



REPUBLIC OF ZAMBIA

NATIONAL ENERGY SURVEY 2023

BUSINESS QUESTIONNAIRE

SECTION A : BUSINESS IDENTIFICATION PARTICULARS	CODE NUMBER
A1. PROVINCE NAME	<div style="text-align: center;"> <input type="text"/> <input type="text"/> </div>
A2. DISTRICT NAME	<div style="text-align: center;"> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> </div>
A3. CONSTITUENCY NAME	<div style="text-align: center;"> <input type="text"/> <input type="text"/> <input type="text"/> </div>
A4. WARD NAME	<div style="text-align: center;"> <input type="text"/> <input type="text"/> </div>
A5. EA NUMBER	<div style="text-align: center;"> <input type="text"/> </div>
A6. RURAL.....1 URBAN..... 2	<div style="text-align: center;"> <input type="text"/> </div>
A7. BUSINESS NUMBER (BN)	<div style="text-align: center;"> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> </div>
A8. VILLAGE OR LOCALITY NAME	
A9. CHIEF'S/CHIEFTAINNESS' AREA (RURAL AREAS ONLY) FOR URBAN AREAS RECORD 888	<div style="text-align: center;"> <input type="text"/> <input type="text"/> <input type="text"/> </div>
A10. ENUMERATED BUSINESS Residential Sampling Serial Name of Business Owner.....Address..... Number	<div style="text-align: center;"> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> </div>
A11. NAME OF MAIN RESPONDENT	<div style="text-align: center;"> <input type="text"/> <input type="text"/> </div>
A12. PHONE NUMBER OF MAIN RESPONDENT	
A13. ENUMERATOR'S NAME..... DATE OF INTERVIEW	<div style="text-align: center;"> DD MM YY </div> <div style="text-align: center;"> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> </div>
A14. SUPERVISOR'S NAME..... DATE OF CHECKING	<div style="text-align: center;"> DD MM YY </div> <div style="text-align: center;"> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> </div>

No.	SECTION B: BUSINESS DETAILS		
B1.	What is the name and address of the business including the phone number?		
B2.	Is your business registered with any relevant registration agency such as PACRA?	<i>Yes</i>	
		<i>No</i>	
B3.	What form of "business organization" characterizes your enterprise?	<i>Sole Proprietorship</i>	1.
		<i>Partnership</i>	2.
		<i>Corporation</i>	3.
		<i>Limited Liability Company</i>	4.
		<i>Cooperative</i>	5.
		<i>Other (specify)</i>	6.
B4.	What is the main activity of your business?	<i>Manufacturing (food or other processing)</i>	1.
		<i>Cottage industry/handicrafts</i>	2.
		<i>Shops/trading</i>	3.
		<i>Service (mobile phone recharge or repair/ tailoring/barber/eatery)</i>	4.
		<i>Hospitality (Lodges, Hotel, etc)</i>	5.
		<i>Other, specify</i>	6.
B5.	How long has your business been in operation?	<i>.....Months</i>	
		<i>.....Years</i>	
B6.	What was the total revenue of this business or activity in the last month that it was operating?	<i>K.....</i>	
B7.	What was the total monthly (Last month) operating cost i.e. business - related expenditure, for example buying raw materials?	<i>K.....</i>	
B8.	In a regular month, how many hours does your business operate on an average day (max 24 hours)?	<i>.....Hours</i>	
B9.	In a typical month, how many hours does your business operate each night (max 12 hours)?	<i>.....Hours</i> <i>Enter 999 if they don't operate at night.</i>	

