ID: |___|___|___|___|___|___|___|___|

Energy Survey
Household Questionnaire
Medium Version
Version 52
English

HOUSEHOLD IDENTIFICATION			
1.	Region	CODE: |__|__|	NAME:
2.	Zone	CODE: |__|__|	NAME:
3.	Woreda	CODE: |__|__|	NAME:
4.	Kebele		
5.	EA	CODE: |__|__|	NAME:
6.	Locality Is your household located in Urban or Rural?	☐ ***Record response code***	**CODE:** Urban……1 Rural……..2
7.	Household ID		
8.	Name of Household Head		
9.	Language of interview	Options to be edited **Amharic, if required Oromiffa, Afar, Somali**	
10.	Household Head Phone Num.		
11.	GPS Coordinates of the Dwelling	a. Latitude (S) |__|__|°|__|__| . |__|__|__|‘ S	b. Longitude (E) c. Altitude in km |__|__|°|__|__| . |__|__|__|‘ E
INTERVIEW DETAILS			
12.	Enumerator	ID: |__|__|	NAME:
13.	Supervisor	ID: |__|__|	NAME:
14.	Date of Interview DD/MM/YY	|__|__| / |__|__| / |__|__| D D M M Y Y	
15.	Start Time	|__|__| : |__|__| ***Use 24 hour clock***	
16.	End Time	|__|__| : |__|__| ***Use 24 hour clock***	
17.	Date of Second Interview DD/MM/YY	|__|__| / |__|__| / |__|__|	
18.	Second Interview Start Time	|__|__| : |__|__| ***Use 24 hour clock***	
19.	Second Interview End Time	|__|__| : |__|__| ***Use 24 hour clock***	
20.	Date of Third Interview DD/MM/YY	|__|__| / |__|__| / |__|__| D D M M Y Y	
21.	Third Interview Start Time	|__|__| : |__|__| ***Use 24 hour clock***	
22.	Third Interview End Time	|__|__| : |__|__| ***Use 24 hour clock***	

IN ORDER TO MAKE A COMPREHENSIVE LIST OF INDIVIDUALS CONNECTED TO THE HOUSEHOLD, USE THE FOLLOWING PROBE QUESTIONS:
First, give me the names of all the members of your immediate family who normally live and eat their meals together here **for the last 6 months**.
WRITE DOWN NAMES, SEX, AND RELATIONSHIP TO HH HEAD (Q2 – Q4). LIST HOUSEHOLD HEAD ON LINE 1.
Then, give me the names of any other persons related to you or other household members who normally live and eat their meals together here.
FILL IN Q2 – Q4.
Are there any other persons not here now who normally live and eat their meals here? For example, household members studying elsewhere or traveling.
FILL IN Q2 – Q4.
Then, give me the names of any other persons not related to you or other household members, but who normally live and eat their meals together here, such as servants, lodgers, or other who are not relatives.
FILL IN Q2 – Q4.
DO NOT LIST SERVANTS WHO HAVE A HOUSEHOLD ELSEWHERE, AND GUESTS WHO ARE VISITING TEMPORARILY AND HAVE A HOUSEHOLD ELSEWHERE.
IF MORE THAN 20 INDIVIDUALS, USE SECOND QUESTIONNAIRE.

Comments:

Comments:

A. HOUSEHOLD ROSTER

	A.2	A.3	A.4	A.5	A.6	A.7	A.8	A.9		A.10	A.11	A.12
Individual ID	Name ***First then father name*** ***Make a complete list of all individuals who normally live and eat their meals together in this household, starting with the head of household.***	Is [NAME] male or female? Male…..1 Female..2	What is the relationship of [NAME] to household head? Head……..…1 Wife/Spouse……...2 Child/adopted child……...3 Grandchild……..……..…4 Niece/Nephew….....5 Father/Mother……..…..6 Sister/Brother……..…..7 Son/Daughter-in-law.....8 Brother/Sister-in-law……9 Father/Mother-in-law…….10 Grandfather/mother……11 Other relative……12 Servant/servant's relative...13 Other non-relative…….....14	How old is [NAME]? ***Record "0" if infant below 1 year old.*** YEARS (completed)	***ENUM:*** Is [NAME] 5 years old or older? Yes….1 No…..2→NEXT PERSON	Has [NAME] ever attended school? Yes……1 No…….2→A.10	Is [NAME] currently attending school? Yes……1 No…….2	What is the <u>highest educational qualification</u> acquired by [NAME]? Did not complete any schooling ...1 1st Grade……..2 2nd Grade……3 3rd Grade…….4 4th Grade…….5 5th Grade……..6 6th Grade……..7 7th Grade……..8 8th Grade…....9 9th Grade……10 10th Grade….11 11th Grade…12 12th Grade….13 13 Incomplete higher education (not university)14 Completed higher education (not university)15 15 Incomplete university education…….16 16 Completed university education.....17 17 Adult literacy program participation….18 18 Other literacy program…….19 19 Some Church/Mosque School……20 30 Other…….555		***Enum:*** Is [NAME] 12 years or older? Yes...1 No....2→NEXT PERSON	What is [NAME]'s marital status? Married, Monogamous…1 Married, Polygamous…..2 Cohabitating, Single Partner...3 Cohabitating, Multiple Partners……....4 Never Married…...5 Divorced……...6 Separated……...7 Widowed……...8	How frequently does [NAME] cook food for the household? Everyday……1 A few times in a week…...2 Once a week…...3 A few times in a month……4 Once a month….5 Never……..6 →NEXT PERSON
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	A.13	A.14	A.15	A.16	A.17	A.18	A.19	A.20
Individual ID	***Interviewer / CAPI:*** Is [NAME] 15 years or older? Yes…1 No…2→NEXT PERSON	What was [NAME]'s main occupation for the last 12 months? Wage Employee, Non-Farm……1 Wage Employee, Farm…….....2 Self-Employed Non-Farm-Business enterprise.....3 Self-Employed Non-Farm-Independent contractor, technician, professional, etc. ……..4 Self-Employed crop production ……5 Self-Employed ---------Livestock ……...6 Assistance in family enterprise……7→**A.16** Casual/Day Laborer……..8→**A.16** Intern/free labor/voluntary work……..9 Student……10→**B.1** Retired/pensioner……11→**B.1** Too old to work……12→**B.1** Disabled……...……13→**B.1** Job Seeker……14→**B.1** Unemployed……15→**B.1** Other (specify)…….555	Please describe the kind of trade or business [NAME]'s main occupation best fits from the list of industries. INDUSTRY CODE A - Agriculture, forestry and fishing B - Mining and quarrying C - Manufacturing D - Electricity, gas, steam and air conditioning supply E - Water supply; sewerage, waste management and remediation activities F - Construction G - Wholesale and retail trade; repair of motor vehicles and motorcycles H - Transportation and storage I - Accommodation and food service activities J - Information and communication K - Financial and insurance activities L - Real estate activities M - Professional, scientific and technical activities N - Administrative and support service activities O - Public administration and defense; compulsory social security P - Education Q - Human health and social work activities R - Arts, entertainment and recreation S - Other service activities T - Activities of households as employers; undifferentiated goods- and services-producing activities of households for own use U - Activities of extraterritorial organizations and bodies	Out of the last 12 months, how many months were you engaged in this activity? ***Max 12*** MONTHS	How many days per month does [NAME] work in this activity? DAYS	Please indicate the monthly income for this activity In Birr	Does [NAME] operate any non-agricultural/ business/ enterprise within this household or compound? Yes…1 No….2→Next person	How many employees does this business/ enterprise have? Number of employees including full time and Part time
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Comments:

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Comments:

ID: |___|___|___|___|___|___|___|___|

B. HOUSEHOLD CHARACTERISTICS

Interviewer Instructions: The Respondent should be the head of household.

#	Question	Response	Response Code
B.1	***Enumerator:*** Record Respondent ID for this section		Individual ID from Household Roster
B.2	Does your household live in this dwelling for the entire year?		Yes……1→**B.4** No…….....2
B.3	Is this your main dwelling? ***The dwelling that you live in for most of the year.***		Yes……1 No……2
B.4	How many years have you been living in this community? ***Record 1 if less than 1.***		Number of years
B.5	What is the type of dwelling?		A single house occupied by one household dwelling……...1→**B.7** A house occupied by multiple households…….…..2 Multi-storied building with one household.....3→**B.7** Multi-storied building with more households.....4 Group of enclosed dwellings: multiple households….5 Group of enclosed dwellings occupied by a single household……..…6 →**B.7** Other, specify…….....555
B.6	How many households share your dwelling?		Number of households
B.7	Do you own this dwelling?		Yes……...….1→B9 No……..….2
B.8	Do you use it for free or rent it?		Free……..……....1Rented……...2
B.9	How many rooms (excluding the kitchen, toilet, and bathroom) does the household occupy?		Record number of rooms
B.10	The walls of the dwelling are mainly made of what material? ***Check with observation***		Wood and mud.....1 Wood and thatch.....2 Wood only.....3 Stone only.....4 Stone and mud.....5 Stone and cement.....6 Blocks, plastered with cement.....7 Blocks, unplastered….....8 Bricks…….....9 Mud bricks (traditional)…….....10 Steel…….....11 Cargo container…….....12 Parquet or polished wood…….....13 Chip wood…….....14 Corrugated iron sheet.....15 Asbestos.....16 Reed/bamboo.....17 Other, specify…… 555
B.11	The roof of the dwelling is mainly made of what material? ***Check with observation***		Wood and mud…….....1 Wood and thatch.....2 Stone and Cement…….....3 Bricks…….....4 Corrugated iron sheet…….....5 Asbestos…….....6 Reed/bamboo…….....7 Plastic canvas…….....8 Other, specify…….....555
B.12	The floor of the dwelling is mainly made of what material? ***Check with observation***		Mud/Dung…….....1 Reed/bamboo…….....2 Wood planks…….....3 Parquet or polished wood…….....4 Cement screed.....5 Plastic tiles…….....6 Cement tiles…….....7 Brick tiles…….....8 Ceramic/Marble tiles…….....9 Other, specify…….....555
B.13	What type of toilet facility does your household use?		None (open field)……1 Flush to sewage……2 Flush to septic tank……...3

Comments:

			Pail/Bucket……..4 Covered pit latrine……5 Uncovered pit latrine……6 Community latrine……...7 Other, specify……...555
B.14	What is your household's main source of drinking water?		Pipe borne water treated……1 Pipe borne water untreated……2 Bore hole/ hand pump/treadle pump……3 Electric water pump……...4 Well/spring protected……5 Well/spring unprotected……6 River/spring……..7 Lake/reservoir……..8 Rain water…….....9 Tanker/truck/vendor……10 Sachet water……11 Bottle water…….12 Other, specify……555
B.15	Is your drinking water treated (chemical treatment)?		Yes……...…1 No……..….2
B.16	Doesanyone in the household have a bank account at a formal institution?		Yes…….1 No……..2→**B.18**
B.17	At which institution is this account or savings? ***Read options aloud***		Commercial bank……1 Cooperative credit union…….2 Microfinance institution……..3 Other, specify……..555
B.18	Does anyone in the household have an account at an informal institution?		Yes…….1 No……..2→**B.20**
B.19	At which informal institution is this account? ***Multiple responses possible***		ROSCA/Group savings (rotational)……1 Group savings (one-time disbursement) such as *Iqqube* or *Iddir*……2 Other, specify……555
B.20	If you can get a loan/credit, what are the sources of credit/loans? ***Multiple responses possible***		Commercial/government bank……...1 Cooperative credit union……2 Microfinance institution…….3 Loan from state government……5 NGO……..…6 Business firm…….7 Employer……8 Moneylender……..…9 Shop……...10 Relative/friend/neighbor……11 Mobile money services ……..…12 *Iqqube*……13 Cannot get a loan/credit……...14 Other, specify…….555
B.21	Do you have a mobile money account?		Yes…….1 No……..2→**C**
B.22	With which companies do you have an account?		Hello Cash……..1 M Birr…….2 Hiber online…….3
B.23	Have you used the account in the past 90 days?		Yes……1 No……..2
B.24	Can you still use the mobile phone for mobile money services? (Mark all that apply)		Transfer credit to family/relatives……..…1 Pay for Electricity……...2 Pay for Water……...3 Mobile phone top-up/credit……4 Internet top-up/credit…….5 Commercial purchases……..6 Insurance……...7 Loan payments……...8 Savings…….9 Get small loans from mobile provider ……..10 Other, specify…….555

Comments:

ID: |___|___|___|___|___|___|___|___|___|

C. SUPPLY AND DEMAND OF ELECTRICITY

Instructions: This module should be completed by the most knowledgeable member on household electricity. Concerted answers should be allowed.

