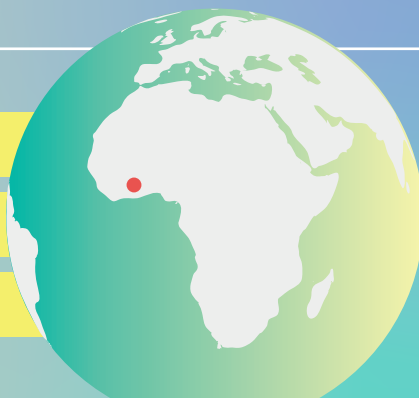


Energy Sub-Saharan Africa Programme in Ghana

Africa's **10th largest economy** in 2022 with **3.1% real GDP growth**

Producer of **crude oil and gas**

Large producer of **steel**



Ghana's energy mix is diverse, with oil, natural gas, and bioenergy as the primary fuels. **Oil** accounts for more than one-third of the total energy supply and is mainly used in the **transport** sector, while **bioenergy** is widely used in the **residential** sector.

Natural gas is the main fuel source for **electricity** generation, and electricity accounts for 17% of total final consumption. Ghana aims to increase oil and gas production and shift from light crude oil to natural gas in electricity generation. Additionally, the country plans to develop **hydro plants** to lessen **reliance on fossil fuels**.

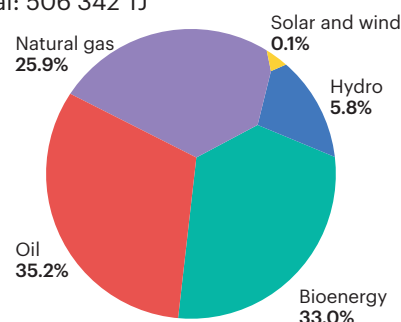
KEY POLICIES

- The **National Development Plan** (2018-2057) and the **Medium-Term Policy** (2022-2025) outline a vision for Ghana to be prosperous and self-reliant, prioritising universal access, renewable energy, investment in generation capacity, and leveraging the oil and gas sector to drive economic growth. The policies aspire to position Ghana as a regional energy hub.
- The **National Energy Policy** (2021) aims to expand and sustain Ghana's energy resources using modern technologies, striving for greater self-sufficiency and increased energy exports through a diversified power sector and oil and gas production. Key targets include universal electricity access by 2024 and 50% LPG penetration by 2030 to increase access to clean cooking.
- The **Ghana Energy Transition and Investment Plan** (2023) aims for net-zero emissions by 2060 with six guiding principles: investment, new growth sectors, energy security, employment, sustainability, and affordability. The plan requires USD 550 billion in investment by 2060 and has the potential to create over 400 000 jobs. It envisions strong capital market involvement in the energy sector, with significant efforts needed to de-risk investments.
- The **Energy Commission Act 541** mandates the Energy Commission to establish a comprehensive energy database to support national decision making for efficient energy resource development.

ENERGY MIX

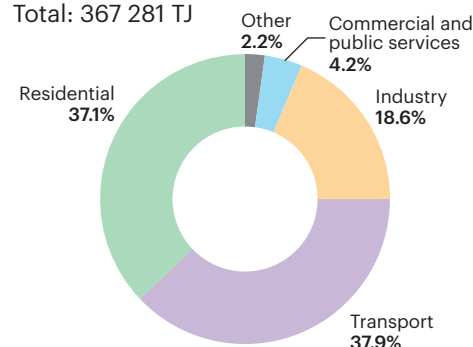
Total energy supply, 2022

Total: 506 342 TJ



Total final consumption, 2022

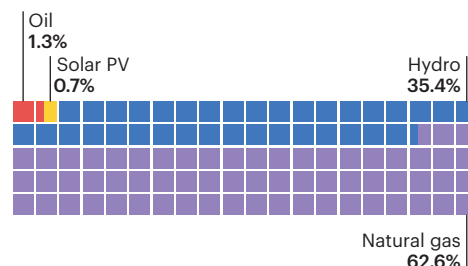
Total: 367 281 TJ



ELECTRICITY MIX

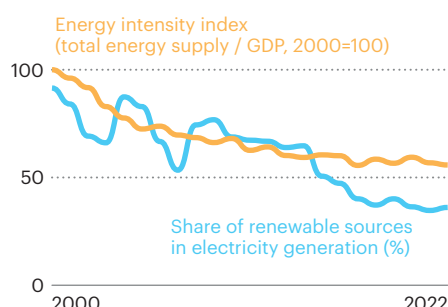
Electricity generation by source, 2022

Total: 23 167 GWh



KEY DATA

Data refer to year 2022 ▲ ▼ indicate the evolution of the indicator compared to 2021



Population ▲

33.5 million



CO₂ emissions per capita ▼

0.62 tCO₂ per capita



Energy intensity ▼

7 326 MJ per thousand 2015 USD



Gross Domestic Product ▲

68.1 billion USD (2015 prices and ex rates)