SECTION C: ENERGY ACCESS AND UTILIZATION			
C1	What are the different sources of energy that you use in your business? Multiple response	<i>Electricity from the National Grid</i>	1.
		<i>Electricity from a Local Mini Grid</i>	2.
		<i>Electricity from a Generator</i>	3.
		<i>Electricity from a Standalone Solar PV System (home system/lanterns)</i>	4.
		<i>Rechargeable batteries</i>	5.
		<i>Dry Batteries</i>	6.
		<i>Kerosene</i>	7.
		<i>Liquefied Petroleum Gas (LPG)</i>	8.
		<i>Fire wood</i>	9.
		<i>Charcoal</i>	10.
		<i>Coal</i>	11.
		<i>Biogas</i>	12.
		<i>Candles</i>	13.
		<i>None</i>	14.
		<i>Other Please specify</i>	15.
Electricity from National Grid (only for those who entered 1 in C1)			
C2	How long has your business had this grid connection?	<i>.....Months</i>	
		<i>.....Years</i>	
		<i>I don't know</i>	
C3	How much did your business pay for the grid connection in ZMW?	<i>K.....</i> <i>Enter 0 if did not pay</i>	
C4	How many days after you applied for the grid connection did your business get connected?	<i>.....days</i>	
C5	Is the electricity connection for the business the same as that of your household?	<i>Yes</i>	1.
		<i>No</i>	2.
C6	Does the business have a separate electricity bill from the one your household uses?	<i>Yes</i>	1.
		<i>No</i>	2.
C7	How is the business billed for electricity? Read options aloud	<i>meter reading (Maximum Demand or kWh)</i>	1.
		<i>Fixed monthly fee</i>	2.
		<i>Pay based on lights and appliances used</i>	3.
		<i>Utility estimates consumption</i>	4.
		<i>Other, specify</i>	5.
		<i>No bill for electricity</i>	6.
C8	What is the most common mode of payment for your business's electricity bill?	<i>Cash</i>	1.
		<i>Vouchers/tokens/pre-paid card from local store</i>	2.
		<i>Credits using mobile money</i>	3.
		<i>Pay at the utility office</i>	4.
		<i>Pay at the bank/post office</i>	5.
		<i>Other, specify</i>	6.
C9	Enumerator: Ask 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	<i>Respondent has energy bill and shows it</i>	1.
		<i>Respondent has energy bill but refuses to show it or could not locate it</i>	2.
		<i>Respondent does not have an energy bill</i>	3.

C10	In the last month, how much was your business's electricity bill? Calculate amount paid from the last bill.	<i>K.....</i>	
C11	In the last month, how much electricity did your business use? Calculate usage from the last bill.	<i>Quantity in Kilowatt Hour (kWh)</i>	
		<i>Don't Know...</i>	888
C12	In a typical month, how many hours of electricity are available per day from the grid?	<i>Hours of supply</i>	
		<i>Don't know</i>	888
C13	Out of the nighttime hours your business is usually open during the night, how many hours of electricity are available from the grid?	<i>Hours of supply</i>	
		<i>Don't know</i>	888
C14	In the last 7 days, how many hours of electricity were available each evening on average, from 6:00 pm to 10:00 pm from (Max 4 hours)	<i>Hours of supply</i>	
		<i>Don't know</i>	888
C15	In the last 7 days, how many times were there unscheduled outages or blackouts from the electricity system?	<i>Hours of supply</i>	
		<i>Don't know</i>	888
C16	What is the total duration of all the unscheduled outages or blackouts in the last 7 days	<i>Number of hours</i>	
		<i>Number of minutes</i>	
		<i>Don't know / unsure</i>	888
C17	In a typical month, how many outages/blackouts does the business experience each week?	<i>Number of outages/blackouts</i>	
C18	In a typical week, what was the total duration of all the outages/blackouts?	<i>.....Hours .....Minutes</i>	
C19	During a typical month, what were the three main ways your business was affected by an electricity power outage? Do not prompt. Multiple responses possible.	<i>Continued all operations on backup supply</i>	1.
		<i>Continued reduced operations on backup supply</i>	2.
		<i>Had to turn customers away</i>	3.
		<i>Had to send workers home for the day without pay</i>	4.
		<i>Had to send workers home for the day with pay</i>	5.
		<i>Wasted perishable products/discarded damaged goods</i>	6.
		<i>Machines/appliances were damaged in the process</i>	7.
		<i>Used more expensive alternate energy sources</i>	8.
		<i>Meetings/transactions were delayed</i>	9.
		<i>Provided backup electricity to others</i>	10.
		<i>Stopped operations and waited for power to return</i>	11.
		<i>Not affected by last outage</i>	12.
C20	Was there a loss of revenue in a typical month due to power outages?	<i>Yes</i>	1.
		<i>No>>>>C22</i>	2.
C21	Estimate the loss of revenue in a typical month due to power outages?	<i>K.....</i>	
		<i>Don't know</i>	888
C22	How much was the extra costs of operating during the outage (e.g., wasted products, paid workers, running a backup generator etc.)?	<i>K.....</i>	
		<i>Don't know</i>	888
C23	If machinery/appliances were damaged because of the power outage, what were the extra costs for fixing/replacing?	<i>Enter 0 if no damage to machinery</i>	
		<i>Don't know</i>	888
C24	In case of power failure from the national grid, What back-up sources does your business use for lighting? (Multiple responses possible)	<i>Generator</i>	1.
		<i>Battery and Storage Devices (e.g.: car battery</i>	2.
		<i>Solar Lantern</i>	3.
		<i>Solar Home System</i>	4.
		<i>Solar Multi-Light System</i>	5.