C.1	***Enumerator:*** Record Respondent ID for this section	☐	Individual ID from Household Roster
Electricity from National Grid			
C.2	Is the household connected to the national grid?		Yes……..……..1→**C.7** No……..2
C.3	How far is your house from the nearest national grid line?		Km [ ] Do not know… 888
C.4	What is the MAIN reason why yourhousehold is not connected to the grid? ***Record the MAIN reason.***		Grid is too far from household/not available…….....1 Cost of initial connection is too expensive…..........2 Monthly fee is too expensive……3 Satisfied with current energy solution……4 Renting, Landlord decision…….5 Service Unreliable……..6 Administrative procedure is too complicated……7 Submitted application and waiting for connection..…8 Company refused to connect the household……9 Other, specify……555
C.5	Do you expect to get grid connection?		Yes……..……....1 Don't expect to get grid connection……999→**C.38**
C.6	What month and year do you expect to get grid connection?	a. MM |__|__| b. YYYY |__|__|__|__|	Month and Year ***ALL RESPONSES*→C.38**
C.7	How many years does this particular house have had this grid connection? ***Record in years, if less than 1 year record 1***	☐	Number of Years
C.8	How much did your household pay for the grid connection fee? ***Refer to connection fee ONLY.***	☐	In Birr Household was already connected……..111→**C.12**
C.9	How much did your household pay for the internal wiring fee? ***Do not include the connection fee from*** C.8 ***here***	☐	In Birr Household was already connected……..111→**C.12**
C.10	How many weeks after you applied for the grid connection did your household get connected? **(Insert 0 if immediate)**		Number of weeks
C.11	How many weeks after you were connected were you able to use electricity in your home?**(Insert 0 if immediate)**		Number of weeks
C.12	Who receives the payment for your electricity service? There are two types of modalities of payment in the country.		EECO/ Post paid……..…1 Pre-paid meter card seller……....2 Community/village/municipality……..…3 Relative……...4 Neighbor……5 Landlord……..…6 No one……..…7→**C.21** Other, specify……555
C.13	Does your household have an electric meter?		Yes……1 No……2→**C.17**
C.14	Is this a pre-paid meter?		Yes……1 No……2
C.15	Does your household share the electric meter?		Yes……1 No……2→**C.18**
C.16	How many households are sharing the meter?		Number of Households ***ALL*→C.18**
C.17	How are you billed for electricity? ***Read options aloud***		Fixed monthly fee……..……1 Pay based on lights and appliances used……....2 Utility estimates consumption……..……3 Other, specify……555 No bill for electricity……111

Comments:

C.18	What is the most common way you make your electricity bill payment?		Cash……1 Vouchers/token/pre-paid card from EECO...……..…2 Credits using mobile money……3 Pay at the utility office……4 Pay at the central office……5 *Lehulum*……6 Other, specify……555
C.19	***Enumerator:If the respondent pays the energy company (EECO) or has a record of the electricity payment, ask to see the electricity bill/invoice and use it for C.20 and C.21 .***	☐	Respondent has energy bill and shows it……....1 Respondent has energy bill but refuses to show it or could not locate it……..2 Respondent does not have an energy bill……3
C.20	In the last month, how much did you spend on the electric bill? ***Calculate amount paid from the last bill.***	☐	In Birr
C.21	In the last month how much electricity did your household consume? ***Calculate the consumption from the last bill.***	|__|__|__| kWh	Quantity in Kilowatt Hour (kWh)
C.22	Is the quality of electricity service the same all year?		Yes……1→**C.24** No……2
C.23	What are the worst months for service from the grid in the last year? ***Multiple responses are possible.*** ***Record all months when household has the lowest number of hours of electricity supply.***	a. |__|__| b. |__|__| c. |__|__| d. |__|__| e. |__|__| f. |__|__| g. |__|__| h. |__|__| i. |__|__| j. |__|__| k. |__|__| l. |__|__|	January……1 February……2 March……3 April……4 May……5 June……6 July……7 August……8 September……9 October……10 November……11 December……12

Ask respondent first about the worst months and then about a typical month for C.24 toC.29 ***If no seasonal changes, ask only about a typical month.*** ***Ask questions by ROW.***		**A. WORST MONTHS**	**B. TYPICAL MONTH**	
C.24	Do you receive information about a "load-shedding" schedule (load shedding is the set hours of electricity available from the grid)?			Yes……1 No……2
C.25	On average, how many hours of electricity are available **each day and night**from the grid? (max 24 hours)	☐ hours	☐ hours	Hours of supply
C.26	On average, howmany hours of electricity are available **each evening, from 6:00 pm to 10:00 pm from** the grid**?** (max 4 hours)	☐ hours	☐ hours	Hours of supply
C.27	On average, how many hours of electricity do you **use** each day and night from the grid? ***Cannot exceed number of available hours in C.25***	☐ hours	☐ hours	Hours of supply Don't know……888
C.28	How **many**outages/blackouts occur in a week?	☐	☐	Number of outages/blackouts Don't know……888
C.29	What is the **total duration** of all the outages/blackouts in a week?	a. Hours |__|__|__| b. Minutes |__|__|__|	a. Hours |__|__|__| b. Minutes |__|__|__|	Don't know……..888

C.30	What is your main back-up source of lighting during outages/blackouts of the grid?		Local mini grid connection.…… ….1 Electric generator……..……2 Rechargeable battery and storage devices (e.g.: carbattery)…….....3 Solar home system……..…4

Comments:

			Solar Lantern/ solar lighting system……..……..5 Pico-hydro……..……6 Kerosene lamp……7 Fuel-based lighting……8 Non-rechargeable/dry cell battery/torch……..9 Candle……10 Tuafe……11 Other, specify…….....555 No back-up source……111
C.31	What is your main back-up source of electricity for appliances during outages/blackouts of the grid?		Local mini grid connection……..1 Electric Generator……2 Rechargeable battery and storage devices (e.g.: car battery)…….....3 Solar Home System..……4 Solar Lantern/lighting system…..……5 Pico-hydro……6 Other, specify……...…555 No back-up source……111
C.32	How do you request for repairs in electricity service or file a complaint?(Inside the house including meter)		Call/SMSutility company……1 Call a local technician……2 Send a letter/email……....3 Social media……4 Talk to community representative……...5 No system to request repairs/file complaint……6 Other, specify……555
C.33	When there is a blackout in your community, who do you usually approach for assistance?		The power company……1 Someone not from power company……2 No-one: we wait until power returns……. ….3→**C.35**
C.34	The last time you asked for assistance,how many days after you contacted [C.**33** response] did they come to fix the problem? ***Enumerator: Response can be given in hours and divided by 24***		Number of days
C.35	In the last 12 months, did any of your appliances get damaged because the voltage was going up and down from the grid?	☐	Yes……..1 No……2
C.36	What are the most seriousproblems you experience with your grid electricity? ***Record up to 2 responses.***	a. First |__|__|__| b. Second |__|__|__|	Supply shortage/not enough hours of electricity...……1 Low/high voltage problems or voltage fluctuations……..…2 Unpredictable interruptions……3 Unexpectedly high bills……4 Too expensive……5 Do not trust the supplier……..6 Cannot power large appliances……7 Maintenance/service problems……...8 Unpredictable bills……9 Other, specify……555 No problems……111
C.37	In the last 12 months, did any household members die or have permanent limb (bodily injury) damage because of the grid electricity?		Yes……..... ….1 No……2
Electricity from Mini Grid			
C.38	Is the household connected to a mini-grid?		Yes……1 No……2→**C.75**
C.39	Is there a limit for the load and/or appliances you are allowed to power from this mini-grid?		Yes……..... ….1 No……2
C.40	What is the name of the local mini-grid company?		Name of company
C.41	How many years have you had this mini-grid connection? ***Record in years, if less than 1 year record 1***		Number of Years
C.42	How much did your household pay for themini-grid connection fee? ***Refer to connection cost ONLY.***		In Birr Household was already connected……..111→**C.46**
C.43	How much did your household pay for the internal wiring? ***Do not include the connection fee from C.42here***		In Birr Household was already internally wired……..111→**C.46**

Comments:

C.44	How many weeks after you applied for the mini-grid connection did your household get connected? **(Insert 0 if immediate)**		Number of weeks
C.45	How many weeks after you were connected were you able to use electricity in your home?**(Insert 0 if immediate)**		Number of weeks
C.46	Have you applied for an upgrade of service since you connected to the mini-grid?		Yes……..1 No……2
C.47	Who receives the payment for your electricity service?		Energy company……..…1 Pre-paid meter card seller……...2 Community/village/municipality……..…3 Relative……..4 Neighbor……5 Landlord……..…6 No one…….7→**C.58** Other, specify……..555
C.48	Does your household have an electric meter?		Yes……1 No……2→**C.52**
C.49	Is this a pre-paid meter?		Yes……1 No……2
C.50	Does your household share the electric meter?		Yes……1 No……2→**C.53**
C.51	How many households are sharing the meter?		Number of Households ***ALL*→C.53**
C.52	How are you billed for electricity? ***Read options aloud***		Fixed monthly fee……..……1 Pay based on lights and appliances used.……....2 Utility estimates consumption……..……3 Other, specify……555 No bill for electricity……111
C.53	How do you make your electricity bill payment?		Cash……1 Vouchers from local store……2 Credits using mobile money……3
C.54	Were you involved in setting the tariff for the mini-grid?		Yes……1 No…….2→**C.56**
C.55	How were you involved in the tariff setting?		Community meeting……..1 Contacted by mini-grid company…..2 Member of electricity committee…..3 Member of cooperative…….4 Other, specify……555
C.56	***Enumerator:If the respondent pays the energy company or has a record of the electricity payment, ask to see the electricity bill/invoice and use it forC.57andC.58.***	☐	Respondent has energy bill and shows it……....1 Respondent has energy bill but refuses to show it or could not locate it……..2 Respondent does not have an energy bill……3
C.57	In the last month, how much did you spend on the electric bill? ***Calculate amount paid from the last bill.***	☐	In Birr
C.58	In the last month how much electricity did your household use? ***Calculate the consumption from the last bill.***	|__|__|__| kWh	Quantity in Kilowatt Hour (kWh)
C.59	Is the quality of electricity service the same all year?		Yes……1→**C.61** No……..2
C.60	What were the worst months for service from the mini-grid in the last year? ***Multiple responses are possible.*** ***Record all months when household has the lowest number of hours of electricity supply.***	a. |__|__| b. |__|__| c. |__|__| d. |__|__| e. |__|__| f. |__|__| g. |__|__| h. |__|__| i. |__|__| j. |__|__| k. |__|__| l. |__|__|	January……1 February……..2 March……...3 April……4 May……..5 June……..6 July……...7 August……..8 September……9 October……10 November……11 December……...12
Ask respondent first about the worst months and then about a typical month for C.61- C.66 ***If no seasonal changes, ask only about a typical month.*** ***Ask questions by ROW.***		**A. WORST MONTHS**	**B. TYPICAL MONTH**

Comments:

C.61	Do you receive information about a "load-shedding" schedule (load shedding is the set hours of electricity available from the mini grid)?			Yes……..1 No……2
C.62	On average, how many hours of electricity are available **each day and night**from the mini-grid? (max 24 hours)	☐ hours	☐ hours	Hours of supply
C.63	On average, how many hours of electricity are available **each evening, from 6:00 pm to 10:00 pm from** the mini-grid**?** (max 4 hours)	☐ hours	☐ hours	Hours of supply
C.64	On average, how many hours of electricity do you **use** each day from the mini-grid? ***Cannot exceed number of available hours in C.62***	☐ hours	☐ hours	Hours of supply
C.65	How **many**outages/blackouts occur in a week?	☐	☐	Number of outages/blackouts
C.66	What is the **total duration** of all the outages/blackouts in a week?	c. Hours |__|__|__| d. Minutes |__|__|__|	c. Hours |__|__|__| d. Minutes |__|__|__|	

