# Beyond the Grid Fund for Zambia

Verification & Customer Insights



# Welcome To The BGFZ Lean Data Results

The 60 Decibels team enjoyed hearing from 626 BGFZ-supported customers – they had a lot to share!

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# About the study

60 Decibels undertook an independent verification of the BGFZ for NEFCO.

The research focused on;

- Verification of Energy Service Subscriptions (ESS) provided by participating Energy Service Providers (ESP) using the EDISON Database provided by REEEP and customer information provided by ESPs.
- 2. Customer insights including profile, feedback, impact, satisfaction, and experience.

An introduction to the 60 Decibels independent verification of Beyond the Grid Fund for Zambia (BGFZ).

### Introduction to This Report

- This report is the synthesis of insights gathered from a random sample of 626 BGFZ-supported customers who purchased an eligible product after the contract date of 7<sup>th</sup> July 2017 or 1<sup>st</sup> August 2017 (depending on ESP). We have highlighted key takeaways and trends across the following indicators:
  - Quality of life changes and reasons
  - Challenges experienced (ease of use)
  - Customer satisfaction and loyalty (Net Promoter Score®)
  - Access to alternatives (choice)
- To verify ESS under BGFZ, 60 Decibels confirmed customer and purchase details including; name, region, and product purchased. The ESP provided information was compared with the EDISON Database to calculate data accuracy.

# Methodology

60 Decibels established a minimum sample threshold of 75 customers for each ESP to ensure sufficient insights at the ESP level. We determined target samples above this threshold based on the proportion of ESS per ESP within the full fund population.

An introduction to the 60 Decibels methodology for the BGFZ Energy Service Subscription verification and customer insights.

## Methodology

- 1. REEEP shared the full BGFZ EDISON database with 60 Decibels. Details of the database include REEEP ID, product purchased, date of purchase, and region of the customer.
- The ESPs shared with 60 Decibels a database of customers who purchased a BGFZ eligible product. Details of the database include customer name, phone number, and REEEP ID.
- 3. Using the REEEP ID as a unique identifier, 60 Decibels matched the ESP customer contact details with the customer purchase details from the EDISON database.
- 4. 60 Decibels randomly selected customers from the matched dataset for the sample. The sample selected is representative of the overall customer database shared by ESPs with 60 Decibels by product type and region.

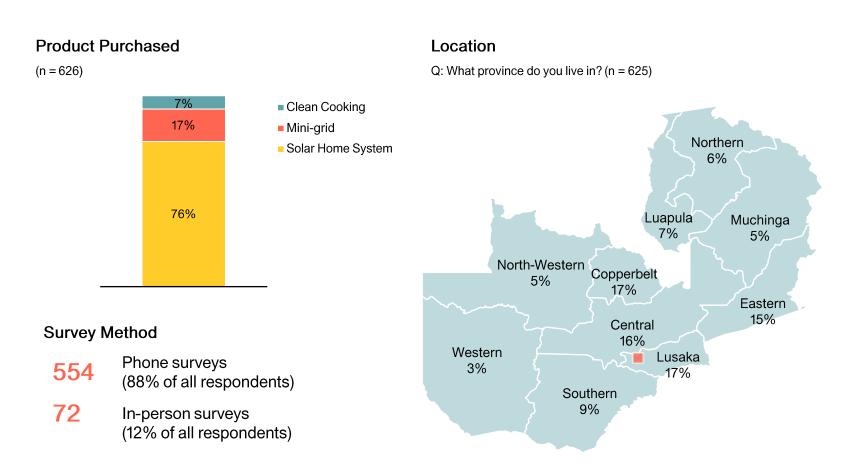
### Phone vs. In-person Surveys

- The population was randomly assigned to a phone-based or in-person survey group. The in-person group was segmented by region and randomly selected by ESP.
- 12% of the final BGFZ sample were inperson interviews (72 surveys).
- We interrogated the data across both sources and found no significant differences in the insights or ESS verification throughout this report by data collection method.