		<i>Kerosene lamp</i>	6.
		<i>Candle</i>	7.
		<i>Torch/flashlight</i>	8.
		<i>No backup sources</i>	9.
C25	In the last 12 months, did any of this business' appliances get damaged because of the voltage fluctuations in the electricity system?	<i>Yes</i>	1.
		<i>No</i>	2.
C26	In the last 12 months, did anyone using electricity system die or have permanent limb (bodily injury) damage?	<i>Yes</i>	1.
		<i>No</i>	2.
C27	How do you mainly contact your electricity service provider to request for a service or file a complaint?	<i>Call/SMS utility</i>	1.
		<i>Visit</i>	2.
		<i>Send a letter/email</i>	3.
		<i>Social media</i>	4.
		<i>Talk to community representative</i>	5.
		<i>No system to request repairs/ file complaint</i>	6.
		<i>Other specify</i>	7.
		<i>Less than one day</i>	8.
C28	The last time you reported a problem, how long did it take before it was rectified?	<i>One day</i>	1.
		<i>More than one day but less than 7 days</i>	2.
		<i>More than 7 days</i>	3.
		<i>Less than one day</i>	4.
C29	The last time you requested for a service (meter separation, inspection, energy audit etc) from your electricity service provider, how long did it take to get the service?	<i>One day</i>	1.
		<i>More than one day but less than 7 days</i>	2.
		<i>More than 7 days</i>	3.
Local Mini Grid (Only those who entered 2 in C1)			
C30	What is the name of the local mini grid?		
C31	What type of fuel is used to generate electricity from the mini grid?	<i>Diesel/petrol</i>	1.
		<i>Biomass</i>	2.
		<i>Solar</i>	3.
		<i>Hydro</i>	4.
		<i>Other, specify</i>	5.
C32	Who owns the mini grid?	<i>National Utility Company (ZESCO)</i>	1.
		<i>Rural Electrification Authority</i>	2.
		<i>Private Energy Company</i>	3.
		<i>Community/village cooperative</i>	4.
		<i>Other Specify</i>	5.
C33	Is there a limit for the load and/or appliances you are allowed to power from this mini-grid connection?	<i>Yes</i>	1.
		<i>No</i>	2.
		<i>Don't know</i>	3.
C34	How much did your business pay for the mini grid connection in ZMW?	<i>Enter 0 if did not pay</i> <i>K.....</i>	
C35	How many days after you applied for the mini-grid connection did your business get connected?	<i>.....days</i>	
C36	Who received the payment for your electricity connection?	<i>Energy company</i>	1.