C.67	What is your main back-up source of lighting during outages/blackouts of the grid?		Electric generator……..…..2 Rechargeable battery and storage devices (e.g.: car battery)…….....3 Solar Home System……4 Solar Lantern/Lighting system…..……..…5 Pico-hydro……6 Kerosene lamp…….…..7 Fuel-based lighting……8 Non-rechargeable/dry cell battery/torch……..9 Candle……..10 Tuafe……11 Other, specify……..…..…555 No back-up source……111
C.68	What is your main back-up source of electricity for appliances during outages/blackouts of the mini-grid?		Electric generator……..…..1 Rechargeable battery and storage devices (e.g.: car battery)…….....2 Solar Home System……3 Solar Lantern/Lighting system…..……..…4 Pico-hydro……5 Other, specify……..…555 No back-up source……111
C.69	How do you request for repairs in electricity service or file a complaint?		Call/SMSmini-grid operator……1 Call a local technician…….……2 Send a letter/email…….……..3 Social media……...4 Talk to community representative……...5 No system to request repairs/file complaint……6 Other, specify……555
C.70	When there is a blackout in your community, who do you usually approach for assistance?		The power company……1 Someone not from power company……2 No-one: we wait until power returns……..3→**C.72**
C.71	The last time you asked for assistance, how many days after you contacted [**C.70** response] did they come to fix the problem?		Number of days
C.72	In the last 12 months, did any of your appliances get damaged because the voltage was going up and down from the mini grid?	☐	Yes……..1 No……..2
C.73	What are the most seriousproblems you experience with your mini grid electricity? ***Record up to 2 responses.***	c. First |__|__|__| d. Second |__|__|__|	Supply shortage/not enough hours of electricity...……1 Low/high voltage problems or voltage fluctuations……..…2 Unpredictable interruptions……3 Unexpectedly high bills……..4 Too expensive……..5 Do not trust the supplier……6 Cannot power large appliances……..7 Maintenance/service problems……...8 Unpredictable bills……9

Comments:

			Other, specify……555 No problems……111
C.74	In the last 12 months, did any household members die or have permanent limb (bodily injury) damage because ofthe grid electricity?		Yes……..…..1 No……..….2

Electric Generator set			
C.75	In the last 12 months, did the household use a generator to supply electricity?		Yes……..…..1 No……..…2→**C.103**
C.76	How many generators does your household use to supply electricity? ***If multiple generators, ask following questions about main generator.***		Number of generators
C.77	Do you share this generator with other households?		Yes……... ….1 No……..….2→**C.79**
C.78	How many households are sharing electricity from this generator?		Number of households
C.79	***Enumerator Observation:*** What is the capacity of the generator? ***Read name plate of the generator.***		Kilo Watt(kW)
C.80	In the last 12 months, in which months did you use this generator or did you use it all year? ***Multiple responses possible***	a. |__|__|__| b. |__|__|__| c. |__|__|__| d. |__|__|__| e. |__|__|__| f. |__|__|__| g. |__|__|__| h. |__|__|__| i. |__|__|__| j. |__|__|__| k. |__|__|__| l. |__|__|__|	January……1 February……..2 March……...3 April……4 May……..5 June……..6 July……...7 August……..8 September……9 October……10 November……11 December……...12 Used all year……...111
C.81	How many days per month did you typically use this generator?		Number of days
C.82	In the last 12 months, what did your household use this generator for? ***Multiple responses possible***	a. |__|__|__| b. |__|__|__| c. |__|__|__| d. |__|__|__|	Lighting……1 Appliances……..2 Home-based income activity……3 Other, specify……555
C.83	How many years have you used this generator? ***Record in years, if less than 1 year record 1***		Number of Years
C.84	Does your household own the generator?		Yes……1→**C.89** No……2
C.85	Who owns the generator?		Other Household……..……..…..…...1 Community organization……2 Private person/entity……...3 Other, specify……..555
C.86	Do you rent the generator or use it for free?		Rent……1 Use for free…….2→**C.91**
C.87	How do you pay for electricity services from the generator?		Fixed payment (per month or week)……1 Charge by number of lights/appliances……2 Charge per kWh……...3 Pay for fuel only……..4→**C.91** Other, specify……..555
C.88	In the months that you use it, how much did you pay to use the generator each month? ***Do not include any cost of fuel, only fee for using the GENERATOR.***		In Birr **ALL→C.91**
C.89	How much did you pay to purchase the generator?		In Birr
C.90	In the last 12 months, how much did you pay for repairs/parts/maintenance of the generator?		In Birr
C.91	What fuel is used to power the generator?		Diesel……1

Comments:

			Gasoline……2 Other, specify……555
C.92	In the last 30 days, what was the total quantity of fuel used to power the generator?	a. Amount |__|__|__|	Liters
C.93	Do you pay for the fuel used to power the generator?		Yes……..1 No……2→**C.95**
C.94	In the last 30 days, how much did your household spend on fuel for this generator?		In Birr

C.95	Are there certain months/seasons of **the year** when less fuel is available to power the generator?		Yes……1 No……..2→**C.97**
C.96	What are the worst months of fuel availability for the generator in the last year? ***Multiple responses are possible.*** ***Record all months for the worst fuel availability.***	a. |__|__| b. |__|__| c. |__|__| d. |__|__| e. |__|__| f. |__|__| g. |__|__| h. |__|__| i. |__|__| j. |__|__| k. |__|__| l. |__|__|	January……1 February……..2 March……...3 April……4 May……..5 June……..6 July……...7 August……..8 September……9 October……10 November……11 December……...12 Throughout the year……..111

Ask respondent first about the worst months and then about a typical month for C.97-C.99 ***If no seasonal changes, ask only about a typical month. Ask questions by ROW.***		**A. WORST MONTHS**	**B. TYPICAL MONTH**	
C.97	How many hours could you use this generator**each day and night**if you wanted to? (max 24 hours)	☐ hours	☐ hours	Hours of supply
C.98	How many hours could you use this generator**each evening, from 6:00 pm to 10:00 pm** if you wanted to**?**(max 4 hours)	☐ hours	☐ hours	Hours of supply
C.99	How many hours do you actually use this generator **each day**? (Cannot be more than **C.97**.)	☐ hours	☐ hours	Hours of supply
C.100	In the last 12 months, did any of your appliances get damaged because the voltage was going up and down from the generator?		Yes……1 No……..2	
C.101	What are the most seriousproblems you experience with the generator? ***Record up to 2 responses.***	a. First |__|__|__| b. Second |__|__|__|	Supply shortage/not enough hours of electricity…….1 Low/high voltage problems or voltage fluctuations……2 Unpredictable interruptions……3 Unexpectedly high bills……..4 Too expensive to use generator……..…5 Do not trust the supplier……6 Cannot power large appliances……..7 Availability of fuel……8 Fuel is too expensive……..9 Maintenance/service problems…..……...10 Other, specify……555 No problems……..111	
C.102	In the last 12 months, did any household members die or have permanent limb (bodily injury) damage because of the generator?		Yes……1 No……..2	

Externally Recharged Battery (Car Battery, etc) – skip if this is for backup solutions			
C.103	In the last 12 months, did the household use any rechargeable batteries, such as car batteries, for electricity?		Yes……1 No……..2→**C.121**

Comments:

C.104	In the last 12 months, in which months did you use rechargeable batteries or did you use it all year? ***Multiple responses possible***	a. |__|__|__| b. |__|__|__| c. |__|__|__| d. |__|__|__| e. |__|__|__| f. |__|__|__| g. |__|__|__| h. |__|__|__| i. |__|__|__| j. |__|__|__| k. |__|__|__| l. |__|__|__|	January……1 February……2 March……..3 April……4 May……..5 June……..6 July……..7 August……..8 September……9 October……10 November……11 December……...12 Used all year……...111
C.105	In the last 12 months, what did your household use rechargeable batteries for? ***Multiple responses possible***	a. |__|__|__| b. |__|__|__| c. |__|__|__| d. |__|__|__|	Lighting……1 Appliances……2 Home-based income activity……3 Other, specify……555
C.106	Does your household have an inverter that allows you to use AC appliances?		Yes……1 No……..2→**C.108**
C.107	What is the capacity of the inverter?		KiloWatts (kW)
C.108	What is the total number of rechargeable batteries that you use in a typical month? ***Total=number of batteries*number of charges for each battery***		Total number of rechargeable batteries.
C.109	What is the capacity of the rechargeable batteries? ***If multiple batteries, record capacity for each.***	Capacity a. |__|__|__| b. |__|__|__| c. |__|__|__| d. |__|__|__|	Ampere-hour
C.110	What is the voltage of the rechargeable batteries? ***If multiple batteries, record voltage for each.***	Voltage a. |__|__|__| b. |__|__|__| c. |__|__|__| d. |__|__|__|	Volts
C.111	How much did you pay for the rechargeable battery(ies)?***If multiple batteries, record costs for each***	a. |__|__|__| b. |__|__|__| c. |__|__|__| d. |__|__|__|	In Birr
C.112	How many recharges for all batteries does your household have in a typical month? ***If multiple batteries, record the number of recharges for each battery in a typical month.***	a. |__|__|__| b. |__|__|__| c. |__|__|__| d. |__|__|__|	Number of Recharges
C.113	Do you pay to recharge the battery?		Yes……1 No……2→**C.115**
C.114	How much does your household spend in a typical month to recharge the batteries (in total)?		In Birr
C.115	What is the electricity source used to recharge the battery?		National grid……..1 Local mini-grid……2 Electric generator……..3 Solar……4 Other, specify……..555
C.116	Is battery recharging limited by availability of electricity from [SOURCE FROM C.115]?		Yes……1 No……2
C.117	How many hours could you use rechargeable batteries for electricity supply **each day when fully charged** if you wanted to? (max 24 hours)		Hours
C.118	In a typical month, how many hours do you actually use rechargeable batteries for electricity supply **each day**? ***Cannot exceed number of hours in C.117***		Hours
C.119	What are the most seriousproblems you experience with the rechargeable batteries? ***Record up to 2 responses.***	a. First |__|__|__| b. Second |__|__|__|	Supply shortage/not enough hours of electricity…..1 Too expensive.....2 Cannot power large appliances……...3 Recharging is not convenient……...4 Maintenance & repair is difficult……..5

Comments:

			Cannot recharge battery to full capacity……..6 Other, specify……555 No problems……..…111
C.120	In the last 12 months, did any household members die or have permanent limb (bodily injury) damage because of the rechargeable batteries?		Yes…….1 No……..2

Comments:

SOLAR BASED DEVICES

Ask about all devices in order of importance (Example: Main Solar System is Device 1)

C.121	***Interviewer/CAPI check:***In the last 12 months, did the household use any of the following solar based devices? ***Multiple responses possible.***		Solar home system…….1 Solar lighting system…….2 Solar lanterns……..…3 None…….....4→**C.158**
C.122	How many solar home systems (SHS) do you have?		Number of solar home systems
C.123	How many solar lighting systems do you have?		Number of solar lighting system
C.124	How many solar lanterns do you have?		Number of solar lanterns

	C.126	C.127	C.128	C.12	C.130	C.13	C.132	C.133	C.134	C.135	C.136	C.137	C.13	C.139	C.140
SOLAR DEVICE	Please show me the [DEVICE] ***Use photo aid and record the code for the photo that best matches the solar device***	What is the manufacturer and model of the [DEVICE]?	**CAPI:** What is the type of solar device?	How many light bulbs are there (that can be separated from each other)?	What is the power rating of the solar panel? ***If unknown, enter "888"*** ***Read the name plate of the solar panel***	What is the capacity of the battery?	Do you have an inverter to AC?	How many years have you had this [DEVICE]? ***Record in years, if less than 1, record 1***	Who decided to purchase/ acquire this [DEVICE]?	Did you buy this [DEVICE] paying upfront or under installment, do you rent it/pay a fee to use it, or did you receive it for free?	Who gave you this [DEVICE]?	How much did you pay for this [DEVICE] upfront? ***Full amount→ C.140 Partial amount→ C.139***	What payment system do you use?	What is the monthly payment for this [DEVICE] (installment/ fee to rent/use)?	Did/do you borrow money to make your payment for [DEVICE]?
	PHOTO CODE		Solar Lantern…1→**C. 125** Solar lighting system,…2 Solar Home System…3	NUMBER OF LIGHT BULBS	QUANT. in Watt-Peak (Wp)	Amp-hours (Ah)	Yes...1 No…2	NUMBER OF YEARS	MEMBER ID	Bought, fully paid…..……1→**C.137** Bought, under installment..2→**C.137** Rent/pay fee to use……..3→**C.138** Received for free….4	Local private organizations (NGO)…….1 Chief of village…….2 Local government …3 Other, specify…….555 ***ALL→C.141***	IN BIRR	Mobile Pay-as-you-go…….1 Other Pay-as-you go (scratch card, etc.)……2 Fixed fee……..3	IN BIRR	Yes….1 No…..2
1															
2															
3															
4															

Comments:

5															

SOLAR DEVICE	C.141 Did you receive information and training on this [DEVICE]? Yes…1 No….2	C.142 On average, how many hours **do you use** [DEVICE] for lighting and other applications each day? HOURS (	C.143 What is the most serious problem you experience with [DEVICE]? Duration of service too short……..……..1 Too expensive.....2 Cannot power large appliances…….....3 Breaks too often…..4 Maintenance and availability of spare parts…….. 5 Quality of light…..6 Battery problems…7 Other, specify…….555 No problems……..111
1			
2			
3			
4			
5			

Comments:

ID: |___|___|___|___|___|___|___|___|

MAIN SOLAR-BASED DEVICE

Record information for the MAIN solar-based device, the device listed as "1" in the previous table.