# Customer Profile: Product & Region

Customers across all 10 provinces of Zambia were interviewed.

We spoke to customers, either in-person or by phone, about their experience with an improved cookstove, solar home system, or mini-grid service.



# BGFZ Performance Snapshot: Core Insights

Here's the impact performance of BGFZ against the 60 Decibels Energy Benchmark.

Overall, BGFZ ESPs perform particularly well in providing first-time user customers with products/services that improve quality of life compared to the 60dB Energy Benchmarks. There is room for improvement in customer challenge rates, issue resolution, and customer service.

Throughout this report, where there are BGFZ averages presented these are weighted averages by the proportion of customers per ESP.

Performance vs. 60dB Energy Benchmark



ESS Verification

97%

of total customer details match BGFZ EDISON data Quality of Life

83%

quality of life 'very much improved'



First Access

85%

first time accessing service provided



Poverty Reach

60%

living below \$3.10 / person per day



Net Promoter Score

69

on a -100 to 100 scale

• • • • •

Contribution

86%

have no access to a good alternative

• • • •

Challenges

36%

report challenges: 63% not resolved

• • • •

Customer Effort Score

3.1

on a scale of 1 - 5

• • • •

# **Key Takeaways**

BGFZ products and services are reaching underserved markets, have high customer satisfaction, and are improving peoples lives. A focus area is improving ease of use and addressing challenges.

97%

total % of ESS customers verified

60%

of customers live below \$3.10 per person / per day. 36%

of customers have experienced challenges using the energy product or service. 69

is the average NPS, a measure of customer satisfaction, which is great! 83%

of customers say their quality of life had 'very much improved' because of the energy product or service

The proportion of customers verified by ESP ranges from 98% to 94%.

The ESPs are reaching underserved and low-income populations. With an average Inclusivity Ratio of 0.81, the BGFZ outperforms the 60dB Energy Benchmark of 0.57. Only one ESP had a lower ratio of 0.45.

63% of challenges that customers have experienced have not been resolved. The Customer Effort Score – a customer service rating – is low at 3.1. This is a key area for improvement which affects customer impact and may affect demand and uptake.

Overall, customers are satisfied with the products and services. Resolving customer challenges, improving issue resolution processes, and supporting first-time users are all valuable strategies in ensuring customer satisfaction remains high or improves.

The majority of customers say their quality of life improved significantly. This is above the 60 Decibels Energy Benchmark of 50%.

# Top Actionable Insights

Here are a few suggested actions to improve the impact of the fund.

### Suggested Action

- Issue resolution is a focus area for all ESPs. Inefficient, inaccessible, or nonexistent processes for issue resolution lead to unresolved challenges and impact customer satisfaction.
  - We provided recommendations to each ESP. BGFZ could partner with the ESPs to work together towards improvements in these areas.
- Review indicators, particularly date of purchase, for ESS verification.

### Detail

1 in 3 customers we talked to experienced a challenge using their energy product or service; and of those nearly 2 in 3 remain unresolved. The Customer Effort Score is 3.1 out of 5, meaning customers do not find it easy nor difficult to get their issue handled with the ESP. Challenges can encourage negative word-of-mouth and detract from customer satisfaction - those who experience a challenge were less likely to be a Promoter (63%) than those who did not experience a challenge (82%).

Is there technical support or expertise BGFZ can give or share with ESPs to reduce challenges and address issues to improve impact and customer experience?

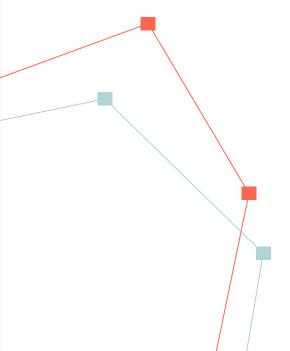
There were clear areas for improvement across different performance metrics for each ESP. How can BGFZ partners work with the ESPs to support them to make improvements in these areas and improve the overall impact of BGFZ?