Net exports ▲

111.5 PJ



Share of renewables in electricity generation ▲

36.1 %



ACCESS TO CLEAN COOKING AND ELECTRICITY

23 million

people rely on **traditional biomass** for cooking



31%

of population has access to clean cooking



89%

of population has access to electricity



Since 2000, Ghana has significantly improved energy access, ranking in the top third of sub-Saharan Africa for access to both electricity and clean cooking. Electricity access has almost doubled, with **near universal access in urban areas** and increasing focus on **off-grid solutions** for hard-to-reach communities. Clean cooking access has also risen four-fold, with the government prioritising LPG as a key fuel to expand access. To address last-mile access challenges, current policies are targeting **mini-grids**, **standalone renewables**, **quality regulations** for renewable products, and **innovative financing** for system deployment and maintenance. In 2024, the country endorsed the **Clean Cooking Declaration** to make 2024 a pivotal year for clean cooking.

Electricity access breakdown

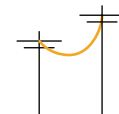
>99%

of the population in **urban areas** has access to electricity



74%

of the population in **rural areas** has access to electricity



4 million

people are **without access to electricity**



TRACKING SECURE ENERGY TRANSITION

- Energy security is a top priority for Ghana, with the country aiming for energy self-sufficiency. As a **net electricity exporter** and **member of the West African Power Pool**, Ghana's energy security and reliability have been improving, and efforts are being made to enhance grid infrastructure.
- With a strong reliance on natural gas in the power sector, Ghana is investing in solar, wind, and hydro projects to **reduce fossil fuel dependence** and **increase energy system resilience**. With most of the country's renewable capacity being hydropower, there is a push towards diversifying the renewable mix to better manage variability.
- Ghana has emerged as a key player in Africa's oil and gas industry**, with considerable increases in exploration and production. Although the country has refining capabilities, most crude oil is exported, and virtually all finished oil products are imported. There is political interest in revitalising domestic refining capabilities and further expanding the country's oil and gas industry.

Ghana imports and exports (energy security)

TJ	Exports	Imports
Bioenergy	-21	
Crude oil	-304 341	1 319
Oil products		181 030
Electricity	-7 975	134
Natural gas		18 911
Total	-312 887	201 395

--- Net trade

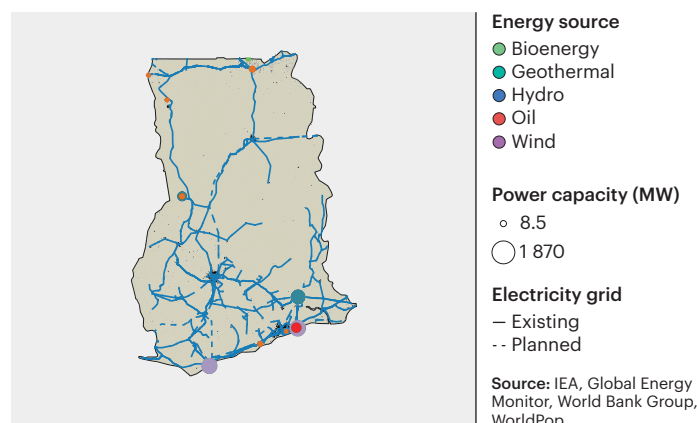
Note: Positive net value indicates that the country is dependent on imports of the energy source. Negative net value indicates that the country is a net exporter of the energy source.

Nationally determined contribution targets for energy

Base year (2019)	Unconditional (2030)	Conditional (2030)
17.7 Mt CO ₂	31.4 Mt CO ₂	17.0 Mt CO ₂

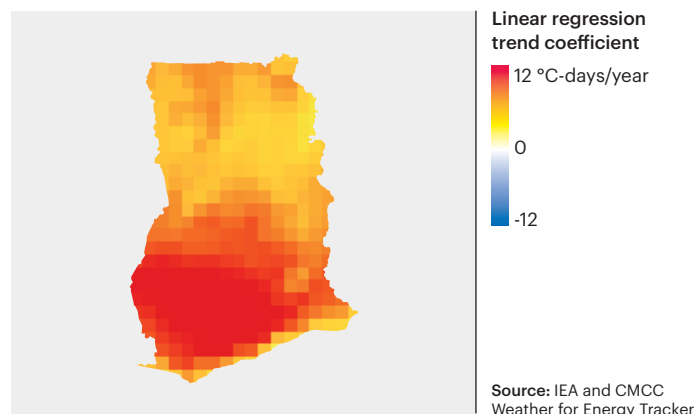
Power infrastructure map

The map below shows the types and capacities of power plants in the country as well as the electricity grid.



Weather trend map

The map below shows the annual trend of cooling degree days (indicator for space cooling needs) at grid level for 1979-2023.



These maps are without prejudice to the status of or sovereignty over any territory, to the delimitation of international frontiers and boundaries and to the name of any territory, city or area.

