

Despite hydropower surplus, most Ugandans report lack of electricity

Afrobarometer Dispatch No. 441 | Ronald Makanga Kakumba

Summary

Electricity is a major determinant of a country's economic prosperity. Lack of access to electricity has an enormous impact on the use of emerging technologies, modern economic activities, public service delivery, and standards of living (Blimpo & Cosgrove, 2019).

About 15 years ago, Uganda experienced a power crisis, with electricity demand exceeding the available supply by a 2-to-1 ratio due to delayed capacity additions and low water levels in Lake Victoria (RMI, 2020). Today the country generates a surplus of electricity. Production capacity of 1,254 megawatts as of 2019 (Electricity Regulatory Authority, 2019) is expected to reach 1,800 megawatts if Karuma Dam is commissioned later this year.

Yet Ugandans can only consume about 600 megawatts at peak (Global Press Journal, 2020), in large part because the limited national electric grid doesn't reach most households.

In an attempt to address this supply-demand gap, the government put in place National Development Plans I & II and the Rural Electrification Strategy and Plan between 2010 and 2015, aiming not only to expand the national electric grid but also to accelerate the pace of gains in electricity access and service penetration (Ministry of Energy and Mineral Development, 2018).

In 2018, the government launched the Electricity Connection Policy giving customers an electricity connection for just UGX 20,000 (about U.S. \$5.50), aiming to ensure access for 60% of households by 2027 (Nile Post, 2021; Rural Electrification Agency, 2018).

Despite these efforts, the most recent official statistics show that only 26.7% of households have access to electricity, including just 18% in rural areas (Uganda Bureau of Statistics, 2016). In addition to the limited grid, barriers include high electricity tariffs and connection charges (Nabukeera, 2020; Blimpo, McRae, & Steinbuks, 2018). Moreover, funding shortages have slowed the implementation of existing policies, including suspension of the Electricity Connection Policy in late 2020 (NTV News, 2020).

A recent Afrobarometer survey provides an on-the-ground look at electricity access in the country. Findings show that only about half of Ugandans live in zones served by the electric grid, and only a quarter live in households that are connected to the grid. More households use solar energy than electricity from the national grid. Lack of access and connection to the national electric grid is especially common for the poorest citizens, rural residents, and those in the Northern and Western regions. Even so, citizens' ratings of the government's performance on providing reliable electricity have improved significantly.

These findings suggest that the government's plans, policies, and programs, while appreciated by citizens, require accelerated implementation to achieve widespread access and lower electricity costs.

Afrobarometer surveys

Afrobarometer is a pan-African, nonpartisan survey research network that has provided reliable data on experiences and evaluations of democracy, governance, and quality of life in 38 African countries since 1999. Afrobarometer conducts face-to-face interviews in the language of the respondent's choice with nationally representative samples.

This dispatch draws mainly on findings from a survey in September-October 2019 led by Hatchile Consult, which interviewed a nationally representative, random, stratified probability sample of 1,200 adult Ugandans. A sample of this size yields country-level results with a margin of error of +/-3 percentage points at a 95% confidence level.

Key findings

- The proportion of Ugandans who live in zones served by the national electric grid has doubled since 2005, from 24% to 49%.
 - Urban residents (90%) and citizens who live in the Central region (81%) are far more likely to be in zones served by the electric grid than their counterparts in rural areas (36%) and other regions (30%-46%).
- Only one in four Ugandans (26%) live in households that are connected to the national power grid. Poor citizens and residents in rural areas and in the Northern region are least likely to be connected.
- Among those who are connected to the grid, more than two-thirds (68%) say their electricity works "most of the time" or "all the of time."
- About four in 10 citizens (38%) live in households that use electric power from sources other than the national grid. More households use solar energy (33%) than electricity from the national grid.
- Despite low rates of connection to the electric grid, citizens' assessments of the government's performance continue to climb: A majority (58%) of Ugandans say the government is doing a good job of providing a reliable supply of electricity.