While customer name, product purchased, and region were easier for customers to verify leading to a high degree of overall ESS verification - customer recall for purchase month and year were more variable.

Conducting verification checks closer to purchase dates is likely to reduce this issue. And considering year of purchase rather than specific month for verification at a longer time period from purchase is recommended.

# Customer Voice Snapshot

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



### **Impact Stories**

96% of customers shared how the energy product/service had improved their quality of life

"Now we sleep under lights with extra security at night and we now spend less on lighting. At the shop I can stay up for more hours than before."

- Female, 20

"We now spend less on electricity needs and are able to save money." – Male, 21

"I have been helped a lot because I can save money for other basic needs which has allowed me to provide for my family fully. Now they are able to eat at times three meals a day because I no longer spend on batteries and candles." – Female, 89 "I used to struggle with the previous lighting system. It would go off when I needed it the most. But from the time that I got this one from the [Company], at least I have lights now whenever I need them to light my house in the night at a very affordable cost."

- Male, 38

"After we switched from using charcoal to pellets, we are able to cook meals from inside the house and we are able to save money as pellets are cheaper than charcoal." – Female, 40

## Opinions On Companies' Value Proposition

75% were Promoters and were highly likely to recommend

"The lighting is very reliable especially for people like me who relocated to a place where it is difficult to access electricity." – Male, 29

"I would recommend [Company]'s services to friends and family because its affordable, clean, and user friendly. Apart from that, it makes life easier."

- Female, 46

"This company and their products are strong. Their services are good. When I have a problem, I just call their call centre. Also, [product] is very durable and affordable." – Female, 57

"It is fast at cooking, and it helps to cut down on the cost of cooking when there is not power from the main national grid." – Male, 50

### **Opportunities For Improvement**

34% had a specific suggestion for improvement

"When power cuts, despite having power time units, they don't refund for the lost days." – Male, 28

"Provider should come up with a way of letting us know how much our balance is on the payment plan." – Male, 71

"The battery was not getting full no matter how long I left it charging." – Male, 27

"Payments should be done on a monthly basis. It leaves room for people to save money for the next month." – Female, 24

# Energy Service Subscription Verification

11 / Energy Service Subscription Verification Chart

# **ESS Verification** Chart

Overall verification includes customers whose responses to questions matched the following details in the database given; name, product purchased, and region.

Verification month was not asked in the in-person interviews.

#### Data Collection:

Sample size: 626 customers Country: Zambia

Method: Phone & in-person interviews Date:

April 2021

Contacts Shared with 60 Decibels & Sample	Total/ Average
Customer data shared by REEEP from EDISON	297,915
Customer contact data shared by ESP	7,354
Proportion of data matched between databases by 60dB	99%
Overall EDISON Verification of Sample	
Total overall % of customers verified	97%
% of customers interviewed with verified product/energy service purchase	100%
% of customers interviewed with verified region	97%
% of customers interviewed with verified customer name from ESP contact list	100%
Verification of Additional EDISON Details	
% of customers interviewed with verified purchase month	49%
% of customers interviewed with verified purchase year	77%

# **Customer Profile**

- 14 / Customer Demographics
- 15 / Poverty Profile
- 16 / First Access & Motivation
- 18 / Availability of Alternatives
- 19 / Prior Energy Sources
- 20 / Productive Use

"The house is bright. Lights don't go off. Even with little money, we are able to purchase power. We can see at night and see dangerous things like snakes."