C.144	Are there certain months/seasons **every year** when the service is not as strong from [DEVICE]?		Yes……1 No……..2	
C.145	What are the worst months for service from [DEVICE]? ***Multiple responses are possible.*** ***Record all months for the lowest hours of service.***	a. |__|__| b. |__|__| c. |__|__| d. |__|__| e. |__|__| f. |__|__| g. |__|__| h. |__|__| i. |__|__| j. |__|__| k. |__|__| l. |__|__|	January……1 February……..2 March……..3 April……4 May……..5 June……..6 July……..7 August……..8 September……9 October……10 November……11 December……...12	
Ask respondent first about the worst months and then about a typical month for C146--C148 ***If no seasonal changes, ask only about a typical month. Ask questions by ROW.***		**A. WORST MONTHS**	**TYPICAL MONTH**	
C.146	How many hours do you receive service from this [DEVICE] **each day and night**? (max 24 hours)	Hours	Hours	Hours of supply
C.147	How many hours is service available from this [DEVICE]**each evening, from 6:00 pm to 10:00 pm?**(max 4 hours)	Hours	Hours	Hours of supply
C.148	How many hours do you actually use the [DEVICE] **each day** for lighting and other applications? (max 24 hours) ***Cannot exceed hours in C.146***	Hours	Hours	Hours of supply
C.149	In the last 12 months, did any household members die or have permanent limb (bodily injury) damage because of the [DEVICE]?		Yes……1 No……..2	
C.150	Is there any device you do not have that you would like to have?		Yes……1 No……..2→**C.152**	
C.151	What devices would you most like to have? ***Multiple response (Up to three devices)***		Television……..1 Fan……2 Refrigerator……3 Radio……..4 Tablet……..5 Mobile phone charger……..6 Other, specify…….555	
C.152	Overall, how satisfied with the service provided by the main solar device?		Very satisfied……1 Somewhat satisfied……2 Neutral……3 Unsatisfied……4 Very unsatisfied……5	
C.153	In what year did you get your first solar device?		Year	
C.154	Has solar been your main source of lighting/electricity since [YEAR in C.153]?		Yes……..1→**C.156** No……2	
C.155	What was your main source of lighting/electricity when it was not a solar device?		National grid connection……..1 Local mini grid connection…….2 Electric generator……...3 Rechargeable batteryand storage devices (e.g.: car battery)……4 Pico-hydro……5 Kerosene lamp……..6 Fuel-based lighting……7 Non-rechargeable lanterns/dry cell battery/ torch……8 Candle……..10 Other, specify…….555	

Comments:

C.156	Compared to the first time you used solar lighting, do you currently… ***Read aloud options***		Use more solar lighting……1 Use about the same solar lighting……2 Use less solar lighting……..3
C.157	What appliances do you use today that you did not use with your first solar lighting device?		Mobile phone charger……..1 Radio……2 TV……3 Fan……4 Refrigerator……...5 No change…….6 Other, specify……555

Comments:

Main Source of Electricity			
C.158	Of all the sources that you mentioned above, which is the source that you use the most in your household? ***This will be the MAIN electricity source that is referred to later.***		National Grid Connection…….……..1 Local Mini Grid connection……..…….....2 Electric generator….…….....3 Solar Home System…….4 Solar Lantern/Lighting System..……..5 Rechargeable Battery……...6 Pico-Hydro……..7 Dry-cell battery……..…….8 No electricity……...9→**D.1** Other, specify……..555
CHARGING MOBILE PHONE			
C.159	Are members of your household able to charge a mobile phone inside your dwelling?		Yes……..1 No……...2→**C.163** No mobile phones……...111→**D.1**
C.160	Are members of your household able to charge all their mobile phones as often as they need inside your dwelling?		Yes……1 No…….2
C.161	Can you charge at least one mobile phone to full charge everyday inside your dwelling?		Yes…….1 **C.163** No……..2
C.162	Can you charge at least one mobile phone to full charge in 3 days inside your dwelling?		Yes……1 No…….2
C.163	Do members of your household have to go more than 500 meters (walk more than 5 minutes) to charge your mobile phones outside your dwelling?		Yes……..1 No……..….2
C.164	How many mobile phones of your household members do you charge outside your dwelling?		Number of mobile phones ***If 0*→D.1**
C.165	How much does your household spend each month (in total) on charging the mobile phone(s) outside your dwelling?		In Birr Free of charge

D. WILLINGNESS TO PAY FOR A GRID CONNECTION

Respondent should be most knowledgeable member on household electricity.
For each household, please randomly assign one of the six followingamounts in the placeholder 1,900 Birr: 0% of the connection fee in Birr and respectively 14%, 29%, 43%, 57%, 71%, 100%. –

D.1	***Interviewer/CAPI check:*** Is the household connected to the national grid?		Yes……1→**E** No…….2
D.2	***Enumerator:*** Record Respondent ID for this section	☐	Individual ID from Household Roster
Electricity requires several types of payments.There are three parts to the cost of electricity: connection, wiring, and monthly use. In other words, to use electricity you need to have a wire from a meter in your house to the pole first. That is the connection. You also need to have wires to connect appliances within your house to the meter. This is the wiring. Finally, to keep using electricity you must pay for what is used and measured by the meter, or it will be turned off, this is the cost of monthly use. I would like to ask you questions only about the first cost of connecting – getting a wire from the electricity poles to a meter on your house.			
If you could pay a "lump sum" price for an electricity connection. In other words, you are offered a price and a period of time to decide whether to take this price. If you decide to take the price, you have to pay all at once, after which you are immediately connected. As you answer the next few questions, assume that all other wiring fees and monthly service fees for using electricity, once you have the connection, remain the same as they are now.			
D.3	Would you be willing to pay 1,900 Birr for an electricity connection?		Yes……1→**D.12** No…….2
D.4	Would you be willing to pay 1,900 Birr for an electricity connection, if you were given 3 months to make the payment? This means that each month you will pay 633 Birr (1,900/3) per month for 3 months.		Yes……1→**D.12** No…….2
D.5	Why would you not accept the offer?		Cannot afford the payment……1 Do not need electricity……..2 Electricity service is unreliable….3

Comments:

			Monthly fee is too expensive……4 Other, specify……555
D.6	Would you be willing to pay 1,900 Birrfor an electricity connection, if you were given 6 months to make the payment? This means that each month you will pay 317 Birr (1,900/6) per month for 6 months.		Yes……1→**D.12** No……2
D.7	Why would you not accept the offer?		Cannot afford the payment……1 Do not need electricity……..2 Electricity service is unreliable….3 Monthly fee is too expensive……4 Other, specify……555
D.8	Would you be willing to pay 1,900 Birrfor an electricity connection, if you were given 12 months to make the payment? This means that each month you will pay 159 Birr (1,900/12) per month for 12 months.		Yes……1→**D.12** No……2
D.9	Why would you not accept the offer?		Cannot afford the payment……1 Do not need electricity……..2 Electricity service is unreliable….3 Monthly fee is too expensive……4 Other, specify……555
D.10	If the connection fee were waived, would you get a grid connection?		Yes……1→**D.12** No……2
D.11	Why would you not accept the offer?		Still cannot afford the wiring costs……1 Do not need electricity……..2 Electricity service is unreliable….3 Monthly fee is too expensive……4 Other, specify……555
D.12	How much do you think it would cost to do all the internal electrical wiring in your house?		In Birr
D.13	Think about the amount you would need to spend each month for electricity, not the connection fee. How much would you need to spend each month for electricity?		In Birr

E. WILLINGNESS TO PAY FOR SOLAR DEVICE

Respondent should be most knowledgeable member on household electricity.
For each household, CAPI will 1) **randomly assign a** ***D20 (d.light)*****Tier 1 (low capacity: multiple lightbulbs and mobile charging) or** ***Sun Transfer Tech PLC*** **Tier 2 solar home system(high capacity: enough to power a television); and 2) randomly one of the three following amounts in** ***the placeholder ${CF}: 33%, 66%, or 100% of the solar device in local currency. Market prices are as follows:***
D20 (d.light) – 2,300 Birr
Sun Transfer Tech PLC - 13,200 Birr

E.1	***ENUMERATOR/CAPI check:*** Is the main source of electricity for this household:		National grid…1→F.1 Mini-grid……..2→F.1 Electric generator…….....3 Solar Home System……4 →**F.1** Solar Lantern/Lighting System..……5 Rechargeable Battery……6 Dry-cell battery……7 No electricity……...8
E.2	***Enumerator:*** Record Respondent ID for this section		Individual ID from Household Roster
We will ask you questions about a solar home system. ***Enumerator: show picture and describe what the solar home system can and can't do and the benefits of using a solar home system.*** If you could pay a "lump sum" price for this solar device; in other words, you are offered a price and if you decide to buy the device, you will have to pay it all at once. As you answer the next few questions, keep in mind the various benefits from this device as well as your household budget.			
E.3	Would you be willing to pay ${Birr} for this solar device?		Yes……1- F.1 No……2

Comments:

E.4	Would you be willing to pay ${Birr} for this solar device, if you were given 6 months to make the payment? This means that each month you will pay ${CF/6} per month for 6 months.		Yes……1→**F.1** No……2
E.5	Why would you not accept the offer?		Cannot afford the payment……1 Do not need electricity……..2 Electricity service is unreliable….3 Monthly fee is too expensive……4 Other, specify……555
E.6	Would you be willing to pay ${CF} for this solar device, if you were given 12 months to make the payment? This means that each month you will pay ${CF/12} per month for 12 months.		Yes……1→**F.1** No……2
E.7	Why would you not accept the offer?		Cannot afford the payment……1 Do not need electricity……..2 Electricity service is unreliable….3 Monthly fee is too expensive……4 Other, specify……555
E.8	Would you be willing to pay ${CF} for this solar device, if you were given 24 months to make the payment? This means that each month you will pay ${CF/24} per month for 24 months.		Yes……1→**F.1** No……2
E.9	Why would you not accept the offer?		Cannot afford the payment……1 Do not need electricity……..2 Electricity service is unreliable….3 Monthly fee is too expensive……4 Other, specify……555

Comments:

F. KEROSENE/FUEL-BASED /CANDLE LIGHTING

The respondent should be most knowledgeable household member on household use of kerosene and candles.

F.1	***Enumerator:*** Record Respondent ID for this section						Individual ID from Household Roster			
F.2	F.3	F.4	F.5	F.6	F.7	F.8	F.9	F.10	F.11	F.12
FUEL LAMP/ CANDLE/ TASK LIGHT	In the last 12 months, did you use [NAME FROM THE LIST] ***Use photo aid to identify lamp type*** Candle……1→ **F.7** Open wick lamp…….2 Hurricane lamp with glass cover…..3 Pressurized mantle lamp…….4 None……5 →**G.1** Other, specify…555 ***Use a separate row for each TYPE of lamp/candle***	What is the main fuel source for [LAMP]? Kerosene/ paraffin…....1 Diesel……..2 Gasoline…...3 Biogas……..4 Other, specify.....555	How many of these lamps does your household have? NUMBER OF LAMPS	How much did you pay for each [LAMP]? ***If paying in installment, enter total value of payments*** IN BIRR *If more than 1 device, input the average.*	In the last 12 months, how many months did you use [LAMP/ CANDLE]? NUMBER OF MONTHS	How many hours do you use [LAMP/ CANDLE]each day? HOURS Candle…1 Open wick lamp……2 → F.11 Hurricane lamp with glass cover…..3 →F.11 Pressurized mantle lamp….4→ F.11 Other, specify…555 → F.11	What is the total quantity of [CANDLE] you use in a typical week? NUMBER OF CANDLES	How much do you spend on [CANDLE] in a typical week? IN BIRR	What don't you like most about using the [LAMP/CANDLE]? ***Record up to 2 responses*** Lantern/Lamp/ candle too expensive…….1 Fuel too expensive.....2 Fuel not available……3 Accidents can happen.....4 Bad for health……..5 Subsidies needed……6 Time spent to collect fuel…7 Other, specify……555 No problems……111	In the last 12 months, what type of harm/injury did any household members have from [LAMP/ CANDLE]? ***Multiple responses possible*** Death or permanent limb damage……..1 Burns/fire……..2 Poisoning……3 Eye problems……..4 Respiratory problem……..5 Other major injury……6 Minor injury……..7 Fire with no injury……8 None……111
1									a. |__|__|__| b. |__|__|__|	
2									a. |__|__|__| b. |__|__|__|	
3									a. |__|__|__| b. |__|__|__|	
4									a. |__|__|__| b. |__|__|__|	
5									a. |__|__|__| b. |__|__|__|	

