International Energy Agency

AFREC webinar: LPG data in Africa

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Clean cooking is a strategic priority for the IEA

Summit on Clean Cooking in Africa
May-24, Paris, France

3-weeks Energy Modelling Capacity Building Workshop in 2024 in Italy

IEA energy efficiency training week
18-21 March, Nairobi, Kenya

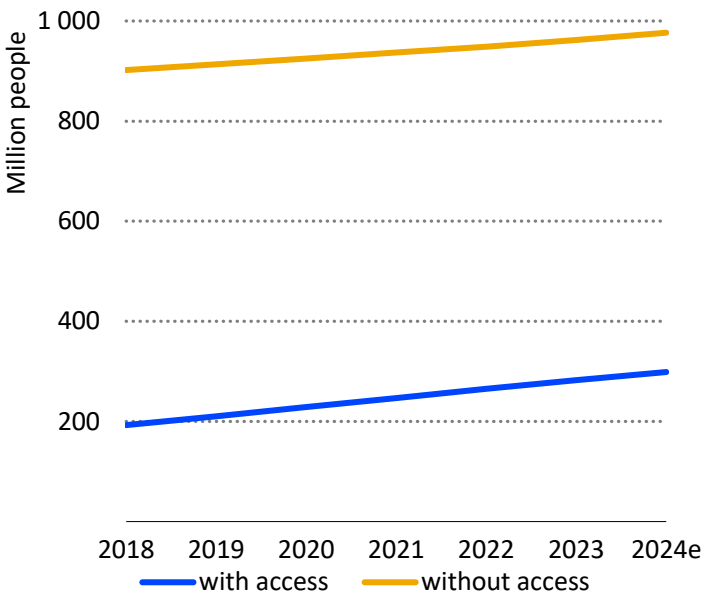
IEA - Tanzania Bilateral
Apr-24, Istanbul, Turkey

A vision for clean cooking access for all, IEA Tracking SDG7 reports, IEA and other IOs

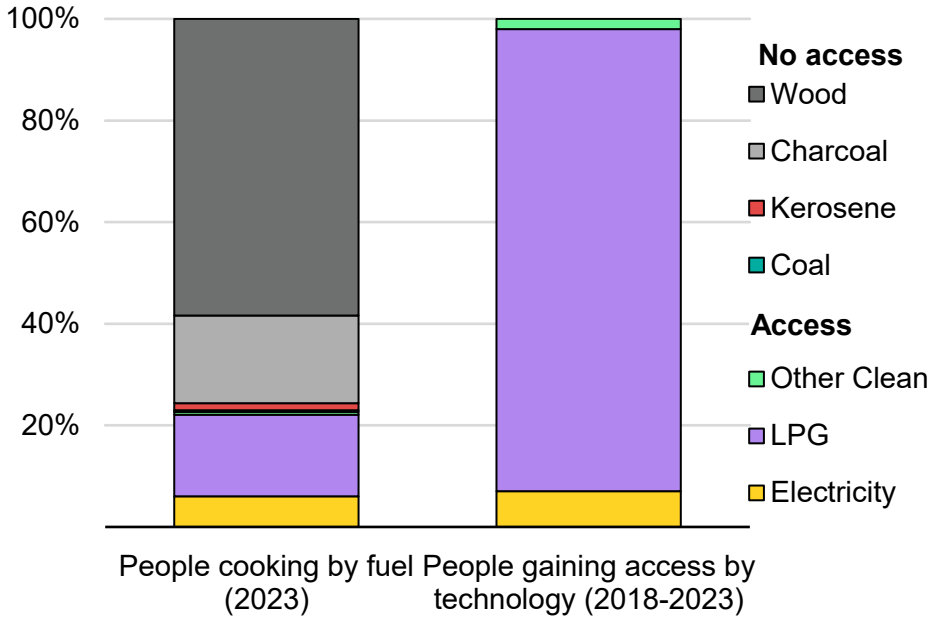
The IEA provides unbiased data, policy advice and support implementation towards secure, affordable and sustainable energy systems globally and in Africa. Clean cooking is a strategic priority for the IEA.