		<i>Pre-paid meter card seller</i>	2.
		<i>Community/village/municipality</i>	3.
		<i>Others specify</i>	4.
C37	Is the electricity connection for the business the same as the one used by your household?	<i>Yes</i>	1.
		<i>No>>>>> 39</i>	2.
C38	Does the business have a separate electricity bill from the household bill?	<i>Yes</i>	1.
		<i>No</i>	2.
C39	How are you billed for electricity? Read options aloud	<i>Fixed monthly fee</i>	1.
		<i>Pay based on lights and appliances used</i>	2.
		<i>Utility estimates consumption</i>	3.
		<i>Other, specify</i>	4.
		<i>No bill for electricity</i>	5.
C40	What is the most common way to make your electricity bill payment?	<i>Cash</i>	1.
		<i>Vouchers/tokens/pre-paid card from local store</i>	2.
		<i>Credits using mobile money</i>	3.
		<i>Pay at the utility office</i>	4.
		<i>Pay at the bank/post office</i>	5.
		<i>Other, specify</i>	6.
C41	How many hours of electricity are available per day from the mini grid?	.....hours	
C42	How many outages occur in a week?	.....outages	
C43	What is the total duration of all the outages/blackouts in a week?	.....outages	
C44	How do you mainly contact your electricity service provider to request for a service or file a complaint?	<i>Call/SMS utility</i>	1.
		<i>Visit</i>	2.
		<i>Send a letter/email</i>	3.
		<i>Social media</i>	4.
		<i>Talk to community representative</i>	5.
		<i>No system to request repairs/ file complaint</i>	6.
		<i>Other specify</i>	7.
C45	The last time you requested for a service (meter separation, inspection, energy audit etc) from your electricity service provider, how long did it take to get the service?	<i>Less than one day</i>	1.
		<i>One day</i>	2.
		<i>More than one day but less than 7 days</i>	3.
		<i>More than 7 days</i>	4.
C46	The last time you reported a problem, how long did it take for it to be rectified?	<i>Less than one day</i>	1.
		<i>One day</i>	2.
		<i>more than one day but less than 7 days</i>	3.
		<i>more than 7 days</i>	4.
C47	What challenges do you experience with your mini grid electricity? [Revise the options as in the household questionnaire]	<i>Supply shortage/not enough hours of electricity</i>	1.
		<i>Low/high voltage problems or voltage fluctuations</i>	2.
		<i>Unpredictable interruptions</i>	3.
		<i>Unexpected high bills</i>	4.
		<i>Too expensive</i>	5.

		Gasoline/petrol	2.
		Other, specify	3.
		Don't know	4.
		Liters	5.
		Don't know	888
C63	In the last 30 days, what was the total quantity of fuel used to power the generator?	1=Yes	
		2=No	
C64	In the last 12 months, did any of your appliances get damaged due to power quality issues (such as overvoltage) from the generator?	1=Yes	
		2=No	
Electricity from a Standalone Solar PV System (home system) (Only those who entered 4 in C1)			
C65	What type of Standalone Solar system do you use for your business? MULTI-RESPONSE	Solar Home System with multiple lights	
		Solar PV System	1.
		Other Specify>>>>>>C75	2.
C66	How many Solar Systems does your business use?	Solar Home System (Number).....	
		Solar PV System (Number).....	
C67	What is the total capacity in watts of these-solar systems? Check the Inventor rating	Watt	
C68	How much did you spend to purchase these Solar System?	K.....	
C69	How long (in months) have you had the most recent Solar System?	.....months	
C70	What do you use the Solar System for? Multiple responses possible	Lighting	1.
		Cell phone charging – for the business	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.
		Irrigation (Solar water Pump)	8.
		Powering other appliances – please list specifically (e.g. Water pump, milling machine, electric hair	9.
		Other Specify.....	10.
		.....times	
C71	How many times has your Solar System broken down since you bought it?		
C72	When the system broke down, which of the following parts broke down?	Battery	1.
		Lamp (light bulb/tube)	2.
		Solar panel	3.
		Inverter	4.
		Not Applicable (for Lanterns)	5.
		Technician/repair person comes to our establishment to repair.	6.
C73	If Solar System breaks down, how do you have it repaired?	Take it to repair shop	1.
		Other, specify	2.
C74	What is the average cost of repair/replacement?	Battery	1.
		Lamp (light bulb/tube)	2.
		Solar panel	3.