- Female, 39

# Customer Demographics

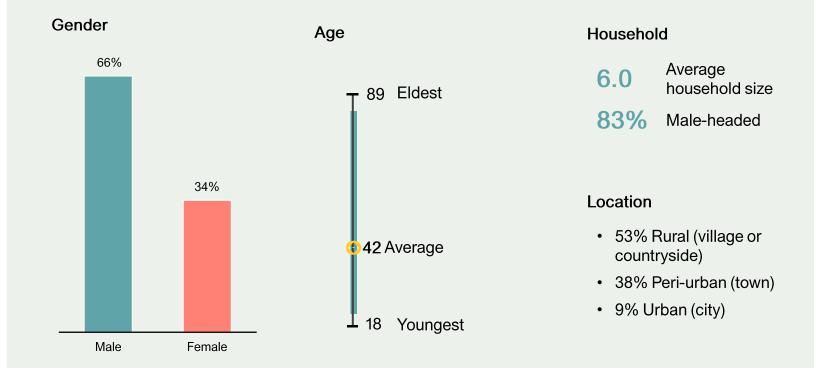
BGFZ companies appear to be serving a relatively heterogenous customer base. There is a wide degree of variability in demographics.

83% of customers live in a male headed household. Household education levels are high, 43% of customers report the highest level of education anyone has completed in their household is up to the upper secondary level and 31% up to university level.

The typical BGFZ ESP customer is male, 42 years old, and lives in a rural area with five others in the household.

#### **About the Customers**

Averages of respondent characteristics (n = 626)



# Customer Profile: Inclusivity

Using the Simple Poverty Scorecard®, we measured how the income profile of ESP customers compares to the

BGFZ companies are serving slightly wealthier customers than the Zambia national average, resulting in an Inclusivity Ratio of 0.81.

Zambia population.

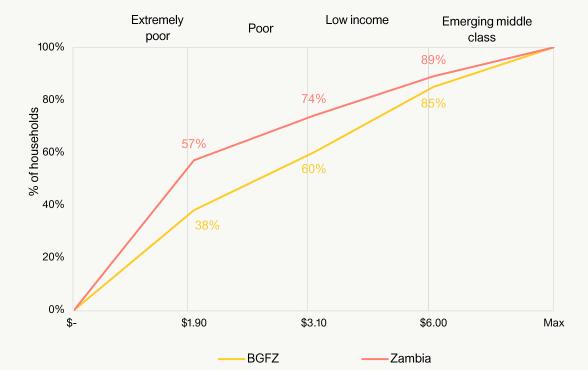
You can find out more about how the Inclusivity Ratio is calculated in the Appendix.

Compared to the national population, the ESPs are underserving lower-income families.

#### Income Distribution

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% living below \$3.10 per person / per day (2011 PPP) (n = 578)



## **Inclusivity Ratio**

Degree that BGFZ is reaching low-income customers in Zambia

0.81x



We calculate the degree to which BGFZ is serving low-income customers compared to the general population. 1 = parity with national population; > 1 = over-serving; < 1 = underserving.

See Appendix for calculation.

# **Customer Profile:** First Access

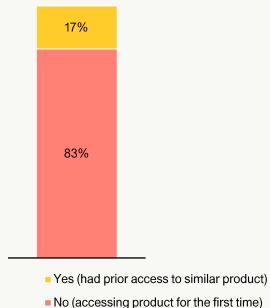
4 in 5 customers are accessing the energy product or service for the first time, which suggests that BGFZ companies are reaching an underserved population.

The percentage of customers who are accessing a product or service for the first time is significantly higher than the 60dB Energy Benchmark of 63%.

## First Access by Product

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Q: Did you own a solar home system / mini-grid service / improved cookstove before this purchase? (n = 626)



38k responses, 83 companies

**Energy Sector Average** 

60 Decibels Global Average

160k+ responses, 300+ companies

67%

63%

# **Customer Profile: Decision & Motivation to** Purchase

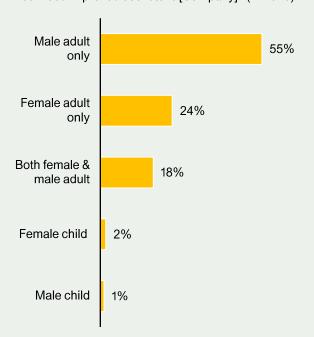
Male adults were most likely to influence the decision to purchase a solar home system, while female adults were most likely to influence the decision to purchase a stove.