Recent access to clean cooking trends

Number of people with and without access, sub-Saharan Africa 2018 – 2024e



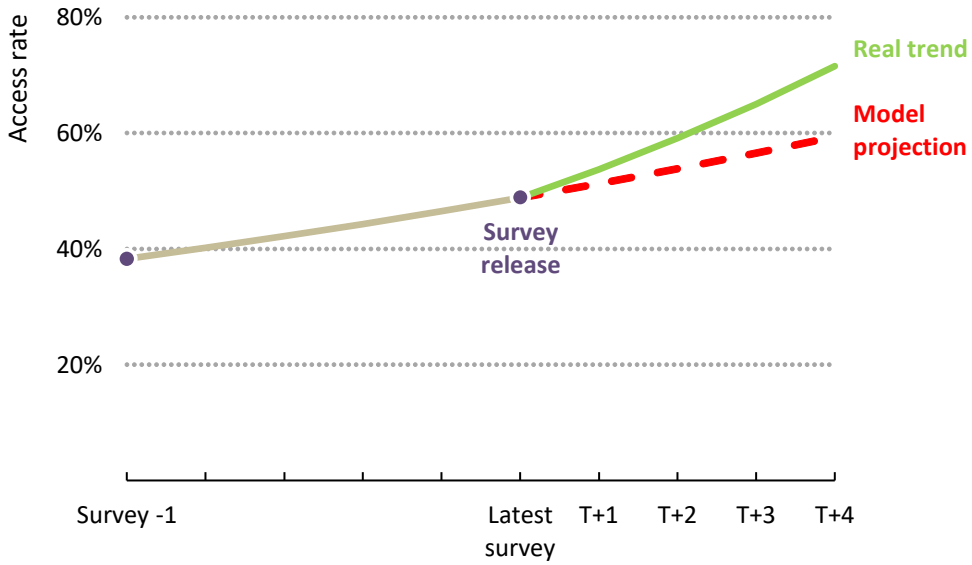
Population with clean access by technology in sub-Saharan Africa, 2023



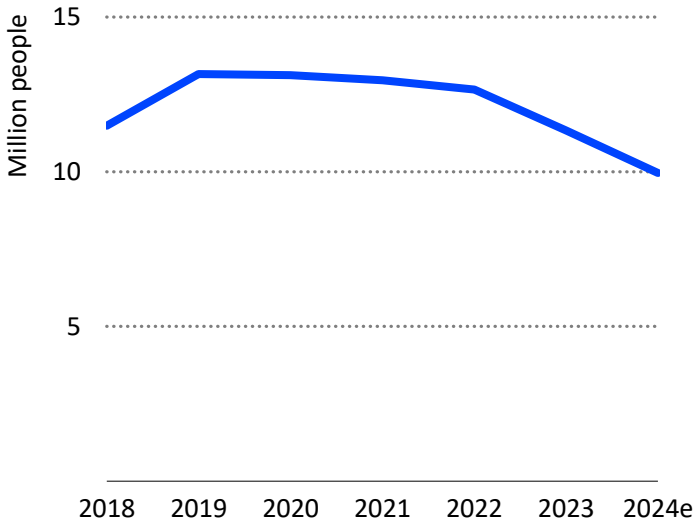
Population growth has outpaced people gaining access to clean cooking in the last 5 years. Over 90% of clean cooking access was driven by LPG adoption.

Current clean cooking tracking fails to capture recent dynamics

Illustrative example highlighting the limitations of survey-based approaches in capturing recent dynamics



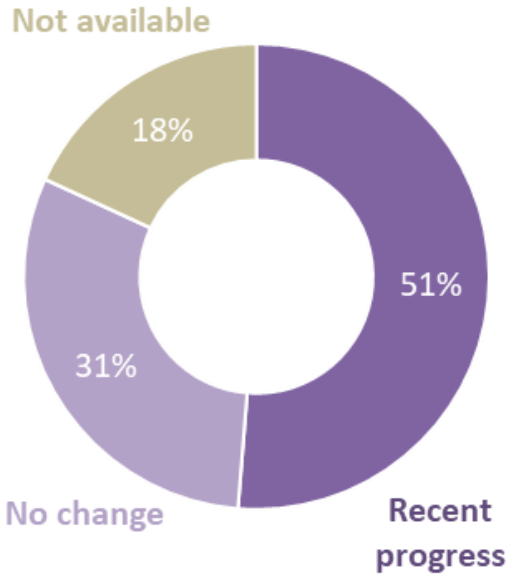
Annual number of people gaining access in sub-Saharan Africa based on survey data models