Access to the electric grid

For most households, having access to an electric grid will remain an essential prerequisite for obtaining power until alternative energy resources become more widely used. But access to an electricity grid continues to be a challenge for citizens in many African countries (Chingwete, Felton, & Logan, 2019; Oyuke, Halley, & Howard, 2016).

According to Afrobarometer's 2019 survey in Uganda, only half (49%) of citizens live in areas served by an electricity grid (Figure 1).

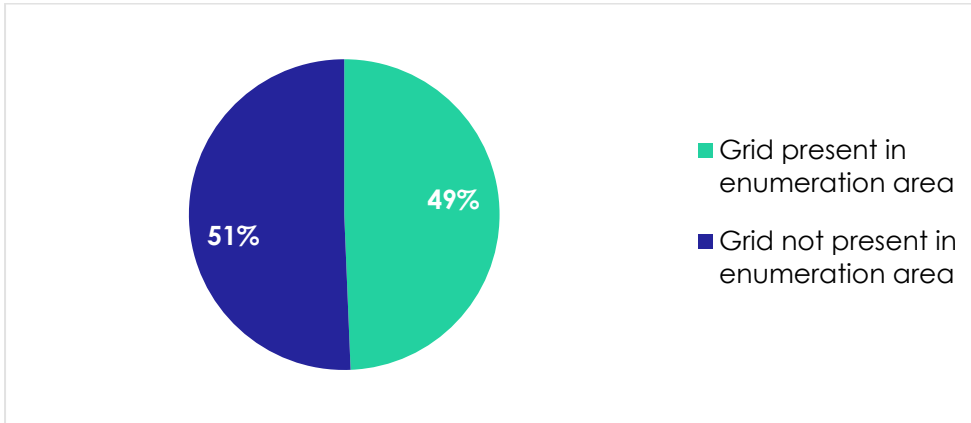
But this represents a 14-percentage-point increase compared to 2017 (35%), and a doubling of access since 2005 (24%) (Figure 2).

The presence of the electric grid is particularly limited in rural areas (36%) and in the Northern (30%) and Western (35%) regions. In contrast, residents in urban areas (90%) and the Central region (81%), which includes Kampala, are more than twice as likely to live in zones served by the electric grid (Figure 3).

Among 18 countries that Afrobarometer surveyed in late 2019 and early 2020, Uganda (49%) ranks below average (65%) in the proportion of citizens who live in areas served by an electric grid, far behind top performers Tunisia (100%), Cabo Verde (96%), Botswana (94%),

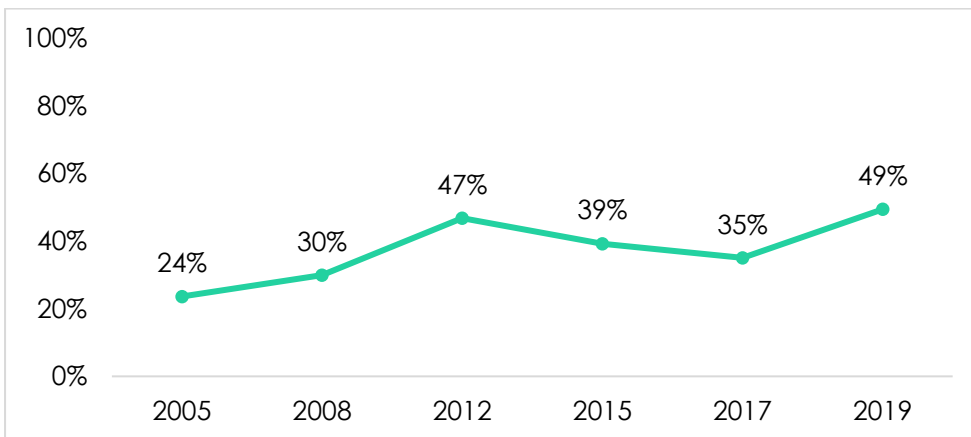
Ghana (91%), and Gabon (91%). Six of the 18 countries perform more poorly than Uganda, led by Burkina Faso (31%) and Ethiopia (32%) (Figure 4).

Figure 1: Presence of electricity grid | Uganda | 2019



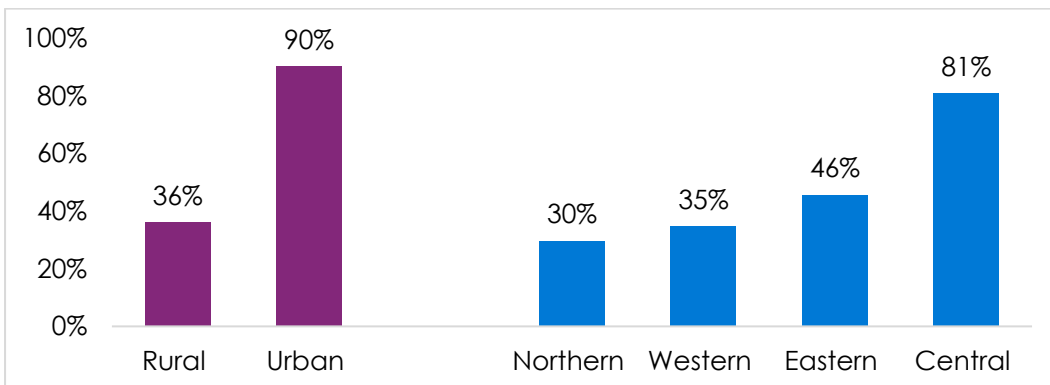
Survey enumerators were asked to record: Are the following services present in the primary sampling unit/enumeration area: Electricity grid that most houses can access?

Figure 2: Presence of electricity grid | Uganda | 2005-2019



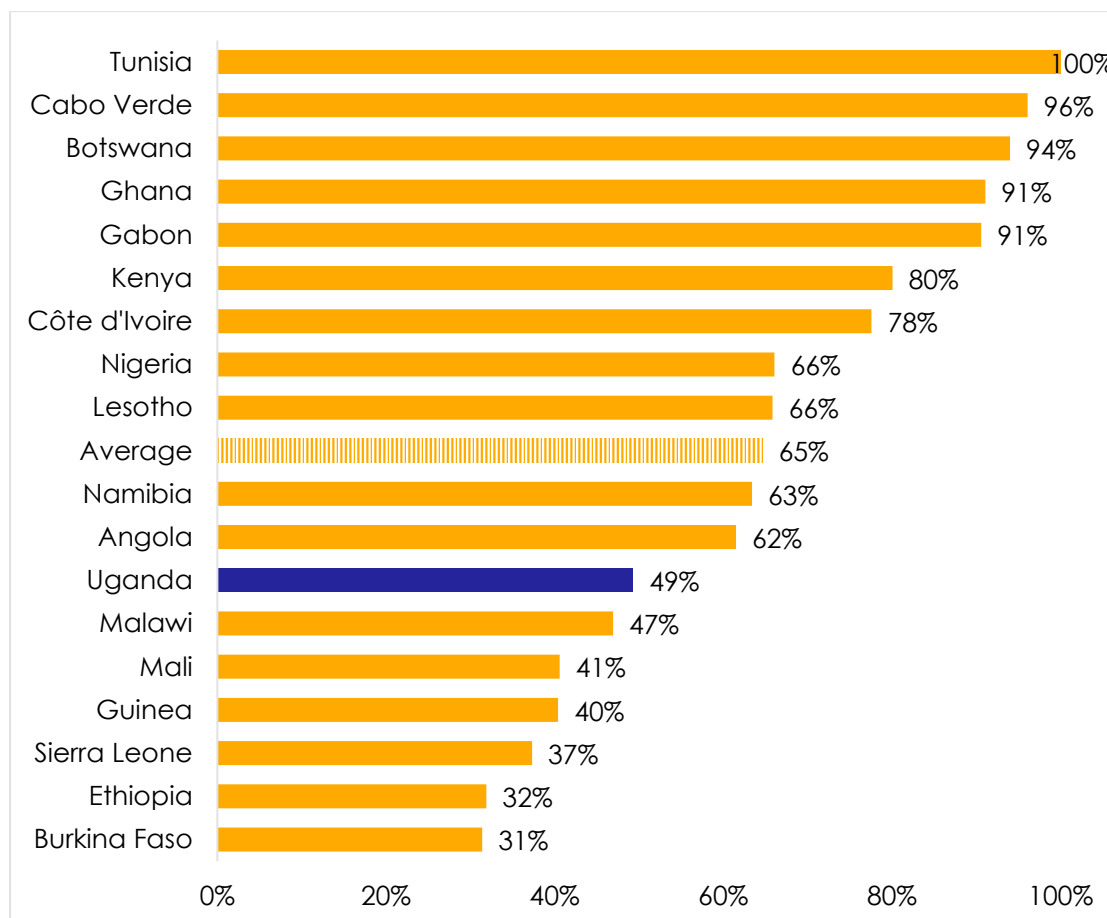
Survey enumerators were asked to record: Are the following services present in the primary sampling unit/enumeration area: Electricity grid that most houses can access? (% "yes")

Figure 3: Presence of electricity grid | by location | Uganda | 2019



Survey enumerators were asked to record: Are the following services present in the primary sampling unit/enumeration area: Electricity grid that most houses can access? (% "yes")

Figure 4: Presence of electricity grid | 18 African countries | 2019/2020



Survey enumerators were asked to record: Are the following services present in the primary sampling unit/enumeration area: Electricity grid that most houses can access? (% "yes")

Connection to the electric grid

Living in zones served by an electric grid does not guarantee a supply of electricity. Costs associated with service from the power grid – including fees for inspection, house wiring, and connection – may present prohibitive hurdles for many citizens.

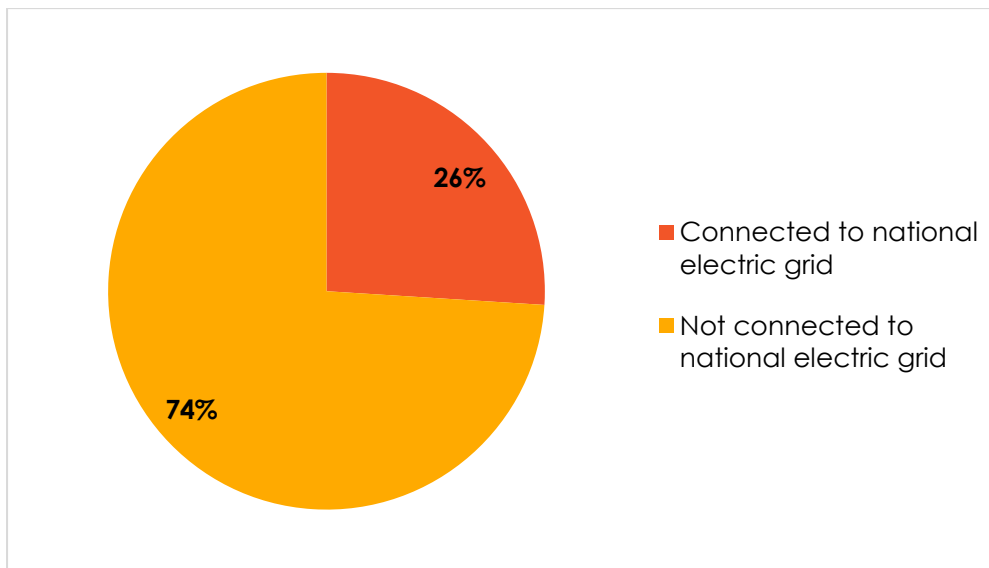
Only one in four Ugandans (26%) live in households that are actually connected to the electric grid (Figure 5).

Urban residents (67%) are five times as likely to have an electricity connection as their rural counterparts (13%) (Figure 6). Almost half (47%) of residents of the Central region have electricity, compared to fewer than one-fourth of residents of the Eastern (23%), Western (18%), and Northern (11%) regions.

As might be expected, the poorest¹ citizens (14%) are far less likely to be connected to the power grid than those experiencing no or low lived poverty (37%-38%).

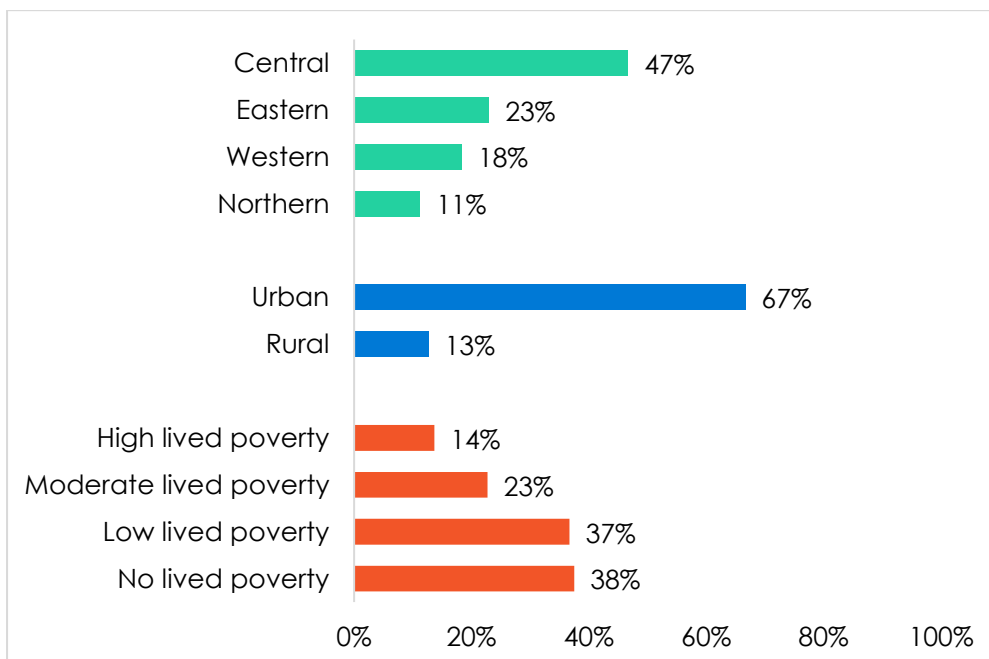
¹ Afrobarometer's Lived Poverty Index (LPI) measures respondents' levels of material deprivation by asking how often they or their families went without basic necessities (enough food, enough water, medical care, enough cooking fuel, and a cash income) during the preceding year. For more on lived poverty, see Mattes (2020).

Figure 5: Connection to the national electric grid | Uganda | 2019



Respondents were asked: Do you have an electric connection to your home from the national power grid?

Figure 6: Connection to the national electric grid | by location and lived poverty | Uganda | 2019

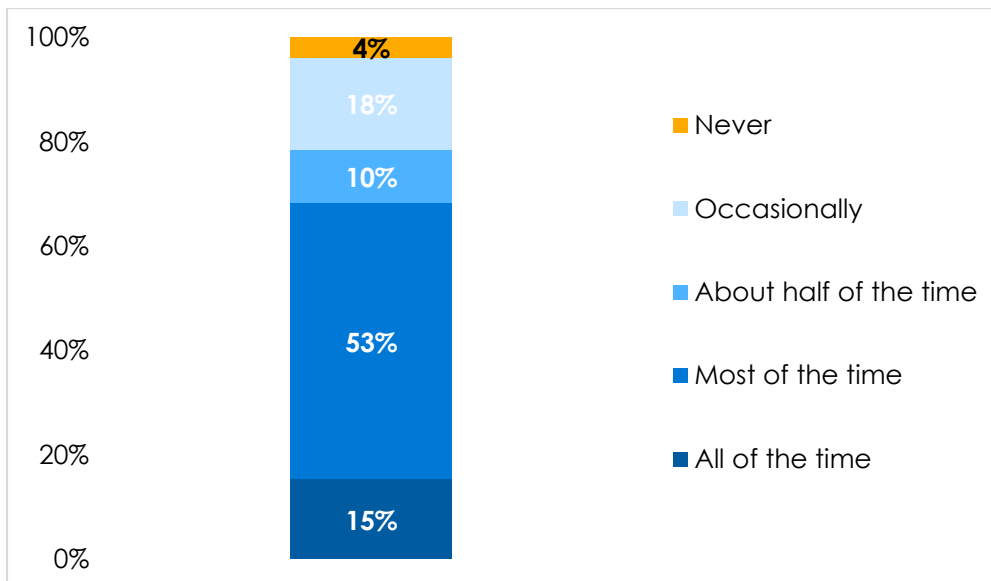


Respondents were asked: Do you have an electric connection to your home from the national power grid? (% "yes")

Reliable supply of electricity

Among the 26% of citizens who report being connected to the power grid, more than two-thirds (68%) say that electricity is available "most of the time" or "all of the time" (Figure 7). About one-third say that despite their connection, power is available only "about half of the time" or less.

Figure 7: How often is electricity power available? | Uganda | 2019



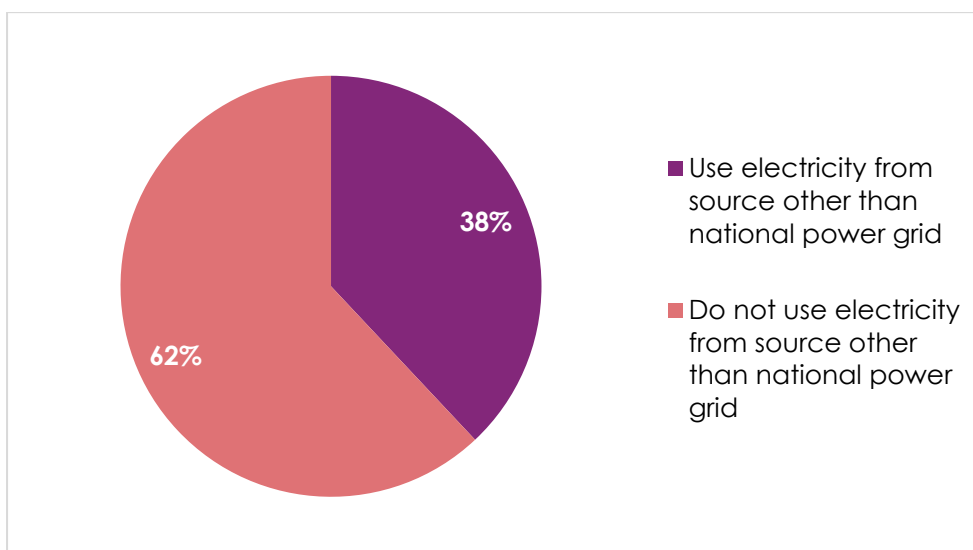
Respondents who said they have a connection to the national electric grid were asked: How often is electricity actually available from this connection? (Respondents without a connection to the national grid are excluded.)

Alternative sources of electric power

People may use sources of electricity other than the national grid if they live in areas not served by the grid, or consider the costs of connecting to the grid too high, or have other reasons for preferring alternative sources of power.

Survey results indicate that about four in 10 Ugandans (38%) use electric power from sources other than the national power grid (Figure 8) – 12 percentage points more than report a connection to the national power grid (26%).

Figure 8: Connection to other sources of electric power | Uganda | 2019

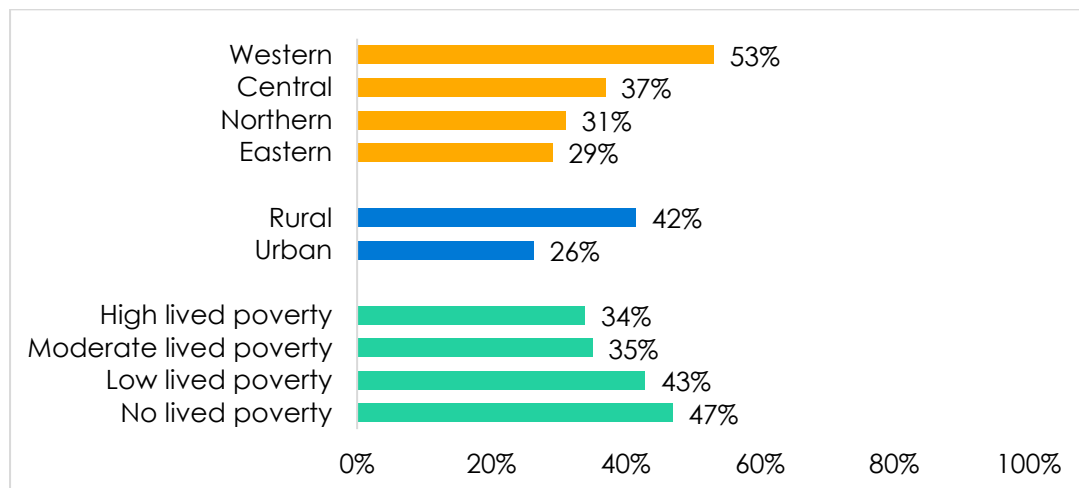


Respondents were asked: Does your house use electric power from any source other than the national power grid?

In rural areas, where access to the electric grid is especially low, residents are more likely than their urban counterparts to use power from other sources (42% vs. 26%) (Figure 9). The use of alternative sources of electricity is also higher in the Western (53%) and Central (37%) regions than in the Eastern (29%) and Northern (31%) regions.

But while poor citizens are less likely to be connected to the national grid, they are also less likely than their better-off counterparts to use other sources of power.

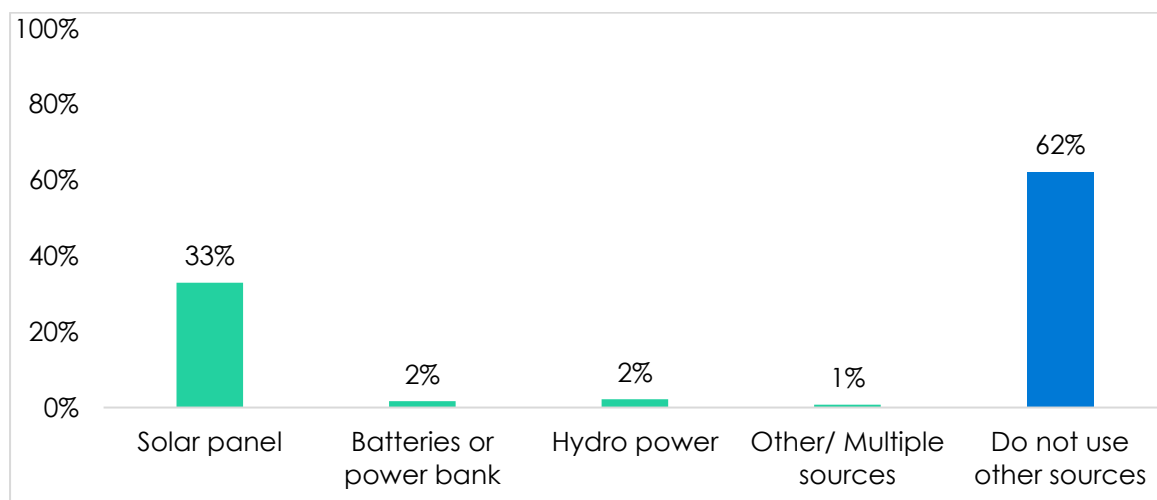
Figure 9: Connection to other sources of electric power | by location and lived poverty | Uganda | 2019



Respondents were asked: Does your house use electric power from any source other than the national power grid? (% "yes")

Among those who get electricity from sources other than the national power grid, the overwhelming majority use solar energy, making the sun a power source for fully one-third (33%) of the Ugandan population – 7 percentage points more than report a connection to the national power grid. Far smaller proportions use hydro power and batteries or power banks (2% each of the whole sample) (Figure 10).

Figure 10: Other sources of electricity used | Uganda | 2019



Respondents were asked: Does your house use electric power from any source other than the national power grid? [If yes:] What is the source of the electricity for this connection?

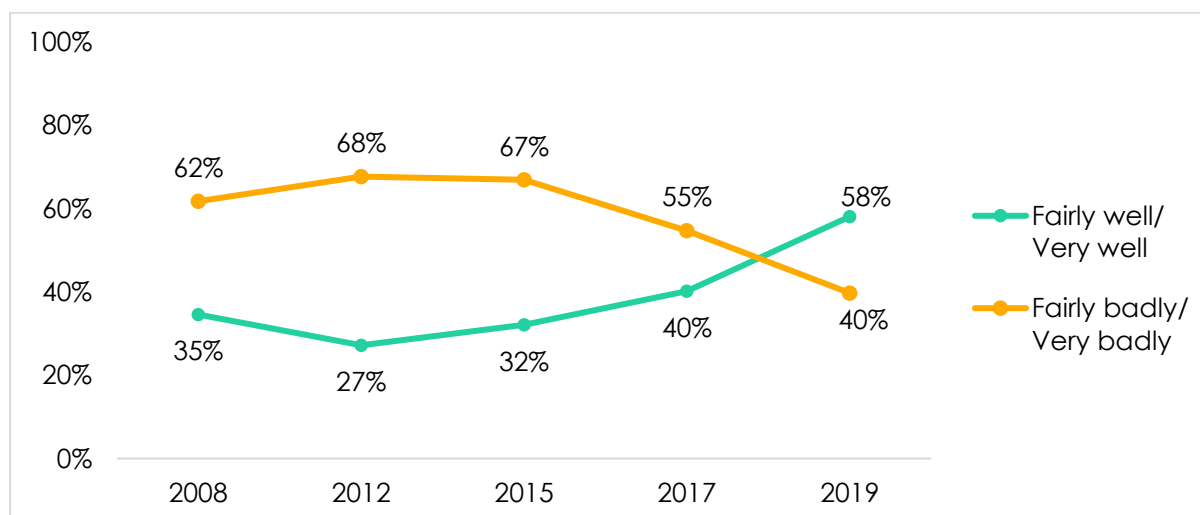
Government performance on electricity supply

Even though only one-fourth of Ugandans say they get electricity from the national grid, a majority (58%) say the government is performing “fairly well” or “very well” on the provision of a reliable electricity supply. Ratings of the government performance on electricity have been improving steadily over the past decade, with approval more than doubling since 2012 (27%) (Figure 11).

These increasingly positive evaluations may reflect awareness of government policies and programs designed to increase electricity-generation capacity, extend the electric grid, and improve household access to power, even if they haven't yet made electric power a reality for many Ugandans.

Figure 11: Government performance in provision of reliable electricity supply

| Uganda | 2008-2019



Respondents were asked: How well or badly would you say the current government is handling providing a reliable supply of electricity, or haven't you heard enough to say?

Conclusion

Despite Uganda's surplus in electricity generation, most citizens lack access and connection to the national power grid. Poor people and residents of rural areas and the Northern and Western regions are particularly disadvantaged.

Nonetheless, the government receives increasingly positive ratings of its performance on providing reliable electricity, probably attributable to its policies and programs designed to improve access to electricity.

These findings point to the need to address implementation challenges of existing electricity-access plans and policies in order to accelerate the pace of gains in access, bridge the supply-demand gap, and lower the unit cost of electricity.

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