Comments:

F.13	At night, what do you mainly use to light your household? ***Single response***		No lighting……...1 Electricity from grid or mini-grid……2 Electricity from solar home system…….3 Electricity from generator……4 Light from cookstove……...5 Solar Lantern/Lighting system…….6 Rechargeable flashlight, torch or lantern….7 Non-rechargeable battery, flashlight, torch, Lantern or task light……8 Gas lamp……..9 Biogas lamp…….……10 Kerosene Lamp……11 Charcoal……..12 Wood……...13 Crop residues/grass/straw/shrubs……14 Oil lamp……..15 Candle…….16 Other, specify……555

Comments:

G. DRY-CELL BATTERIES

G.1	***Enumerator:*** Record Respondent ID for this section		Individual ID from Household Roster

G.2	G.3	G.4	G.5	G.6	G.7	G.8	G.9	G.10
LIGHT SOURCE	In the last 12 months, did you use dry cell batteries to power [NAME FROM THE LIST] ***Use photo aid to identify lamp type*** Lanterns……1 Flashlights....2 Task lights....3 Radio……4 Other, specify…555 ***Use a separate row for each TYPE of lighting***	How many of [ITEM] does your household power with dry cell batteries? NUMBER OF EACH DEVICE	How much did you pay for each [ITEM]? ***If paying in installment, enter total value of payments*** IN BIRR	In the last 12 months, how many months did you use [ITEM]? NUMBER OF MONTHS	How many hours do you use [ITEM] each day on a typical day? HOURS	How many of dry cell batteries do you purchase **each month for** [ITEM]? NUMBER OF BATTERIES FOR EACH DEVICE	How much do you spend each month on dry cell batteries for [ITEM]? IN BIRR	Do you use [ITEM] as a regular source of lighting or only as a back-up source when the main source is not available? Regular source of lighting….1 Back-up source of lighting…2
1								
2								
3								
4								
5								

Comments:

H. HOUSEHOLD FUEL CONSUMPTION

Respondent should be household member who most frequently cooks food for the household.

First ask H.3 for all fuel types and then record the information in the following questions only for the fuel that is used.

H.1	***Enumerator:*** Record Respondent ID for this section									Individual ID from Household Roster				
H.2	H.3	H.	H.5	H.6	H.7	H.8	H.9	H.10	H.11	H.12	H.13	H.14	H.15
Fuel Type ***Read Aloud***	In the last 12 months, did your household use this [FUEL]? **CODE:** Yes...1 No...2→ **NEXT ROW**	In the last 12 months, what did your household use [FUEL] for? ***READ ALOUD the options below and Mark "X" for each item the household uses it for.***						In the last 12 months, in which months did you use this [FUEL]? ***Multiple responses possible***	In the last 12 months, in which months was this [FUEL] **scarce** and **expensive**? ***Multiple responses possible***	In the last 7 days, how much of this [FUEL] did your household use?	Unit KILOGRAMS…..1 QUINTAL…..2 CHINET…..3 Large Madaberia…..4 Small Madaberia…..5 MEDEB…..6 LITERS…..7 Festal…..8 BUNDLES…..9 PIECES…..10 ESIR…..11 BOXES…..12 PACKETS…..13 Others…..14	In the last 30 days, how much of this [fuel type] did you purchase?	In the last 30 days, how much did you pay for the amount of [FUEL] that you purchased?
		LIGHTING	**COOKING**	**HEATING**	**BOILING WATER**	**HOME-BASED INCOME ACTIVITY**	**OTHER, SPECIFY**	***See Month Codes*** Used all year……111	***See Month Codes*** Available all year……111	**QUANTITY** 0→**NEXT ROW**		**QUANTITY** 0→ **NEXT ROW**	**COST (IN BIRR)**
a. LPG/ cooking gas	|__|	|__|	|__|	|__|	|__|	|__|		|__|__|__|__|	|__|__|__| |__|	|__|__|__| kg		|__|__|__| kg	|__|__|__|
b. Wood purchased	|__|	|__|	|__|	|__|	|__|	|__|		|__|__|__|__|	|__|__|__| |__|	|__|__|__| kg		|__|__|__| kg	|__|__|__|
c. Wood collected	|__|	|__|	|__|	|__|	|__|	|__|		|__|__|__|__|	|__|__|__| |__|	|__|__|__| kg		|__|__|__| kg	|__|__|__|
d. Charcoal	|__|	|__|	|__|	|__|	|__|	|__|		|__|__|__|__|	|__|__|__| |__|	|__|__|__| kg		|__|__|__| kg	|__|__|__|
e. Solar	|__|	|__|	|__|	|__|	|__|	|__|		|__|__|__|__|	|__|__|__| |__|			

Comments:

f. Kerosene	|__|	|__|	|__|	|__|	|__|	|__|		|__||__||__||__|	|__||__||__||__||__|	|__|__|__| liters		|__|__|__| liters	|__|__|__|
g. Piped Natural Gas	|__|	|__|	|__|	|__|	|__|	|__|		|__||__||__||__|	|__||__||__||__||__|	|__|__|__| liters		|__|__|__| liters	|__|__|__|
h. Coal/ Lignite	|__|	|__|	|__|	|__|	|__|	|__|		|__||__||__||__|	|__||__||__||__||__|	|__|__|__| kg		|__|__|__| kg	|__|__|__|
i. Animal waste/ Dung	|__|	|__|	|__|	|__|	|__|	|__|		|__||__||__||__|	|__||__||__||__||__|	|__|__|__| kg		|__|__|__| kg	|__|__|__|
j. Crop Residue/ Plant Biomass	|__|	|__|	|__|	|__|	|__|	|__|		|__||__||__||__|	|__||__||__||__||__|	|__|__|__| kg		|__|__|__| kg	|__|__|__|
k. Sawdust	|__|	|__|	|__|	|__|	|__|	|__|		|__||__||__||__|	|__||__||__||__||__|	|__|__|__| kg		|__|__|__| kg	|__|__|__|
l. Coal Briquette	|__|	|__|	|__|	|__|	|__|	|__|		|__||__||__||__|	|__||__||__||__||__|	|__|__|__| kg		|__|__|__| kg	|__|__|__|
m.													
n. Electric	|__|	|__|	|__|	|__|	|__|	|__|		|__||__||__||__|	|__||__||__||__||__|					|__|__|__|
o.													
p. Biogas	|__|	|__|	|__|	|__|	|__|	|__|		|__||__||__||__|	|__||__||__||__||__|	|__|__|__| kg		|__|__|__| kg	|__|__|__|
q. Ethanol	|__|	|__|	|__|	|__|	|__|	|__|		|__||__||__||__|	|__||__||__||__||__|	|__|__|__| liters		|__|__|__| liters	|__|__|__|
r. Garbage/ plastic	|__|	|__|	|__|	|__|	|__|	|__|		|__||__||__||__|	|__||__||__||__||__|					
s. Other, specify	|__|	|__|	|__|	|__|	|__|	|__|		|__||__||__||__|	|__||__||__||__||__|	|__|		|__|	|__|__|__|

Comments:

I. USE OF COOKING SOLUTIONS

Instructions: The respondent should be the household member who most frequently cooks food for the household, as identified in A.22

I.1	***Enumerator:*** Record Respondent ID for this section		Individual ID from Household Roster

Record information for each stove that the household uses. List each stove in a separate row of the table. Ask I.3 first and record all types of stoves in household.

	I.3		I.4	I.5	I.6	I.7	I.8	I.9	I.1	I.11	I.12	I.13	I.14	I.15	I.16
Cook stove ID	In the last 12 months, which cookstove(s) did your household use for only preparing meals? ***List up to 5*** **CODE:** Stone/fire stove...1→**I.11** Other Self-Built Stove..2→**I.10** Manufactured stove……3 Other, Specify..555		How long have you been using this [STOVE] for? ***YEARS and MONTHS***	How did you obtain this cook stove? **CODE:** Purchased …1 → Receive for free….2→I.7	How much did you pay for the [STOVE]? ALL → I.8	Who gave it to you? **CODE:** Local private organizations (NGO)...1 Chief of village…2 Local govt…...3 Friend/ relative..4 Other, specify…. 555	Did you receive training or information on this cook-stove? **CODE:** Yes……1 No…….2	What is the manufacturer and model of this cook-stove? ***See codes in codebook***	Is this a metal stove? **CODE:** Yes…1 No….2	How many working burners does this stove have? **NUMBER OF BURNERS**	If you want to sell this cooks tove in your community today, how much would you receive? Don't know…888 **AMOUNT IN BIRR**	In the last 12 months, during which of the following months did you use this [STOVE]? ***Multiple response*** **CODE:** January……1 February…..2 March……..3 April……4 May…….5 June…….6 July…….7 August…….8 September…9 October……10 November…11 December….12 Used all year.....111	Is the stove fixed in one place or moveable? **CODE:** Fixed…….1 Moveable..2	In the last 12 months, where did you normally cook with the cookstove? **CODE:** In dwelling, **NOT** in sleeping area……1 In dwelling, in a sleeping area……..2 In a separate dwelling……..3 In a veranda (roofed platform with at least two open sides)…4→**I.18** Outdoors..5→**I.18** Other, specify…….555	What is the size of your cooking space? ***Measure the cooking space using tape measurement.***
	type	code													
1															
2															
3															
4															
5															

Comments:

	I.17	I.18	I.19	I.20		I.21		I.22	I.23	I.24	I.25	I.26	I.27
Cookstove ID	How many doors and windows (opening to the outside) does the cooking space have? **Number of Openings**	Do you use a chimney, hood or other exhaust system while using this stove? **CODE:** Yes…...1 No…….2➔**I .20**	Do you regularly clean a chimney, hood or other exhaust system? **CODE:** Yes…....1 No…...2	In the last 12 months, what are the fuels you used on this cookstove? **CODE:** LPG/cooking gas……1 Wood purchased……2 Wood collected……..……..3 Charcoal……...4 Solar……5 Kerosene…….....6 Piped Natural Gas……7 Coal/lignite ……8 Animal Waste/Dung……..……9 Crop Residue/Plant Biomass…..10 Saw Dust……11 Coal Briquette……12 Biomass Briquette……..13 Electric……14 Processed biomass (pellets)/ woodchips...15 Biogas……..16 Ethanol…….....17 Garbage/plastic……18 Not applicable……999 Other, specify……..555		In the last 12 months, how often was the [FUEL TYPE] available? ***Read aloud options*** **CODE:** Always available……1 Mostly available…….2 Sometimes available……3 Rarely available…....4		How much time do household members spend **preparing the cookstove and fuel for each meal** on average [including setting up the fuel and turning on the stove but not including gathering fuel or cooking time]?	In the last 7 days, how many days did you use this cookstove?	In the last 7 days, on average, how many times did you light this cookstove **per day?**	In the last 7 days, on average, how much time did your household use this cookstove **per day** to cook or reheat meals (do not include boiling water) in the…		
				A. Most Used *Single response*	**B. Second Most Used** *Single response*	**A. Most Used**	**B. Second Most Used**	**MINUTES**	**DAYS**	**NUMBER OF TIMES**	**MORNING**	**AFTERNOON**	**EVENING**
1													
2													
3													
4													
5													

Comments:

	I.28	I.29	I.30	I.31	I.32	I.33	I.34
Cookstove ID	In the last 7 days, on average, how much time did your household use this cooks stove per day to boil water (for washing and drinking)? **Minutes**	Do you also use this stove for space heating? **CODE:** Yes…….1 No……..2→**I.32**	In the last 12 months, during which of the following months did you use this cookstove for **heating**? ***Multiple response*** **CODE:** January……1 February…..2 March……..3 April……4 May…….5 June…….6 July…….7 August…….8 September…9 October……10 November…11 December….12 Used all year.....111	In a typical month, on average how many hours do you use this cooks stove for heating **each day**? **NUMBER OF HOURS**	In the last 12 months, what type of harm/injury did your household face from this cook stove? ***Multiple responses possible.*** **CODE:** Death or permanent damage…..…1 Burns/fire/poisoning……..2 Severe cough/respiratory problem..3 Other major injury……..4 Minor injury……...5 Fire with no injury…….6 Itchy/watery eyes……..7 Light cough……...8 None……..……...9	Who decided to build/ purchase this cookstove? **MEMBER ID** **NOT APPLICABLE** **…555**	Why do you not use this cook stove all the time? ***List up to 2 reasons*** ***(CAPI CHECK – Ask only to Households with more than one cookstove)*** **CODE:** Electricity/fuel for this stove unavailable……..1 Electricity/fuel for this stove too expensive……..2 Certain type of cooking is not possible with this stove…….3 Cookstove does not have enough burners……4 Cookstove flame is too weak……5 Stove takes a long time to cook food……..……...6 Electricity/fuel takes a long time to prepare……..7 Stove is difficult/inconvenient to use……8 I prefer another energy source but the electricity/fuel is too expensive or often not available……9 Certain type of meals taste better with another stove……10 Other, specify……..555
1							a. |__|__|__| b. |__|__|__|
2							a. |__|__|__| b. |__|__|__|
3							a. |__|__|__| b. |__|__|__|
4							a. |__|__|__| b. |__|__|__|
5							a. |__|__|__| b. |__|__|__|