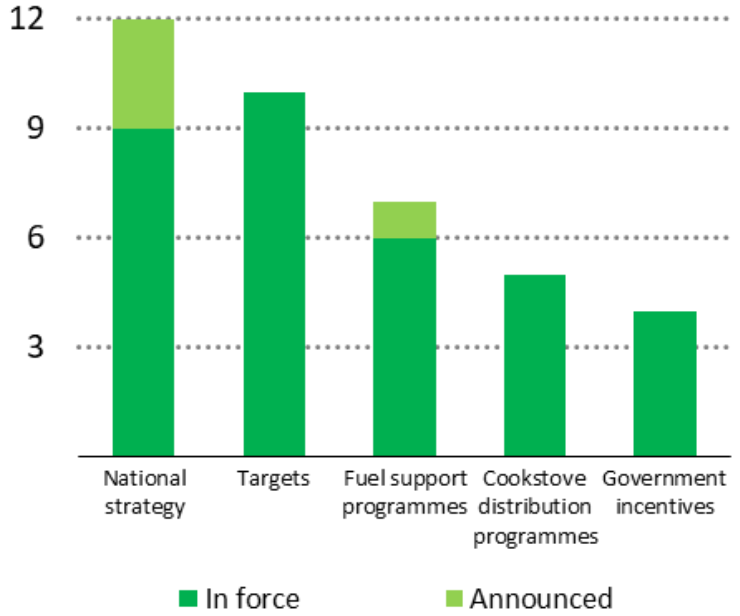
Survey-based approaches fail to capture recent clean cooking progress and should be complemented with supply-side data to provide a more timely and accurate picture

African countries are accelerating clean cooking policy efforts

Share of population without access living in countries with policy progress in 2024

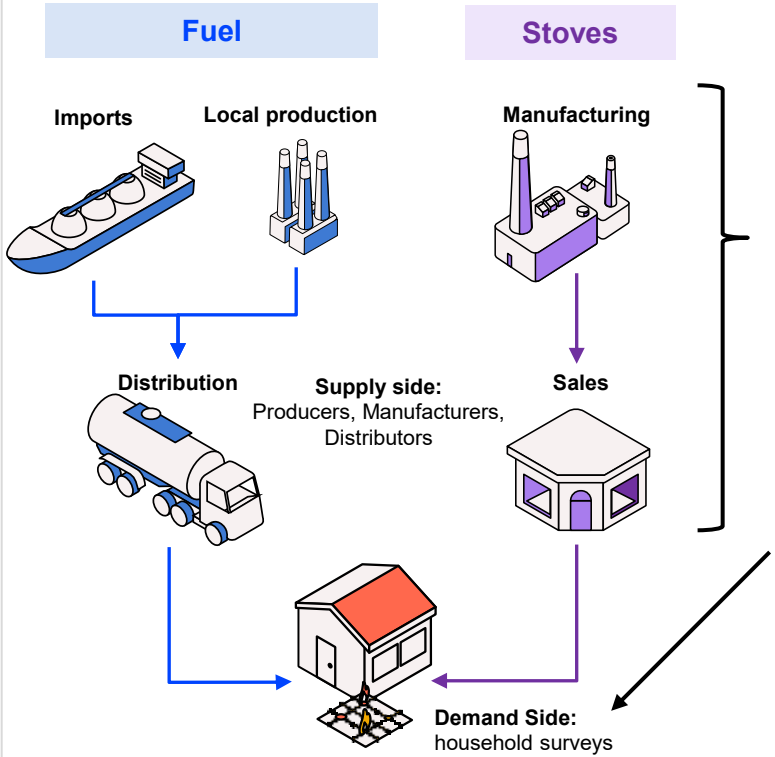


Number of countries with new clean cooking policies since 2024



Since the Summit on Clean Cooking in Africa,
more than half of the people without clean cooking access saw positive policy progress.

Methodologies – Combining supply side and demand side data



Industry data

Advantages

- Less costly and easy to implement
- Higher frequency of data availability

Challenges

Additional efforts to count:
- Different fuels
- Fuel stacking
- Reimports across borders

Surveys

Advantages

- Avoids double counting
- Helps ground truth stove use against total sales
- Provides linked household data (e.g. do they also have electricity access)
- Helps assess consumption across sectors

Challenges

- Costly and run every 5-10 years
- Difficulty getting necessary sample size in remote areas
- Subjectivity of responses

Combining the two approaches can provide many synergies for a sound data strategy and lead to more comprehensives, higher quality and more timely estimates of clean cooking access

Supply side data collection: potential challenges

Fuel

Main data sources:
- Fuel suppliers and distributors
- National customs authorities
- Producers
- Industries and non-residential buildings

Challenges:
- Identifying consumption by end-uses
- Harmonise the different sources
- Disaggregating energy products
- Informal or unrecorded cross-border fuel trade
- Delays in customs data

Notable current examples:
- South Africa energy balances

Infrastructure and equipment

Main data sources:
- Stove manufacturers
- Industry associations
- National customs authorities
- Program implementers
- Carbon credit registries
- Fuel suppliers and distributors