When asked what motivated them to purchase their product or service, customers mentioned wanting an improved standard of living, access to energy, or because the product was recommended to them by others.

#### **Decision to Purchase**

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Q: Who made the decision to buy the solar home system / mini-grid service / improved cookstove [Company]? (n = 626)



#### Motivations to Purchase

Q: Do you know / remember, what motivated [person] to purchase the solar home system / mini-grid service / improved cookstove from [Company]? Open-ended, coded by 60 Decibels..

# **Stove Customers**

(n = 45)

influenced by friends, family, or neighbours

# Solar Home System Customers

(n = 475)

to help their children study better

# Mini-grid Customers

(n = 106)

unreliability of alternatives

# **Customer Profile:** Availability of **Alternatives**

Availability of alternatives provides insight into the competitive landscape and the degree to which BGFZ ESPs are providing a scarce product or service.

The fact that 78% of customers say they could not easily find a good alternative suggests that the ESPs are addressing a gap in the market.

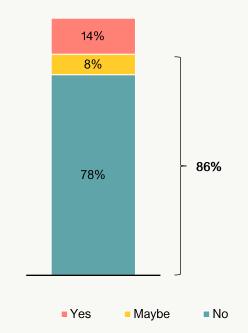
The percentage of customers who say that they cannot find a good alternative is significantly higher than the 60dB Energy Benchmark of 72%.

86% of customers say they could not easily find a good alternative to the ESP's product or service.

## Access to Alternatives by Product

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Q: Could you easily find a good alternative to your solar home system / mini-grid service / improved cookstove? (n = 626)





# **Productive Use**

The majority of customers used their energy product or service at home only.

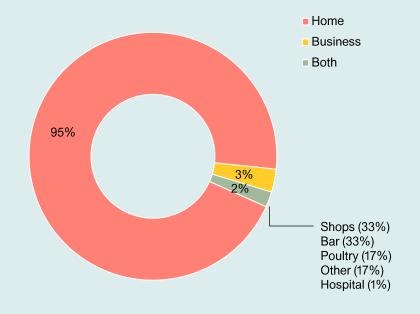
Only 9% of customers use their product or service for productive use – either in a place of business or at home for income-generating activities.

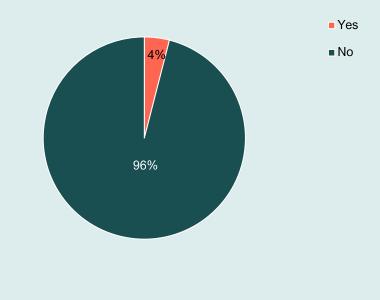
# Type of Usage

Q: Do you use your [product/energy service] at home or in a place of business, or both? (n = 626)

#### **Productive Use of Product**

Q: [If used in home]: Do you use the [product/energy service] for income-generation? (n = 610)





# Impact Performance

- 23 / Net Promoter Score®
- 24 / Quality of Life
- 25 / Market Value
- 26 / Customer Challenges and Issue Resolution

"Since connecting to the grid,
I have noticed that my
children's grades at school
have improved because I'm able
to help them with their
homework in the evening now
that we have dependable
lighting. This has made me very
proud as a father."

- Male, 42

# **Customer Satisfaction:** Net Promoter Score®

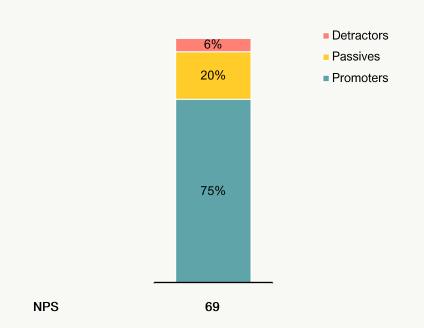
The average NPS for the BGFZ companies we worked with is 69 which is higher than the 60 Decibels Energy Benchmark.