Comments:

ID: |___|___|___|___|___|___|___|___|

MAIN COOKSTOVE

I.35	Can you show me the cookstove you spend the most time cooking on? ***This is the MAIN cookstove, take a picture of the stove and ask the following questions about only this cookstove.***		Record Cookstove ID from previous table	
Ask each question for the most used and second most used fuel for this cookstove as identified in I.18 If no second fuel, only ask about the most used fuel.		**a. Most used**	**b. Second most used**	
I.36	How much do you spend on the [FUEL TYPE] for this stove in the last month/in a typical month when you use the stove? ***Enter the actual amount spent, not the market value of the fuel.***			Amount in Birr

J. SPACE AND WATER HEATING

J.1	Do you heat water for washing (either for washing dishes and clothes or for bathing)?		Yes……1 No…….2→**J.4**
J.2	What is the main sourceyou use to heat water? ***Multiple responses possible.***		Electric heater……..1→**J.4** Gas heater……2→**J.4** District heating……3→**J.4** Solar thermal system……...4→**J.4** Same solid fuel stove used for cooking…..5→**J.4** Separate solid fuel stove……6
J.3	What is the MAIN fuel you use in this stove?		LPG/cooking gas……1 Wood purchased……2 Wood collected……..3 Charcoal……...4 Solar……5 Kerosene……...6 Piped Natural Gas……7 Coal/lignite ……8 Animal Waste/Dung……9 Crop Residue/Plant Biomass…...10 Saw Dust……..11 Coal Briquette……..12 Biomass Briquette……..13 Electric……14 Processed biomass (pellets)/ woodchips……..15 Biogas……16 Ethanol……...17 Garbage/plastic……..18 Not applicable……19 Other, specify……..555
J.4	Do you heat your house?		Yes……1 No…….2→**K**
J.5	What is the main source you use to heat your house?		Electric heater……..1→**K** Gas heater……2→**K** District heating……3→**K** Solar thermal system……...4→**K** Same solid fuel stove used for cooking…..5→**K** Separate solid fuel stove……6
J.6	What is the MAIN fuel you use in this stove?		LPG/cooking gas……1 Wood purchased……2 Wood collected……..3 Charcoal……...4 Solar……5 Kerosene……...6 Piped Natural Gas……7 Coal/lignite ……8 Animal Waste/Dung……9 Crop Residue/Plant Biomass…...10 Saw Dust……..11 Coal Briquette……..12 Biomass Briquette……..13 Electric……14 Processed biomass (pellets)/ woodchips……..15 Biogas……16 Ethanol……...17 Garbage/plastic……..18 Not applicable……19 Other, specify……..555

Comments:

K. WILLINGNESS TO PAY FOR AN IMPROVED COOKSTOVE

In this module CAPI will identify the currently used cookstove, and will prompt the question relative to the next best option. The respondent should be the household member who decides to purchase the cookstove in I.31 OR the household member who most frequently cooks food for the household, as identified in A.12

In this module there are two sub-sections: one on cookstove for cooking (K.1) and the other on cookstove for baking (Injera) (K.10).

<u>Cookstove for cooking (sauce, coffee, etc.)</u>
This cookstove is used typically every day.

For each household, determine whether the primary stove is traditional three-stone stove, charcoal stove or neither (based on responses in Section I). Then, randomly assign one of the following improved stoves for cooking:

- ***To traditional three-stone stove user we ask the WTP for (1) a biomass improved stove, (2) a regular charcoal stove, (3) an improved charcoal stove (Laketch) or (4) kerosenestove available in the local market.***
- ***To regular charcoal stove user we ask the WTP for (1) an improved charcoal stove (Laketch) or (2) kerosene stove available in the local market.***
- ***To improved charcoal stove (Laketch) user we ask the WTP for (1) kerosene available in the local market.***

Please, show the picture of the improved charcoal stove (Laketch) to the respondent.
Of course, if the household already has a kerosene or an electric/LPG stove, please skip this question.

(After a type of improved cookstove is randomly chosen, the price of this type of cookstove will be assigned based on one of the three percentages of the reference price: 33%, 66% or 100%.)

K.1	***CAPI/ Enumerator:*** Recall responses to Section I (USE OF COOKING AND BAKING SOLUTIONS) from the type column and record the main stove used for cooking: three-stone/traditional, charcoal, kerosene, electric/LPG (in these last cases skip to the next section). ***Read options aloud***		HH uses three-stone/traditional stove……1 HH uses charcoal stove ……..……2 HH uses kerosene stove ……..…3→ **(Skip to K10)** HH uses electric/LPG stove ……..……4→ **(Skip to K10)** HH does not use any stove for cooking……5→ **(Skip to K10)**
K.2	***Enumerator:*** Record Respondent ID for this section		Individual ID from Household Roster
Interview: Please, describe and explain the benefit of having ICS and the features of the assigned cookstove for cooking. If you could pay a "lump sum" price for this cookstove. This cookstove can reduce the smoke and fuel consumption significantly. Possibly, your cooking time per meal will be shortened since firepower of this cookstove is stronger than the traditional cookstove. As you answer the next few questions, keep in mind the various benefits from this device as well as your household budget.			
K.3	Would you be willing to purchase this cookstove for cooking at [CAPI: Price] Now/ today?		Yes……1→ **K.10** No……..2
K.4	Would you be willing to pay ${CF} for this stove, if you were given 6 months to make the payment? This means that each month you will pay ${CF/6} per month for 6 months.		Yes……1→ **K.10** No……2
K.5	Why would you not accept the offer? (		Cannot afford the payment……1 Do not need an improved cookstove…..2 Fuel for this stove is unreliable….3 Other, specify…….555
K.6	Would you be willing to pay ${CF} for this stove, if you were given 12 months to make the payment? This means that each month you will pay ${CF/12} per month for 12 months.		Yes……1→ **K.10** No……2
K.7	Why would you not accept the offer? (		Cannot afford the payment……1 Do not need an improved cookstove…..2 Fuel for this stove is unreliable….3 Other, specify…….555
K.8	Would you be willing to pay ${CF} for this stove, if you were given 24 months to make the payment? This means that each month you will pay ${CF/24} per month for 24 months.		Yes……1 → **K.10** No……2

Comments:

K.9	Why would you not accept the offer?		Cannot afford the payment……1 Do not need an improved cookstove…..2 Fuel for this stove is unreliable….3 Other, specify…….555

<u>Cookstove for baking (Injera)</u>
This is typically used about 2 or 3 times per week.

For each household, determine whether the primary stove is traditional three-stone stove or nothing (based on responses in Section I). Then, randomly assign one of the following improved stoves for baking:

- ***To traditional three-stone stove user we ask the WTP for (1) biomass improved stove (Mirt) available in the local market.***

Of course, if the household already has an improved biomass stove or electric stove, please skip this question.

(After a type of improved cookstove is randomly chosen, price of this type of cookstove will be assigned based on one of the three percentages of the reference price: 33%, 66% or 100%.)

K.10	***CAPI/ Enumerator:*** Recall responses to Section I (USE OF COOKING AND BAKING SOLUTIONS) from the type column and record the main stove used for baking: three-stone/traditional, *Mirt* improved, electric/LPG (in this last case skip to the next section). ***Read options aloud***		HH uses three-stone/traditional stove……6 HH uses biomass improved stove (*Mirt*) ……..…7→L HH uses electric/LPG stove (*Mitad*) ……8→L HH does not use any stove for baking……9→L
K.11	***Enumerator:*** Record Respondent ID for this section		Individual ID from Household Roster
Interview: Please, describe and explain the benefit of having ICS and the features of the assigned cookstove for baking. If you could pay a "lump sum" price for this baking stove. This baking stove can reduce the smoke and fuel consumption significantly. Possibly, your baking time per meal will be shortened since firepower of this baking stove is stronger than the traditional baking stove. As you answer the next few questions, keep in mind the various benefits from this device as well as your household budget.			
K.12	Would you be willing to purchase this baking stove for baking at [CAPI: Price]?		Yes……1 No……..2
K.13	Would you be willing to pay ${CF} for this stove, if you were given 6 months to make the payment? This means that each month you will pay ${CF/6} per month for 6 months.		Yes……1→**L** No……2
K.14	Why would you not accept the offer?		Cannot afford the payment……1 Do not need an improved cookstove…..2 Fuel for this stove is unreliable….3 Other, specify…….555
K.15	Would you be willing to pay ${CF} for this stove, if you were given 12 months to make the payment? This means that each month you will pay ${CF/12} per month for 12 months.		Yes……1→**L** No……2
K.16	Why would you not accept the offer?		Cannot afford the payment……1 Do not need an improved cookstove…..2 Fuel for this stove is unreliable….3 Other, specify…….555
K.17	Would you be willing to pay ${CF} for this stove, if you were given 24 months to make the payment? This means that each month you will pay ${CF/24} per month for 24 months.		Yes……1 →L No……2
K.18	Why would you not accept the offer?		Cannot afford the payment……1 Do not need an improved cookstove…..2 Fuel for this stove is unreliable….3 Other, specify…….555

Comments:

L. CONSUMPTION / EXPENDITURE

Interviewer Instructions: The Respondent should be the head of household.

Item #	Item	Value of Consumption (In Birr) during last 7 days on a normal day -888=Don't know/Not applicable
CONSUMPTION		
L.1	Cereals & cereal products (e.g.: rice, maize, wheat, flour, millet) and starchy staples (e.g.: cassava, plantain, yam, cocoyam)	|___|___|___|___|___|___|___|
L.2	Pulses & nuts (e.g.: beans, groundnuts, palm nuts, soy beans)	|___|___|___|___|___|___|___|
L.3	Milk & milk products (e.g.: powder, tinned, fresh, cowbell)	|___|___|___|___|___|___|___|
L.4	Edible oil (e.g.: palm oil, groundnut oil, coconut oil)	|___|___|___|___|___|___|___|
L.5	Vegetables (e.g.: okra, tomato, onion, carrot, cabbage, garden egg) and Fruits (e.g.: bananas, coconut, pineapple, mango, orange, pawpaw)	|___|___|___|___|___|___|___|
L.6	Egg, fish (smoked/fresh), meat, & poultry	|___|___|___|___|___|___|___|
L.7	Sugar	|___|___|___|___|___|___|___|
L.8	Other food items (e,g, pepper, salt, spices, butter, jam, bread, groundnut paste, **processed foods**, etc.) ***Include all processed foods not prepared by household using raw ingredients***	|___|___|___|___|___|___|___|
L.9	Meals/food bought outside home ***Include any meals purchased from outside that are not prepared by the household***	|___|___|___|___|___|___|___|
L.10	Beverages (e.g.: malt drinks, minerals, coffee/Lipton/Milo)	|___|___|___|___|___|___|___|
L.11	Alcohol, tobacco and cigarettes	|___|___|___|___|___|___|___|

Comments:

Goods and Services Monthly Expenditure		
Item #	**Item**	**Value of Expenditure (In Birr) during <u>last 30 days</u> -888=Don't know**
EXPENDITURE		
L.12	Medical/pharmacy expenses (e.g.: tablets/syrups, insecticide, condoms, pharmacy/chemist, traditional/herbal medicine)	|___|___|___|___|___|___|___|
L.13	Soaps, disinfectants and cleaning supplies; cosmetics and toiletries	|___|___|___|___|___|___|___|
L.14	Water supply for drinking and other uses (tanker services, pipe-borne, metered, bore-hole, well, purchased water)	|___|___|___|___|___|___|___|
L.15	Mobile phone top-up	|___|___|___|___|___|___|___|
L.16	Internet, land phone, dish, cable, and other household communication	|___|___|___|___|___|___|___|
L.17	House Rent	|___|___|___|___|___|___|___|
L.18	Transportation costs (fuel for own vehicles, cost of public transportation, buses, taxis, mini-bus, motor bike/Bajaji, etc)	|___|___|___|___|___|___|___|
L.19	Other recurring monthly expenditure (wage of domestic workers, entertainment, etc.)	|___|___|___|___|___|___|___|