C93	How much did you spend during your last purchase?	K.....	
C94	How many days in total did this purchase last?	.....days	
KEROSENE (For only those who entered 7 in C1)			
C95	What specific activities was kerosene used for in your business?	Lighting	1.
		Water Heating	2.
		Cooking	3.
		Other specify	4.
C96	During your last purchase, how many litres of kerosene did you buy?	.....litres	
C97	How much did you spend during your last purchase?	K.....	
C98	How many days in total did this purchase last?	.....days	
LPG (Only those who entered 8 in C1)			
C99	What specific activities was LPG used for in your business?	Cooking	1.
		Heating	2.
		Lighting	3.
		Other specify	4.
C100	What size of LPG cylinder (in kg) does your business usually use?	2.5 Kg cylinder	1.
		3 Kg cylinder	2.
		5 Kg cylinder	3.
		7 Kg cylinder	4.
		9 Kg cylinder	5.
		15 Kg cylinder	6.
		17.5 Kg cylinder	7.
		19 Kg cylinder	8.
		29 Kg cylinder	9.
		48 Kg cylinder	10.
Other specify	11.		
C101	How many LPG cylinder (s) do your business have?		
C102	How long have you been using the LPG for business activities?	.....months	
		.....years	
IF LESS THAN 1 MONTH ENTER 0			
C103	How does your business access LPG for use in your business?	Walk to the suppliers' outlet	1.
		Delivered by supplier	2.
		Taxi to the supplier	3.
C104	How far is the nearest source of LPG? <i>If less than Kilometer Enter 0</i>	..... Kilometers	
C105	How much do you spend on transport to purchase LPG for business use in a month?	Enter 0 if did not spend K.....	
C106	How much did you spend during your last purchase?	K.....	
C107	How much do you spend on LPG in a month?	K.....	
FIREWOOD (Only those who entered 9 in C1)			
C108	What is the business' main source of firewood?	Self-produced/collected >>	1.
		Purchased >>	2.
		Other Specify	3.

C109	What specific activities was firewood used for in your business?	<i>Cooking</i>	1.
		<i>Heating</i>	2.
		<i>Brewing</i>	3.
		<i>Other specify</i>	4.
C110	How much did your business spend on firewood last month?	<i>K.....</i>	
C111	In the last one month, what quantity of firewood did your business purchase?	<i>Quantity.....</i>	
		Unit	
		<i>One cord (Scotch cart)</i>	1.
		<i>Woman lot (9kg bundles)</i>	2.
C112	What quantity of the purchased firewood was used by your business last month?	<i>Man lot (12 kg bundle)</i>	3.
		Unit	
		<i>One cord (Scotch cart)</i>	1.
C113	How many days did this purchase of firewood last?	<i>Woman lot (9kg bundles)</i>	2.
		<i>Man lot (12 kg bundle)</i>	3.
C114	How many days did this purchase of firewood last?	<i>..... Days</i>	
C115	In the last one month, what quantity of firewood did your business collect/produce?	<i>Quantity.....</i>	
		Unit	
		<i>One cord (Scotch cart)</i>	1.
		<i>Woman lot (9kg bundles)</i>	2.
C116	What quantity of collected firewood was used by your business last month?	<i>Man lot (12 kg bundle)</i>	3.
		Unit	
		<i>One cord (Scotch cart)</i>	1.
C117	How many days did this collected firewood last?	<i>Woman lot (9kg bundles)</i>	2.
		<i>Man lot (12 kg bundle)</i>	3.
Charcoal (Only those who entered 10 in C1)			
C118	What is the business's main source of charcoal?	<i>Self-produced</i>	1.
		<i>Purchased</i>	2.
		<i>Other Specify</i>	3.
C119	What specific activities was charcoal used for in your business?	<i>Cooking</i>	1.
		<i>Heating</i>	2.
		<i>Brewing</i>	3.
		<i>Ironing</i>	4.
		<i>Other specify</i>	5.
C120	<i>Only applies to those that selected purchased (2) in C117</i>	<i>K.....</i>	
C121	<i>Only applies to those that selected purchased (2) in C117</i>	<i>.....days</i>	
C122	<i>Only applies to those that selected self-produced (1) in C117</i>	<i>Quantity.....</i>	
		Units	
		<i>Below 10kg bag</i>	1.
C123	In the last one month, what quantity of charcoal did your business produce?	<i>10kg bag</i>	2.