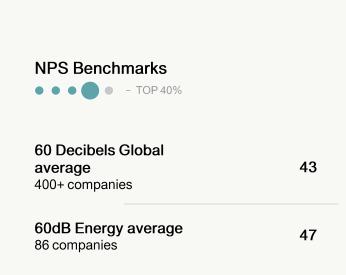
The Net Promoter Score® (NPS) is a gauge of satisfaction and loyalty. The NPS is calculated by subtracting the % of Detractors from the % of Promoters. Promoters are those rating 9 or 10 out of 10 likely to recommend. Those rating 7 or 8 are Passives. Detractors rate 0 to 6. Anything above 50 is considered very good. A negative score is considered poor.

Of the female customer group, 82% are Promoters compared to 72% of male customers.

## Net Promoter Score (NPS) by Company

Q: On a scale of 0-10, how likely are you to recommend the [company] solar home system / mini-grid service / improved cookstove to a friend or family member where 0 is least likely and 10 is most likely? (n = 626)





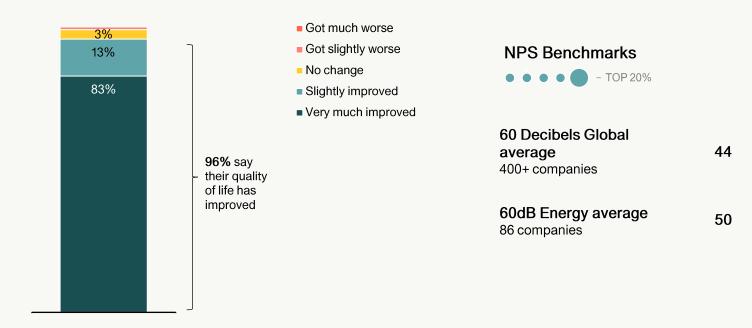
To gauge depth of impact, customers were asked to reflect on whether their quality of life has changed because of the new energy product or service.

96% of customers saw improvements in their quality of life, and it was significant for 83%.

The majority of customers have seen an improvement in their quality of life thanks to the BGFZ company products and services.

### Quality of Life by Company and Product/Service

Q: Has your quality of life changed because of [company] product/service? (n = 626)



Top outcomes reported by customers include improved energy access and reducing spending.

Customers were asked to describe – in their own words - the changes they were experiencing because of the ESP product/service.

Quality Of Life:

**Top Improvements** 

3% of all respondents reported no change in their quality of life because of unreliability of service (41%) or they had access to a similar product prior (33%)

## Top Self-Reported Outcomes for Quality of Life Improvements by Product

Open-ended data, coded by 60 Decibels. (n = 626)

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improved and reliable energy access

"We now spend less on electricity needs and are able to save money." - Male, 21

reduced expenditure

"We now have lighting for the whole night unlike when we used candles which would not last the whole night." - Female, 28

ability to charge phones

"After we switched from using charcoal to pellets, we are able to cook meals from inside the house and we are able to save money as pellets are cheaper than charcoal."

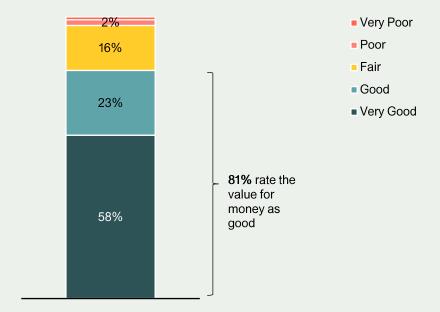
- Female, 40

# Value for Money

We use the value for money question to understand whether customers feel the company's product/service is a good use of the money they spend on 4 in 5 customers rated the value for money of the energy product or service as 'very good' or 'good.'