Challenges:
- Lack of standardised classification of stoves
- Counting stove stacking
- Tracking informal market sales

Notable current examples:
- Burn and Koko stove tracking, …

Prices

Main data sources:
- Fuel suppliers and distributors
- Market monitoring agencies

Challenges:
- Price variability by location
- Price variability over time
- Price variability by product
- Informal market pricing

Notable current examples:
- Nigeria's canisters index, …

Potential supply side data sources for clean cooking

	Source	Metric collected and reported	LPG	Bioethanol	Biogas	Electricity	Natural Gas	ICS
Stoves	Manufacturers / Industry associations	Number of stove produced by type	○	○	○	○	○	○
	Customs authorities	Import-export data (from HS codes)	○	○	○	○	○	○
	Registries	Carbon credits issuances by stove type		○	○			○
	Clean cooking program implementers	Number of stoves distributed by type	○	○	○	○	○	○
Cannisters	Manufacturers / Industry associations	Number of cannisters produced	○					
Fuels	Suppliers	Fuel supplied	○	○		○	○	
	Industries and non-residential buildings	Fuel consumption	○	○	○	○	○	
	Distribution sites	Fuel sales, refill frequency	○	○				
	Customs authorities and producers	Fuel imports, exports and production	○	○		○	○	
Prices	Fuel suppliers and distributors	Fuel prices or index	○	○		○	○	
Notes	○ = new reporting, ○ = improving current reporting, ○ = potential synergies with VAT / tariff exemptions							

Improving LPG data would be key to track clean cooking progress

Current issues in LPG data analysis:

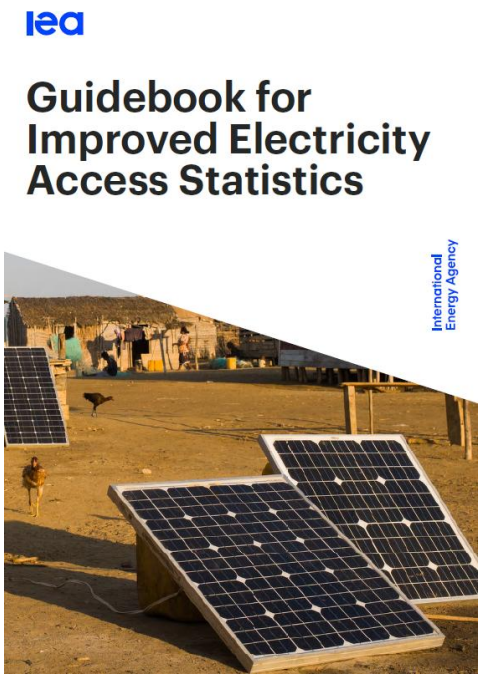
1. **Data gaps:** Comprehensive data on LPG supply and end-use demand is frequently absent from official balances.
2. **Reliability issues:** where LPG data is available, it is not always reliable.
3. **Data consistency:** Gaps between official LPG statistics, bottom-up demand estimations, and import/consumption figures from other data providers.
4. **Data aggregation:** LPG figures are sometimes aggregated with data for other fuels such as natural gas or biogas.
5. **Unknown calorific value:** LPG has a wide range of calorific values. This value is not always known by African country.

Key considerations for improving LPG data and enabling clean cooking tracking:

1. **Urban vs rural split:** disaggregated data by rural and urban areas facilitate clean cooking tracking.
2. **LPG specifications:** report national standards for LPG, including composition, calorific values and other relevant specifications.
3. **Granular data:** Collect and report LPG consumption data by end-use sectors (e.g. residential sector, services, industry…)
4. **Industry data:** request companies to monitor and report on cylinders in circulation, LPG infrastructure, distribution points, estimated number of households and other consumers relying on LPG, volumes consumed, refill frequency per customer.
5. **Economic metrics:** track overall sales revenues and develop indices such as canister price indices.

A new guidebook for improved clean cooking access statistics?

- The IEA released the *Guidebook for Improved Electricity Access Statistics*, a step-by-step guide to develop access to electricity indicators using **supply-side data**.
- Supply-side data is more accessible and cost-effective, ideal for tracking electrification progress. Combined with surveys it can provide high quality and **more timely estimates** of electricity access.
- The guidebook is also accompanied by spreadsheet tools that countries can use as a template for requesting data from suppliers, and include automated data validation tools
- The IEA considers developing a new version of the guidebook, **focusing on clean cooking access statistics** for 2026.



How can the IEA most effectively support your country in collecting data on LPG and broader supply-side data for clean cooking efforts?