read more: <http://bit.ly/solar-tv-report>

We would love to hear your thoughts.

Fancy sharing any of the insights in this report with your team or followers?



Example tweets to share publicly

- Interested in learning more about the market for #SolarTVs? @EforA_Coalition & @60_Decibels' latest consumer research report looks at customer profiles, experience, & impact in #Kenya, #Tanzania, #Uganda, & #Rwanda: <http://bit.ly/solar-tv-report> #LEAP_RBF #60dB_energy
- In a NEW @EforA_Coalition & @60_Decibels report, over 50% of #SolarTV customers said their quality of life had 'very much improved' as a result of the TV! Check out more insights from @LEAP_Awards results-based financing solar TV customers: <http://bit.ly/solar-tv-report> #LEAP_RBF #60dB_energy
- The majority of #SolarTV customers surveyed in a NEW @60_Decibels & @EforA_Coalition report felt that their family was more connected as a result of their TV! Find out more about the impact of solar TVs on off- and weak-grid customers in #EastAfrica: <http://bit.ly/solar-tv-report> #LEAP_RBF #60dB_energy
- A NEW report from @EforA_Coalition & @60_Decibels provides compelling preliminary evidence on the positive impacts of #SolarTVs on quality of life in East Africa: <http://bit.ly/solar-tv-report> #LEAP_RBF #60dB_energy

Appendix

- / Efficiency for Access and Global LEAP
- / Who is in the 60 Decibels Energy Benchmark?
- / More info on sampling
- / Additional data collected not in this report
- / Indicator glossary

Efficiency For Access and Global LEAP

Efficiency for Access is a global coalition promoting energy efficiency as a potent catalyst in clean energy access efforts. Since its founding in 2015, Efficiency for Access has grown from a year-long call to action and collaborative effort by Global LEAP and Sustainable Energy for All to a coalition of 14 donor organizations. Coalition programmes aim to scale up markets and reduce prices for super-efficient, off- and weak-grid appropriate products, support technological innovation, and improve sector coordination. Current Efficiency for Access Coalition members lead 12 programmes and initiatives spanning three continents, 44 countries, and 22 key technologies.

The Global LEAP Awards is an international competition to identify and promote the world's best off-grid appliances, accelerating market development and innovation. This unique program has evolved into a trusted global brand that serves as the de facto source of accurate, actionable information about the quality and energy performance of off-grid appliances and productive use equipment. The Global LEAP Awards is implemented through the Efficiency for Access Coalition and managed by CLASP, with support from Power Africa, UK aid, Energising Development, Powering Agriculture, and USAID.

60 Decibels Energy Benchmark

The 60 Decibels Energy Benchmark is made up of the average performance of the energy company Lean Data projects the 60 Decibels team have delivered since 2016. It includes companies working in solar lanterns, solar home systems, off-grid refrigeration, solar water pumps, solar TVs, improved cookstoves, LPG distribution, and more.

60 Decibels have conducted 160+ projects, conducting 26,500+ interviews with end-users, across 17 countries.

There are nearly 50 companies in the 60 Decibels Energy Benchmark.

Companies included

*projects ongoing

- | | | |
|---------------------------|---|------------------------|
| 1. ARED | 1. HelloSolar | 1. Promethean |
| 2. Arnergy | 2. Husk Power Systems | 2. REDAVIA |
| 3. Azuri | 3. Kalangala Infrastructure Services (KIS)* | 3. Rent to Own |
| 4. BBOXX | 4. KopaGas | 4. RUH |
| 5. BioLite | 5. Lendable | 5. RVE.SOL |
| 6. BURN | 6. Lumos | 6. SELCO |
| 7. d.light | 7. M-KOPA | 7. Simusolar |
| 8. Deveryg | 8. Mobisol | 8. SolarNow |
| 9. Easy Solar | 9. Nizam Bijili | 9. Solar Panda |
| 10. Ecozen | 10. OffGridBox | 10. SparkMeter |
| 11. Emel Solar | 11. Oolu Solar | 11. Standard Microgrid |
| 12. Fenix | 12. Orb Energy | 12. SunCulture |
| 13. Frontier Markets | 13. Pawame | 13. SunnyMoney |
| 14. Futurepump | 14. PEG | 14. Ultratec |
| 15. Green Energy Biofuels | 15. Pollinate Energy | 15. Winock Solar |
| 16. Greenlight Planet | 16. PowerGen | 16. Winsol |
| 17. Greenway Grameen | | |

Sampling Information

The sample size used in this report provides a 95% confidence level and 1.9% confidence interval that the data represented in this report is representative of the customer base.

60 Decibel's Lean Data approach focuses on collecting data in an efficient way.

While we have taken time to consider the appropriate number of people to interview in order to generate insights that are representative of the RBF, this is still a sample of customers and won't represent all views and nuances.

In particular, as we used phones as our interview medium, any customers without phones are less likely to be represented – though due to the nature of the included companies' business models, this wasn't a major concern.

Recent changes to business model, product, or marketing may not be reflected in these customers' experiences. In addition, this project collected data from a certain point in time which may mean some answers are affected by seasonality, and/or reflective of any changes in product type and/or geographic locations depending on any sales campaigns, expansion, partnerships, or focus areas.

From a list of the 5,046 customers' information CLASP shared with the 60 Decibels team, the 60 Decibels team randomised the list for the baseline interviews. The 60dB research team then interviewed from this list, making a maximum of three attempted calls each time. The 60dB Researchers are all locals of the countries we work in so they are culture, and context aware, and conduct interviews in local language.

The 60 Decibels team also ran a check on the geographical distribution of respondents compared to the full company customer lists to check representation. We did not find any bias based on county or region.



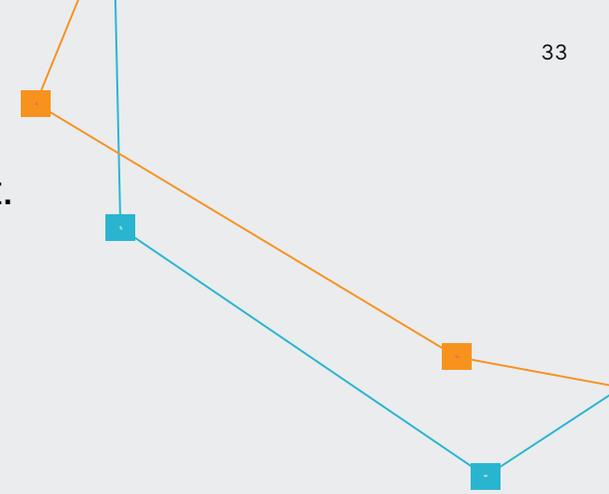
Additional Data

We care very much about data protection and privacy of all stakeholders; CLASP, the participating companies, and their customers. We have endeavoured to share results that are insightful while still protecting the identity of companies and ensuring they are anonymous and unidentifiable, unless permission was given to share.

We wanted to share the key insights in this report, but we collected other data too. Here's some of the other things we asked about.

We collected more information that is not in this report. Just ask if you have questions.

- How did customers hear about the solar TV?
- Who in the household first heard about the solar TV?
- Who in the household made the decision to purchase the solar TV?
- What motivated customers to purchase the solar TV?
- What was the customer's adoption persona; how likely are they to try new innovations?
- How were customers' lighting their homes before the solar TV + solar home system purchase? And for those on-grid, how often did they experience black-outs?
- What was the rate of prior ownership of solar home systems before this solar TV related purchase?
- Why are some customers no longer using their solar TV?
- What is the disability profile of customers?



Indicator Glossary

Here's a bit more information on some of the key 60 Decibels indicators used in this report.

“I have a bar and now clients pay to watch soccer matches. After purchasing this TV the number of my clients has increased and my profit has also increased.”

- **Ease of use (customer challenges):** How easy is the product/service to use? This indicator is important as it affects satisfaction, likely referrals, and importantly general impact. We measure this through looking at the % of customers who have *not* experienced challenges using the product/service i.e. an inverse indicator for % of customers experiencing challenges using their product/service. Challenges could include technical faults, mismatched expectations, or customer misuse so would be addressed in different ways.
- **Customer Effort Score:** How easy does a company make it for their customers to resolve their issues? This indicator tells us about after-sales care and customer service. Ease of use is important for uptake, adoption, and referrals, as well as impact. This is measured by asking customers who have experienced challenges how easy it was to get the support they needed, and have their issue resolved.
- **Net Promoter Score[®]:** How satisfied are customers with the company and the product/service, and how loyal are they? The Net Promoter Score is used the world over as a proxy for gauging this. This indicator is important for understanding customer experience and gathering feedback. It is measured through asking customers to rate their likelihood to recommend the product/service to a friend on a scale of 0 to 10, where 0 is least likely and 10 is most likely. The NPS is the % of customers rating 9 or 10 out of 10 ('Promoters') minus the % of customers rating 0 to 6 out of 10 ('Detractors').
- **No access to alternatives:** How much choice do customers feel they have when they made the decision to purchase, use, connect to the product/service? This indicator looks at awareness of and access to alternatives in the market and gives us an idea of how critical the company is for providing access. This is measured through % of customers saying they could not easily find an alternative to the product/service.
- **First access:** Was the product/service the first time a customer had access to this technology? This indicator provides us with information on how companies are providing families with new experiences and opportunities. Measured by % of customers saying they did not own the relevant technology before purchasing the new product/service.
- **Value for money:** Are the benefits of access to the product/service seen as good value for money? This indicator gives a sense of how customers feel about the cost of access compared to the value they get: usage, effectiveness, efficiency. It is measured by the % of customers saying they rate the value for money of their product/service as 'very good' or 'good' (other options: 'very poor', 'poor', 'fair').
- **Quality of life:** How transformative or meaningful is the product/service to the general well-being of customers? This indicator looks at depth of impact and is measured by the % of customers saying their quality of life has 'very much improved' because of access to the product/service (other options: 'slightly improved', 'no change', 'got slightly worse', 'got much worse').
- **Poverty reach:** What income level do customers live at? This indicator uses the Poverty Probability Index[®] to identify likelihood of customers living below the poverty line. We use the World Bank international poverty line of relative poverty at \$3.20 per person per day. It may be harder to reach a higher proportion of lower income customers in wealthier countries. That's why we compare poverty reach against national poverty rates too. This gives context for looking at business model inclusivity.

“My children are more happy.”

“The TV has reduced stress.”

“The programs we watch

>on the solar TV

>are teaching us

>some cultural values
in our tribe

we did not know about.”

Have questions? Get in touch:

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