Goods and Services Expenditure in Last 12 Months		
Item #	**Item**	**Value of Expenditure (In Birr) during <u>the last 12 months</u>** -888=Don't know
L.20	School fees and other educational expenses ***Include uniform, PTA dues, books, tutor, school supplies, transport, food, etc.***	|___|___|___|___|___|___|___|
L.21	Clothing, shoes, and accessories	|___|___|___|___|___|___|___|
L.22	Celebrations (e.g. funerals and expenses, weddings, festivals, naming ceremony, engagement) ***Only include costs to host celebration or to give donations/gifts for attending celebrations.***	|___|___|___|___|___|___|___|
L.23	Gifts and donations (e.g.: donation to church made by the household, tithes) ***Only include gifts and donations not already included in L.22***	|___|___|___|___|___|___|___|
L.24	Hospital/Doctor visits and Diagnostic tests (e.g.: consultations at private hospital, public hospital, traditional healer) ***Do not include costs paid for by insurance***	|___|___|___|___|___|___|___|
L.25	Furniture (e.g.: mattresses, room furniture, furnishing items, floor mats, carpets)	|___|___|___|___|___|___|___|
L.26	Repair, maintenance, and building (e.g.: cement, roofing, paint, carpentry, labor for repairs, sewerage removal)	|___|___|___|___|___|___|___|
L.27	Utensils & kitchen equipment (e.g.: cups, plates, cutleries, cooking pots, buckets)	|___|___|___|___|___|___|___|
L.28	Appliances & tools (e.g.: electric iron, electric fans, refrigerators, lanterns, brooms)	|___|___|___|___|___|___|___|
L.29	Vehicles & motorcycle & bicycle (purchase or repair of own car/moto/ car battery)	|___|___|___|___|___|___|___|
L.30	Electronics: TV, radio-cassette player, VCR/DVD, Cassettes, CDs, records, satellite TV, MP3 player, video game player, pen drives, other digital accessories Computer or laptop purchase	|___|___|___|___|___|___|___|
L.31	Remittance sent to family members and relatives	|___|___|___|___|___|___|___|
L.32	Losses due to theft, robbery, accidents, natural disasters, etc.	|___|___|___|___|___|___|___|
L.33	Other major expenses not yet covered (specify)	|___|___|___|___|___|___|___|

Comments:

ID: |___|___|___|___|___|___|___|___|___|

M. HOUSEHOLD ASSETS: TRANSPORTATION AND AGRICULTURAL EQUIPMENT OWNERSHIP AND TOTAL

Interviewer Instructions: The Respondent should be the head of household.

Item Number	Item	a. How many [ITEM] in (working condition or still healthy) does your household own? ***Write 0 if none 0→NEXT ROW***		b. What is the source of electricity/ energy used to power [ITEM]? **Code:** National grid…….....1 Local mini-grid…….....2 Generator……3 Solar…….....4 Rechargeable battery…..5 Dry cell battery……..6 Diesel……..7 LPG……8 Kerosene…….9 Gasoline…….....10 Biogas……11 Manual…….....12 Other, specify…….555
M.1	Vehicle (Car, pickup truck, etc)			
M.2	Motorcycle			
M.3	Bicycle			
M.4	Motor boat			
M.5	Other boat			
M.6	Tractor			
M.7	Domestic water pump			
M.8	Ox/Cow/bull/calves			
M.9	Water buffalo/Camel			
M.10	Horse/donkey			
M.11	Sheep			
M.12	Goat			
M.13	Pig			
M.14	Rabbit			
M.15	Fish (Aquaculture)			
M.16	Other, specify			

Comments:

Item Number	Item	a. How many [ITEM] in working condition does your household own? ***Write 0 if none 0→NEXT ROW***	b. Who decided to purchase this device? **Code:** Me……1 Spouse……2 Joint with spouse……3 No one, but given (inherited, gifted, salvaged, etc)…4 Other, specify…555	c. How many hours does your household use [ITEM] in a typical day? (Only for fan, radio and TV) **Number of hours**
M.17	Incandescent Light Bulb			
M.18	Fluorescent Tube			
M.19	Compact Fluorescent Light (CFL) Bulb			
M.20	LED Light Bulb			
M.21	Rechargeable torch/flashlight/ lantern			
M.22	Radio/CD Players/sound system			
M.23	VCD/DVD			
M.24	Fan			
M.25	Refrigerator			
M.26	Microwave oven			
M.27	Electric Iron			
M.28	Washing machine			
M.29	Electric sewing machine			
M.30	Air cooler (External Unit)			
M.31	Space Heater			
M.32	Electric water heater			
M.33	Solar based water heater			
M.34	Computer			
M.35	Electric hot water pot/kettle			
M.36	Smartphone (internet phone) charger			
M.37	Regular mobile phone charger			
M.38	Black & White TV			
M.39	Regular Color TV			
M.40	Flat color TV			
M.41	Other, specify			

N. HOUSEHOLD LAND OWNERSHIP AND OTHER ASSETS

Instruction: Enter the total values of following assets owned by the household. If some assets are owned by members, report aggregate values for all members.The Respondent should be the head of household.

	Type of land and other assets	a. Do you own [LAND TYPE]? Yes……1 No…….2→**next row**	b. What is the total size of the land?		c. What is the estimated rent price for this land for 5 years? ***In Birr***
N.1	Agricultural land (including cultivated land, resting land, preparation land and others like land for animal food)			Hectare…1 Sq meter…2 Other…3	

Comments:

O. HOUSEHOLD ECONOMIC SHOCKS

Only record information for events that negatively affected the economic situation of the household.

Shocks	O.1 In the **last 12 months**, have you been affected by (…)? **CODE:** 1= Yes 2= No→**next Shock**	O.2 Who was affected by the event? ***Read options aloud*** **CODE:** 1= Just this household 2= Family members outside HH 3= Several HHs in this village 4= Most or all HHs in this village 5= Several villages in this area
a. Failure/loss of business including agricultural failures (crop disease, livestock death, etc)	|___|	|___|
b. Loss of employment due to imprisonment, illness/injury, or death of economically active household member.	|___|	|___|

Comments:

ID: |___|___|___|___|___|___|___|___|

P. STREET LIGHTING

The respondent should be the most knowledgeable household member on household electricity, as identified in C.1

P.1	Respondent ID		Record ID from the Household Roster
P.2	Does your neighborhood have any form of street lighting? ***"Neighborhood" means 0.5 KM from Household***		Yes……1 No……..2→**P.5**
P.3	How satisfied are you by the brightness of the street lighting service in your neighborhood? ***Read options aloud***		Very unsatisfied……..1 Somewhat unsatisfied…….2 Somewhat satisfied…….3 Very satisfied……..4
P.4	What do you think are the risks/problems with street lighting in your neighborhood? ***Multiple responses possible***	a. |__|__|__| b. |__|__|__| c. |__|__|__| d.|__|__|__|	Electrocution……..1 Poor installation…….2 Poor maintenance……..3 Outages/blackouts of street lighting……..4 Does not stay on all night……..5 No risks/problems…….111
P.5	Do you have a light that you could turn on at night to provide light outside your home?		Yes…….1 No……..2→**Q**
P.6	How many hours do you turn it on each night after it becomes dark?		Number of hours

Q. TIME USE

#	Question	PEOPLE			
		a. Women (Age 15 yrs and older)	**b. Girls (Under age 15 yrs)**	**c. Men (Age 15 yrs and older**	**d. Boys (Under age 15 yrs)**
In a typical day, how many total minutes did [PEOPLE] spend… (Don't know/Not applicable…….888)					
Q.1	Gathering, collecting or purchasing fuels including travel time	|__|__|__| minutes	|__|__|__| minutes	|__|__|__| minutes	|__|__|__| minutes
Q.2	Preparing fuel/energy source (chopping, making pellets)	|__|__|__| minutes	|__|__|__| minutes	|__|__|__| minutes	|__|__|__| minutes
Q.3	Cooking (food, tea, boiling water)	|__|__|__| minutes	|__|__|__| minutes	|__|__|__| minutes	|__|__|__| minutes
Q.4	Other time spent in cooking area(s)	|__|__|__| minutes	|__|__|__| minutes	|__|__|__| minutes	|__|__|__| minutes
Q.5	Using space heaters (including time starting heater and spending time near it for warmth)	|__|__|__| minutes	|__|__|__| minutes	|__|__|__| minutes	|__|__|__| minutes
Q.6	Using stove or space heaters for other purposes (ex: brewing beer, preparing fodder for animals)	|__|__|__| minutes	|__|__|__| minutes	|__|__|__| minutes	|__|__|__| minutes
Q.7	***For income generation:*** Gathering, collecting, purchasing fuels (including travel time)	|__|__|__| minutes	|__|__|__| minutes	|__|__|__| minutes	|__|__|__| minutes
Q.8	Caring, attending, or playing with/for younger children	|__|__|__| minutes	|__|__|__| minutes	|__|__|__| minutes	|__|__|__| minutes
Q.9	Studying or helping with school work	|__|__|__| minutes	|__|__|__| minutes	|__|__|__| minutes	|__|__|__| minutes
Q.10	Working for pay outside of the house	|__|__|__| minutes	|__|__|__| minutes	|__|__|__| minutes	|__|__|__| minutes

R. HEALTH IMPACTS

#	Question	PEOPLE				
		a. Women (Age 15 years and older)	**b. Girls (Under age 15 years)**	**c. Men (Age 15 years and older)**	**d. Boys (Under age 15 years)**	**e. Young Children (0-4 years)**
R.1	Number of [PEOPLE] with an illness with a cough at any time in the last 14 days?	|__|__|__| people (with cough) If 0 →R.6	|__|__|__| people (with cough) If 0 →R.6	|__|__|__| people (with cough) If 0 →R.6	|__|__|__| people (with cough) If 0 →R.6	|__|__|__| people (with cough) If 0 →R.6
R.2	Of [PEOPLE] who had an illness with a cough, how many went to see a doctor/clinic?	|__|__|__| people	|__|__|__| people	|__|__|__| people	|__|__|__| people	|__|__|__| people
R.3	Of the [PEOPLE] who had an illness with a	|__|__|__| people *(with fast breathing)*	|__|__|__| people *(with fast breathing)*	|__|__|__| people *(with fast breathing)*	|__|__|__| people *(with fast breathing)*	|__|__|__| people *(with fast breathing)*

Comments:

	cough, how many breathed faster than usual with short, rapid breaths or had difficulty breathing?	If 0→**Error! Reference source not found.**	If 0→ R.6	If 0→ R.6	If 0→ R.6	If 0→ R.6
R.4	How many of those [PEOPLE] with short, rapid breaths or difficult breathing, experienced a problem in the chest or a blocked or runny nose?	|__|__|Chest only |__|__|Nose |__|__|Both |__|__|Other |__|__Don't know	__|__|Chest only |__|__|Nose |__|__|Both |__|__|Other |__|__Don't know	|__|__|Chest only |__|__|Nose |__|__|Both |__|__|Other |__|__Don't know	|__|__|Chest only |__|__|Nose |__|__|Both |__|__|Other |__|__Don't know	|__|__|Chest only |__|__|Nose |__|__|Both |__|__|Other |__|__Don't know
R.5	Number of [PEOPLE] with eye irritation or eye problems in the last 14 days?	|__|__|__| people	|__|__|__| people	|__|__|__| people	|__|__|__| people	|__|__|__| people

#	Question	PEOPLE				
		a. Women (Age 15 years and older)	**b. Girls (Under age 15 years)**	**c. Men (Age 15 years and older**	**d. Boys (Under age 15 years)**	**e. Young Children (0-4 years)**
In the last 12 months, how many [PEOPLE] have experienced…						
R.6	Poisoning from liquid fuel	|__|__|__| people	|__|__|__| people	|__|__|__| people	|__|__|__| people	|__|__|__| people
R.7	Burns related to cooking or heating or fuel	|__|__|__| people	|__|__|__| people	|__|__|__| people	|__|__|__| people	|__|__|__| people
R.8	Of the burns related to fuel--Burns that required a visit to the clinic/hospital	|__|__|__| people	|__|__|__| people	|__|__|__| people	|__|__|__| people	|__|__|__| people
R.9	Back or neck problems from carrying fuel for cooking/heating	|__|__|__| people	|__|__|__| people	|__|__|__| people	|__|__|__| people	|__|__|__| people
R.10	Electrical injuries (e.g. shocks) that prevent attendance in school/work	|__|__|__| people	|__|__|__| people	|__|__|__| people	|__|__|__| people	|__|__|__| people
R.11	Other minor electrical injuries	|__|__|__| people	|__|__|__| people	|__|__|__| people	|__|__|__| people	|__|__|__| people