## Value for Money

Q: How do you rate the value for money of your [company] [product/service]? (n = 626)



# Customer Challenges and Resolution

A third of customers have experienced challenges using their energy product/service, with 21% of all customers having unresolved issues.

The BGFZ average Customer Effort Score (CES) is 3.1 out of 5. The Customer Effort Score (CES) indicates how easy customers feel it is to get an issue handled.

We ask the challenges question as framed by customer experience rather than fault. Challenges can sit in three different themes:

- Technical fault there is something wrong with the product.
- Mismatched expectations the customer says the product/service isn't working because they expected it to work differently but it is working as intended.
- Misuse the customer isn't using the product properly; often not deliberately but through lack of awareness/training.

## **Proportion of Customers Reporting Challenges**

Q: Have you experienced any challenges with [company] product/service? (n = 626)

Q: Has your challenge using the [company] product/service been resolved? (n = 218)

Q: How do you feel about the statement? Overall, [company] made it easy for me to handle my issue. Do you: Strongly agree, somewhat agree, neither agree nor disagree, somewhat disagree, strongly disagree? (n = 218)

35%

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customers with challenges

60%

issues unresolved

3.1

**Customer Effort Score** 

21% to 46% of customers across the ESPs reported experiencing challenges.

Between 48% and 76% of those reporting challenges, said they were unresolved across the ESPs.

Overall, 60% of customers who reported challenges said they remained unresolved, representing 21% of all customers.

Top suggestions from customers include improving customer experience and customer service.

# Pay-As-You-Go Customers

9 in 10 PAYG customers say it was 'easy' for them to understand the contract, interest rates, and payment terms.

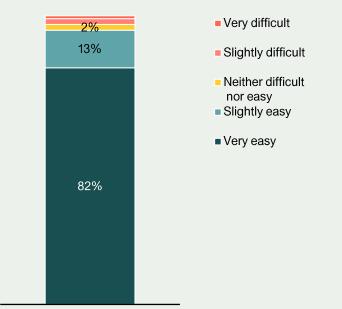
There was some difference in experience for customers depending on the company. This suggests there may be opportunities to improve this process for customers.

Most customers purchased their solar home system or stove through Pay-As-You-Go. A small but important 9% of customers found the repayments for their energy product or service to be heavy or somewhat of a burden.

## **PAYG Terms and Understanding of Contract**

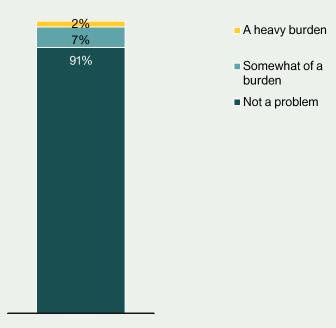
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Q: With the Pay-As-You-Go plan for the [company] [product], how easy was it to understand the contract, interest rates, and payment terms? (n = 507)



#### Over-Indebtedness

Q: Thinking about your household's repayments for the Pay-As-You-Go plan, [are/were] they: (n = 507)



# Deep Dive: Impact Performance

30 / BGFZ Impact Performance

"It's cheaper, clean, and reliable. Even the payments can be made as you go which makes it easy for people to pay for the product if you cannot afford to buy it once off."

- Male, 33

# Putting BGFZ Performance In Context

The selected indicators cover three aspects of performance and impact on customers:

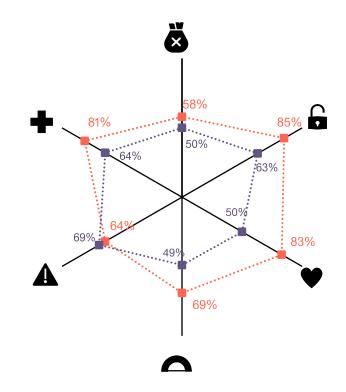
- Reach: Is the BGFZ reaching lowerincome customers and providing first time access to energy products and services?
- Depth of impact: To what extent are customers reporting improvements in their overall quality of life because of the energy product or service?
- Satisfaction: How likely are customers to recommend the ESP to someone? How challenge-free was their engagement? Do customers rate the energy product or service to be good value for money?

The BGFZ average calculation is a weighted average of individual ESP performance.

We selected six indicators to visualise BGFZ's aggregate impact performance alongside the 60 Decibels Energy Benchmarks.

## **Spider Visualisation**

Lean Data Insights For BGFZ



## Key



#### Poverty Profile

% living under \$3.10 a day



#### First Time Access

% accessing energy service/product for the first time



#### Quality of Life

% 'very much improved' because of product/energy service



#### Net Promoter Score

Customer satisfaction and loyalty



#### Ease of Use

% facing 'no' challenges



#### Value for Money

% rate the energy service or product as 'good' or 'very good' value



**BGFZ** Performance



60dB Energy Benchmark

# Appendix

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- 34 / Methodology

Simusolar Solar Panda Solar Sister Solaris Offgrid SolarNow

Solutions Height

Standard Microgrid

SUNami Solar Kenya

**Talent & Technology** 

SparkMeter

Sun Power

SunCulture

**Sunny Irrigation** 

SunnyMoney

SupaMoto

Tara Urja

Ultratec

Umeme

upOwa VITALITE

Winsol Zhidao

Zuwa

Techno-Hill

Trend Solar

WANA Energy Winock Solar

ZOLA Electric Zonful Energy

# The 60 Decibels Energy Benchmark

The 60dB Energy Benchmark is made up of the average performance of the energy company projects conducted since 2016. This includes 100+ off-grid energy companies across 270+ Lean Data projects.

We have completed Lean Data projects for some companies in multiple countries, for multiple services, or multiple timeframes; providing deeper learning over time or cross-geography.

Energy companies: mini-grid providers, solar home system, solar lantern, off-grid appliances, improved cooking solutions, and more.

# Companies we've worked with

# Calculations & Definitions

For those who like to geek out, here's a summary of some of the calculations we used in this deck.

Metric	Calculation
Net Promoter Score®	The Net Promoter Score is a common gauge of customer loyalty. It is measured through asking customers to rate their likelihood to recommend your 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'). Those rating 7 or 8 are considered 'Passives'.
Inclusivity Ratio	The Inclusivity Ratio is a metric developed by 60 Decibels to estimate the degree to which an enterprise is reaching less well-off customers. It is calculated by taking the average of Company % / National %, at the \$1.90, \$3.20 & \$5.50 lines for low-middle income countries, or at the \$3.20, \$5.50 and \$11 lines for middle income countries. The formula is: $\sum_{x=1}^{3} \frac{([Company]\ Poverty\ Line\ \$x)}{(Country\ Poverty\ Line\ \$x)} / 3$
Customer Effort Score	How easy do you make it for your customers to resolve their issues? This measure captures the aftersales care and customer service. Customers who have experienced a challenge are asked to what extent they agree with the statement: Do you agree or disagree with statement: Overall, [Company] made it easy for me to handle my issue: disagree (1), somewhat disagree (2), neither agree or disagree (3), somewhat agree (4), agree (5). The CES is the average score between 1 and 5. It is an important driver of uptake, adoption, and referrals, as well as of impact.

# Summary Of Data Collected

Data was collected in-person and by phone. There were no significant differences between the method of data collection and the results.

The response rate was calculated as a weighted average by sample size of the company as a % of the total population.

The population proportions were calculated as a proportion of the contact data REEEP shared with 60 Decibels as opposed to contact details shared with 60 Decibels by the ESPs.

## Methodology

Survey mode Phone and In-person

Country Zambia

Language Bemba, English, Nyanja, Tonga, Lozi

Dates April 2021

Random sample of 7,354 BGFZ

Sampling customers provided by the ESPs &

matched against EDISON database

Response rate 68%

## Responses Collected Accuracy

Phone 554 Confidence Level c. 95% In-person 72 Margin of error c. 5%

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