		25kg bag	3.
		50kg bag	4.
		Above 50kg bag	5.
C122	<i>Only applies to those that selected self-produced (1) in C117</i>	K.....	
	Coal (Only those who entered 11 in C1)		
C123	What is your main source of coal?	<i>Purchased</i>	1
		<i>Self-produced</i>	2
		<i>Other Specify</i>	3
C124	What specific activity(ies) was coal used for in your business?	<i>Cooking</i>	1
		<i>Heating</i>	2
		<i>Brewing</i>	3
		<i>Power generation</i>	4
		<i>Mineral/Metal processing</i>	5
		<i>Other specify</i>	6
C125	How much did your business spend in ZMW on purchase/self-produce coal in the last month?	K.....	
C126	In the last one month, what quantity of coal did your business purchase/self-produce in tonnes?	.....tonnes	
C127	How many days in total did this purchase/self-produce last?		
	BIOGAS (Only those who entered 12 in C1)		
C128	What is the raw material used by your business to produce biogas?	<i>Livestock waste</i>	1.
		<i>Kitchen waste (food residue)</i>	2.
		<i>Crop residue</i>	3.
		<i>Human Waste</i>	4.
		<i>Other Specify</i>	5.
C129	What is the source of the raw material for biogas production?	<i>Landfill</i>	1.
		<i>Activated sludge from domestic wastewater treatment/Septic tank</i>	2.
		<i>Industrial, institutional, and commercial treatment plant</i>	3.
		<i>Livestock Shelter</i>	4.
		<i>Abattoir</i>	5.
		<i>Other specify</i>	6.
C130	What specific activity/(ies) was biogas used for in your business?	<i>Lighting</i>	1
		<i>Cooking</i>	2
		<i>Heating</i>	3
		<i>Brewing</i>	4
		<i>Other specify</i>	5
C131	How much did your business spend in ZMW on biogas feedstock last month?	K.....	
C132	How much in ZMW, did your business spend on biodigester construction/purchase?	K.....	
C133	What is the size of the biodigester in cubic metres does your business have?	<i>4 cubic metres</i>	1.
		<i>6 cubic metres</i>	2.
		<i>9 cubic metres</i>	3.
		<i>14 cubic metres</i>	4.
		<i>21 cubic metres</i>	5.

		<i>Other specify</i>	6.
	CANDLES (Only those who entered 13 in C1)		
C134	What does your business use candles for?	<i>Lighting</i>	1.
		<i>Other, specify</i>	2.
C135	How many candles does your business use per month?		
C136	In the last purchase, how many candles did your business buy?		
C137	How much in ZMW, did the last purchase cost?	<i>K.....</i>	
C138	How many days did the last purchase last?	<i>.....days</i>	
	Only ask those that are NOT connected to the national grid (code 1 in Question C1)		
C139	If electricity from the national grid was made available to your business, would you be willing to pay for the connection fee?	<i>1=Yes</i>	
		<i>2= NO>>>>> End interview</i>	
C140	How much would you be willing to pay in ZMW?	<i>K.....</i>	
C141	What method of payment would your business prefer to pay the connection fee?	Outright cash payment	1.
		Cash instalments	2.
		Through electricity bill as part-payment	3.