S. ATTITUDES

S.1	***Interviewer/CAPI check:*** Does the household have a connection to the national grid?		Yes……1 No……..2→**S.6**
S.2	Since you first received your electricity connection, how has the price of electricity changed? ***Read options aloud***		It has gotten much higher……..1 Stayed about the same……..2 It has gotten cheaper……..3
S.3	Since you first received your electricity connection, how has the frequency of black out or brown out changed? ***Read options aloud***		It has gotten worse……1 Stayed the same……2 Better……3
S.4	Since you first received your electricity connection, how has the duration of electricity supply at night changed? ***Read options aloud***		It has gotten worse……1 Stayed the same……2 Better……3
S.5	Since you first received your electricity connection, how has the duration of electricity supply during the day changed? ***Read options aloud***		It has gotten worse……1 Stayed the same……2 Better……3
S.6	If you could use your [MAIN SOURCE OF ELECTRICITY C.158] to power an appliance that you do not currently own, what would it be? ***Up to 3 answers possible***	a. |__|__|__| b. |__|__|__| c. |__|__|__|	Fan……1 Radio……2 Television……..3 Refrigerator……...4 Electronic Tablet……...5 Computer……...6 Hair clippers……..7 Power Tools (Hair dryer, drill, food blender etc)……..8 Phone with internet (smartphone)……..9

Comments:

			Other, specify…….555
S.7	Why do you not yet own one of these appliances? ***Multiple responses possible***		Too expensive……..1 No products available……..2 Products require too much energy, cannot power them with my system…….....3 Other, specify……555
S.8	How satisfied are you with the service from [MAIN SOURCE OF ELECTRICITY C.158]? ***Read aloud these options.***		Very satisfied……..1 Somewhat satisfied……2 Neutral……3 Unsatisfied……..4 Very unsatisfied……..5

#	**Statement** **Read the following statement and ask respondent whether he or she strong agrees, agrees, disagrees, strongly disagrees, or has no opinion.**	**Response** **CODE:** Strongly Agrees…….1 Agrees……2 No Opinion……3 Disagrees……...4 Strongly Disagrees……5
Electricity		
S.9	Electricity is very important for the children's education	
S.10	With electrical light the children can study more at night.	
S.11	Our household is happy with the lighting system that we have in our home.	
S.12	To use kerosene or diesel for lamp lighting is harmful for the health.	
S.13	A car battery is a good source of electricity.	
S.14	A solar based system is a good source of electricity.	
S.15	Electricity helps with domestic tasks and care of the children.	
S.16	Today, the quality of life of my household is better than it was 5 years ago.	
S.17	The monthly electric bill is or would be a financial burden for my family.	
S.18	The electricity makes it easy to have information and the news.	
S.19	Watching TV provides my household with great entertainment.	
S.20	News and information from radio and television provide good information relevant for conducting business and agricultural activities.	
S.21	News and information from radio and television provide good knowledge on family health issues.	
S.22	Electric lighting makes indoor smoke-and pollution-free.	
S.23	Electricity can benefit communities through economic and enterprise development.	
Cooking		
S.24	Smoke from stove is good at chasing insects away.	
S.25	Smoke from cooking fuels is a big health problem in my family.	
S.26	Cooking with firewood is not very convenient.	
S.27	Firewood is expensive for cooking.	
S.28	Modern or wealthy families use LPG/cooking gas to cook.	
S.29	Charcoal is convenient to use for cooking.	
S.30	Cooking with charcoal is harmful to a person's health.	
S.31	Cooking with firewood is harmful to a person's health.	
S.32	Electricity is expensive for cooking.	
S.33	Firewood is hard to obtain.	
S.34	LPG is expensive for cooking household meals.	
S.35	Certain food tastes better when cooked with biomass compared to gas or electricity.	
S.36	Charcoal is hard to obtain in the market.	
S.37	I prefer to use "Three/five Stone" as the firewood stove at home.	
S.38	Collecting and preparing firewood is a burden for my family.	
Street Lighting		

Comments:

S.39	Street lighting makes it safer for women and girls to be outside at night.	
S.40	Street lighting makes it safer for children to be outside at night.	
S.41	Street lighting leads to fewer crimes.	
S.42	Street lighting lets more people move around at night.	
S.43	Street lighting allows for more community activities to occur at night.	
S.44	Street lighting lets night markets and other businesses stay open.	
Payment/Finance		
S.45	I prefer to pay with mobile money than with vouchers/token/pre-paid card.	
S.46	I would trust mobile telephone companies with my money.	
S.47	I would rather pay a very small amount to rent a solar system than pay a very large amount once to own it.	
S.48	I would rather pay per unit of electricity (kWh) instead of renting or buying a solar system.	
S.49	I would borrow money to purchase an improved cookstove.	
S.50	I would borrow money to purchase solar lanterns/lighting system.	
S.51	I would borrow money to purchase a TV.	
S.52	I would borrow money to purchase a refrigerator.	
Decision Making		
S.53	Men and women use energy and its devices differently	
S.54	Men usually make decisions on the distribution of family budget	
S.55	Men usually make decisions on purchasing of energy and energy-consuming devices	

T. WOMEN'S EMPOWERMENT

Respondents should be a female headed household or female spouse of the household head/member in the household.

MOBILITY		
	STATEMENT Can you do the following activities alone or you have to go with your husband: Who decides about the activities below?	**RESPONSE CODE:** Can do herself ……...1 Can do with husband ……2 Can do with others ……...3 Other Specify ……4
T.1	Visiting parents/relatives/friends within or outside the village	
T.2	Going to markets/banks/commercial centers/places of work.	
T.3	Going outside the village	
ACCESS TO INFORMATION, ORGANIZATION MEMBERSHIP, VILLAGE ELECTRIFICATION COMMITTEE, CAPACITY BUILDING AND ACCESS TO FINANCE		
T.4	Do you receive information about electricity/energy service available in your areas?	Yes… 1 No…..2
T.5	If you are a member of a women's group, which type of group are you a member of/do you belong to? (Multiple response possible)	**Code:** Not a member……1 Religious related activities….2 Health care related activities...3 Income generating activities…4 Self help organization…….6 Savings group……..7 Microfinance organization…...8 Cooperative……..9 Village administrative committee….10 Village electrification committee…..11 Other specify…….12
T.6	What do you think are the main constraints women face in participating in organizations or activities in the area?	**Code:** Limited time…….1 Lack of support from family(including husband)…2 Limited confidence….3 Limited education….4 Other specify…….5
T.7	If you are a member of the village electrification committee, how often do you meet?	**Code:** Not a member……..1 [# of times]……..2
T.8	Do you own a bank account? ***Read options aloud***	**Code:** No account…1 Own account……...2

Comments:

		Joint account (with spouse)….....3 Joint account (with group)….....4

U. HOUSEHOLD BUSINESS/ENTERPRISE

U.1	Is [business owner] present?		Yes……..1 No……2→ **NEXT LARGEST BUSINESS'S OWNER/DECISION MAKER**
U.2	***Enumerator:*** Ask the related household enterprise questions to the present business owner		Individual ID from Household Roster
U.3	In the last 12 months, in which months did this enterprise operate? ***Multiple responses possible***	a. |__|__|... b. |__|__|... c. |__|__|,,, d. |__|__|,,, e. |__|__|,,, f. |__|__|… g. |__|__.....| h. |__|__|… i. |__|__.....| j. |__|__|….. k. |__|__|….	January……1 February……..2 March……...3 April……4 May……..5 June……..6 July……...7 August……..8 September……9 October……10 November……11 December……...12 All year……111
U.4	What was the total revenue of this business or activity in the last month that it was operating?		In Birr in Birr
U.5	Could you please estimate total revenue for this business or activity in a **regular month**, that is, a month that is neither the busiest nor the slowest of the year?		Regular month's total sales
U.6	In a regular month, on average, how many hours does your enterprise operate **each day and night (max 24 hours)**?		Number of Hours
U.7	In a typical month, on average, how many hours does your enterprise operate each night **(max 12 hours)**?		Number of hours
U.8	Are your working hours limited by the supply of energy in your enterprise?		Yes……..1 No……..2
U.9	What are all the different sources of energy that you use in your enterprise?	a. |__|__| b. |__|__| c. |__|__| d. |__|__| e. |__|__|	National Grid connection……1 Local Mini Grid……...2 Electric Generator (connecting one or more households/businesses)……...3 Solar Home System……4 Solar Lantern/Lighting System……..5 Rechargeable Battery……..6 Dry cell batteries……7 Pico-Hydro……8 Liquid Fuel (kerosene, diesel, gasoline)……9 Coal……10 Biomass……..11 Manual……12 Other, specify……555
U.10	***Interviewer/CAPI check:*** Is the enterprise connected to the national grid or the local mini grid (response 1 or 2 from**U.9**)?		Yes……..1 No……2→**U.27**
U.11	Does the enterprise have a separate electricity bill from household use?		Yes……..1 No……2 →**U.17**
U.12	How are you billed for electricity?		Fixed monthly fee……..……1 Pay based on lights and appliances used…….....2 Utility estimates consumption……3 Other, specify……555 No bill for electricity……..……111→**U.16**
U.13	How do you make your electricity bill payment?		Cash……1 Vouchers/tokens/pre-paid card from local store……2 Credits using mobile money……3 Pay at the utility office……4 Pay at the bank/post office……..5 Other, specify……555
U.14	***Enumerator:If the respondent pays the energy company or has a record of the electricity payment, ask to see the electricity bill/invoice and use it for U.15 and U.16.***		Respondent has energy bill and shows it……...1 Respondent has energy bill but refuses to show it or could not locate it……..…..2 Respondent does not have an energy bill……3

Comments:

U.15	In the last month, how much did you spend on the electric bill? ***Calculate amount paid from the last bill.***	☐	In Birr
U.16	In the last month how much electricity did your enterprise use? ***Calculate usage from the last bill.***	|__|__|__| kWh	Quantity in Kilowatt Hour (kWh)
U.17	In a typical month, how many hours of electricity are available each day from the grid? (Cannot exceed hours of operation in **U.6**)		Hours of supply
U.18	Out of [**U.7** HOURS] nighttime hours your business is usually open during the night, how many hours of electricity are available from the grid?		Hours of supply
U.19	In a typical month, how many outages/blackouts does the enterprise experience **each week**?		Number of outages/blackouts
U.20	In a typical week, what was the **total duration** of all the outages/blackouts?		Minutes
U.21	During the last electricity power outage, what were the three main ways your business was affected?	a. |__|__| b. |__|__| c. |__|__|	Had to turn customers away……1 Had to send workers home for the day without pay……2 Had to send workers home for the day with pay…….3 Used alternate energy sources to keep perishables cold..4 Wasted perishable products/discarded damaged goods...5 Machines/appliances were damaged in the process….6 Meetings/transactions were delayed……7 Not affected by last outage…….8 Other, specify……..555
U.22	Was there a loss of revenue in a typical month due to power outages?		Yes……1 No……..2→**U.24**
U.23	How much was the loss in revenue?		In Birr
U.24	How much was the extra costs of operating during the outage?		In Birr
U.25	How much do outages from the grid impact your enterprise income (either in cash or in-kind)? ***Read aloud options***		Little or none……1 Moderately……2 Severely……3
U.26	What are the back-up sources for electricity for the enterprise? (***Multiple responses possible***)		Generator……..…..1 Battery and Storage Devices (e.g.: car battery)…….....2 Solar Home System……3 Solar Lantern/Lighting system…..……..…4 Kerosene lamp…….…..5 Candle……...6 Torch/flashlight……7 No backup sources……8 Other, specify……..….555 Same as the household (including no back-up)……111
U.27	***Interviewer/CAPI check:*** Is a solar device used in the enterprise as the main source of electricity (response 4 or 5 from **U.9** is **main source**)?		Yes…….1 No……...2
	Devices enterprise uses	**Number**	**Cumulative Size (Wp) if known** **Size (Wp)**
U.28	How many Solar lanterns does your enterprise use?		Indicate '0' if enterprise uses none 0→**U.29** If unknown indicate '888'
U.29	How many Solar lighting systems does your enterprise use? What is their cumulative size?		Indicate '0' if enterprise uses none 0→**U.30** If unknown indicate '888'
U.30	How many Solar home systems does your enterprise use? What is their cumulative size?		Indicate '0' if enterprise uses none If unknown indicate '888'
U.31	What are the solar devices used for? ***Multiple responses possible***		**Code** Lighting……..1 Cell phone charging – for the enterprise……2 Cell phone charging – as a charging station……...3 Operating laptop/computer/tablet……...4 Operate photocopy machine/scanner……..5 Providing entertainment (e.g. playing movies)……..6 Refrigeration……7 Powering other appliances – please list specifically (e.g. solar pump, milling machine, electric hair dryer, sewing machine etc.)..8 Other……555

Comments:

Comments: