

Energy Corridors in **Africa**

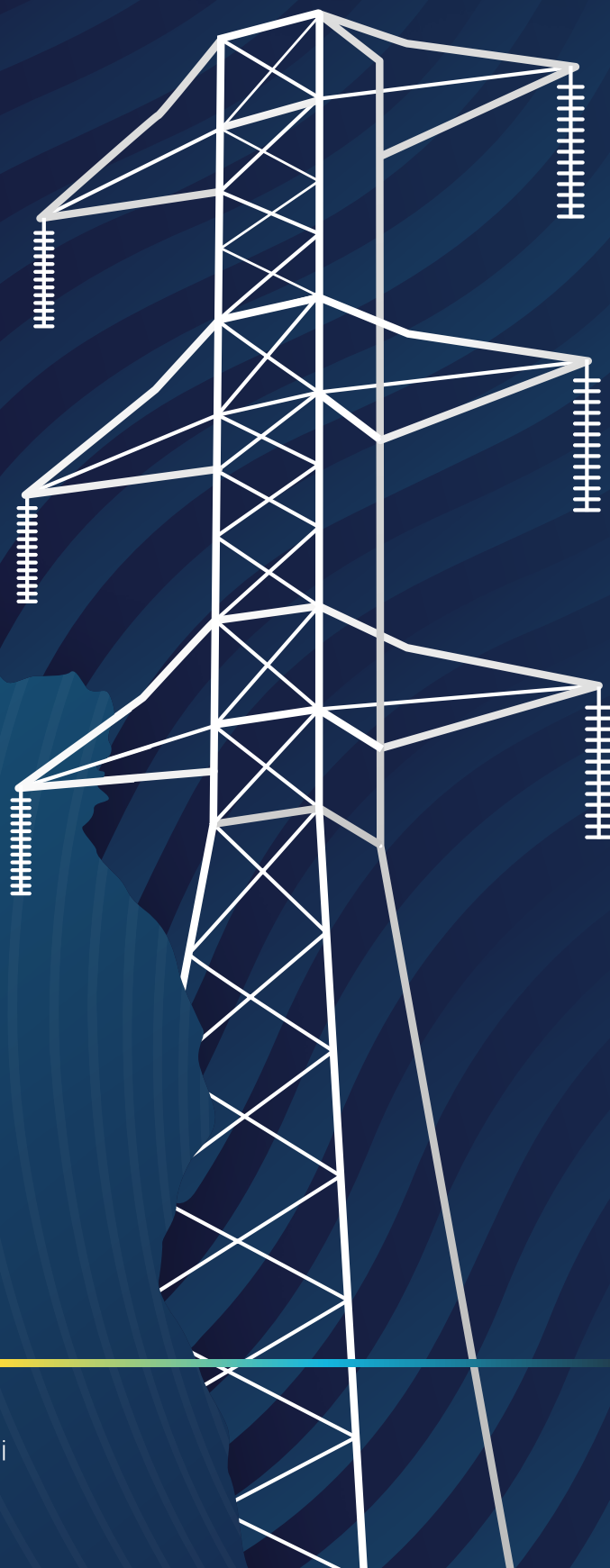
Key to the ecological transition and
regional integration

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Foreword



Ouael Chouchene

Secretary of State for Energy Transition,
Republic of Tunisia

Africa is moving forward, driven by a profound conviction: its energy future will be the foundation of its development. Our resources and talents are already paving the way for a continent that wants to produce, transform, and exchange its energy to serve its own prosperity. Energy corridors are not simply infrastructure; they are the arteries of an interconnected, united, and ambitious Africa. They embody our capacity to transcend borders to share light, literally and symbolically the light of electricity, but also the light of knowledge and innovation.

Tunisia, at the crossroads of Africa and Europe, is fully committed to this dynamic. Our vision is clear: to make energy connectivity a lever of sovereignty and an engine of sustainable growth, serving the African people and their shared future. The ELMED project, the first direct current interconnection between Africa and Europe, embodies this ambition. It demonstrates that regional integration is not an abstract idea, but a reality under construction, capable of paving the way for a more stable, efficient, and better-interconnected Mediterranean energy market. The results of the study presented in this report reinforce this conviction: that of a resilient, united Africa, resolutely committed to a low-carbon future. May this work foster a collective momentum so that energy finally becomes what it should be: a force for unity and exchange.

“
***Africa's future will depend on its
ability to master energy and
science.***
”

Cheikh Anta Diop

Acknowledgments

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Mondher Khanfir, Souheil El Alimi

Abstract

This study positions Ecological and Industrial Transformation (EIT) as the new strategic paradigm for African integration. It moves beyond the narrow logic of electricity access to place energy at the heart of productive development, industrial competitiveness, and continental sovereignty. In this perspective, the ecological transition is not merely a climate imperative; it becomes the driver of a low-carbon, inclusive, and interconnected economy where energy fuels local value chains and regional growth hubs.

The study demonstrates that energy sovereignty lies not only in production capacity but in the ability of States to prioritize domestic needs—agriculture, industry, and services—before exporting to external markets. This approach strengthens internal growth while preparing Africa to become a strategic supplier of clean energy (green electricity, hydrogen, ammonia) to global markets.

Energy corridors are presented as the arteries of this transformation, the continent's true nervous system. Linking production, transport, and productive use, they integrate the dimensions of the Water–Energy–Food–Ecosystem (WEFE) Nexus and enable the creation of interconnected regional markets.

These corridors promote resource pooling, reduce production costs, and enhance supply security, while supporting climate resilience and productive sovereignty. The study introduces a novel energy taxonomy that distinguishes five regional profiles based on costs, energy intensity, and renewable energy share. This classification, rather than emphasizing divides, provides an analytical foundation for regional complementarity and for designing differentiated, interconnected corridors.

It is grounded in a theory of change structured around three systemic disruptions:

- **Technological:** accelerating endogenous innovation and local equipment manufacturing
- **Infrastructural:** building intelligent and interconnected energy corridors.
- **Institutional:** harmonizing regulatory frameworks and pooling financial resources.

The report sets out a roadmap to strengthen Africa's bankability, resilience, and energy sovereignty. It recommends positioning energy corridors as instruments of active regional integration, by harmonizing policies, pooling investments, and promoting projects with strong interconnection potential. Infrastructure and innovation must be central to this strategy: modernizing grids, developing storage systems, renewable energy, and smart grids, supported by continent-wide technological pilot programs.

On the financial front, the creation of blended finance vehicles –green bonds, pooled regional guarantees, and risk-mitigation mechanisms- is essential to reduce country risk and attract both private and institutional capital sustainably. These instruments should align with continental strategic frameworks such as Agenda 2063, PIDA, and AfSEM, ensuring coherence between planning, financing, and implementation. The report also stresses the importance of leveraging Africa's human and technological capital through training, knowledge transfer, and the emergence of local industrial clusters (solar panels, electrolyzers, batteries).

Equitable access to energy –particularly through mini-grids and off-grid solutions- remains a social and territorial priority, as does the activation of the Water–Energy–Food Nexus, a key driver of territorial circular transformation. Finally, renewed international cooperation is essential to align global initiatives with African priorities and secure financing and technology transfer conditions. Conceived in this way, African energy corridors become far more than infrastructure—they form the arteries of an inclusive ecological and industrial transformation, carriers of shared sovereignty and African leadership in the global transition toward a decarbonized economy.

Key words

Energy corridors, Regional integration, Ecological transition, Industrial transformation, Renewable energy, Access to electricity, Power pools, Electricity market, Energy infrastructure, Energy governance, Investment, Green hydrogen, Low-carbon industrial development, Energy sovereignty.

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Acronyms

ACRONYM	DESIGNATION
AEEP	– Africa–EU Energy Partnership
ACET	– African Center for Economic Transformation
AFC	– Africa Finance Corporation
AfCFTA	– African Continental Free Trade Area
AfDB	– African Development Bank
AfSEM	– African Single Electricity Market
AU	– African Union
AUDA-NEPAD	– African Union Development Agency – New Partnership for Africa’s Development
BTU	– British Thermal Unit
CAPP	– Central African Power Pool
CAPEX	– Capital Expenditure
CBAM	– Carbon Border Adjustment Mechanism
CLSG	– Côte d’Ivoire–Liberia–Sierra Leone–Guinea Interconnection Project
COMELEC	– Comité Maghrébin de l’Électricité (Maghreb Electricity Committee)
DFC	– U.S. International Development Finance Corporation
DRC	– Democratic Republic of the Congo
EACOP	– East African Crude Oil Pipeline
EAPP	– Eastern Africa Power Pool
ECOWAS	– Economic Community of West African States
EIA	– U.S. Energy Information Administration
EIB	– European Investment Bank
EIT	– Ecological and Industrial Transformation
ELMED	– Tunisia–Italy Electricity Interconnection Project
ENTSO-E	– European Network of Transmission System Operators for Electricity
EOR	– Enhanced Oil Recovery
ESG	– Environmental, Social and Governance
EU	– European Union
FCR	– Frequency Containment Reserve
FEED	– Front-End Engineering Design
FFR	– Fast Frequency Reserve
FX	– Foreign Exchange
GERD	– Grand Ethiopian Renaissance Dam
GIZ	– Deutsche Gesellschaft für Internationale Zusammenarbeit
GME	– Verify meaning in report
H ₂	– Hydrogen
HVAC	– High Voltage Alternating Current
HVDC	– High Voltage Direct Current
IAEA	– International Atomic Energy Agency
ICLSG	– Côte d’Ivoire–Liberia–Sierra Leone–Guinea Interconnection Project
ICT	– Information and Communication Technologies

Acronyms

ACRONYM	DESIGNATION
IEA	International Energy Agency
IIP	Integrated Industrial Platform (ARISE IIP)
IPP	Independent Power Producer
IRENA	International Renewable Energy Agency
IRIS	Institut de Relations Internationales et Stratégiques
ISO	International Organization for Standardization
LCOE	Levelized Cost of Electricity
LNG	Liquefied Natural Gas
MENA	Middle East and North Africa
MRV	Monitoring, Reporting and Verification
NAPP	North African Power Pool
NBI	Nile Basin Initiative
OECD	Organisation for Economic Co-operation and Development
OMVG	Gambia River Basin Development Organization
PIDA	Programme for Infrastructure Development in Africa
PIDA-PAP	Programme for Infrastructure Development in Africa – Priority Action Plan
PV	Photovoltaic
R&D	Research and Development
R2I	Research, Innovation and Investment
RDI	Research, Development and Innovation
REN21	Renewable Energy Policy Network for the 21st Century
SADC	Southern African Development Community
SAPP	Southern African Power Pool
SDG7	Sustainable Development Goal 7 – Affordable and Clean Energy
SMR	Small Modular Reactor
STEG	Société Tunisienne de l'Électricité et du Gaz
SWOT	Strengths, Weaknesses, Opportunities and Threats
TABC	Tunisia Africa Business Council
TFEC	Total Final Energy Consumption
TPV	Thermophotovoltaic
TRANSCO CLSG	Transmission Company of Côte d'Ivoire–Liberia–Sierra Leone–Guinea
TSGP	Trans-Saharan Gas Pipeline
UNECA	United Nations Economic Commission for Africa
US	United States
VGf	Viability Gap Funding
WAPP	West African Power Pool
WEFE	Water–Energy–Food–Ecosystems Nexus

Units

UNIT	DESIGNATION		
A	– Ampere	MWh	– Mega Watt-hour
Ah	– Ampere-hour	Nm ³	– Normal cubic meter
bbl	– Barrel of oil	ppm	– Parts per million
bcm	– Billion cubic metres	PJ	– Peta Joule (1e+15 Joule)
Btu	– British thermal unit	t	– Ton (metric ton)
°C	– Degree Celsius	tCO ₂	– Ton of carbon dioxide
g	– Gram	tCO ₂ e	– Ton of carbon dioxide equivalent
GJ	– Gigajoule	TWh	– Tera Watt-hour
GtCO ₂	– Gigatonnes of carbon dioxide	toe	– Ton of oil equivalent
GtCO ₂ e	– Gigatonnes of carbon dioxide equivalent	USD	– United States Dollar
GW	– Gigawatt	€ = Euro	– Euro per Mega Watt-hour
GWh	– Gigawatt-hour	V	– Volt
Hz	– Hertz	W	– Watt
J	– Joule	%	– Percent
kg	– Kilogram		
kgCO ₂	– Kilograms of carbon dioxide		
kgCO ₂ e	– Kilograms of carbon dioxide equivalent		
kg.o.e.	– Kilogram of oil equivalent		
km	– Kilometre		
km ²	– Square kilometre		
kV	– Kilovolt		
kVA	– Kilovolt-ampere		
kW	– Kilowatt		
kWh	– Kilowatt-hour		
L	– Liter		
m	– Meter		
m ²	– Square meter		
m ³	– Cubic meter		
Mb/d	– Million barrels per day		
MJ	– Mega Joule		
Mt	– Million tons		
MtCO ₂	– Million tons of carbon dioxide		
MtCO ₂ e	– Million tons of carbon dioxide equivalent		
Mtoe	– Million tons of oil equivalent		
MVA	– Mega Volt-Ampere		
MW	– Mega Watt		

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Section 1

African energy landscape in transition

Africa stands at a decisive turning point in its energy development. The continent possesses remarkable potential, both in fossil resources and renewable energy sources, capable of meeting growing domestic demand and contributing to the global energy transition. Yet this potential remains under exploited. Infrastructure deficits, fragmented regional markets, various risks (regulatory, currency, counter party), and significant inequalities in access to electricity hinder integrated, sustainable, and inclusive development.

This section shows how energy corridors, supported by reliable interconnections, market rules that value flexibility, and a strong industrial foundation, can reduce costs, smooth intermittency, and accelerate green industrialization. It lays the groundwork for African energy sovereignty based on well-managed exchanges and strengthened bankability.

- 1.1 New energy paradigms and geopolitical reconfiguration
- 1.2 The energy transition at the heart of power dynamics
- 1.3 Towards African energy sovereignty
- 1.4 Accelerating energy interconnections in Africa
- 1.5 Cutting-edge technologies serving endogenous industrialization

1.1 New energy paradigms and geopolitical reconfiguration

In a context where global energy dynamics are being profoundly reshaped—amid geopolitical tensions, climate imperatives, and technological transformations—Africa is being called upon to redefine its position. Energy remains a strategic pillar for sovereignty, industrial competitiveness, and regional integration across the continent.

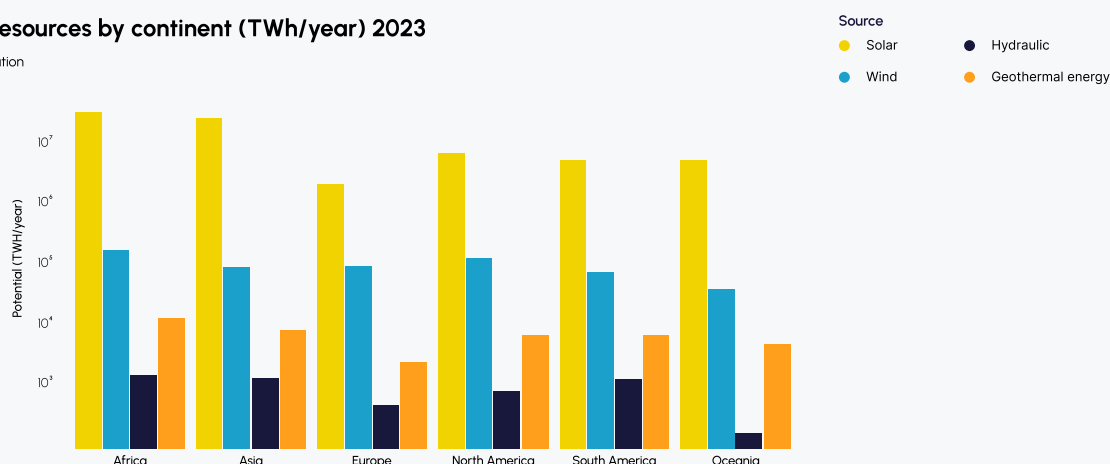
Several African countries are initiating a transition toward diversified and resilient energy models, seeking to move beyond their historical role as mere exporters of raw materials and to become producers and processors generating high added value.

In this regard, the global energy transition is reshaping traditional geopolitical balances.

figure 1

Potential of renewable resources by continent (TWh/year) 2023

Source: U.S. Energy Information Administration
WWW.eia.gov



Africa's total energy potential exceeds 60,000,000 TWh per year (see Figure 1). Yet the continent remains the one with the lowest rates of access to modern, reliable, and affordable energy: nearly 600 million Africans still lack access to electricity, and more than 900 million continue to rely on traditional fuels for cooking.

This energy paradox undermines the continent's economic and social development. As highlighted in the "State of Infrastructure in Africa 2024" report by the Africa Finance Corporation (AFC), the absence of a modern energy system constitutes a major obstacle to industrialization, the competitiveness of local businesses, and the local transformation of resources.

The case of Guinea is emblematic: although it holds the world's largest reserves of bauxite, its lack of adequate energy infrastructure limits its capacity for refining and aluminum production. This contrasts with Australia, which derives far greater value from its resources thanks to a robust energy system, particularly one based on natural gas.

The rapid decarbonization of advanced economies, the rise of low-carbon technologies, and efforts to secure supply chains for critical raw materials are redefining states' strategic priorities. In this context, countries endowed with abundant renewable resources are emerging as new geo-economic hubs.

Africa has all the assets required to occupy a central position in this new energy landscape. The continent hosts: the world's highest solar potential (Sahelian zone), major hydropower basins such as the Nile and the Congo River, growing wind potential in the Maghreb and the Horn of Africa, and still largely under exploited geothermal resources in the East African Rift.

African energy policies can therefore no longer be limited to measuring progress solely by household electrification rates. It has become urgent to adopt indicators better suited to structural transformation challenges, such as the "Modern Energy Minimum"—the minimum energy consumption threshold required not only to meet basic social needs but also to power industrial and productive processes.

According to the Africa Finance Corporation (AFC), for Africa to converge toward the levels of industrialized economies, this reference threshold would need to be at least tripled across the continent.

The energy gap is also evident in the level of accumulated energy capital. In 2019, the value of Africa's energy capital stock reached only USD 10.5 billion (constant prices), compared with nearly USD 64 billion in China. While China maintained a sustained growth rate of its capital stock (about 10% per year), Africa has remained in a stagnation dynamic, with only moderate growth of 2–4% per year since the early 2000s.

Faced with this situation, energy corridors emerge as a strategic pillar to overcome these bottlenecks by pooling resources, interconnecting networks, and supporting regional industrialization. They offer Africa the opportunity not only to meet its internal needs but also to position itself as a central player in the global transition to a low-carbon economy.

1.2 The energy transition at the heart of power dynamics

Energy is now inseparable from global power relations. Decisions made by major economies regarding decarbonization, supply security, and cutting-edge technologies are reshaping the geopolitical balance. In this context, Africa is no longer merely a resource concentration hub; it is becoming a strategic space where the future of the global ecological transition is being shaped. Traditionally, debates have focused on the notion of an "energy transition." However, this term remains incomplete when explaining African challenges.

While it describes the shift from fossil-based systems to low-carbon systems, it does not reflect the simultaneous requirement for industrialization. This is why this report adopts the term "energy and industrial transformation," connecting two dimensions:

- Energy transformation: decarbonizing production and consumption systems, developing renewable energy, enhancing energy efficiency, and integrating storage and smart grid technologies.
- Industrial transformation: linking this energy shift to productive upgrading, through local processing of critical minerals, production of green steel, low-carbon fertilizers, or components for electrification (solar panels, batteries, cables).

This dual approach responds to a strategic imperative: preventing Africa from becoming a mere "battery of the world" without industrial benefits while ensuring that decarbonization also serves productive sovereignty and regional integration.

It positions the continent as a stakeholder of the new global low-carbon economy. This approach aligns with the work of the African Center for Economic Transformation (ACET), which, through its Growth with DEPTH framework (Diversification, Export competitiveness, Productivity, Technological upgrading, Human well-being), shows that structural transformation cannot be limited to energy alone.

It must be part of a broader strategy of productive diversification and value addition. Energy and industrial transformation should thus be understood as a systemic shift, where energy acts as a multi-accelerator for industrialization, competitiveness, and sovereignty.

The implementation of Nationally Determined Contributions (NDCs) under the Paris Agreement, along with initiatives such as the Africa-EU Green Energy Partnership, can catalyze this transformation by aligning investments, technology transfers, and climate diplomacy.

For the transition to be just and sovereign, the continent must invest heavily in storage technologies, smart grids, transport infrastructure, as well as in human capital and regional governance.

This requires adapted governance tools: fair power purchase agreements, local ESG criteria, incentivizing extractive taxation, and value-sharing in global supply chains. Africa must position itself not as a distant observer but as a co-architect of the new global low-carbon economy.

1.3 Towards African energy sovereignty

1.3.1 Shifting the paradigm : from extractivism to productivity.

The dominant model of energy resource exploitation in Africa still largely relies on extractive logic and inherited infrastructures, often referred to as "pit-to-port" models.

These one-way logistics chains, focused on exporting raw materials to external markets, have generated export revenues while eroding real gains in industrialization or economic sovereignty.

This model has now reached its limits. On one hand, it exposes African economies to the volatility of global commodity prices. On the other, it deprives the continent of the multiplier effects of local transformation: creation of value added jobs, industrial upgrading, technological capacity building, and development of integrated regional markets.

The energy transition in Africa must therefore be tied to an industrial transition, aligning energy production with the needs of local value chains: refining minerals, producing green steel, hydrogen-based fertilizers, or manufacturing components for electrification (solar panels, batteries, cables, etc.).

Africa also possesses critical resources—lithium, cobalt, copper, manganese—essential for the transition to low-carbon technologies.

The strategy should not be limited to producing energy for export or urban centers. It must incorporate the creation of “green industrial zones” or processing clusters linked to energy corridors. These hubs can capture a larger share of the value chain, provided they are supported by:



Reliable energy infrastructure at a competitive cost.



Interconnection with regional markets and export ports.



A fiscal, land, and customs framework conducive to productive investment.

The example of integrated industrial zones developed by ARISE IIP (in Gabon, Benin, and Togo), with support from the Africa Finance Corporation (AFC), illustrates the feasibility of such a model.

The example of integrated industrial zones developed by ARISE IIP (in Gabon, Benin, and Togo), empowered by Africa Finance Corporation (AFC), illustrates the feasibility of such a model.

These zones, connected to dedicated port and energy infrastructure, enable the establishment of processing industries—particularly in wood, textiles, and construction materials—while generating significant local added value.

In this sense, energy corridors must become vectors for developing integrated, circular, and low-carbon value chains, breaking away from isolated or downstream dependent models.

Energy consumption per capita, expressed in kilograms of oil equivalent (kgoe), remains a useful indicator for assessing economic development levels. In Africa, it ranges between 1,170 and 2,440 kg per capita per year, with no direct link to the level of industrialization (see Figure 2).

When expressed per 1,000 USD of GDP, energy consumption highlights pockets of high intensity (see Figure 3). According to the map, Democratic Republic of Congo, Mozambique, Zambia, Madagascar, and Libya are among the most energy-intensive (high kgoe per 1,000 USD of GDP). In contrast, several coastal West African countries show lower intensity levels.

High energy intensity does not equate to prosperity; it often reflects:

- An extractive production structure (mining, metallurgy, refining) that consumes large amounts of energy per unit of added value—for example, copper in Zambia, aluminum in Mozambique, and mining activities in the DRC.

figure 2

Energy consumption in kg of oil equivalent (kgoe) per capita

Source: IEA Energy Statistics Data Browser,
iea.org/data-and-statistics/data-tools/energy-statistics-data-browser

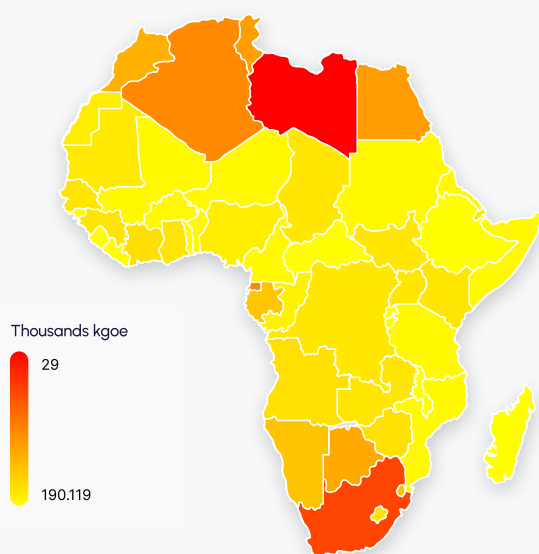
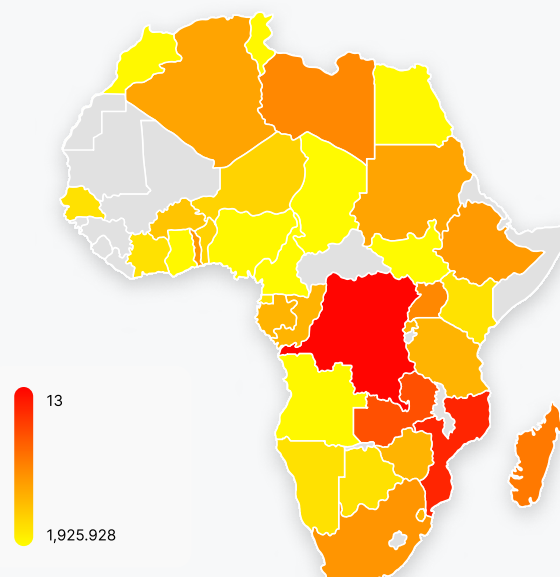


figure 3

Total energy supply in kgoe per 1000 US\$ of GDP (US \$ constant PPP 2021)

Source: IEA Energy Statistics Data Browser,
iea.org/data-and-statistics/data-tools/energy-statistics-data-browser



- Inefficient systems: high technical losses, outdated thermal generation, heavy reliance on diesel generators, and low efficiency in end-use consumption.

- Denominator effect: low per capita GDP (and a limited service base) mechanically increases the kgoe per unit of GDP ratio.

Reducing energy intensity does not mean “consuming less energy” compromising activity, but producing more value per unit of energy. Priority actions include:

- Industrial efficiency: improving processes, heat management, engines, recovery of waste heat, and rehabilitating power plants and grids (reducing losses).
- Substitution of diesel: replacing diesel with grid-connected and renewable solutions with storage.
- Industrial upgrading: increasing value-added production, supported by targeted tariff reforms that encourage efficiency.
- Regional integration: interconnections and power markets/pools to manage peaks, pool hydro and solar + storage, and reduce delivered costs.

1.3.2 African regional disparities in energy production

Some countries, such as Nigeria, South Africa, Egypt, and Algeria, account for the majority of continental production, whether in hydrocarbons, coal, or electricity.

In contrast, many sub-Saharan African countries have very low production, often below their own domestic demand, resulting in chronic import dependence and limited access to energy.

These gaps are evident not only in absolute volumes (TWh or Mtoe) but also in energy intensity per capita or per unit of GDP (see country profiles in the annex), highlighting the contrast between energy-exporting economies and countries with high energy vulnerability. This fragmented energy geography underscores the low regional market integration (see Figure 4) and the dispersed transport and processing infrastructure.

The origin of these disparities is not only economic or geological; it is also institutional and historical. Electrical and gas networks were designed to serve colonial capitals or export-oriented mining areas and were never intended to promote regional connectivity.

Even today, this fragmentation limits the pooling of capacities and cross-border exchanges, despite significant energy balancing potential (Congo hydro, Sahel solar, Gulf of Guinea gas, Southern Africa wind).

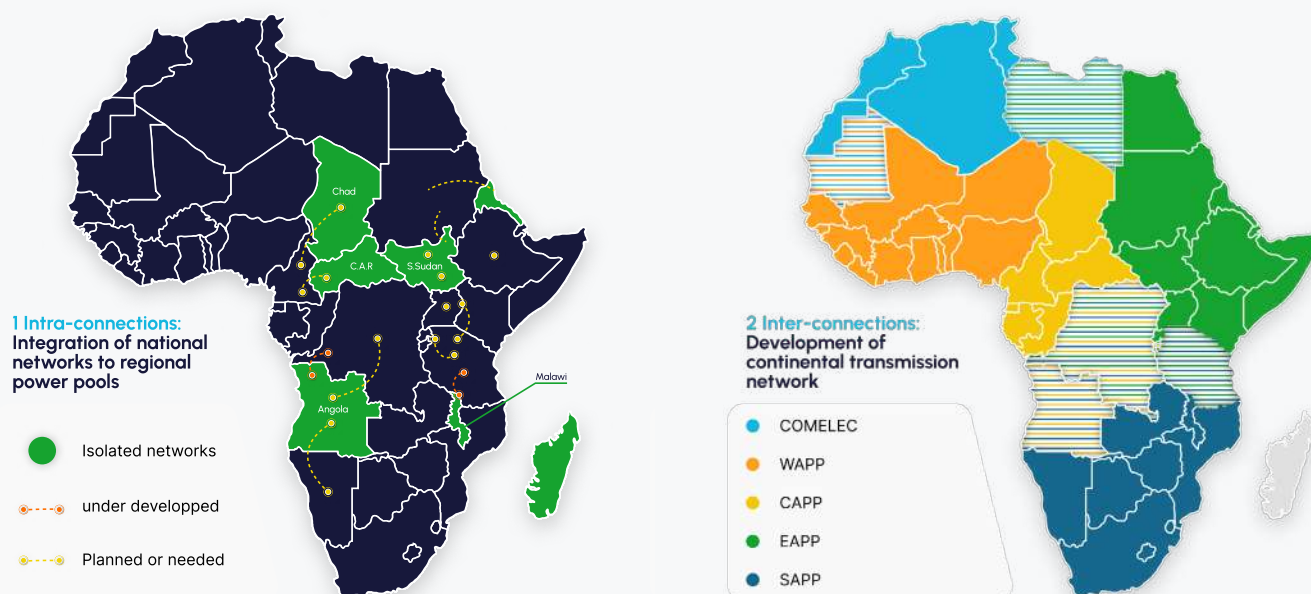
1.4 Accelerating energy interconnections in Africa

The development of interconnected networks is fundamental to securing energy supply and strengthening regional integration and international energy cooperation. In Africa, electrical interconnection projects enable the pooling of resources, cost reduction, better management of consumption peaks, easier integration of renewables, and the attraction of investment.

figure 4

National Networks at the continental scale. The case of unified african energy markets

Source: AFC Maps



Emblematic projects illustrating the interconnexion dynamics

ELMED Interconnector (Tunisia – Italy)

Countries Concerned: Tunisia, Italy

Type: Direct current (HVDC) subsea interconnection

850 M€

Investment

including €300 million co-financed by European Union

≈200 KM

Length

600-1200 MW

Ability

Status:
Under construction –
commissioning planned by
2028

Partners:
STEG (Tunisia), Terna (Italy),
Connecting Europe Facility

Strategic objectives: Export excess electricity, particularly renewable electricity, to Europe. Integrate Tunisia into the European electricity market.

Egypt - Saudi Arabia interconnection

Countries Concerned: Egypt - Saudi Arabia

Type: High capacity HVDC line

3000 MW

Ability

Status:
Under construction
Partners:
Hitachi Energy, Orascom
Construction, public companies

Strategic objectives: Ensure a flexible exchange of electricity between the two countries according to peaks in demand.

Geopolitical interest: This project positions Egypt as an energy platform between Africa and the Arabian Peninsula, with a growing role in transregional electricity flows.

ICLSG Project (Ivory Coast – Liberia – Sierra Leone – Guinea)

Countries Concerned: Ivory Coast – Liberia – Sierra Leone – Guinea

Type: Regional Alternating Current (HVAC) Interconnect

508 M USD

Investment

225 KV

Ability

1303 KM

Length

TRANSCO ICLSG

Operator

Status:
Operational since 2023

Partners:
World Bank, AfDB, EIB, KfW

Strategic objectives: Integrate countries into the West African network (WAPP). Pooling electricity production, with Ivory Coast as an exporting hub. Reduce electricity costs and expand access in post-conflict areas. Promote regional economic and political stability.

Geopolitical interest: Pillar of the ECOWAS energy program, the ICLSG project is a successful example of sub-regional electricity integration, combining solidarity, efficiency and security.

These projects demonstrate that African energy integration is not limited to the continent itself: it also connects Africa to its northern neighbors and the Gulf, consolidating its role in the new clean energy routes. The rise of cross-borders corridors is therefore a structural lever for Africa's geopolitical influence within the framework of the global energy transition.

1.5 Cutting-edge technologies supporting endogenous industrialization

1.5.1 The Technological Imperative for Africa's Energy Transition

Africa cannot succeed in its energy transition without access to innovation and the development of scientific research to actively appropriate innovative technologies. The goal is not merely to import ready-made solutions but to build an endogenous capacity for innovation, adaptation, and industrial production based on the RDI triptych: Research – Development – Innovation.

The real challenge lies in moving from being a mere consumer of imported technologies to becoming a co-producer, developer, and exporter of innovative solutions tailored to African realities.

These solutions must be:



Technologically reliable and fully integrated into the industrial value chain.



Financially accessible, supported by innovative business models (leasing, microcredit, digital prepayment).



Resilient to climatic conditions (heat, humidity, dust) and to infrastructure constraints.



Value-creating at the local level, through manufacturing, assembly, and maintenance activities carried out on the continent.



Multipliers of socio-economic impact, by stimulating skilled employment, industrial competitiveness, and energy sovereignty.

1.5.2 Technologies available or locally adaptable

Some solutions are already being deployed across Africa and can be adapted or locally produced to maximize industrial impact:

Low-cost photovoltaic solar modules: Regional production is possible, particularly by integrating African silicon into the value chain.

Smart micro-grids: Whether grid-connected or off-grid, enabling decentralized energy management.

Energy storage systems (lithium iron phosphate, sodium-ion, vanadium redox batteries): With potential for local production of materials such as manganese, cobalt, and vanadium.

Solar thermal systems: For cooking, water pumping, and low-temperature industrial processes.

Mini green hydrogen units: Targeted for agriculture, transport, and green ammonia production.

Digital technologies applied to energy: Internet of Things (IoT), blockchain for billing, and mobile payment platforms

1.5.3 Structuring technology transfer partnerships.

To sustainably anchor energy innovation in Africa, it is essential to build balanced and long-term partnerships:

Tripartite agreements: involving international technology companies, African governments, and institutional or private investors.

Regional applied R&D centers: specialized by sector (storage in Southern Africa, solar in North Africa, hydrogen in West Africa).

Blended finance programs: combining public funds, private capital, and concessional financing to reduce risk.

Industrial clusters and free zones: enabling the gradual industrialization of technologies with fiscal incentives.

1.5.4 Training a generation of transition engineers

The human factor is key to technological sovereignty. Africa must invest heavily in technical, multidisciplinary, and managerial skills:

Regional energy technopoles: combining training centers, incubators, and pilot factories.

Strengthening university programs: in energy engineering, critical materials, and AI applied to energy.

South-South and Africa-Asia exchange programs: knowledge transfer with India, China, South Korea, and Vietnam.

Pan-African professional certification: to standardize the skills of technicians and engineers.

1.5.5 Prospects for nuclear energy in Africa

Given the rapid growth in energy demand and the imperative for decarbonization, nuclear energy represents a long-term strategic option for Africa. Although complex and costly, its gradual adoption—particularly through Small Modular Reactors (SMRs)—could strengthen energy sovereignty, stimulate industrialization, and accelerate the climate transition.

Key advantages:

- Large-scale, stable production
- Low carbon footprint
- Diversification of energy sources
- Development of scientific and technological ecosystems

Current developments

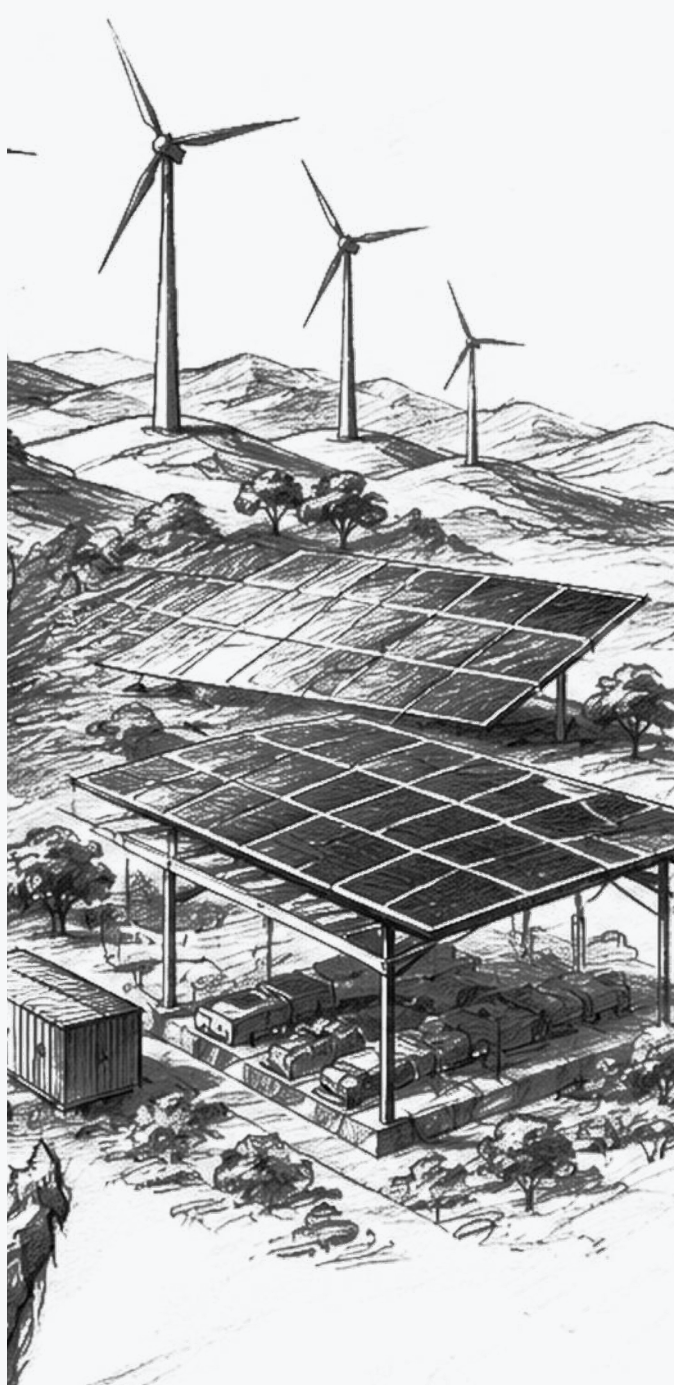
- South Africa already operates the Koeberg plant, while Egypt, Nigeria, Ghana, Kenya, Uganda, Algeria, and Morocco plan their first capacities by 2035.

New technologies

- SMRs (50–300 MW) offer flexibility, enhanced safety, and decentralized deployment, suitable for African grids and isolated industrial sites. Strategic partnerships are emerging with Russia, China, South Korea, as well as European and American actors.

Towards a pan-African strategy

- Successful nuclear deployment in Africa requires a cooperative, integrated approach: pooling research and training, harmonizing safety standards, joint industrialization, regional waste management solutions, and continental financing mechanisms—leveraging the International Atomic Energy Agency (IAEA) and the African Nuclear Energy Agency.
- Requires a robust regulatory framework, very high initial costs, social acceptability, and massive strengthening of local competencies.



Thermo-photovoltaics: capturing heat day and night – a promising technology for Africa

Thermo-photovoltaic (TPV) conversion represents a unique strategic opportunity for the continent.

Operating Principles

- Thermal absorber capturing heat from the sun, ambient environment, or biomass.
- Re-emission of a concentrated infrared spectrum captured by a TPV cell.
- Conversion via specialized semiconductors (gallium antimonide, narrow-band silicon).

Advantages for Africa

- Ability to exploit critical materials already present in African subsoil.
- Continuous electricity production, including at night, complementary to conventional solar PV.

Priority Applications

- Rural electrification in off-grid areas.
- Supplementing existing photovoltaic installations to ensure stable power supply.
- Autonomous industrial applications (textiles, agro-processing, cement).

Local Development

- Establishing local value chains for component manufacturing.
- North-South and South-South technology partnerships for knowledge transfer.
- Pilot projects in high thermal radiation areas to validate economic and technical viability.



Section 2

Mapping of primary energy production in Africa

This section provides an overview of primary energy in Africa: the structure of supply (fossil fuels, hydropower, solar, wind, bioenergy) and the regional distribution of resources and uses.

It highlights the concentration of hydrocarbons (North Africa/West offshore), South Africa's coal-based foundation, the rapid rise of solar and wind (Sahel, Horn of Africa), the hydropower potential of Central and East Africa, and the persistent role of traditional low-efficiency bioenergy.

System constraints remain significant: low interconnection density, technical losses, underutilized intermittency, and exposure to price volatility.

- 2.1 Oil and petroleum products: a concentrated potential
- 2.2 Natural gas: a growing resource
- 2.3 Coal: a residual but persistent dependence
- 2.4 National energy dynamics and outlook

2.1 Oil and petroleum products: a concentrated potential

In 2024, crude oil production in Africa amounts to approximately 6.639 million barrels per day (Mbbbl/d), placing the continent fourth worldwide, behind Asia (45.21 Mbbbl/d), North America (19.91 Mbbbl/d), and South America (6.86 Mbbbl/d), but ahead of Europe (2.76 Mbbbl/d) and Oceania (0.31 Mbbbl/d).

This performance is based on a geographically concentrated portfolio centered around three major regions, as illustrated in Figure 5.

North Africa

43,5 %
of continental production

Central Africa

28,5 %
of continental production

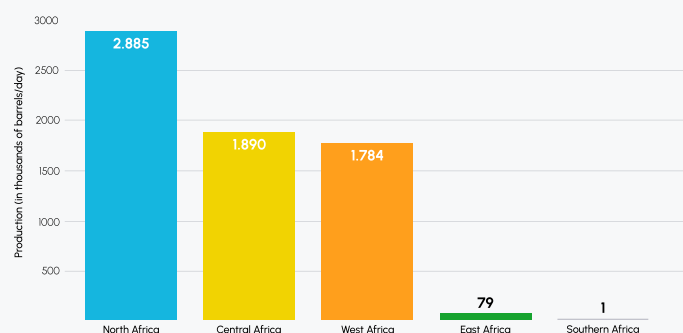
West Africa

26,9 %
of continental production

figure 5

Oil production by region in Africa 2024

Source: U.S. Energy Information Administration
www.iea.gov



The Geographic concentration reflects both Africa's geological richness and its dependence on a small group of producing countries. The top five producers—Libya, Nigeria, Angola, Algeria, and Egypt—together account for nearly 80% of total African production.

Beyond volumes, the nature of African crude oil provides a strategic comparative advantage. Many West African fields (Nigeria, Ghana, Angola) produce light, low-sulfur crude oil, which is highly sought after on international markets.

In addition, favorable geological conditions (shallow basins, onshore or shallow offshore drilling) allow for some of the most competitive extraction costs in the world.

These advantages make African oil particularly attractive globally, while enhancing the profitability of upstream projects.

However, this performance masks significant disparities between countries. Some producers remain heavily dependent on hydrocarbons for export revenues (such as Chad, Angola, and Gabon). Others, like Libya, see production levels closely tied to political stability. Insecurity, weak institutional frameworks, and fiscal uncertainty often hinder long-term investment. Limited domestic processing capacity (refining, petrochemicals) also constrains local value creation.

Regional and country analysis of oil

The map in Figure 6 shows a clear geographic polarization. Most production comes from the Gulf of Guinea (Nigeria, Angola, Ghana, Côte d'Ivoire, Congo, Gabon) and North Africa (Libya, Algeria, Egypt).

Rising offshore production: The share of offshore (deep and ultra-deep) fields is increasing in West and Southwest Africa (Angola, emerging discoveries in Namibia).

Downstream deficit: Despite crude production, many countries still import large volumes of refined products (diesel, gasoline, jet fuel), creating price and logistical vulnerabilities.

Regional / Country Analysis

North Africa: historical pillars and export/domestic balance. Algeria, Libya, Egypt: mature basins with strong export roles (Europe, Mediterranean).

- **Challenges:** field maturity, need for sustaining CAPEX (EOR), political instability (Libya), growing domestic demand (electricity, transport).

- **Corridor implications:** modernize downstream (refining/petrochemicals), strengthen logistics (ports, pipelines), and decarbonize operations (reduce flaring and methane emissions).

West Africa (Gulf of Guinea): leading Sub-Saharan hub, offshore and security issues

- **Nigeria:** largest SSA producer, but faces losses/theft, operational disruptions, and heavy reliance on imports of refined products (in transition with new refining capacity).
- **Angola, Ghana, Côte d'Ivoire, Congo, Gabon:** export-oriented, offshore-based profiles; key issue is local value capture (oilfield services, maintenance, logistics, targeted refining/petrochemicals).
- **Corridor implications:** develop petroleum product corridors (storage, multiproduct pipelines, fuel standards) to reduce delivered costs and vulnerability to shocks.

Central Africa small to mid-scale exporters, limited downstream

Congo, Gabon, Equatorial Guinea, Chad: modest volumes, export-oriented, limited refining, small domestic markets.

- **Corridor implications:** prioritize regional downstream chains (storage, distribution), improve fuel standards, and integrate oil with associated gas (reduce flaring).

East Africa, emerging supply pockets and ongoing projects

South Sudan (pipeline via Sudan), Uganda (Lake Albert/EACOP project), Kenya (limited volumes). These projects are capital-intensive and sensitive (ESG, social acceptance, geopolitics).

- **Corridor implications:** ensure strong bankability/ESG compliance and integrate with domestic industrial demand (not only export).

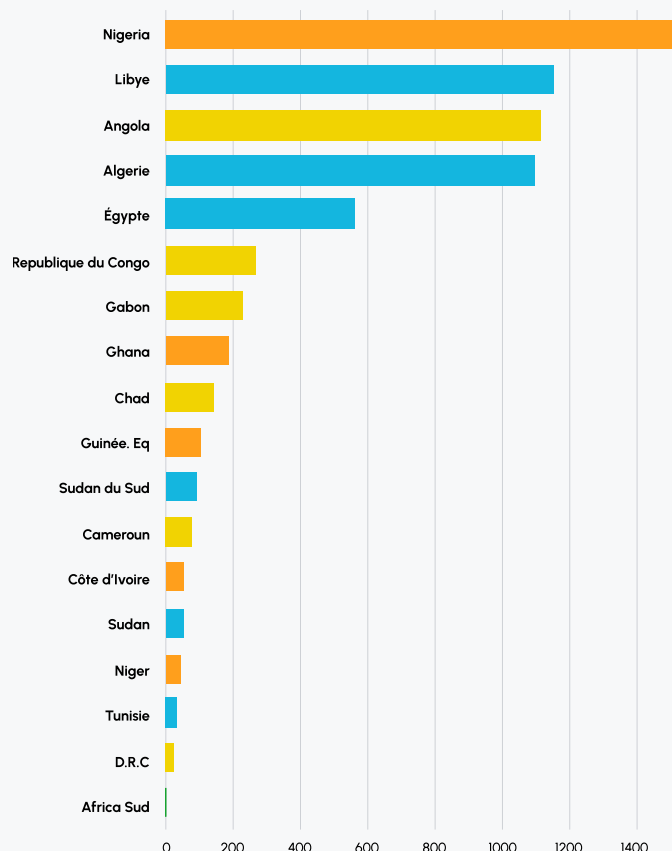
Southern Africa, emerging exploration

- **Namibia:** recent offshore discoveries (Orange Basin) under evaluation; Mozambique is more gas-oriented than oil.
- **Corridor implications:** anticipate development of local service chains and standards while avoiding fossil fuel lock-in.

figure 6

Oil Production in Africa (kbbbl/d) 2024

Source: U.S. Energy Information Administration
www.eia.gov



2.2 Natural gas: a growing resource

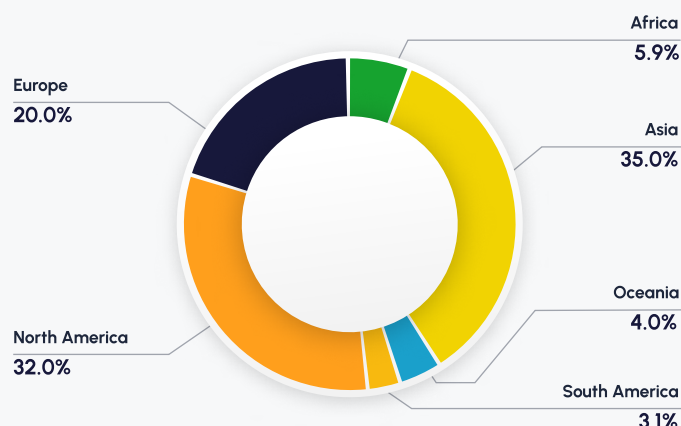
2.2.1 Africa's position in the global gas landscape

Africa ranks fourth globally in natural gas production, with an annual output of approximately 245 billion cubic meters (bcm), representing about 5.9% of global production.

figure 7

World production of natural gas by continent in billion m³ (2023)

Source: U.S. Energy Information Administration
www.eia.gov



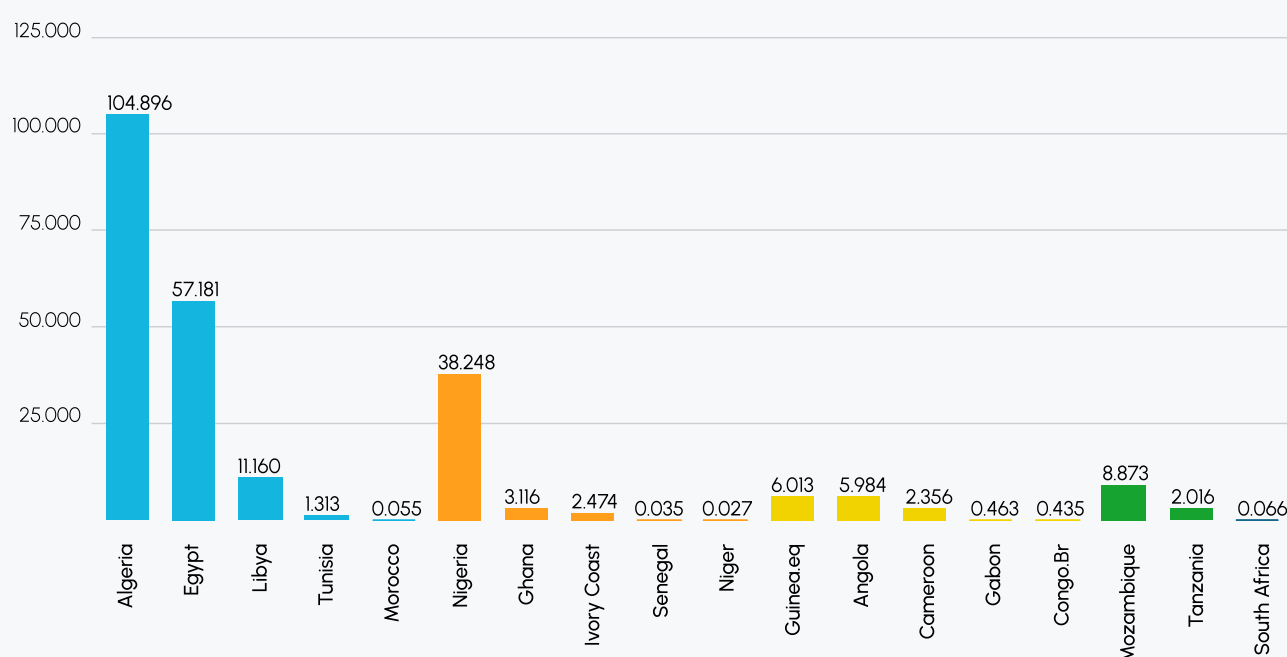
While this share may appear modest at the global level, it conceals a more complex reality: African gas production is highly concentrated in a limited number of countries, some of which are among the world's leading exporters. This concentration reflects deep disparities in the distribution of reserves, infrastructure development, and regulatory frameworks.

A regional comparison highlights Africa's position in the global energy landscape: Asia leads by a wide margin (1,448 bcm), followed by North America (1,325 bcm) and Europe (827 bcm), while Oceania (167 bcm) and South America (130 bcm) rank behind Africa.

figure 8

African natural gas production by country in 2023 (billions of m³)

Source: U.S. Energy Information Administration
www.eia.gov



Natural gas plays an ambivalent role in Africa's energy transition. On one hand, it is considered a transition fuel to replace coal in power generation (e.g., South Africa, Egypt), while offering grid flexibility and reducing greenhouse gas emissions. On the other hand, large-scale exports in the form of LNG to Europe and Asia may sustain extraction-driven economies that remain disconnected from domestic energy needs.

Major structuring projects—such as those in Mozambique (Rovuma LNG), Senegal and Mauritania (Grand Tortue Ahmeyim – GTA), and Algeria (expansion of TransMed and Medgaz)—are strengthening Africa's position in global gas value chains. However, they also raise questions about the equitable distribution of energy benefits at the regional level.

In terms of processing infrastructure (liquefaction, transport, storage), the landscape remains concentrated around a few hubs (Bonny Island in Nigeria, Skikda in Algeria, Pemba in Mozambique).

Large-scale regional interconnection projects, such as the Nigeria–Morocco gas pipeline and the Trans-Saharan Gas Pipeline (TSGP), offer long-term prospects for energy integration.

The competitiveness of African gas is supported by relatively moderate extraction costs, but challenged by international price volatility and geopolitical uncertainties (e.g., insecurity in northern Mozambique).

2.2.2 Regional and Country Analysis of Natural Gas

Natural gas production and reserves in Africa are characterized by a strong geographic and economic hyper-polarization, as illustrated in Figure 9.

This concentration is not uniform; it is structured around two major historical hubs—North Africa and West Africa—which largely determine the pace of continental production and exports.

This hyper-polarization creates a dual challenge:

Regional imbalance :

It widens the gap between producing and non-producing countries, making regional gas integration—through pipelines and LNG infrastructure—strategic, even essential, to ensure energy security for neighboring countries.

Transition role :

Amid increasing pressure to shift toward more sustainable and industrialized economic models, natural gas is paradoxically seen as the most pragmatic transition fuel. It is essential for balancing the intermittency of renewable sources while providing the steady power required for industrial development.

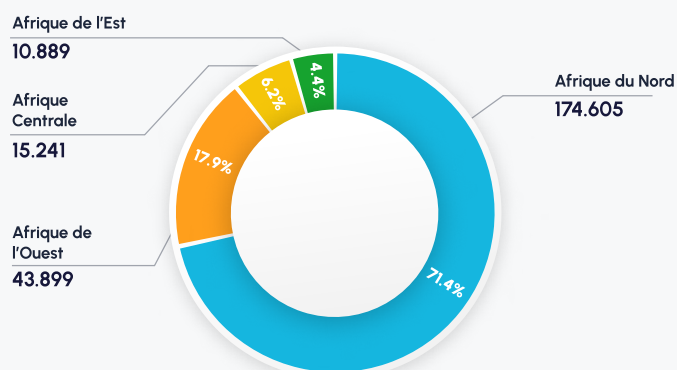
At the same time, African gas is increasingly oriented toward global markets via Liquefied Natural Gas (LNG), driven by rising demand from Europe and Asia seeking supply diversification in the post-crisis context.

The following analysis highlights this polarization, distinguishing between the maturity of established hubs and the potential of emerging players positioning themselves as future gas hubs, particularly in East Africa.

figure 9

African Natural Gas Production by zone in billion m3 (2023)

Source: U.S. Energy Information Administration
www.eia.gov



North Africa

71.4%
of continental production

Historical anchoring and continental weight

Total production (2023): ≈ 174.6 bcm

Key countries:

Algeria – 104.9 bcm: The undisputed regional leader and Africa's top producer, accounting for nearly 38% of continental production. Its position is based on mature fields, long-standing partnerships with Europe (Sonatrach, GME, Medgaz), and well-developed export infrastructure.

Egypt – 57.2 bcm: Combines sustained domestic production with export ambitions through its LNG terminals at Damietta and Idku.

Libya – 11.16 bcm: More modest production but strategically important. Capacity remains underutilized due to political instability.

Tunisia – 1.31 bcm: Limited production, mainly for domestic consumption, supplemented by imports.

Morocco – 0.055 bcm: Marginal production, primarily from small onshore fields.

Mauritania: In partnership with Senegal, it is co-developing the Grand Tortue Ahmeyim (GTA) project with BP and Kosmos Energy. This offshore project could reposition Mauritania as an emerging gas hub on the Atlantic coast of North Africa.

West Africa

17.9%
of continental production

An emerging LNG export hub **Total production (2023): ≈ 43.9 bcm**

Key countries:

Nigeria – 38.25 bcm: The leading gas power in West Africa and the third-largest producer in Africa. Plays a central role in LNG exports (Nigeria LNG) and offshore development. However, leaks, flaring, and infrastructure delays still limit its full potential.

Ghana – 3.12 bcm: Progressive development of offshore fields (Jubilee, TEN, Sankofa), operated by Tullow Oil, ENI, and Kosmos Energy. Strategy balances domestic use (electricity, industry) and exports.

Côte d'Ivoire – 2.47 bcm: Production mainly dedicated to domestic electricity generation, with prospects for export expansion.

Senegal – 0.035 bcm: Currently in early-stage production but a future key player thanks to the GTA project in partnership with Mauritania.

East Africa

4.4 %
of continental production

Growing potential **Total production (2023): ≈ 10.89 bcm.**

Key countries:

Mozambique – 8.87 bcm: A strategic player driven by the development of the Rovuma Basin. LNG projects (TotalEnergies, ENI) aim to position the country as a future regional leader.

Tanzania – 2.02 bcm: Resources are under development, with strong offshore potential.

Southern Africa

0.05 %
of continental production

Marginal production **Total production (2023): ≈ 0.066 bcm**

Key countries:

South Africa – 0.066 bcm: Almost negligible production, high dependence on imports, and ongoing exploration projects.

2.2.3 Trends and Geopolitical Challenges

- **Concentration and dependence:** Three countries (Algeria, Nigeria, Egypt) account for more than 80% of continental production, exposing supply security to domestic uncertainties in these states.
- **Growing geo-economic weight:** African gas flows are increasingly sought after by Europe, particularly in the context of reducing dependence on Russian imports. Africa is thus becoming a key player in the Euro-African energy landscape.
- **Infrastructure vs. potential:** Although resources are abundant, their conversion into commercial exports remains constrained by insufficient infrastructure, limited financing, and a lack of integrated regional governance.

- **Pressure from the energy transition:** Gas projects face increasing pressure from financial institutions and NGOs advocating for a phase-out of fossil fuels. However, African gas is often defended as a "realistic" transition energy source.

strategic outlook

- **Algeria** is expected to maintain its leadership, provided it modernizes its infrastructure and secures its export routes.
- **Nigeria** requires deep reforms in its gas sector, particularly in managing associated gas and reducing flaring.
- **Mozambique** is considered Africa's future gas "game changer," though still hindered by insurgency in the north of the country.
- **Regional energy integration** (intra-African gas pipelines, regional LNG hubs) could be a crucial lever to monetize surpluses and support domestic demand.

2.3 Coal: a residual but persistent dependence

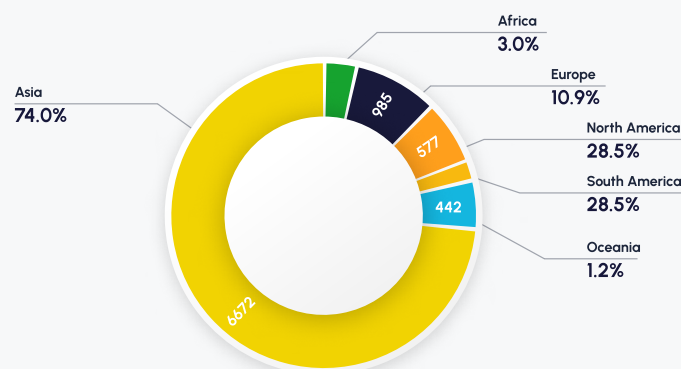
2.3.1 Overview: Africa's weight in global coal production

In 2024, global coal production reveals a clearly structured continental hierarchy. Asia overwhelmingly dominates with 6,672 million tonnes, accounting for more than 74% of global production, largely driven by China and India. It is followed by Europe (985 Mt), Oceania (442 Mt, notably Australia), North America (577 Mt), and South America (69 Mt). In this ranking, Africa stands in sixth place, with an estimated production of 272 million tonnes, representing around 3% of global production.

figure 10

Coal production by continent in Mtoe (2023)

Source: U.S. Energy Information Administration
www.eia.gov



Although this figure may seem marginal compared to the Asian giants, African coal production has distinct characteristics:

- extreme geographical concentration,
- a vital role in certain national economies,
- and a non-negligible weight in regional energy balances.

In Africa, coal is mainly extracted in Southern Africa, particularly in South Africa, which accounts for the vast majority of production. This geographical dependence makes regional analysis especially relevant.

2.3.2 Regional and country-level analysis of coal

Figure 11 shows the distribution of African coal production by country. There is extreme monopolization.

More than 9 out of 10 tonnes come from South Africa, with the remainder shared between Zimbabwe, Botswana, Mozambique (and marginal volumes elsewhere).

Critical logistical backbone:

The value of African coal depends as much on railways and port terminals (e.g., corridors to Richards Bay, Maputo, Beira) as on extraction costs.

The mapping of the coal sector in Africa reveals an extreme concentration of production in a single actor: South Africa.

With an annual production estimated at around 252.1 million tonnes (Mt), the country accounts for nearly 92% of the continent's coal production, relegating other African producers to a marginal role.

At the global level, this performance places South Africa in 7th position among coal-producing countries, representing about 3% of global production.

This centralization reflects not only the importance of South African reserves—particularly in the Witbank basin—but also the structural role coal plays in the country's energy mix. Indeed, coal is the primary source of energy in South Africa, supplying more than 80% of electricity generation through Eskom, the state-owned company operating in a near-monopoly position.

This energy dependence, while ensuring a degree of energy sovereignty, now poses significant challenges in terms of sustainability, supply security, and transition to low-carbon sources.

In a context of international pressure for decarbonization and recurring domestic power outages, the South African model raises a major strategic tension:

How can the imperative of economic growth and universal access to electricity be reconciled with international climate commitments, particularly under the Paris Agreement?

This situation gives South Africa a paradoxical status: both a regional energy power and a vulnerable player in the face of the global energy transition.

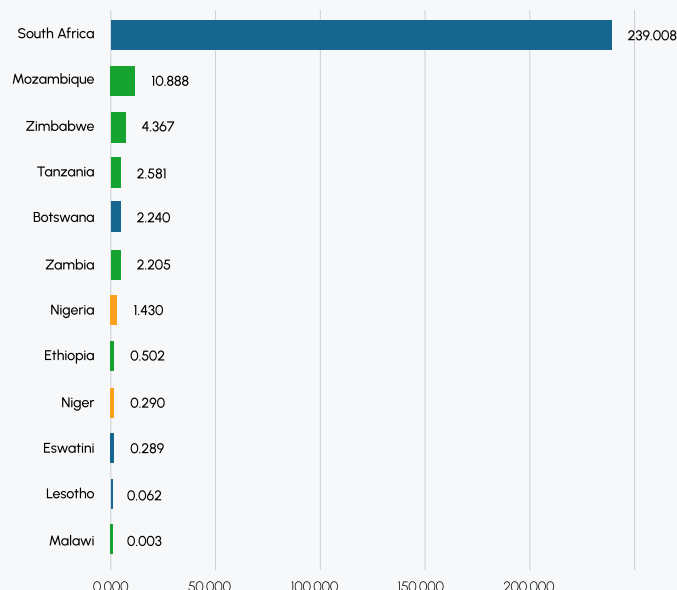
Outside South Africa, Mozambique is among the few African countries with significant coal production, although modest on a global scale.

With an annual production of around 21 million tonnes (Mt), it accounts for approximately 7–8% of African coal production. This places Mozambique far behind South Africa, but still makes it the continent's second-largest producer, ahead of Zimbabwe and Botswana.

figure 11

Coal production by country in Mtoe (2023)

Source: U.S. Energy Information Administration
www.eia.gov



Production is mainly concentrated in the Tete province, rich in both thermal and metallurgical coal deposits. Exploitation, long dominated by foreign companies such as Vale, experienced expansion over the past decade, but remains constrained today by logistical challenges (insufficient rail and port infrastructure) and security issues in certain regions.

Moreover, the gradual withdrawal of major players reflects increasing economic uncertainty regarding the long-term profitability of coal projects.

At the national energy level, coal plays a marginal role. Mozambique relies primarily on hydropower to meet its domestic needs, particularly through the Cahora Bassa complex. Coal is therefore mainly an export resource, although it has not yet led to significant industrial transformation or substantial value addition in the energy production chain.

The Mozambican case thus highlights the structural limits of African extractive economies: high exposure to international market fluctuations, logistical dependence, and weak local integration. In the context of the global energy transition, the long-term viability of Mozambican coal will depend as much on the evolution of Asian demand as on the country's ability to modernize its infrastructure and diversify its revenue sources.

2.4 National energy dynamics and perspectives

The mapping of primary energy production in Africa reveals a structural paradox: resource-rich countries massively export oil, gas, or energy minerals often without processing, while high-demand countries import refined products or high value-added fuels, thereby increasing their external dependence.

This disconnect between potential and usage creates a dual deficit: a value-capture deficit for exporting countries and an energy security deficit for importing countries.

However, technological, regulatory, and geopolitical developments are opening a path for strategic transformation: shifting from a model based on the sale of primary resources to one centered on electricity production, which is easier to generate, transport, and trade at the regional level.

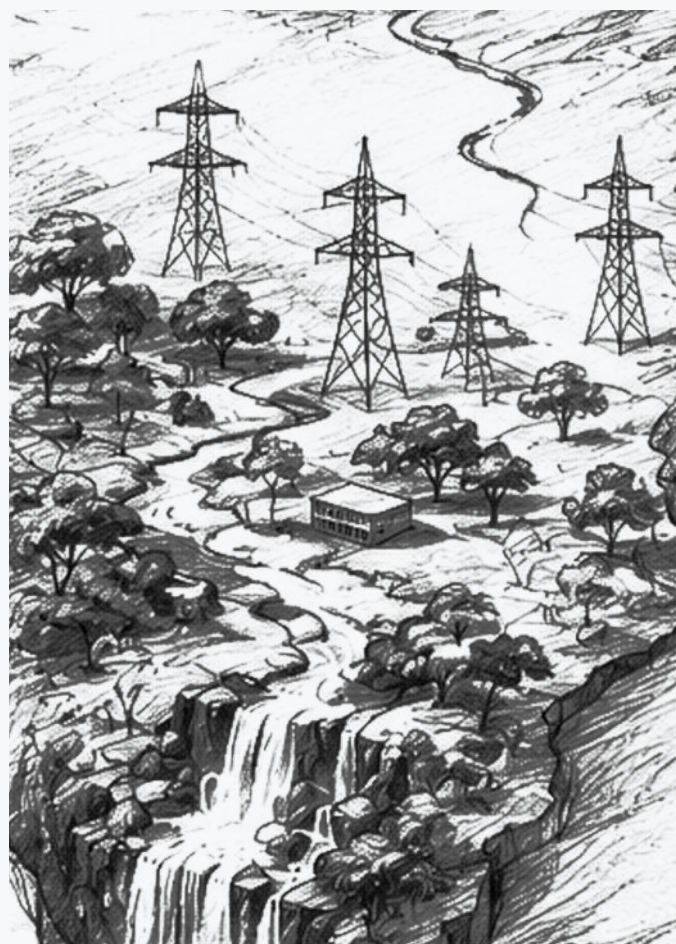
This transition offers three major advantages. First, electricity enables more stable monetization of energy resources through integrated markets and interconnection infrastructure.

Seasonal or structural surpluses can be exported as electricity flows, with lower transaction costs than traditional oil and gas value chains and reduced exposure to volatile commodity cycles.

Second, electricity is the optimal vector for the ecological transition. It enables the gradual substitution of fossil fuels in industry, transport, and domestic uses, while fostering the emergence of low-carbon value chains such as green hydrogen, "green refined" minerals, electric mobility, and renewable-powered data centers.

Third, electricity is a direct driver of African industrialization. No upgrading strategy (mineral processing, metallurgy, agro-industry, chemicals, electronics) is viable without reliable, competitive, and predictable access to electricity. Thus, shifting from primary resources to electricity means "monetizing the resource" while building the energy foundation for productivity.

In this perspective, the development of energy corridors, the strengthening of national and regional grids, and the expansion of electricity markets are key levers to transform national dynamics into real prospects for productive sovereignty and continental integration.







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Section 3

Electricity generation and the rise of renewable energy

The electricity sector now lies at the core of Africa's energy challenge. Although the continent possesses abundant primary resources, installed electricity generation capacity remains insufficient, unevenly distributed, and weakly interconnected. North Africa and South Africa account for the bulk of production, while much of Sub-Saharan Africa continues to face fragmented, undersized, and sometimes off-grid power systems. To convert this potential into low-carbon industrial competitiveness, three key levers are essential: interconnections, flexibility, and system service markets.

- 3.1 Electricity generation by region and by source
- 3.2 The rise of green electricity
- 3.3 Slow technological integration in the energy sector
- 3.4 Energy mix and corridor levers

3.1 Electricity generation by region and by source

Over the past two decades, net electricity generation has increased in almost all African subregions, driven by population and urban growth, emerging industrialization, and the entry of IPPs/PPPs in several markets.

Figure 12 highlights four major dynamics:

North Africa – Sustained upward trajectory

Electricity generation has more than doubled since the early 2000s, driven by urbanization, industrial expansion, and, more recently, the integration of large-scale renewable capacity and gas-fired combined cycle plants.

West Africa and East Africa – Continuous acceleration

Both subregions show rapid growth (approximately 2.5 to 3 times increase), reflecting the commissioning of gas-to-power plants (West Africa), hydro and solar/wind projects (East Africa), as well as gradual improvements in grid infrastructure.

Southern Africa – Plateau followed by moderate recovery

After a growth phase in the 2000s, generation stabilized and then declined due to frequent breakdowns in the coal-fired fleet and grid constraints, before a slight recent recovery supported by new renewable energy additions and reliability measures.

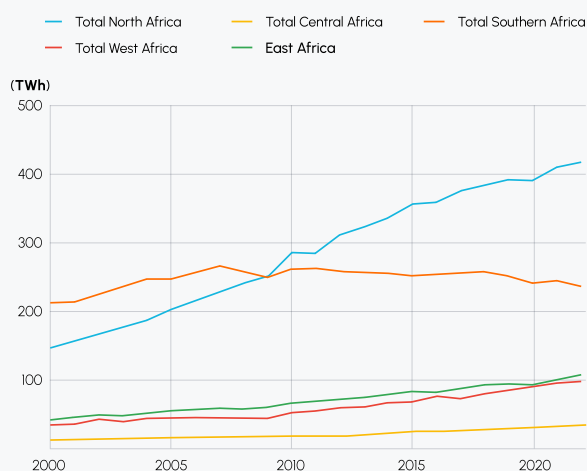
Central Africa – Limited growth from a very low base

Despite some hydro and thermal additions, the subregion remains nearly stagnant at the continental scale, constrained by undersized grids, high losses, project implementation delays, and still-limited project bankability.

figure 12

Net electricity generation (TWh)

Source: U.S. Energy Information Administration
www.eia.gov



At the same time, the transition toward renewable energy is accelerating, driven by declining technology costs, the scaling-up of solar and wind projects, and increasing engagement from development partners. Several countries have reached significant milestones:

- **Ethiopia** generates nearly all of its electricity from hydropower.
- **Kenya** has established itself as a pioneer in geothermal energy and is expanding dynamic wind and solar generation.
- **Morocco** has become a continental benchmark for an integrated renewable energy mix, combining solar, wind, and hydropower.
- **Other countries**, such as Tunisia and South Africa, are beginning a strategic shift toward cleaner energy mixes in response to industrial decarbonization constraints.

However, significant regional disparities persist. As shown in Figure 13, in many countries renewable generation remains marginal, while diesel generators continue to supply a substantial share of local electricity, at very high cost and with significant environmental impact.

Moreover, the average cost of electricity remains among the highest in the world, particularly for productive uses.

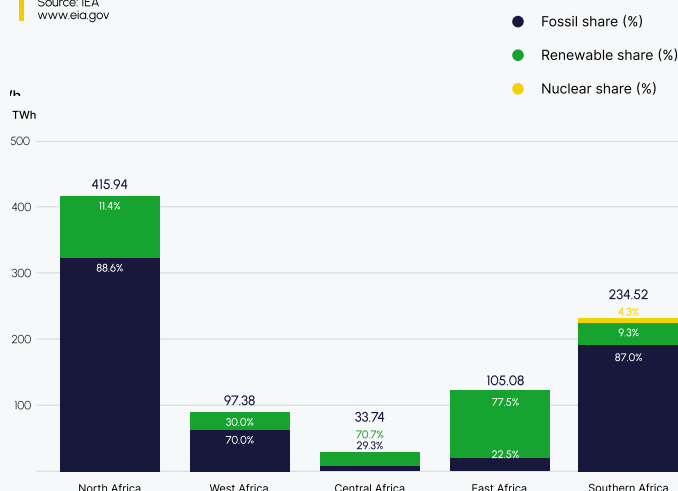
This high cost weighs heavily on the competitiveness of local industries and constitutes a major barrier to the emergence of regional value chains. It reflects both limited economies of scale, aging infrastructure, and insufficient pooling of generation capacity.

Finally, despite the existence of regional cooperation frameworks such as power pools (WAPP, SAPP, EAPP, CAPP), cross-border electricity trade remains low. The development of interconnections is progressing slowly, limiting the continent's ability to leverage its geographical and seasonal complementarities. Surplus generation in some countries (such as Ethiopia, Mozambique, and Egypt) is not yet fully utilized at the regional level.

The emergence of regional electricity corridors—combining decarbonized generation, interconnections, and industrial uses—thus appears to be a key condition for reconciling energy transition, economic competitiveness, and continental integration.

figure 13
Electricity production by region and source in TWh

Source: IEA
www.iea.gov



North Africa and **Southern Africa** show a very high dependence on fossil fuels (nearly 9 kWh out of 10), particularly gas (in the North) and coal (in the South).

North Africa and **Southern Africa** together account for nearly two-thirds of the continent's electricity production.

South Africa is the only region with a non-negligible nuclear share, thanks to the Koeberg power plant.

Central Africa remains marginal in terms of volume (33 TWh), despite its significant untapped hydropower potential (DR Congo, Cameroon).

East Africa and **Central Africa** appear as the champions of renewables.

These two regions lead in the relative share of renewable energy, with respective rates of 77.5% and 70.7%. This performance is mainly explained by the dominance of hydropower, which is highly developed in the Nile basin, the Great Rift Valley, and the Congo Basin.

As for **West Africa**, its energy mix appears more balanced. Although still predominantly fossil-fuel-based, West Africa is showing gradual diversification, with solar projects (Burkina Faso, Senegal), hydropower projects (Guinea, Mali), and soon gas projects (Senegal–Mauritania).

This mix reflects an ongoing transition, but one still constrained by limited infrastructure.

3.2 The rise of green electricity

The energy transition in Africa is accelerating, but it remains marked by strong regional, structural, and technological disparities.

In 2022, net renewable electricity production reached 204 TWh, representing 22% of the continent's total electricity production, which amounted to 908 TWh (see detailed country production table in annex). However, this share masks significant differences in pace and composition across regions.

3.2.1 A persistent dominance of hydropower

Hydropower accounts for nearly 80% of renewable electricity production in Africa. The regions of East Africa (70.2 TWh), Central Africa (21.6 TWh), and West Africa (26.3 TWh) host the major hydropower projects, due to their favorable geography (Nile, Congo, and Niger basins).

However, this dominance underscores a heightened climate vulnerability, in the face of hydrological variability, prolonged droughts, and competition with agricultural water use. Moreover, hydropower is still poorly integrated into transboundary grids, limiting its multiplier effect.

3.2.2 Encouraging but uneven diversification signals

Other renewable sources (solar, wind, geothermal, biomass) are gradually increasing but remain modest:

Solar energy

Dominated by North Africa (**7.6 TWh**) and Southern Africa (**6.75 TWh**), it remains marginal in highly sunny regions such as the Sahel, due to limited investment capacity and grid connection infrastructure.

Wind energy

Well established in pioneering countries such as Morocco (**11.5 TWh**) and South Africa (**9.7 TWh**), but almost absent elsewhere (less than 1 TWh in Central and West Africa).

Geothermal energy

A specific feature of East Africa (**5.5 TWh**), particularly in Kenya and Ethiopia, with still underexploited potential in the Rift Valley.

Biomass and waste

Very weakly utilized (**less than 3.1 TWh in total**), despite significant potential in West Africa and rural areas.

3.2.3 Persistent systemic bottlenecks

Several structural constraints continue to hinder the expansion of renewable energy:

Low bankability of projects and scarcity of suitable financing models (blended finance, guaranteed power purchase agreements, etc.).

High cost of capital (double-digit interest rates in many countries).

Limited local content integration within the value chains of solar, wind, or geothermal equipment.

Regulatory frameworks and public policies that are often unstable or not sufficiently incentivizing.

3.2.4 Underexploited potential for regional complementarities

The heterogeneous distribution of renewable resources represents both a challenge and an opportunity. The development of integrated energy corridors, supported by strong regional interconnections (e.g., the Southern African Power Pool – SAPP; or the West African Power Pool – WAPP), would allow pooling surpluses, securing supply, and reducing transition costs.

Hydro/gas-dominant regions have more stable marginal costs but require flexibility and storage (notably batteries) to integrate higher shares of solar and wind. Coal-dominant regions must ensure frequency and voltage stability through storage and grid reinforcement before large-scale decommissioning.

Regions with limited progress (central Africa) would benefit from importing clean power available from neighboring countries via interconnections, while local capacity is gradually developed.

3.3 Slow integration of new energy technologies

The following table provides a comparative overview of net renewable electricity generation by African country. It highlights significant disparities between countries, both in absolute volumes and in technological composition (hydro, solar, wind, geothermal, biomass).

While some countries such as Ethiopia, Morocco, South Africa, and Kenya stand out for their proactive and diversified strategies, the majority remain dependent on a single technology or exhibit very low production levels.

This heterogeneity reflects both the geography of resource endowments, the maturity of national energy policies, and the attractiveness of investment frameworks. This country-by-country assessment is essential for considering regional integration based on complementarities.

Data from 2022 (IEA source) reveal significant regional disparities:

North Africa

North Africa shows more visible energy diversification strategies, particularly in Egypt and Morocco, which combine solar, wind, and hydropower.

West Africa

West Africa remains highly dependent on hydropower, with some notable advances in solar energy, particularly in Senegal and Burkina Faso.

Central Africa

Although rich in hydropower resources, Central Africa remains heavily hydro-dependent, although the DRC has begun diversifying its production with solar energy.

East Africa

East Africa offers promising examples of an evolving energy mix, notably Kenya, a diversification model, and Ethiopia, where hydropower remains dominant.

Southern Africa

Southern Africa is dominated by South Africa, the only country with a relatively balanced and substantial renewable energy mix beyond hydropower.

3.4 Energy mix and corridor levers

Each country follows a specific energy mix trajectory, depending on its accessible resources and the solvable and/or financeable demand of its population. The trajectories presented in Table 1 reflect the interaction between resources, grids, markets, and industrial uses.

Four countries (Egypt, Morocco, Ethiopia, Kenya) are already able to activate export and balancing energy corridors thanks to operational interconnections and IPP/auction frameworks. Six countries (Nigeria, Ghana, Angola, Tanzania, Tunisia, Cameroon) could accelerate under conditions of improved grid reliability, clearer PPAs and foreign exchange arrangements, and the introduction of flexibility products.

Finally, South Africa, Algeria, and the DRC require a strategic reconfiguration (coal substitution by renewables + storage and SAPP imports for South Africa; solar auctions and HVDC options for Algeria; backbone transmission/dispatching infrastructure and bankable mining PPAs before export for the DRC).

Regional bloc breakdown:

North Africa focuses on solar/wind development and HVDC links (ELMED, EU interconnections).

West Africa leverages the WAPP (Nigeria/Ghana gas, exportable hydropower from Guinea).

Central Africa (Cameroon, DRC, Angola) valorizes hydropower by strengthening transmission and regulatory frameworks.

East Africa consolidates the EAPP (Ethiopia–Kenya HVDC interconnection, Kenya geothermal energy).

Southern Africa manages the coal lock-in through renewables + storage and imports.

The common enabling levers required for the success of these regional strategies are clear and must be implemented simultaneously:

Completion of cross-border links: Finalize priority interconnections with the highest system value.

Market standardization: Harmonize system service markets, particularly for storage and auction mechanisms.

Productive anchoring: Systematically link corridors to Special Economic Zones (SEZs) and industrial PPAs to ensure stable and competitive demand.

Bankability enhancement: Deploy risk mitigation instruments such as Viability Gap Funding (VGF), regional guarantees, and foreign exchange (FX) risk hedging mechanisms to sustainably attract private capital.

Energy mix (dominant / trends)	Interconnections (pool / density)	Corridor levers (industrial / network / system services)
South Africa		
Coal dominant; . ENR acceleration + storage	SAPP; . medium density; . potential regional import	Coal replacement by RE+storage; . wheeling; . regional hydro import
Algeria		
Dominant gas; . high solar potential	Maghreb; . limited electrical interconnections	Solar Sahara + corridors to the Mediterranean; . flexibility markets to be created
Cameroon		
Dominant hydro (Sanaga, Nachtigal) + gas/oil thermal	CAPP; . projects with Nigeria/Chad/Gabon; . medium density	Sanaga hydro corridors; . industrial loads (aluminum, agro); . system and storage services to be strengthened
Egypt		
Gas + solar/wind rise; . hydro stable	Link with Libya/Jordan; . HVDC projects (KSA, Europe)	Export corridor (HVDC) + port SEZs; . system services to extend
Ethiopia		
Hydro dominant (GERD); . solar/wind growing	EAPP; . HVDC to Kenya; . Djibouti/Sudan links	Hydro export; . industrial corridors (agro, data) linked to HV nodes
Ghana		
Hydro + gas; . petroleum products for tip	WAPP; . exchanges with CI/Togo/Benin	Regional trade; . flexibility; . anchoring industrial loads
Guinea		
Dominant hydro (Kaléla, Souapiti) + auxiliary thermal/diesel; . export potential	WAPP; . CLSG and OMVG lines (to CI/Liberia/Sierra Leone/Senegal)	Hydro export via WAPP; . electrifiable mining charges (bauxite/alumina); . basic system services
Kenya		
Strong geothermal + wind/solar; . hydro variable	EAPP; . HVDC with Ethiopia; . Tanzania/Uganda links	Industrial loads (special parks); . system services; . network flexibility
Morocco		
Import + wind/solar rise; . gas/LNG in support	To Spain (2x) and Portugal (project); . high density North	Green industrial SEZs; . H2 projects; . system & storage services

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Industrial cooling



Commercial

Electricity & lighting
Air conditioning
Domestic hot water
Collective heating



Residential

Household electricity
Heating & cooling
Domestic hot water
Pool & comfort

∞

LONG-DURATION
STORAGE

3

FORMS OF ENERGY
DELIVERED

0

CARBON
EMISSIONS

24/7

GUARANTEED
AVAILABILITY

" Captured by day, available by night. Stored through overcast skies, released on demand. Infinisol overcomes the sun's intermittence. "

• PROPRIETARY TECHNOLOGY • INNOVATIVE THERMODYNAMIC CYCLE • SCALABLE FROM KM TO MW •

Section 4

Mapping energy demand in Africa

At the continental scale, energy consumption continues to grow, driven by urbanization and still-incomplete industrialization. Nevertheless, the picture remains highly uneven, with Central Africa progressing at a slower pace. Africa's Total Final Energy Consumption (TFEC) reflects not a deliberate choice of energy sobriety, but rather a demand constrained by access, reliability, and cost issues. Moreover, where energy intensity is particularly high, extractive economies and inefficiencies (technical losses, diesel generators, etc.) often predominate.

The analysis of electricity consumption, combined with indicators such as electricity tariffs per kWh, access rates, and energy intensity, highlights taxonomies of country profiles. This analysis elucidates how regional interconnections can meaningfully improve energy equity and productive uses.

- 4.1 Total final energy consumption (TFEC) by region and by country
- 4.2 Net electricity consumption by region and by country
- 4.3 Energy profiling and the geostrategy of corridors
- 4.4 Productive transformation through energy corridors
- 4.5 Technological and regional cooperation for enhanced energy security

4.1 total final energy consumption (TFEC) by region and by country

Total Final Energy Consumption (TFEC) measures the energy actually used by final consumers (households, industry, transport, services, and agriculture) after conversion, transmission, and distribution processes. It accounts for delivered energy carriers (electricity, petroleum products, gas, modern biomass, and heat), excluding upstream losses and non-energy uses.

TFEC is the benchmark indicator of useful energy demand: it reflects the level of economic activity, the sectoral structure, and access to modern energy carriers. It is therefore a key indicator of economic development and the degree of modernization of energy uses in Africa. A low TFEC rarely reflects structural efficiency; more often, it indicates an involuntary restriction of demand due to constraints related to access, prices, or reliability.

At the continental level, TFEC follows an upward trend, driven by population growth, urbanization, and the gradual expansion of industrial and service activities.

figure 14

Evolution of Total Final Energy Consumption by region (MMtoe)

Source: U.S. Energy Information Administration
www.eia.gov

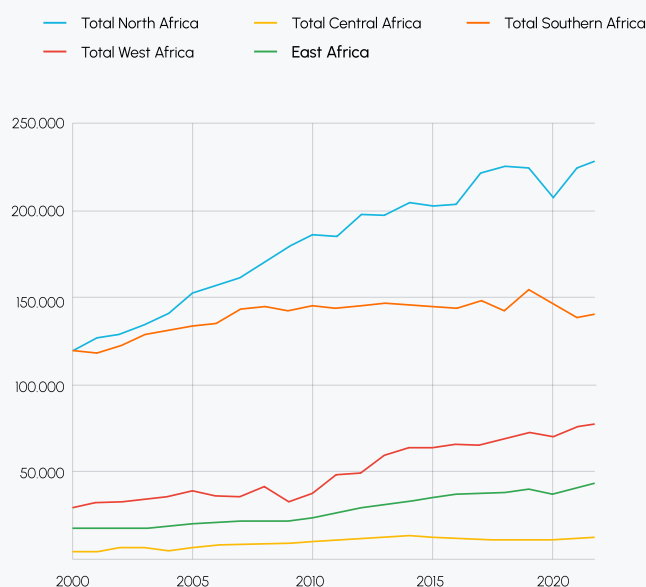


Figure 14 reveals a strong polarization between the northern and southern parts of the continent. The country-level analysis — see Table 11 — shows that within each region, a few countries account for the majority of demand, while most countries display more modest consumption levels.

The five largest energy consumers on the continent are Nigeria, South Africa, Egypt, Ethiopia, and Algeria. Together, they account for nearly 60% of Africa's TFEC. Their energy weight results from three main factors:

Population and urbanization: urban expansion and high population densities stimulate residential and tertiary-sector consumption.

Industrial base and value chains: extractive, manufacturing, and processing industries generate sustained energy demand.

Access to modern energy carriers: electricity, gas, and other modern fuels enable intensive and diversified uses.

Conversely, low-consumption countries such as Djibouti, Comoros, Seychelles, Mayotte, and São Tomé and Príncipe are constrained by limited market size, weak industrialization, insularity and geographic isolation, as well as incomplete access to modern energy carriers.

Ranking/Region/Country		TEC to MMtoe (2023)
Rank	North Africa	231.934
02	Egypt	100.946
03	Algeria	71.943
05	Morocco	22.352
06	Libya	18.565
07	Tunisia	10.377
10	Sudan	7.749
Rank	West Africa	79.428
04	Nigeria	45.903
08	Ghana	8.934
14	Ivory Coast	6.667
18	Senegal	3.782
22	Mali	2.580
24	Benign	2.301
26	Burkina Faso	2.020
28	Guinea	1.901
29	Mauritania	1.789
33	Niger	1.168
35	Togo	1.064
41	Sierra Leone	0.491
47	Cape Verde	0.263
49	Liberia	0.252
50	Gambia	0.186
52	Guinea-Bissau	0.128
Rank	Central Africa	20.976
09	Angola	8.470
19	DRC	3.479
20	Cameroon	3.054

23	Equatorial Guinea	2.538
32	Gabon	1.384
34	Congo	1.145
37	Chad	0.731
53	CAR	0.124
55	Sao Tome and Principe	0.052
Rank	East Africa	45.861
11	Ethiopia	7.672
12	Kenya	7.651
13	Tanzania	6.868
15	Mozambique	4.907
16	Zimbabwe	4.470
17	Zambia	4.316
21	Uganda	2.762
27	Mauritius	1.932
31	Madagascar	1.428
36	Malawi	0.953
38	Rwanda	0.636
39	South Sudan	0.605
43	Burundi	0.326
44	Seychelles	0.319
45	Djibouti	0.303
46	Somalia	0.300
48	Eritrea	0.260
51	Comoros	0.153
Rank	Southern Africa	142.013
01	South Africa	137.306
25	Botswana	2.028
30	Namibia	1.623
40	Eswatini	0.584
42	Lesotho	0.473

Renewable energy shares analysis

The share of renewable energy within TFEC highlights contrasting profiles depending on the level of consumption and the national energy mix. In some low-demand countries such as Democratic Republic of the Congo, Somalia, Uganda, Liberia, and Central African Republic, renewables account for more than 90% of TFEC, mainly through hydropower and traditional biomass. These countries are therefore "green by default," but they still need to strengthen reliability and production capacity to support future industrialization, thereby becoming "green by design."

In contrast, high-consumption countries such as Algeria, Libya, Equatorial Guinea, Egypt, and Mauritius display renewable shares below 10%, with energy mixes still heavily dependent on gas, oil, or coal.

These economies benefit from robust electricity infrastructures and high demand levels, but they remain carbon-intensive.

For these countries, the priority is to gradually substitute fossil fuels with renewable energy sources (solar, wind, and eventually green hydrogen), in order to anchor their energy trajectory within an ecological, competitive, inclusive, and sustainable industrial transformation.

This combined analysis of TFEC and the share of renewables makes it possible to distinguish between countries that should focus their efforts on reliability and capacity expansion, and those that must engage in a structural transition toward a more sustainable energy mix. It therefore provides a strategic framework for guiding energy and industrial policies, as well as investments, at the continental scale.

4.2 Net electricity consumption by region and by country

4.2.1 Net electricity consumption by region

Net electricity consumption is another key indicator for assessing energy modernization and regional economic dynamics.

It simultaneously reflects the vitality of productive sectors, the maturity of infrastructures, and the ability of electricity systems to support economic growth.

A controlled increase in consumption, particularly in industry and high value-added services, indicates ongoing industrialization and the gradual integration of regional markets.

Conversely, stagnation or decline points to supply constraints such as aging infrastructure, high technical losses, or frequent load shedding, all of which limit competitiveness and employment opportunities.

The evolution of electricity demand must also be analyzed in relation to demographic growth, which is particularly strong in East Africa and West Africa, but stagnant or weak in Southern Africa and North Africa.

figure 15

Evolution of Net Electricity Consumption by region

Source: U.S. Energy Information Administration
www.eia.gov

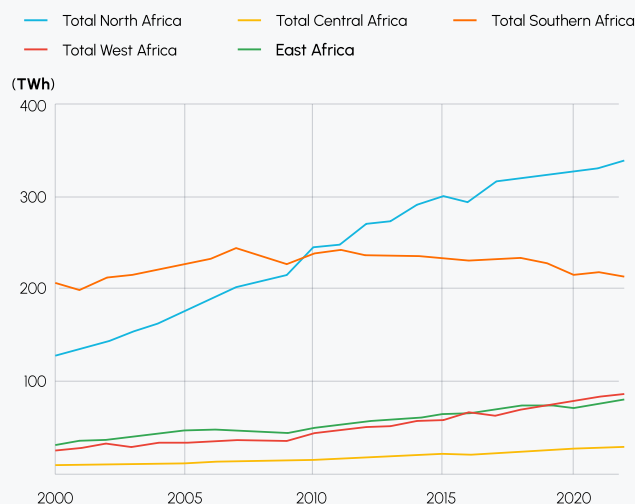


Figure 15 illustrates the evolution of Net Electricity Consumption by region. Below is a concise analysis of the trends and acceleration levers:

North Africa

Consumption is increasing steadily and consistently, driven by urbanization, industrial demand, and the electrification of residential uses. Large-scale solar projects and the development of desalination activities are also contributing to higher demand.

→ Profile: stable and robust growth, aligned with industrial development.

West Africa

Growth is positive but heterogeneous. Nigeria and Ghana drive the regional dynamic, while landlocked countries remain constrained by limited regional interconnections. Ongoing reforms in coastal countries are gradually improving service continuity.

→ Profile: moderate growth, supported by hydro-solar diversification and economic recovery.

Central Africa

The region is progressing slowly despite its vast hydropower potential. Investment, governance, and interconnection constraints limit the valorization of available resources, with the Democratic Republic of the Congo and Cameroon accounting for more than 80% of regional production.

→ Profile: weak and uneven growth, dependent on major structuring projects.

East Africa

Electricity consumption is the most dynamic on the continent, thanks to a diversified mix integrating geothermal, hydropower, and solar energy. Regional interconnections through the Eastern Africa Power Pool support system balancing and resilience.

→ Profile: steady and sustained growth, driven by rural electrification and diversification of the energy mix.

Southern Africa

Growth remains limited and irregular, hindered by aging thermal power plants, load shedding, and declining industrial demand. South Africa accounts for most of the production, yet still struggles to reduce the share of coal in its energy mix.

→ Profile: relative stagnation, with persistent structural constraints.

Summary

North Africa and East Africa are driving continental electricity growth, reflecting stronger economic modernization and industrial development. West and Central African blocs are progressing more slowly due to insufficient infrastructure and supply, while Southern Africa remains dominated by a carbon-intensive system despite its concentrated production capacity.

4.2.2 electricity consumption by country

A deeper analysis of country-level consumption reveals a strong concentration of demand within industrialized or highly populated economies. Table 3 summarizes, for each country, the main electricity-related energy indicators, namely: electricity prices or tariffs for businesses and households, net electricity consumption, grid access rates, energy intensity, and the share of renewables.

South Africa, Egypt, Nigeria, Algeria, and Morocco are among the continent's largest electricity consumers due to their demographic density, industrial base, and extensive electricity networks.

Conversely, small island states and certain landlocked countries display modest consumption levels, constrained by structural limitations such as insufficient generation capacity, weak grid reliability, high costs, and dependence on imports.

The disparities identified in consumption and access call for a strategic approach that is both segmented and dynamic, capable of anticipating future demand evolution. In this perspective, energy profiling combined with a corridor geostrategy provides a renewed interpretation of the challenges associated with the continent's energy transition.

Based on differentiated taxonomies, balancing supply and demand at the regional scale opens the way for targeted solutions: from deploying basic infrastructure in low-consumption areas to modernizing networks in industrial hubs, while accelerating regional integration to ensure collective energy resilience.

4.3 Energy Profiling and the Geostrategy of Corridors

This chapter develops an energy profiling approach through the cross-analysis of key structural determinants, namely: access to electricity, electricity prices per kWh, consumption levels, energy intensity, and the share of renewable energies within electricity systems.

This multidimensional approach makes it possible to identify and classify country energy profiles, and to understand in a systemic manner the structural constraints limiting the performance of energy systems, while also identifying potential integration pathways through regional corridors.

The objective is to highlight the technical potential that determines the relevance of interconnection corridors capable of ensuring both energy transition and sustainable industrial competitiveness.

By grouping countries according to their characteristics — carbon-intensive industrial engines, transition economies, clean energy producers, and vulnerable markets — the African energy landscape becomes easier to interpret and provides a basis for the development of regional corridor strategies.

4.3.1 Taxonomy of Country Energy Profiles

The taxonomy methodology adopted in this report is based on the cross-analysis of various economic determinants in order to identify and group countries according to similar energy profiles.

This approach combines data from international sources such as the International Energy Agency, International Renewable Energy Agency, and African Development Bank, together with comparative analyses designed to reveal regional integration dynamics.

Like any large-scale taxonomy exercise, however, it remains constrained by data heterogeneity, uneven availability across countries, and local specificities that are sometimes difficult to capture within a single analytical framework.

The objective is therefore to provide a structured and operational reading while recognizing that some countries exhibit hybrid profiles: highly renewable yet energy-intensive, or competitive in terms of pricing but vulnerable in terms of access.

Accordingly, the proposed taxonomy is based on dominant profiles observed at a given point in time, enabling the characterization of structural configurations that are useful for regional planning.

4.3.1.1 Electricity Prices, Consumption, and Access

Electricity prices, particularly tariffs applied to productive uses, constitute a critical factor. In many Sub-Saharan African countries, electricity prices per kWh are among the highest in the world due to:

- the predominance of costly diesel- or fuel oil-based thermal generation;
- technical and commercial losses often exceeding 20%;
- a limited subscriber base, restricting the pooling of fixed costs;
- country risk ratings that increase the cost of capital.

High tariffs and unstable electricity supply directly affect industrial competitiveness and limit the ability of economies to invest and modernize.

Net electricity consumption can be defined as the amount of electricity effectively available to all final users within a given territory after deducting part of the losses.

It is calculated as follows:

Net Consumption = Domestic Consumption - Transmission and Distribution Losses

Domestic (or gross) consumption refers to the total amount of electricity produced within the territory, plus imports, minus exports, and minus the electricity consumed by the producers themselves (auxiliary consumption of power plants).

Network losses correspond to electricity dissipated as heat during transmission over long-distance high-voltage lines and through medium- and low-voltage distribution networks. These losses are subtracted to obtain the net value.

Finally, access to electricity is defined by the United Nations as the condition in which populations benefit from modern, reliable, sustainable, and affordable energy services capable of meeting both fundamental human needs and supporting economic and social development. It therefore extends beyond simple physical connection to the grid and is now measured according to criteria of reliability, quality, and affordability.

Reliable access to electricity remains one of the major divides across the African continent, particularly in rural areas where infrastructure is often absent or limited.

According to the African Development Bank, nearly 600 million Africans still lack access to electricity. Even in connected urban areas, service quality often remains insufficient to support productive uses: frequent outages, planned load shedding, voltage fluctuations, and inadequate peak capacity hinder the emergence of local industrial ecosystems and the upgrading of African value chains.



figure 16

Price, Net Consumption and Access to electricity (2023)

- North Africa
- East Africa
- West Africa
- Central Africa
- Southern Africa

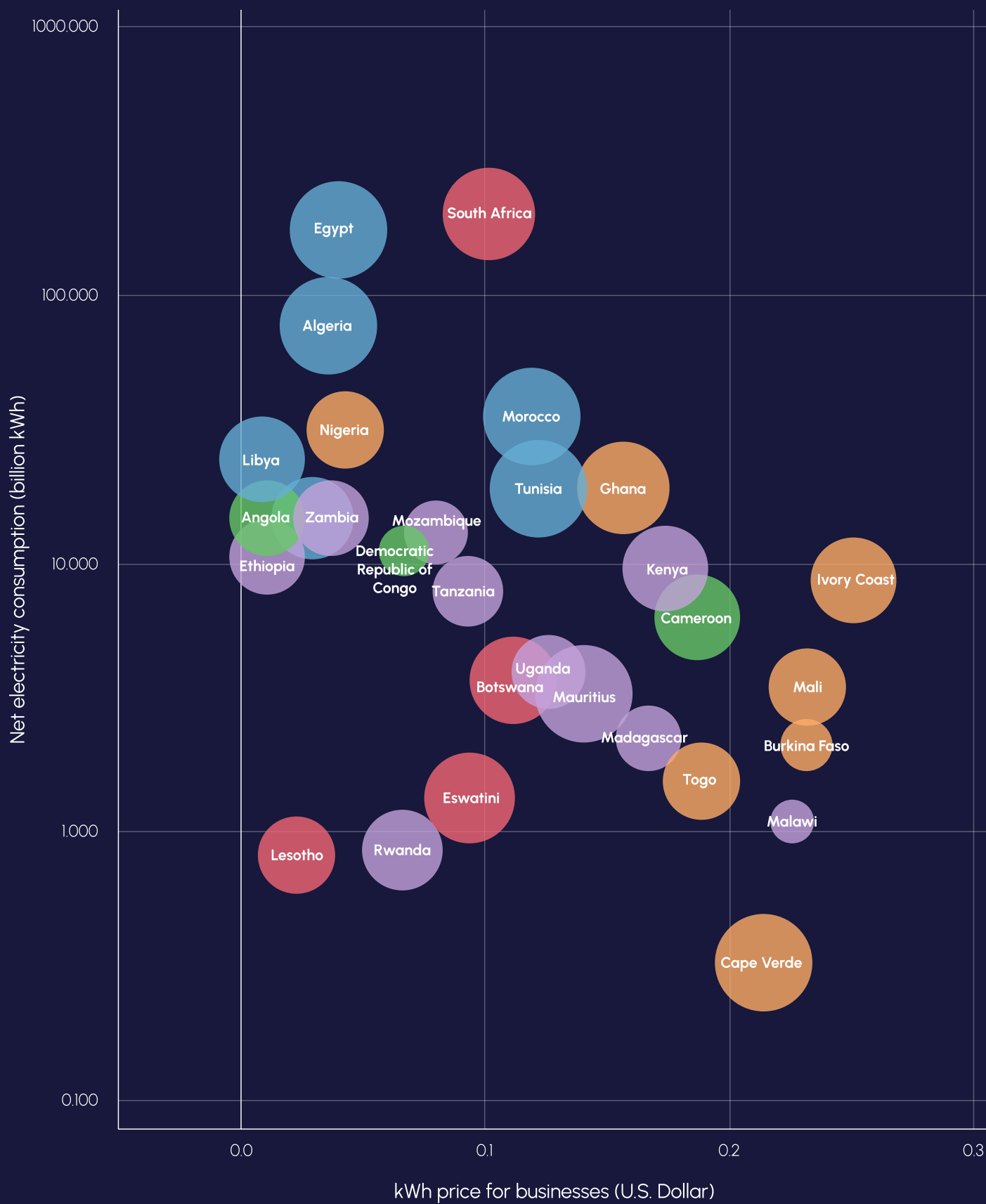


Figure 16 — Electricity Price per kWh (X-axis) versus Net Consumption (Y-axis) and Electricity Access (bubble diameter) — strikingly illustrates these contrasts. The figure highlights the strong fragmentation of African electricity systems, where countries with high consumption and competitive tariffs coexist alongside many economies characterized by limited access and high costs, revealing a multi-speed energy Africa.

It highlights three main dynamics:

A concentration of consumption in industrialized countries such as South Africa, Egypt, Nigeria, Morocco, Algeria, and Tunisia, where demand is driven by industry, urbanization, and supply stability.

An intermediate zone including countries experiencing strong urban growth but constrained electricity systems, such as Kenya, Ghana, Côte d'Ivoire, Tanzania, and Ethiopia.

A broad area characterized by low access and low consumption, covering Central Africa, the Sahel, parts of West Africa, as well as island and landlocked countries such as Lesotho, Malawi, Eswatini, Rwanda, and Cape Verde.

It should be noted that the dispersion of electricity prices per kWh — which are neither correlated with electricity access nor with consumption levels — does not primarily reflect infrastructure performance. Rather, it reflects heterogeneous economic models and tariff policies, in which each country adopts a different balance between subsidies, competitiveness, and industrialization.

4.3.1.2 Electricity Prices vs. Energy Intensity and Access to Electricity

Analyzing the performance of energy systems requires adopting another perspective. In this case, the electricity price per kWh (business tariff) is compared with energy intensity and access to electricity. Electricity price remains a relevant indicator of a country's immediate energy attractiveness, namely its ability to provide affordable energy suited to productive needs.

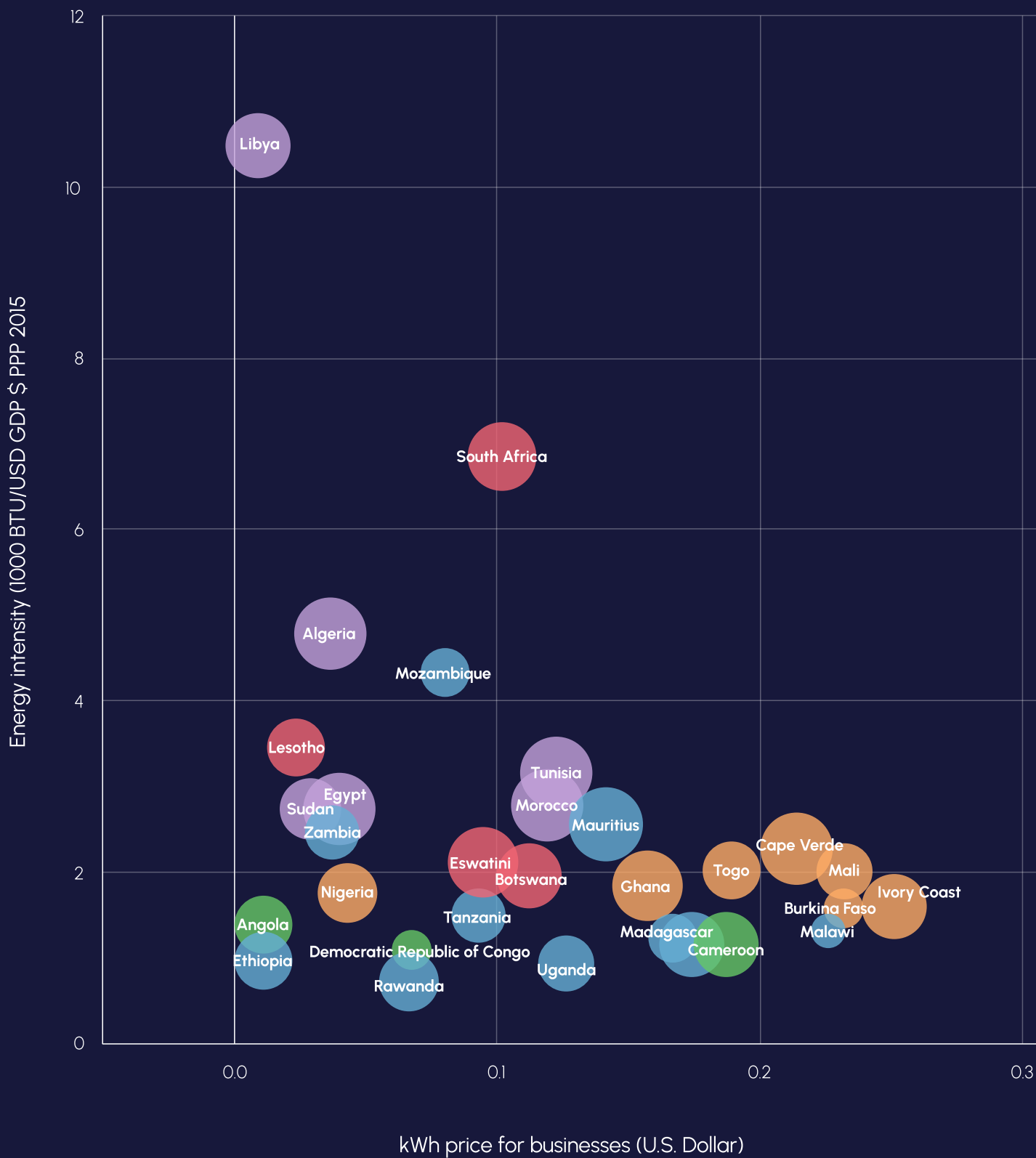
Energy intensity is a measure indicating how efficiently a country uses energy to generate wealth.

It is calculated as the ratio of energy consumed to GDP and is expressed in 1,000 BTU/USD of GDP (1 kWh is approximately equal to 3,412 BTU). Energy intensity measures the efficiency of energy use: a high value reflects an energy-intensive and often weakly industrialized economy, whereas a low value indicates efficient energy use and a more advanced industrial structure.

figure 17

Price of kWh v/s Energy intensity and Access to electricity (2023)

- North Africa
- East Africa
- West Africa
- Central Africa
- Southern Africa



Cross-analyzing electricity prices with indicators of energy intensity and electricity access makes it possible to position each country within a “price competitiveness–efficiency” framework and to assess its industrialization and productive transformation potential.

Figure 17 highlights distinct energy profiles that can be grouped into quadrants conventionally defined by two thresholds: one for the electricity price per kWh and another for energy intensity, expressed in tons of oil equivalent per unit of wealth creation. Access rate is not considered in this decomposition.

A country's position within a given quadrant therefore reflects a dominant energy profile at a given point in time, without prejudging heterogeneous internal dynamics or future development trajectories.

Within this framework, the quadrants do not constitute a performance ranking or a normative evaluation, but rather a comparative analytical tool intended to reveal structural configurations and potential complementarities between countries.

Explanation of the Quadrants

As part of the quadrant analysis, the boundaries selected for the X and Y axes are defined using operational thresholds enabling a comparative interpretation of African energy systems.

The horizontal axis (X) corresponds to the average electricity price, with a threshold value set at the median level of: 0.10 USD/kWh. This threshold distinguishes relatively competitive pricing environments: $X < 0.10$ USD/kWh from situations where electricity cost represents a significant constraint on productive uses: $X > 0.10$ USD/kWh.

This benchmark is consistent with international standards generally considered favorable to industrialization and the attractiveness of electricity-intensive industries.

The vertical axis (Y) represents the energy intensity of the economy, measured in BTU/USD, with a threshold fixed at a median value of: 2500 BTU/USD. This value distinguishes economies with high energy intensity: $Y > 2500$ reflecting high energy consumption per unit of wealth produced — often associated with extractive or energy-intensive productive structures — from economies with more moderate intensity: $Y < 2500$ generally associated with better energy efficiency or a more diversified economic structure.

These thresholds are not intended to establish a normative hierarchy among countries, but rather to structure a strategic interpretation of dominant energy profiles, facilitate the identification of regional complementarities, and clarify the potential role of each country in the design and deployment of African energy corridors. They should therefore be interpreted cautiously, taking into account national specificities, sectoral dynamics, and the temporal evolution of the indicators considered.

Energy Profiling by Quadrants

Based on the selected thresholds for electricity price (X-axis) and economic energy intensity (Y-axis), the quadrant mapping highlights four distinct structural configurations of African energy systems. Each quadrant corresponds to a dominant profile, reflecting specific constraints and opportunities, without constituting either a performance ranking or a normative assessment.

North-East Quadrant – High Prices / High Energy Intensity

$X > 0.10$ USD/kWh ; $Y > 2500$ BTU/USD

Profiles Under Structural Energy Constraints

South Africa, Tunisia, Morocco, Mauritius

This quadrant groups countries facing a double structural constraint: high electricity costs penalizing productive uses, combined with high or medium energy intensity, reflecting significant energy consumption per unit of wealth produced. This configuration is often associated with fragmented energy systems dependent on imported fossil fuels and productive structures dominated by inefficient or weakly transformed activities.

A specific remark should be made regarding South Africa, which historically displayed low electricity prices per kWh. The recent increase in tariffs by Eskom confirms the country's deterioration in terms of price competitiveness.

In this configuration, energy corridors play a critical role by enabling access to more competitive, more reliable, and potentially more decarbonized electricity — a necessary condition for any trajectory of productive transformation.

North-West Quadrant – Competitive Prices / High Energy Intensity

$X < 0.10 \text{ USD/kWh}$; $Y > 2500 \text{ BTU/USD}$

Extractive and Electricity-Intensive Profiles

Egypt, Libya, Algeria, Sudan, Mozambique, Lesotho, Zambia

Countries in this quadrant benefit from a relative advantage in terms of electricity costs, often linked to the availability of domestic energy resources (hydropower, gas, coal) or subsidy mechanisms. However, their high energy intensity reveals an economic structure still largely dominated by extractive activities or energy-intensive industries with limited added value.

This configuration reflects strong transformation potential: energy competitiveness constitutes a strategic lever for industrial upgrading, provided that low-cost electricity is directed toward productive uses, integrated into regional value chains, and supported by targeted industrial policies. In this context, energy corridors can play an amplifying role by expanding markets, securing demand, and encouraging cross-border industrial investments.

South-East Quadrant – High Prices / Moderate Energy Intensity

$X > 0.10 \text{ USD/kWh}$; $Y < 2500 \text{ BTU/USD}$

Efficient Profiles Under Constraint

Botswana, Uganda, Ghana, Togo, Madagascar, Cameroon, Kenya, Malawi, Burkina Faso, Côte d'Ivoire, Cape Verde, Mali

This quadrant groups countries whose relatively moderate energy intensity reflects either better energy efficiency or an economic structure more oriented toward services and higher value-added activities. Nevertheless, the high level of electricity prices constitutes a major constraint for the development of industrial activities, particularly electricity-intensive industries.

Countries in this quadrant are typically trapped in an energy lock-in situation, where high costs limit industrialization, while limited economic diversification reduces the capacity to invest in more efficient infrastructure.

Energy corridors therefore represent a strategic lever to reduce marginal supply costs, improve industrial competitiveness, and support more balanced economic diversification, particularly through the regional integration of electricity markets.

South-West Quadrant – Competitive Prices / Moderate Energy Intensity

$X < 0.10 \text{ USD/kWh}$; $Y < 2500 \text{ BTU/USD}$

Productive Energy Balance Profiles

Angola, Ethiopia, Nigeria, Democratic Republic of the Congo, Rwanda, Tanzania, Eswatini, Uganda

This quadrant corresponds to relatively favorable configurations combining competitive electricity prices with controlled energy intensity. These profiles reflect more balanced energy systems capable of supporting both economic growth and improvements in energy efficiency. A caveat should nevertheless be noted regarding Nigeria, which rather displays a "hybrid profile with strong grid/off-grid disparities" due to its heavy dependence on private diesel generators, resulting in very high off-grid electricity costs.

Without representing an end state, these countries possess strong potential to act as driving forces within African energy corridor dynamics. They are well positioned to host electricity-intensive industries, export electricity to more constrained neighboring countries, or serve as regional platforms within low-carbon value chains.

Countries Not Classified Due to Data Limitations

Benin, Gambia, Guinea, Guinea-Bissau, Liberia, Mauritania, Niger, Senegal, Central African Republic, Chad, Republic of the Congo, Equatorial Guinea, Gabon, São Tomé and Príncipe, Burundi, Comoros, Djibouti, Eritrea, Seychelles, Somalia, South Sudan, Zimbabwe, Namibia

This absence of classification reflects constraints related to data availability and comparability rather than any judgment regarding their energy performance.

4.3.2 geostrategic interpretation and continental implications

The quadrant-based analysis highlights that African energy challenges cannot be reduced to a binary opposition between “high-performing” countries and “lagging” countries, but rather reflect differentiated structural configurations requiring coordinated responses at both regional and continental levels.

It reveals that energy constraints are less the result of isolated deficits than of systemic imbalances between prices, access, energy intensity, and productive structures.

The cross-mapping of electricity prices, consumption, and access therefore reveals an African energy landscape that is both fragmented and rich in exploitable synergies.

It underscores the need for an integrated strategic vision capable of building a coherent and resilient African electricity system able to support sustainable and inclusive industrialization across the continent.

From this perspective, the proposed energy taxonomies provide an operational strategic framework for planning Africa’s energy transition and leveraging the natural complementarities between producing countries, consuming countries, and transit zones.

They make it possible to move beyond a strictly national approach and to embed energy choices within a broader logic of regional integration and productive sovereignty.

Regional energy corridors thus emerge not merely as technical infrastructures, but as structuring levers for solidarity, cooperation, and continental economic transformation.

By connecting countries with surplus capacities or competitive electricity prices — often endowed with abundant hydropower or solar resources, such as Egypt, Morocco, South Africa, Mozambique, or Ethiopia — to economies facing chronic supply deficits, notably Niger, Chad, Liberia, or Mali, these corridors can help stabilize prices, secure energy supply, and promote industrial upgrading as well as the creation of productive employment opportunities.

To deepen this interpretation, the analysis is complemented by cross-referencing the previously identified energy determinants with the composition of the energy mix.

This approach introduces a dynamic interpretation of the continent’s ecological transition by revealing structural contrasts, tensions, and complementarities among countries, as well as the potential trajectories likely to guide the future development of regional energy corridors.

It also sheds light on how access to electricity, electricity costs, and the nature of electricity generation shape differentiated industrial and energy trajectories across Africa. The analysis of the share of renewable energies within the electricity mix, combined with energy intensity, provides additional insight into African electricity systems.

It makes it possible to move beyond a purely quantitative interpretation in order to better understand the structural logics, productive dynamics, and decarbonization pathways emerging across the different regions of the continent.

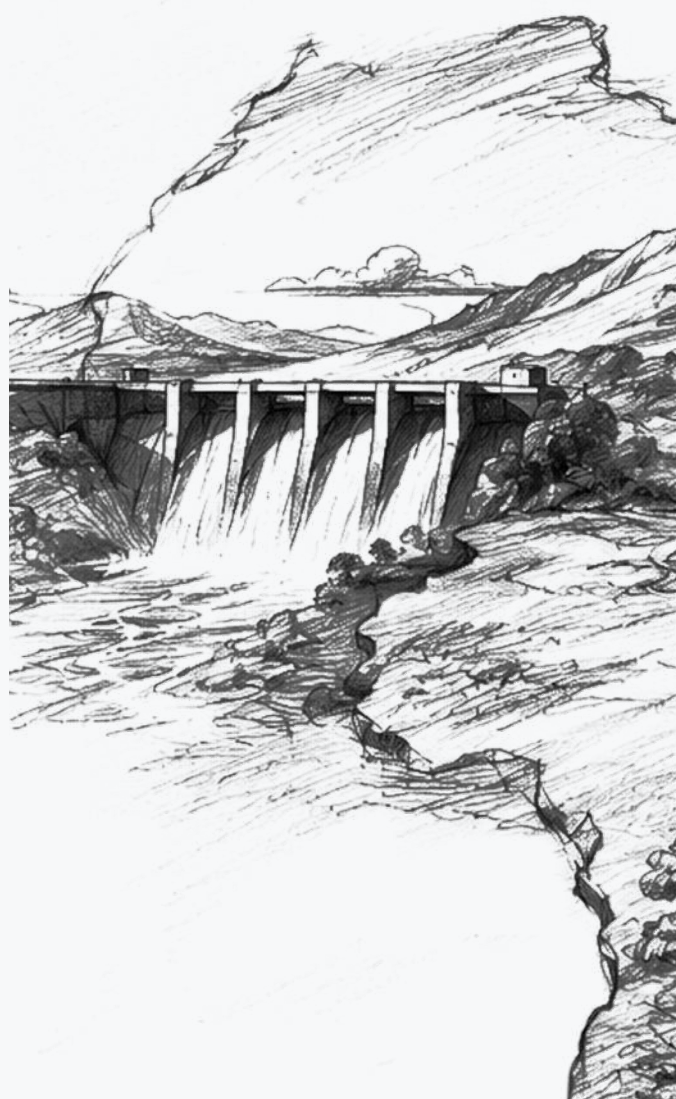


figure 18

Share of renewables in the electricity mix v/s energy intensity (2023)

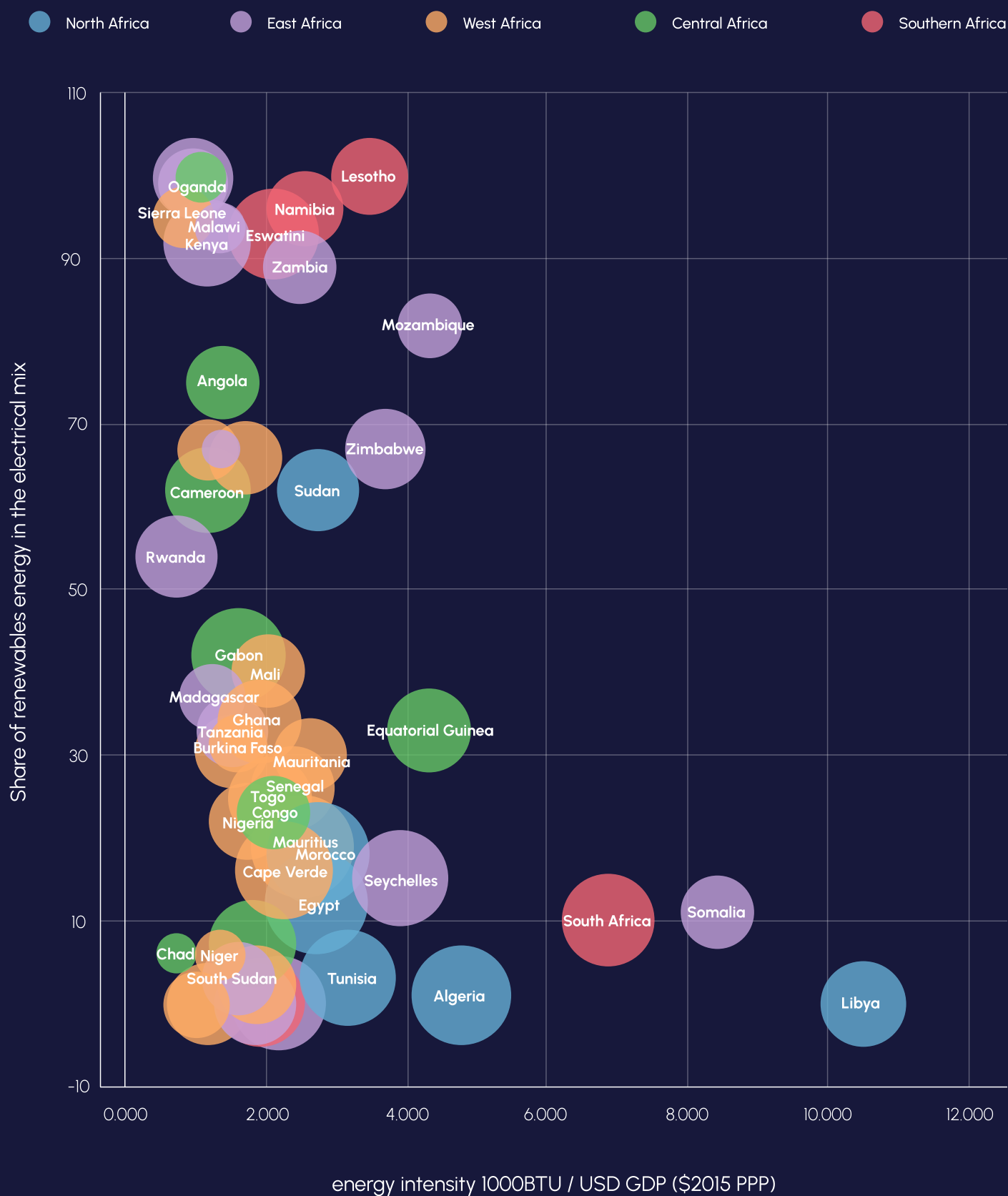


Figure 18 highlights a marked contrast between “green by default” countries, economies undergoing structured transition, and industrialized systems that remain heavily carbon-intensive. It reveals differentiated energy trajectories that are nevertheless potentially highly complementary within a regional integration perspective.

- **Green by default countries:** Democratic Republic of the Congo, Liberia, Burundi

The energy mix of these countries is highly renewable, but capacities remain limited and dependence on biomass leads to significant intermittency. From a strategic standpoint, the priority is to strengthen grid reliability, develop storage solutions, and expand infrastructure density. These measures will make it possible to transform renewable potential into reliable and productive energy capable of supporting future economic and industrial development.

- **Countries in structured transition:** Kenya, Tanzania, Zambia

In these countries, renewables already play an active role in economic growth and industrial expansion. The strategic trajectory relies on strengthening regional integration and expanding electricity networks, which are essential levers for maximizing the productive impact of renewable energies and consolidating the resilience of electricity systems in the face of growing demand.

- **Industrialized but carbon-intensive countries:** Egypt, Algeria, South Africa

These economies combine advanced industrialization with an energy mix still dominated by coal and gas. Their strategy aims to initiate gradual decarbonization while maintaining industrial supply. The development of clean energy and green hydrogen production appears as an essential lever for reducing carbon footprints without compromising competitiveness or the stability of energy systems.

- **Countries in controlled transition but still dependent:** Morocco, Mauritius

These countries display intermediate energy mixes, but electricity prices remain relatively high. Their energy strategy is based on optimizing storage solutions and competitively importing clean energy. The objective is to simultaneously support economic growth and industrial competitiveness while preparing the transition toward a more sustainable and resilient energy system.

Overall, the cross-analysis of renewable energy shares and energy intensity highlights an African landscape that is contrasted yet structured around strong complementarities.

Each group of countries displays specific trajectories, distinct challenges, and differentiated levers for action, ranging from the valorization of underexploited renewable resources to the gradual decarbonization of industrialized systems.

These dynamics provide a solid basis for coherent regional planning founded on network integration, system stabilization, technology and know-how transfer, and optimized access to clean and competitive energy.

These complementarities constitute the technical foundation of African energy corridors, which represent genuine structuring infrastructures for a low-carbon productive transformation at the continental scale.

4.3.3 Strategic Interpretation of Energy Corridors

Integrating the data analyzed in the previous sections makes it possible to identify the major energy corridors that will shape the continent’s future energy and productive landscape.

These corridors are not limited to geographical interconnection routes: they represent the priority vectors of a continental energy transition based on complementarities between resources, production capacities, and energy needs. They prefigure a pan-African energy architecture founded on interconnection, diversification of energy sources, and security of supply.

North → Sub-Saharan Corridors

Structuring Axes:

- Algeria → Niger → Nigeria
- Egypt → Sudan → Chad

Corridor Positioning and Rationale

These trans-Saharan corridors connect North African economies endowed with strong renewable production potential and relatively developed energy infrastructures to Sahelian and West African countries characterized by rapid demographic growth and structural deficits in electricity access. Their objective is to align surplus capacities with growing needs within a broader logic of regional stabilization.

key findings from the mapping

The indicators highlight world-class solar potential in Algeria and Egypt, capable of generating competitive exportable volumes through trans-Saharan infrastructure.

Conversely, Niger and Chad display electricity access rates below 30–40%, placing them among the most vulnerable areas on the continent. Nigeria, despite its economic weight, remains under-capacitated, with a chronic production deficit and an unstable grid limiting its industrial potential.

Strategic Challenge:

These corridors represent powerful levers for energy transformation and stabilization between North Africa and Sub-Saharan Africa, contributing to the reduction of the Sahel's energy vulnerability while valorizing North African solar potential through secure cross-border energy flows.

East African Corridor

Structuring Axes

- Ethiopia & Kenya → Uganda → Rwanda → Burundi

Corridor Positioning and Logic

This corridor is built upon a strong hydropower and geothermal base, complemented by rapidly expanding solar development. It connects countries with surplus capacities to rapidly growing economies where energy demand is increasing faster than domestic production capacities.

Key Findings from the Mapping

Ethiopia and Kenya concentrate the region's largest hydropower and geothermal capacities, generating exportable surpluses.

Uganda and Rwanda show sustained progress in expanding electricity access but remain dependent on imports to ensure grid stability. Burundi, with one of the continent's lowest electrification rates, illustrates the transformative potential of this corridor.

Strategic Challenge

This is the continent's most advanced corridor in terms of regional integration, notably thanks to the Eastern Africa Power Pool. It helps reduce marginal production costs, optimize surplus hydropower generation, and strengthen the climate and operational resilience of East African electricity systems.

Southern Africa Corridor

Structuring Axes

- Mozambique + Zambia → Malawi / Zimbabwe / Botswana

Corridor Positioning and Logic

This corridor is organized around the Zambezi Valley, the hydropower backbone of Southern Africa. It connects net electricity-exporting countries to structurally deficit economies facing aging thermal power fleets and recurring load shedding.

Key Findings from the Mapping

Mozambique, through the Cahora Bassa Dam complex, plays a pivotal role in regional electricity exports. Zambia combines significant hydropower potential with growing demand linked to urbanization and industrialization. Malawi, Zimbabwe, and Botswana remain highly dependent on imports and thermal sources, as reflected in their low renewable shares and energy vulnerability.

Strategic Challenge

This corridor is essential for stabilizing the Southern African Power Pool. It contributes to reducing chronic load shedding, improving grid reliability, and supporting a gradual transition toward a cleaner and less carbon-intensive energy mix, while reinforcing regional industrial bases.

Central Africa Corridors

Structuring Axes

- Democratic Republic of the Congo → Angola / Zambia
- Cameroon → Chad / Central African Republic

Corridor Positioning and Logic

These corridors rely on the immense and still largely underexploited hydropower potential of Central Africa. Their objective is to transform the region into an energy hub capable of sustainably supplying neighboring deficit economies.

Key Findings from the Mapping

The Democratic Republic of the Congo alone accounts for more than 40% of Africa's hydropower potential, yet displays an electricity access rate below 20%, revealing a major structural paradox. Cameroon also possesses significant hydraulic resources that could be mobilized toward Chad and the Central African Republic, where unmet demand remains extremely high. The recipient countries display among the continent's lowest TES/GDP levels, reflecting a critical deficit in modern energy infrastructure.

Strategic Challenge

These corridors offer the possibility of transforming Central Africa into a regional hydropower hub capable of supporting the energy integration of West, East, and Southern Africa.

Their development, however, depends on massive investments in transmission networks, stronger institutional security, and reinforced regional cooperation.

Cross-Cutting Synthesis

Taken together, these four corridors constitute the pillars of a structured pan-African energy integration framework, aligned with and extending the architecture of existing or emerging regional Power Pools: the West African Power Pool, Central African Power Pool, Southern African Power Pool, Eastern Africa Power Pool, and the North African Power Pool.

Far from replacing these institutional frameworks, the identified corridors represent their priority functional axes, where complementarities between resources, production capacities, and energy needs are the strongest.

The effective implementation of these corridors depends on the ability of the Power Pools to evolve from a predominantly technical interconnection logic toward integrated strategic governance combining investment planning, coordination of regional electricity markets, and alignment with industrial and climate policies.

It also requires the mobilization of long-term financing, modernization of transmission and distribution networks, and greater consideration of climate resilience and system security imperatives.

From this perspective, energy corridors appear as the operational vectors enabling the Power Pools to fully play their role in the continent's energy and industrial transformation.

The following chapter examines these governance, investment, and regional cooperation conditions and proposes strategic options to consolidate these frameworks and maximize their contribution to African energy integration oriented toward value creation and low-carbon industrialization.

4.4 productive transformation through energy corridors

The analysis of energy dynamics at the continental scale highlights a structural polarization in production capacities, cost levels, and degrees of energy vulnerability. This polarization does not simply reflect a geographical divide, but rather differentiated regional configurations shaped by historical trajectories, resource endowments, and heterogeneous investment choices.

The northern and southern regions of the continent concentrate relatively competitive production hubs characterized by a growing availability of electricity generated from solar, hydropower, gas, and wind energy.

These systems possess a more advanced industrial and infrastructural base, but face a strategic imperative of decarbonization, grid modernization, and optimization of productive energy uses — conditions necessary to maintain their long-term competitiveness.

Conversely, a large part of Central and West Africa continues to face structural deficits in energy infrastructure, strong dependence on imported fossil fuels, and high production costs.

These constraints limit the ability of these economies to sustain industrial growth and integrate into higher value-added regional value chains.

East Africa occupies an intermediate position with a more balanced energy profile. The combination of significant hydropower and geothermal potential, progressive solar development, and relatively advanced regional integration dynamics gives this region greater climate resilience and strong potential for scaling up productive electricity uses.

In this context, regional energy corridors — operating within existing or emerging Power Pools such as the West African Power Pool, Central African Power Pool, Southern African Power Pool, Eastern Africa Power Pool, and North African Power Pool — emerge as structuring instruments of productive transformation, capable of converting these regional disparities into economic and industrial complementarities.

Their role extends far beyond mere technical interconnection and forms part of a broader logic of spatial and functional reorganization of African energy systems.

These corridors fulfill three major strategic functions:

- **Spatial redistribution of energy:** Cross-border energy flows make it possible to connect surplus areas with deficit zones, reducing energy vulnerability, improving security of supply, and optimizing the load factor of existing generation assets.

- **Reduction of systemic costs:** Regional integration contributes to lowering marginal production costs, improving grid stability and flexibility, and promoting coordinated investment planning at the Power Pool level.

- **Stimulation of regional value addition:** By linking countries with low-cost energy production to economies with industrial potential or rapidly growing demand, corridors facilitate the localization of productive segments, industrial upgrading, and the strengthening of regional manufacturing competitiveness.

From the perspective of Energy and Industrial Transformation (EIT), energy corridors can no longer be understood as simple electricity infrastructure.

They become vectors of productivity and economic integration, capable of transferring not only electrons, but also industrial opportunities, investments, and productive capacities associated with energy use.

This integration logic repositions energy as a shared regional asset at the core of a collective sovereignty based on cooperation, resource pooling, and value creation.

It constitutes an essential condition for placing Africa on a development trajectory that is more competitive, decarbonized, and inclusive, aligned with the continent's structural transformation objectives.

4.5. Technological and regional cooperation for enhanced energy security

At the continental scale, the strengthening of regional electricity exchanges is now a determining factor in achieving a dual objective: the sustainable reduction of costs and the establishment of genuine energy security.

The identified energy corridors—North Sub-Saharan, West African, East African, Southern African, and hydro-central corridors—are not merely trade vectors; they form the backbone of a future resilient continental energy architecture.

They provide an essential framework for cooperation, linking producers, consumers, and balancing nodes, thereby enabling not only the optimization of marginal costs but, more importantly, strengthening supply security, network reliability, and the stability of regional power systems.

However, the sustainable reduction of costs and the strategic improvement of energy security will depend on the simultaneous activation of three interdependent levers:

Regional Cooperation

- It is essential for pooling generation resources, optimizing peak demand, and strengthening interconnections.
- **Contribution to Security:** It ensures improved regional supply security through diversification of sources and risk sharing.

Technological Innovation

- It enables the reduction of the Levelized Cost of Energy (LCOE) of renewable energy and the modernization of transmission and distribution infrastructure as a whole (digitalization, loss management).
- **Contribution to Security:** It is essential for the operational reliability of grids, reducing outages and improving service quality.

Industrial Scaling-Up

- It is the only mechanism capable of establishing local and regional value chains, creating the productive capacities required for the transition.
- **Contribution to Security:** It increases the local resilience of the system against external shocks (logistical, geopolitical) and ensures strategic autonomy in equipment.

In conclusion, the mapping presented in this section shows that the transformation of the energy sector does not rely solely on resources or technologies, but on the ability of countries to integrate their complementarities, cooperate, and build a coherent, secure, resilient continental system capable of supporting long-term sustainable industrialization.

4.5.1. Cost-reduction technologies in renewable energy value chains

Recent innovations in renewable energy value chains offer substantial prospects for reducing the Levelized Cost of Energy (LCOE), particularly when deployed at scale and integrated into interconnected regional systems.

Solar photovoltaic

- Bifacial modules: productivity gains of +10 to +20% with nearly constant CAPEX.
- Thermo-photovoltaic systems: overall efficiency improvements potentially exceeding 30%.
- Perovskite panels: potential cost reduction per watt estimated at 30–50% in the medium term.

Wind energy

- Low-wind-speed turbines: enabling the exploitation of Sahelian and coastal areas previously underutilized.
- Aerodynamic blade optimization: annual productivity increase of around 10%.

Hydropower

- Mini- and micro-hydropower plants: investment costs 2 to 4 times lower than large dams, with shorter implementation times.
- Run-of-river systems: reduced costs associated with storage and large civil works.

Geothermal energy

- Optimized directional drilling: cost reductions of up to 40% in development costs.
- Binary cycle plants: utilization of low-temperature geothermal resources, particularly suitable for East Africa.

Biomass and waste

- Pyrogasification and biodigestion: a dual energy and environmental benefit, contributing to cost reduction while improving waste management.

4.5.2. Industrial transformation to reduce overall costs

Beyond generation technologies, the competitiveness of the African energy sector depends on the continent's ability to internalize a growing share of the technological value chain and adapt solutions to local demand profiles.

Key identified levers include:

- Deployment of smart hybrid systems (PV + storage + thermal), enabling energy cost reductions of 30–50% in isolated or weakly interconnected areas.
- Adoption of low-cost storage technologies (sodium-ion, iron-air, molten salts), better suited to African load profiles.
- Digitalization of grids (Energy Management Systems, artificial intelligence, IoT), leading to an estimated 15% reduction in technical losses and a 20–40% reduction in operation and maintenance costs.

4.5.3. Green industrialization through local integration

The structuring of national and regional industrial value chains is a key lever to reduce logistics costs, strengthen local capacities, and enhance economic resilience. This green industrialization relies notably on:

- Local production of energy equipment (structures, transformers, metallic supports).
- Public–private partnerships promoting technology transfer, licensed manufacturing, and skills development.
- Development of green industrial zones such as Benguerir (Morocco), Menengai (Kenya), or Kuraymat (Egypt), which represent emerging integrated energy–industry ecosystems.

4.5.4. Economic models and financing levers

Accelerating energy investments requires innovative financial mechanisms capable of reducing the cost of capital and securing revenue flows:

- Blended finance, to improve project bankability and attract private investors.
- Green bonds and climate funds, suitable for financing large-scale and long-term infrastructure.
- Long-term Power Purchase Agreements (PPAs), essential to stabilize revenues and enable the emergence of regional electricity markets.

4.5.5. Expected impacts on competitiveness and sustainability

The combination of technological, industrial, and financial levers should enable:

- A reduction in LCOE of 30% to 60%, depending on technologies and national contexts.
- A significant increase in skilled job creation.
- A sustained reduction in dependence on imported fossil fuels.
- The emergence of competitive regional industrial value chains.
- A strengthened contribution to the Sustainable Development Goals, particularly in energy, industrialization, climate action, and employment.

Summary

The energy mapping presented in this section highlights a continent characterized by deep heterogeneity, but also by strong structural complementarities that generate significant opportunities.

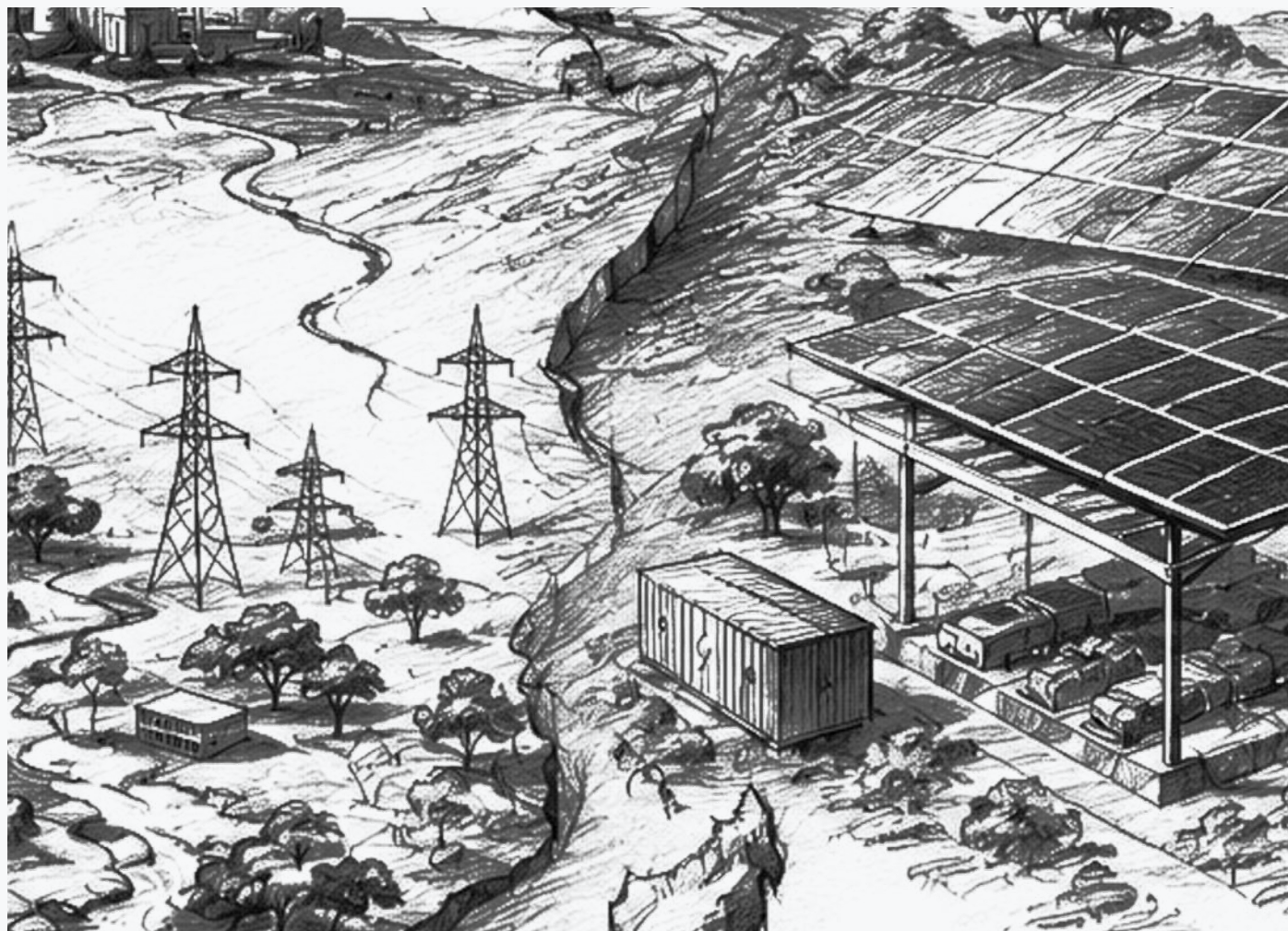
Cross-analysis of final energy consumption, electricity demand, electricity prices, energy intensity, and renewable energy shares shows that Africa is not a homogeneous energy space, but rather a set of coexisting trajectories within a fragmented landscape.

Industrial hubs in North and Southern Africa have relatively structured energy systems, while large parts of Central, Sahelian, and West Africa remain trapped in an energy deficit that constrains industrialization.

Between these extremes, several transition economies—particularly in East Africa—demonstrate that progressive integration of renewables can provide a more resilient growth foundation.

In this context, the identified energy corridors form the backbone of a future continental energy architecture, in articulation with regional Power Pools.

Sustainable cost reduction and improved access rely on three inseparable levers: regional cooperation, technological innovation, and industrial scaling-up.





Section 5

Decarbonization and ecological transition in Africa

The climate challenge has become the new strategic driver of Ecological and Industrial Transformation (EIT), paving the way for a new geopolitical influence for the African continent. This section discusses the implications of decarbonization on energy value chains, emerging power dynamics, and Africa's positioning vis-à-vis its international partners. It highlights efforts to capitalize on the continent's clean energy resources, particularly through green hydrogen, while warning against the risks of exclusion if Africa remains merely a supplier of raw resources.

- 5.1 Impacts of the ecological transition
- 5.2 Energy resources and geopolitical influence
- 5.3 The role of major powers and regional actors
- 5.4 North Africa as an energy hub for Europe
- 5.5 From the green deal to industrial co-development

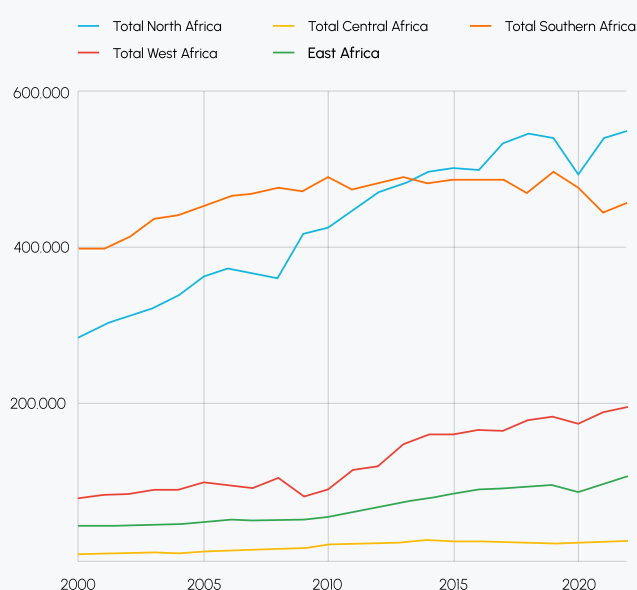
5.1 Carbon emissions analysis and challenges

The analysis of carbon emissions across the African continent shows that, despite its historically low contribution, annual CO₂ emissions have been steadily increasing over the past two decades, reaching 1,370 MtCO₂/year in 2023 (EIA 2024), representing approximately 4% of global emissions. This volume is significantly concentrated in North African countries (with the exception of South Africa, which remains the continent's largest polluter), highlighting a regional disparity as illustrated in Figure 19.

figure 19

Continental concentration of annual carbon emissions in Africa in MtCO₂/year (Million Tonnes of Carbon Dioxide per year)

Source: U.S. Energy Information Administration
www.eia.gov



By cross-referencing the countries with the highest CO₂ emissions—namely South Africa, Egypt, Algeria, and Nigeria (Figure 20)—with the ranking of countries exhibiting high energy intensity (refer to Chapter 4), a strong correlation can be observed. This indicates that investments in electricity generation are not always aligned with ecological transition priorities.

This reality places constraints on cross-border energy strategies: any investment in energy corridors should not increase the continent's carbon footprint, but rather aim at its immediate reduction.

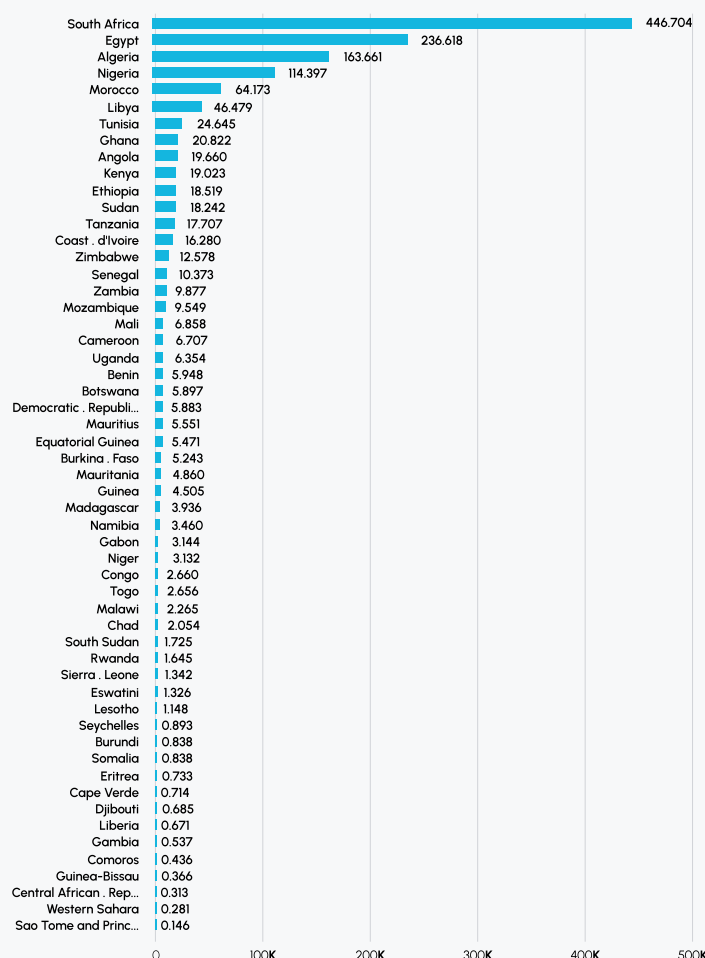
Consequently, the ecological transition in Africa faces additional challenges. The continent will only be able to sustainably reduce its emissions by addressing the root causes of its high energy intensity, namely the low efficiency of energy use and the dependence on thermal power generation.

Therefore, the strategy of interconnected corridors can only be justified as a lever for Ecological and Industrial Transformation (EIT), acting as the operational backbone of the energy transition.

figure 20

Carbon emissions by country in MtCO₂ (2023)

Source: U.S. Energy Information Administration
www.eia.gov



5.2 Energy cooperation: a new arena of geopolitical competition

The ecological transition has elevated energy cooperation to the status of a major strategic lever in contemporary international relations. Africa's immense potential is attracting the attention of major global powers, which are mobilizing various instruments to expand their influence over the continent's energy development.

While these interactions strengthen Africa's geopolitical importance, they also raise critical challenges in terms of energy sovereignty and technological dependence.

The strategies of influence are multifaceted:

China, through its "Belt and Road" initiative, finances large-scale energy projects (hydropower, solar energy) and deploys a technological and industrial agenda aimed at controlling energy value chains across the continent.

The European Union places the energy transition at the core of its relations with Africa, seeking a framework of secure interdependence to diversify its supplies of clean energy (green electricity, hydrogen), while also strengthening Africa's climate resilience.

The United States, through initiatives such as Power Africa and the DFC, prioritizes infrastructure development and partnerships with the private sector. Its approach remains pragmatic, focused on reducing investment risks and ensuring market stability.

In the face of this competition for influence, the role of African regional organizations (African Union, ECOWAS, SADC, etc.) is fundamental in coordinating energy policies. However, national rivalries, institutional fragmentation, and political instability still limit their ability to drive effective energy integration.

Beyond the rivalry among global powers, North Africa illustrates how energy cooperation can become an instrument of balanced co-development rather than a vector of dependency.

5.3 Co-development model: north africa as a strategic hub

The geographical proximity and immense renewable energy potential (solar, wind, hydrogen) position North Africa as a central pillar of Europe's energy transition strategy. This region should no longer be viewed merely as a supplier of resources, but rather as a competitive and strategic energy hub based on co-investment and co-development.

5.3.1 The co-development framework: from aid to interdependence

The European Union has structured its ambition around a co-development framework aimed at securing its green energy supplies while strengthening the resilience and industrial capacity of its Southern neighborhood.

- **Guiding Principles:** This strategy is framed by the European Green Deal, the EU External Energy Strategy, and the New Pact for the Mediterranean (initiated by DG MENA).

- **Partnership Logic:** The objective is to move away from a crisis- or aid-based approach toward a structured and long-term partnership, favoring secure interdependence and balanced value sharing.

5.3.2 Proofs of concept: co-investment and value creation

This strategic alignment is reflected in concrete achievements illustrating the potential of co-investment:

- **Green Hydrogen:** Morocco has signed a Green Partnership with the EU and launched the "Morocco Offer" to align its green hydrogen production and export capacity with European demand. Egypt secured an H2 Global contract (nearly €400 million) for the supply of renewable ammonia to Europe through 2033.

- **Electricity Interconnection:** The ELMED interconnection project (Tunisia–Italy) is progressing toward implementation and offers Tunisia direct integration into the European green electricity market.

These projects have a structuring industrial impact. By integrating into the European green supply chain, they strengthen European competitiveness while fostering the emergence of local green industrial clusters (solar energy, electrolyzers, storage technologies) in North Africa.

5.3.3 Opportunities and conditions for shared success

The integration of North Africa into the European green energy network represents a strategic pathway for economic transformation. However, the success of this co-development model depends on addressing the following challenges:

- **Regulatory Risks:** The Green Deal imposes high regulatory standards (carbon and sustainability criteria) which, without appropriate technical and institutional support, may exclude less prepared countries.

- **Value Sharing:** Cooperation must avoid reproducing extractive dynamics. Balanced value sharing, technological co-innovation, and the strengthening of local capacities are essential conditions for this dynamic to become a genuine driver of African regional integration and structural transformation.

5.4 Energy corridors as a mechanism for carbon balance optimization

Energy corridors are becoming the arteries of Africa's decarbonization: they connect green production basins to high-carbon-intensity areas, thereby balancing the continent's overall carbon footprint.

The analysis of the ecological transition reveals a dual imperative: the need for accelerated decarbonization and the construction of collective economic sovereignty. In this context,

cross-border energy corridors constitute the ideal instrument for bridging these two objectives.

They make it possible to pool the abundance of renewable energy resources from low-emission regions (such as the solar potential of the Sahel or the hydropower resources of Central Africa) and channel them toward high-carbon-intensity zones (such as certain industrial regions in the North and the South).

This interconnection is key to reducing the continent's overall carbon footprint by replacing costly and polluting thermal generation.

By enabling this balancing of carbon footprints, corridors are more than simple infrastructure:

They guarantee the energy security of countries lacking fossil fuel resources by connecting them to green energy production hubs.

They ensure the competitiveness of emerging industries by supplying low-carbon energy at competitive prices.

Thus, the strategy of interconnected corridors emerges as a necessary condition for successful regional integration, rooted in Ecological and Industrial Transformation (EIT), and enabling Africa to negotiate with a strong and coordinated voice on the global geopolitical stage.



Operational Instruments Supporting Ecological and Industrial Transformation (EIT)

1. Carbon Accounting and Access to MRV Markets MRV (Measurement, Reporting, Verification): establishment of a joint African Union–European Union system for measuring, reporting, and verifying emissions, with harmonized standards for electricity, hydrogen (H₂), and ammonia (NH₃). → Objective: ensure carbon traceability and interoperability of registries within the framework of Article 6 of the Paris Agreement, while avoiding any double counting.

CBAM (Carbon Border Adjustment Mechanism): technical and institutional support for African exporters (steel, fertilizers, cement, electricity) to ensure carbon compliance and maintain competitiveness on the European market through sectoral decarbonization roadmaps.

2. Financing and Project Bankability Blended finance and guarantees: coordination between the EU's Global Gateway program, the African Development Bank (AfDB), and AUDA-NEPAD to structure co-financing platforms, including exchange-rate guarantees, payment guarantees, and liquidity facilities dedicated to EIT projects.

Green windows and carbon-credit instruments: support for project bankability through green infrastructure funds and the issuance of green bonds targeting continental energy and industrial corridors.

3. Energy Markets and Contractual Mechanisms PPAs (Power Purchase Agreements) and cross-border wheeling (ATR): regional contracting of renewable electricity within the framework of the African Single Electricity Market (AfSEM) to create integrated and competitive markets.

Ancillary service markets: remuneration mechanisms for grid flexibility and stability through standardized instruments:

- FFR (Fast Frequency Response)
 - FCR (Frequency Containment Reserve)
 - aFRR/mFRR (automatic/manual Frequency Restoration Reserve)
 - VAr (volt-ampere reactive power for voltage support)
- These instruments enhance grid reliability and promote the valuation of energy flexibility at the regional scale.

4. Market Instruments for Green Industrialization

H2Global: an "off-take" auction mechanism securing demand and prices for hydrogen and its derivatives (ammonia, methanol, e-fuels).

CFDs (Contracts for Difference): long-term contracts guaranteeing a minimum price for green energy or decarbonized steel producers, thereby reducing market risk.

Infrastructure funds and green bonds: scaling-up instruments for strategic investments in energy corridors, green industrial zones, and local manufacturing value chains for energy equipment.



Section 6

Regional integration in Africa and energy cooperation

Energy integration constitutes one of the structural pillars of the continent's Energy and Industrial Transformation (EIT). Its objective is to transform the diversity of regional resources and potentials — hydroelectric, solar, wind, geothermal, or gas-based — into an interconnected, complementary, and competitive system capable of ensuring security of supply, reducing average electricity costs, and supporting Africa's industrial scale-up.

This section analyzes the dynamics of continental cooperation through the regional Power Pools (WAPP, SAPP, EAPP, CAPP, NAPP, and NBI) and ongoing interconnection projects, demonstrating how energy corridors are becoming the arteries of the continent's integrated development.

Transitioning toward genuine regional electricity markets is a decisive step: it not only enables the pooling of resources and the improvement of grid reliability, but also creates the conditions for an African green energy market capable of driving investment, industrialization, and economic sovereignty.

- 6.1 Energy cooperation and initiatives supported by the African Union
- 6.2 Power pools: a continental energy master plan to be strengthened
- 6.3 Making energy corridors the arteries of development
- 6.4 Evolution of power pools into energy markets in Africa

6.1 Energy cooperation and initiatives supported by the African Union

Regional energy integration constitutes a strategic pillar of the continent's transformation. Historically, interconnection and resource-sharing initiatives sought to improve access to energy while strengthening the energy autonomy of African countries. These efforts were long hindered by insufficient infrastructure, weak intergovernmental coordination, and the diversity of regulatory frameworks and national priorities.

However, in response to the rapid growth in energy demand, the rise of renewable energy, and the need to reduce production costs, regional integration has once again become a central issue. Today, it represents a key condition for providing affordable, reliable, and decarbonized energy, which is essential for the continent's Energy and Industrial Transformation (EIT).

The African Union (AU) has placed this vision at the core of its long-term strategy through Agenda 2063, which aims to transform Africa into an integrated and competitive energy market capable of meeting domestic demand while also becoming an exporter of clean energy.

This ambition is being implemented through major structuring programs such as:

- the Programme for Infrastructure Development in Africa (PIDA), coordinated by the African Union Commission, the African Development Bank (AfDB), and AUDA-NEPAD, which plans and prioritizes high-impact continental electricity and gas interconnection projects;
- the PIDA Priority Action Plan III (PIDA-PAP III, 2021–2030), which identifies energy corridors as drivers of economic integration by linking energy, transport, ICT, and industry;
- and the African Single Electricity Market, adopted in 2021, which aims to harmonize grid codes, liberalize regional electricity trade, and create an attractive framework for cross-border public-private investments.

These initiatives form a coherent continental ecosystem in which cross-border energy corridors become platforms for interconnection and co-development.

They make it possible to connect areas with high renewable energy potential (hydropower, solar, wind, and geothermal) to industrial consumption hubs, while transforming energy asymmetries into regional productive complementarities.

6.2 Power Pools: Consolidating a Continental Energy Master Plan

Power Pools are far more than mere physical transmission infrastructures; they represent the nervous system of a comprehensive Continental Master Plan dedicated to Africa's Ecological and Industrial Transformation (EIT). By connecting generation zones to consumption centers across multiple borders, these networks translate this overarching continental blueprint into reality, shifting the focus from basic energy access to positioning energy at the core of industrial competitiveness and continental sovereignty. Through resource pooling and the exploitation of economies of scale, they reduce the average cost of electricity for both end-users and industries while maximizing infrastructure resilience.

Furthermore, integrating Power Pools into a unified Continental Master Plan aligns perfectly with the systemic approach of the Water–Energy–Food–Ecosystems (WEFE) Nexus.

This strategic framework ensures that energy primarily serves endogenous continental needs—specifically agricultural modernization and local manufacturing value chains—thereby narrowing regional disparities and securing supply for under-electrified areas. By fostering seamless cross-border electricity trade and smart technology integration under a shared continental vision, Power Pools empower African territories to emerge as leading hubs in the low-carbon global economy while anchoring shared productive sovereignty.

6.3 Making energy corridors arteries of development

African energy corridors are not merely transmission lines; they are the vital arteries of the continent's industrial and territorial development.

They help reduce operating costs, optimize the use of existing infrastructure, and pool resources at the regional scale.

This integration lowers the average electricity cost for consumers, improves service reliability, and expands energy access in still under-electrified areas, thereby reducing territorial disparities between countries and regions.

Corridors as Catalysts for Competitiveness and Integration

By connecting electricity production hubs to consumption centers, energy corridors become drivers of decarbonized industrialization, local job creation, and inclusive growth.

They support the structuring of integrated regional energy markets, where cross-border exchanges help balance supply and demand, optimize investments, and reduce technical losses.

Within this framework, energy value becomes a shared asset, creating the conditions for collective African energy sovereignty.

Regional Energy Integration: A Lever for Transformation

Regional integration blocs constitute the operational foundation of the continental energy strategy.

This approach is built on four systemic functions: pooling, stabilizing, greening, and industrializing.

1. Economies of scale

Pooling infrastructure (power plants, interconnections, conversion stations) and production capacities reduces unit energy costs.

Joint projects hydroelectric dams, solar farms, and geothermal plants make it possible to share investments, extend amortization periods, and improve regional profitability.

Ultimately, this leads to lower electricity costs per kWh and improved bankability of cross-border projects.

2. Resource sharing and complementarity

Africa is a continent rich in energy resources, but their distribution is uneven. Some countries possess considerable resources hydropower in Ethiopia and Democratic Republic of the Congo, solar energy in the Sahel, and wind energy in Southern Africa and the Maghreb while others still depend on costly fossil fuel imports.

Energy corridors transform this asymmetry into synergy by linking surplus regions with deficit regions and creating regional clean-energy value chains.

Examples include:

- The Ethiopia–Kenya–Tanzania corridor, which exports Ethiopia's hydroelectric surplus
- The Inga–Cap South project linking the Democratic Republic of the Congo to Southern Africa

3. Inclusion and equity of access

Corridors are not intended solely for economic efficiency; they also promote energy inclusion.

They contribute to democratizing access to reliable electricity for rural and landlocked areas while stimulating productive energy use in agro-industry, local SMEs, and natural resource processing.

Energy thus becomes a tool for reducing inequalities and strengthening territorial cohesion.

4. Energy security and resilience

interconnected networks increase systemic resilience against climatic, geopolitical, and technical shocks.

A country facing an energy deficit or system failure can temporarily obtain electricity supply from neighboring countries, thereby ensuring continuity of service.

This regional energy solidarity strengthens macroeconomic stability and reduces dependence on imported fossil fuels.

It is aligned with the dynamics of the African Union Action Plan for Energy Security (AfSEM).

Corridors supporting the ecological and industrial transition (EIT)

Energy corridors are accelerators of Africa's ecological transition.

By promoting the integration of renewable energy into regional grids, they reduce the costs of adopting green technologies and facilitate the gradual replacement of coal and fuel oil with solar, wind, and hydropower energy.

They contribute to building a decarbonized energy infrastructure, which is a prerequisite for green industrialization and for Africa's active participation in the global low-carbon products market.

Thus, energy corridors should be viewed as economic and geostrategic structures, where energy cooperation prepares the ground for industrial and commercial convergence.

They embody the integrated vision of the Programme for Infrastructure Development in Africa and the African Union Agenda 2063: transforming the continent's energy disparities into productive complementarities, forming the foundation of a sovereign, interconnected, and competitive Africa.

6.4 Evolution of power pools into energy markets in africa

The energy integration of the African continent, initiated through regional Power Pools, is currently undergoing a decisive transformation:

the transition from interconnected grids to genuine integrated green energy markets.

This transition reflects the growing importance of a continental approach based on shared energy security, decarbonized production, and the commercial valorization of clean electricity.

From Interconnection Trade to Energy Trade

According to the African Export-Import Bank African Trade Report 2024, intra-African trade reached USD 192 billion in 2023, representing 15% of the continent's total trade (compared to 13.6% in 2022). Energy and electricity products are now among the categories with the highest intra-regional trade potential, alongside machinery and manufactured goods.

Intra African commercial exchanges' weight by region

Southern Africa	41,1 %
West Africa	25,7 %
East Africa	14,1 %
North Africa	12,4 %
Central Africa	6,6 %

This geographical concentration explains why energy corridors should primarily strengthen the Southern and West African blocs, which are more advanced in terms of regional trade and electricity interconnections.

Toward an African Electricity Market

Power Pools represent the first step toward the creation of regional electricity markets. These markets must now evolve from simple technical coordination (bilateral exchanges) into regional energy exchanges open to competition, capable of setting transparent prices and encouraging private investment.

This evolution requires:

- 1. **Stronger physical interconnections** to absorb growing cross-border electricity flows;
- 2. **Harmonization of regulations** (tariffs, quality standards, grid access, and cross-border Power Purchase Agreements — PPAs);
- 3. **Regional settlement and compensation** platforms (such as the Regional Power Exchange of the Southern African Power Pool in Southern Africa);
- 4. **Regional governance frameworks** to ensure transparency, security, and stability of transactions.

These conditions will enable the emergence of a continental green electricity market, serving as a driving force for the African Continental Free Trade Area.

Green Energy and Intra-African Trade

Data from the Organisation for Economic Co-operation and Development (2024) and the United Nations Conference on Trade and Development (2024) confirm that intra-African trade remains limited (13–16% of total trade) due to non-tariff barriers, insufficient infrastructure, and weak energy integration.

Electricity currently represents less than 0.5% of intermediate goods traded between African countries, highlighting the untapped potential of the energy sector in regional trade.

However, the African Continental Free Trade Area could transform this situation. Its provisions concerning the liberalization of trade in energy services and the removal of customs duties on energy and mining products provide an unprecedented framework for boosting green electricity flows between regional blocs.

In the long term, these exchanges could support a 109% increase in intra-African exports of manufactured products by 2045, according to the African Export-Import Bank.

Concrete Examples of Energy Exchanges

- **Southern African Power Pool (SAPP):** Africa's first operational regional electricity market, Mobilized USD 1.3 billion to strengthen regional interconnections between South Africa, Namibia, Zambia, and Mozambique

→ Daily electricity exchanges already reach up to 1,500 MW through regional PPAs.

- **Eastern Africa Power Pool (EAPP):** Commissioning of the Ethiopia–Kenya HVDC transmission line (2,000 MW), considered a model for exporting green hydroelectric power to neighboring countries.

- **West African Power Pool (WAPP):** Deployment of interconnections linking Ghana, Côte d'Ivoire, Togo, Benin, and Nigeria to form a unified regional electricity market supported by the Economic Community of West African States.

- **Mauritania–Senegal–Mali Corridor:** One of the first bilateral electricity corridors enabling cross-supply to high-demand industrial and mining zones.

These projects demonstrate that structured green electricity trade is not only possible, but already underway, although still limited in scale.

From Technical Integration to Economic Convergence

The evolution of Power Pools into integrated energy markets must be accompanied by a continental vision for the African Single Electricity Market (AfSEM). This framework aims to:

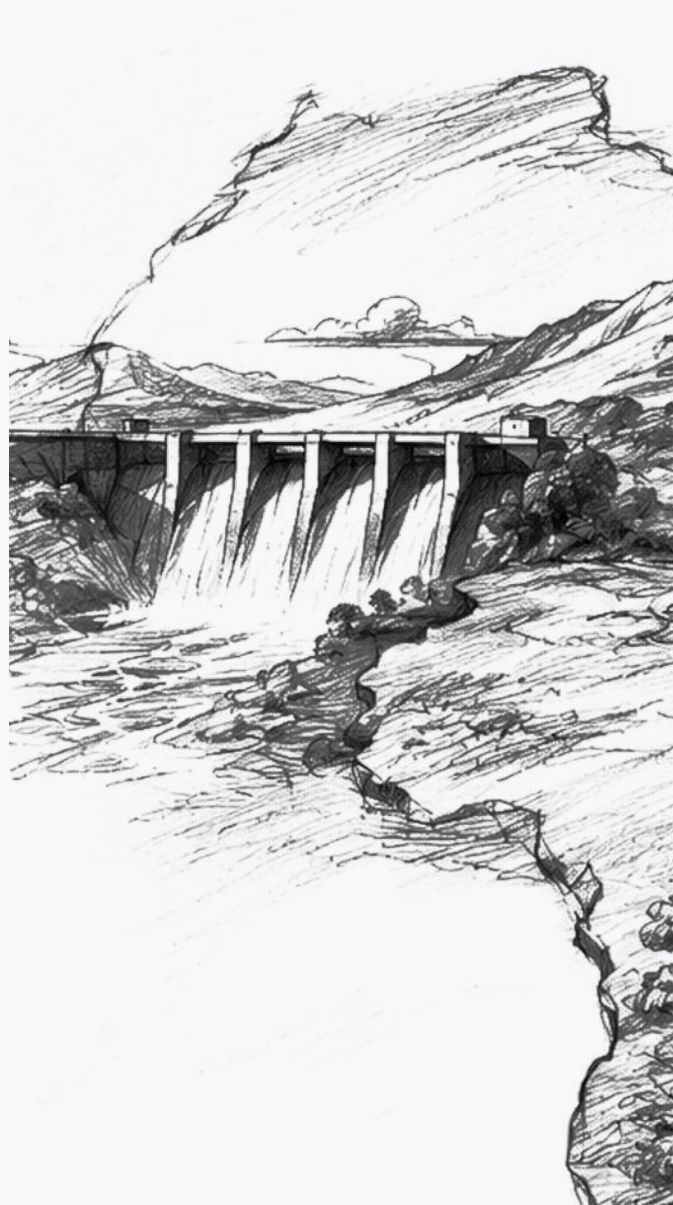
- Establish a continental electricity exchange similar to the European ENTSO-E model;
- Guarantee carbon traceability of electricity flows through certificates of origin and MRV systems (Measurement, Reporting, and Verification);
- Attract private and institutional investment through blended finance mechanisms involving institutions such as the African Development Bank, African Export-Import Bank, and the Global Gateway initiative;
- Promote green corridors connecting renewable energy production sites to regional industrial zones.

An African Green Electricity Market: A Key Driver of the Ecological and Industrial Transition (EIT)

The development of an integrated green electricity market would enable Africa to:

- **Reduce energy costs** through competition and economies of scale;
- **Accelerate industrial decarbonization** (green steel, hydrogen, fertilizers, and electric mobility);
- **Monetize its renewable energy potential** through exports of green electrons or green molecules such as hydrogen (H₂) and ammonia (NH₃);
- **Above all, strengthen its strategic** autonomy in the global energy transition.

Thus, Power Pools are becoming the foundation of sustainable economic integration, where clean energy circulates as a regional currency for development, forming the true backbone of Africa's Energy and Industrial Transformation.



Overview of Africa's Power Pools

North African Power Pool (NAPP) (under development)

Region covered: North Africa

Countries concerned: Algeria, Morocco, Tunisia, Libya, and Egypt.

Objectives:

Interconnect the electricity networks of the Maghreb countries and Egypt.

Integrate the region into European energy markets through interconnections, notably via Morocco and Tunisia.

Particularity:

This region already benefits from a strong potential for interconnection with Europe thanks to ongoing projects (e.g.: Morocco-Spain interconnection).

West African Power Pool (WAPP)

Creation: 1999

Region covered: West Africa

Member countries: 14 members of the Economic Community of West African States (ECOWAS), including Nigeria, Ghana, Senegal, Ivory Coast, and Mali.

Objectives:

Develop a regional electricity market.

Ensure reliable access to lower-cost electricity.

Strengthen electricity interconnections between member countries.

Major project:

Develop a regional electricity market.
Ensure reliable access to lower-cost electricity.
Strengthen electricity interconnections between member countries.

Southern African Power Pool (SAPP)

Creation: 1995

Region covered: Southern Africa

Member countries: 12 members of the Southern African Development Community (SADC), including South Africa, Zimbabwe, Zambia, Botswana, and Namibia.

Objectives:

Facilitate regional electricity trade.

Optimize investments in energy infrastructure.

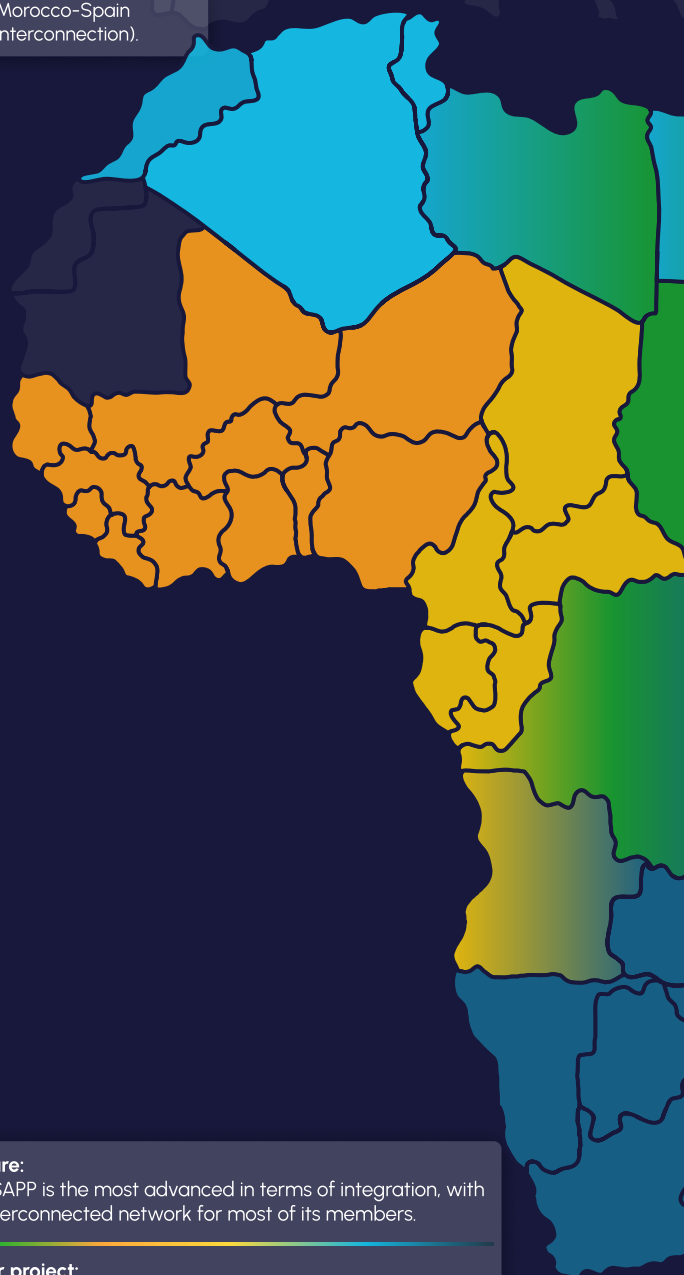
Improve security of energy supply.

Feature:

The SAPP is the most advanced in terms of integration, with an interconnected network for most of its members.

Major project:

The SAPP includes interconnection projects with robust infrastructure such as the power corridor linking South Africa and Zimbabwe, enabling increased cross-border electricity trade and the integration of renewable energy.



Nile Basin Initiative (NBI) (not specific to a power pool, but related)

Region covered: Nile Basin

Countries concerned: 10 countries bordering the Nile, including Egypt, Sudan, Ethiopia, and Uganda.

Objectives:	Summary of the main challenges common to power pools:		Access to electricity:
Facilitate sustainable management of water resources.	Lack of infrastructure: Low levels of interconnection between some countries.	Financing: Insufficient investment in energy projects.	Despite these initiatives, a large part of the African population remains without access to electricity.
Develop shared hydraulic electricity infrastructure.			
Strengthen energy cooperation in the Nile Basin.	Political instability: Impact on project planning and implementation.		

Eastern Africa Power Pool (EAPP)

Creation: 2005

Region covered: Eastern Africa

Member countries: 11 countries, including Ethiopia, Kenya, Sudan, Tanzania, and Rwanda.

Objectives:
Promote regional electricity trade.
Further integrate renewable energy, including hydropower and geothermal.
Reduce electricity supply costs.

Major project:

EAPP focuses on developing hydropower resources and strengthening transmission lines between Ethiopia, Kenya, and Tanzania.

Central African Power Pool (CAPP)

Creation: 2003

Region covered: Central Africa

Member countries: 11 countries, including the Democratic Republic of Congo (DRC), Cameroon, Gabon, and Congo.

Objectives:	Major challenges:
Exploit the vast hydraulic resources of the region, particularly in the DRC.	Low levels of interconnection and political instability in some member countries.
Develop electricity transmission infrastructure to connect member countries.	Major project: The CAPP is being developed to connect the Democratic Republic of Congo, Cameroon, and other Central African countries, despite difficulties in terms of financing and coordination.
Promote cross-border electricity exchanges.	



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Section 7

Synthesis and recommendations

- 7.1 Key highlights of the study
- 7.2 A theory of change based on three systemic transformations
- 7.3 Energy corridors as catalysts for a just and sovereign transition
- 7.4 Recommendations for an inclusive and sustainable energy and industrial transformation

7.1 Key highlights of the study

Africa possesses exceptional energy potential: its fossil resources (oil, gas, coal) and renewable resources (solar, wind, hydro, geothermal) are among the most abundant in the world. For example, Africa's solar potential is estimated at more than 60,000 TWh/year, which is about twenty times the European Union's annual electricity consumption.

However, this potential remains largely underexploited: in 2022, the continent's net renewable electricity production reached only 204 TWh, of which 60% came from hydropower, while solar and wind remain marginal in most countries.

This abundance contrasts sharply with the reality of energy access: nearly 600 million Africans still do not have access to reliable electricity, and energy costs are among the highest in the world. For instance, the average electricity price for households exceeds 0.20 USD/kWh in many sub-Saharan African countries, compared to less than 0.10 USD/kWh in Egypt or Morocco. This situation is explained by weak infrastructure, high technical losses (up to 30% in some grids), and fragmented national markets.

The energy transition represents a major opportunity to reverse this dynamic. On the one hand, global demand for clean energy—particularly from Europe seeking diversification after the Ukraine crisis—places Africa at the center of emerging global energy flows.

On the other hand, regional integration and resource pooling through Power Pools (WAPP, SAPP, EAPP, CAPP) enable substantial economies of scale: estimates suggest that regional market integration could reduce production costs by 10–20% and improve supply security.

The development of interconnected regional energy marketplaces, supported by intelligent energy corridors, is therefore a strategic lever.

For example, the ELMED project (Tunisia–Italy interconnection) aims to export up to 600 MW of green electricity to Europe while strengthening the stability of the North African grid. Similarly, the Nigeria–Morocco Gas Pipeline, spanning 5,600 km, aims to connect West African gas resources to European markets while supplying 13 African countries. Activating the Water–Energy–Food nexus is also crucial.

Africa holds 60% of the world's uncultivated arable land, yet remains dependent on food imports.

Access to reliable and affordable energy is a prerequisite for irrigation, agro-processing, and water security. Investments in integrated infrastructure (multi-purpose dams, solar irrigation networks, hybrid pumping stations) can generate major co-benefits: food sovereignty, water self-sufficiency, reduced carbon footprint, and energy inclusion.

Finally, the valorization of African natural resources, combined with strengthened regional governance, can transform the continent into a central actor in the global energy transition.

North Africa, for example, aims to generate more than 40% of its electricity from renewable sources by 2030, while countries such as Morocco, Egypt, and Namibia are heavily investing in green hydrogen, with projected production capacities reaching several hundred thousand tons per year by 2035.

7.2 A theory of change based on three systemic transformations

Given the structural constraints slowing the continent's energy transformation, a purely sectoral or linear approach is no longer sufficient. Africa needs a true paradigm shift capable of catalyzing converging dynamics across technological, infrastructural, and institutional domains. This report therefore proposes a Theory of Change built on a triple systemic transformation, intended to reposition the continent at the heart of the global energy transition.

1. Technological transformation

catalyzing innovation and local production

The first necessary shift is technological. It involves accelerating the adoption of advanced technologies adapted to African contexts while fostering a local industrial base in key areas:

- Manufacturing of photovoltaic and wind equipment
- Energy storage systems (batteries, green hydrogen)
- Smart mini-grids (decentralized smart grids)
- Thermal valorization (thermophotovoltaic technology)
- Digitalization of energy flows (IoT, data science, predictive maintenance)

The objective is twofold: reduce production costs through innovation and promote the emergence of regional champions in green value chains. This requires an ecosystem of research, technology transfer, and support for energy entrepreneurship.

2. Infrastructure transformation

building intelligent energy corridors

The second shift is infrastructural. It consists of moving from isolated project logic to a systemic vision of energy infrastructure through the development of interconnected, multimodal, and intelligent corridors. These should integrate:

- Centralized and decentralized production (power plants, mini-grids)
- Storage (pumped hydro, batteries, hydrogen)
- Cross-border interconnections (power pools, pipelines, data grids)
- Distribution to industrial, agricultural, and urban zones

The objective is to create regional energy markets, delivering mutual benefits in terms of cost reduction, supply security, and green industrialization.

3. Institutional transformation

toward continental energy governance

The third shift is institutional. It requires a deep transformation in how energy is planned, regulated, financed, and governed in Africa. Key axes include:

- Strengthening long-term planning capacities
- Harmonizing regulatory frameworks at the regional level
- Mobilizing innovative financing (blended finance, green bonds, pooled guarantees)
- Increasing participation of local authorities and the private sector
- Shared data systems for evidence-based planning

This transformation aims to reduce fragmentation, align national visions with regional objectives, and build a coherent and inclusive continental energy architecture.

Together, these three shifts outline an energy transformation pathway for Africa that goes beyond electricity production alone, integrating access, local value creation, industrial competitiveness, and regional cooperation. Energy becomes a vector of integration, sovereignty, and empowerment through a pan-African policy structured around intelligent energy corridors.

7.3 Energy Corridors as Catalysts for a Just and Sovereign Transition

The coordinated implementation of the three transformations identified in the Theory of Change enables energy corridors to become true catalysts of sustainable, inclusive, and geopolitically assertive development.

Three strategic functions emerge.

a. Instruments of energy sovereignty

Corridors enable African states to reduce chronic dependence on fossil fuel imports and external technologies. By integrating renewable generation, storage, and distribution infrastructure, they enhance supply security and strengthen regional strategic autonomy. For instance, a Sahelian solar corridor combined with thermophotovoltaic storage units and hydrogen electrolyzers could stabilize electricity grids while meeting local demand and export opportunities.

b. Drivers of ecological convergence

Energy corridors are not only technical infrastructures; they are also political instruments for building a green economy. By connecting multiple countries around shared energy projects, they reinforce positive interdependence, resource pooling, and regulatory harmonization. African Power Pools illustrate this logic by leveraging regional complementarities such as hydropower in Central Africa, solar in the Sahel, and natural gas in Southern Africa.

c. Accelerators of productive transformation

Corridors should primarily supply high value-added uses: industrial zones, logistics platforms, agricultural hubs, and digital services. They thus become catalysts of green industrialization by lowering production costs, enabling the emergence of local value chains, and stimulating innovation.

This implies designing corridors not as simple transit infrastructures, but as drivers of the economic structuring of the territories they cross.

By combining these three functions, African energy corridors can trigger a virtuous cycle: improved energy accessibility boosts productivity, strengthens community resilience, attracts investment, and anchors the continent within global value chains of the green economy.

7.4 Recommendations for a sustainable and inclusive EIT

Africa has the means to become a pillar of the global energy transition, provided it overcomes structural challenges and seizes the opportunities offered by regional integration, innovation, and international cooperation. The strategic choices of the coming years will be decisive in ensuring an inclusive, sustainable, and sovereign development path for the continent.

The following recommendations can serve as a basis for broader dialogue among African decision-makers:

Strengthen regional integration through energy corridors:

- Harmonize regulatory frameworks within Power Pools and create regional incentives for investment.
- Prioritize projects with strong interconnection potential and load-balancing capacity between countries.

Invest massively in infrastructure and innovation:

- Target investments toward grid modernization, storage capacity, renewable energy, and smart grids.
- Develop continent-wide programs for technological innovation and experimentation.

Mobilize innovative financing and the private sector:

- Create regional blended finance mechanisms with the participation of African banks and pension funds.
- Promote sovereign green bonds and mutualized regional guarantees.

Build skills and local content:

- Support technical training, applied research, and regional innovation centers.
- Foster industrial partnerships to localize value chains for critical equipment, including solar panels, electrolyzers, and battery storage systems.

Ensure equitable access to energy:

- Implement differentiated pricing mechanisms and targeted subsidies for rural areas and vulnerable populations.
- Promote decentralized electrification through mini-grids and off-grid solutions.

Activate the Water–Energy–Food nexus in development policies:

- Integrate hydraulic and agricultural corridors into regional energy planning.
- Encourage multifunctional projects (solar irrigation, agrovoltatics, hybrid pumping).

Align international cooperation with African priorities:

- Align international initiatives with African priorities in energy sovereignty and inclusion.
- Enhance Africa's role as a strategic supplier of clean energy while ensuring technology transfer and appropriate financing conditions.

Ultimately, African energy corridors represent more than a technical network: they embody a political and economic vision of the continent—an Africa that is productive, interconnected, and sovereign. They reflect the maturity of a continental project that links ecological transition with industrial transformation.

The challenge is no longer to produce more energy, but to produce it better, together, so that Africa can sustainably illuminate its own development trajectory.







Section 8

Annexes

Country energy monographs

Algeria	68	Gabon	88	Sao Tome and Principe	108
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Djibouti	82	Morocco	102	Zimbabwe	122
Egypt	83	Mozambique	103		
Equatorial Guinea	84	Namibia	104		
Eritrea	85	Niger	105		
Eswatini	86	Nigeria	106		
Ethiopia	87	Rwanda	107		



Algeria

Northern Africa

Land Area
2381 741 Km²
Rank in Africa: 1

Population (2025)
47 435 312
Rank in Africa: 10

Energy Demand

2023
71.943 MMTon
Total energy consumption

2023
150.285 Mboe
Petroleum and other liquids consumption

2023
54.125 bcm
Natural gas consumption

Energy Units

Bcm
Billion Cubic Meters
10⁹ m³ = 1 000 000 000 m³

Mb
Thousand Barrels
1 000 barrels

Mboe
Million Barrels of Oil Equivalent
10⁶ barrels = 1 000 000 barrels

MMTee
Million tonnes of Oil Equivalent
10⁶ tons of oil = 1 000 000 tons of oil equivalent

2023
0.003 Mt
Coal consumption

2023
0.000 quad Btu
Nuclear energy consumption

2023
85.687 billion kWh
Electricity Net Consumption

Energy Units

Mt
Million Tonnes
10⁶ metric tons = 1 000 000 tons

Quad Btu
Quadrillion British Thermal Units
10¹⁵ Btu = 1 000 000 000 000 000 Btu

TWh
Terawatt-hour
10¹² watt-hours = 1 000 000 000 Wh

1 tonne equivalent petrole (tep)
39 683 000 BTU
1 BTU = 1 055 joules

Energy Supply

2024
504 940.00 Mb
Crude oil including lease condensate

2023
104.896 bcm
Natural Gas production

2023
0.000 quad Btu
Nuclear energy production

Energy Units

2023
0.000 Mt
Coal production

2023
4.789 BTU/GDP
Energy Intensity

2023
97.201 billion kWh
electricity net generation

2023
95.390 billion kWh
fossil fuels electricity net generation

2023
0.911 billion kWh
renewable electricity net generation

Energy Units

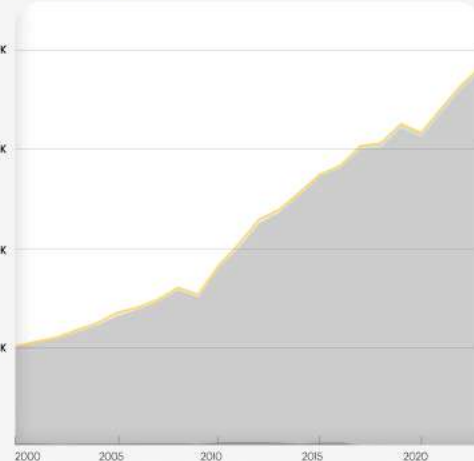
2023
100.00 %
Access to electricity (% of population)

2023
0.94 %
Renewable Electricity

Electricity Generation Mix

Legend keys

- Electricity from solar
- Electricity from geothermal
- Electricity from natural gas
- Electricity from wind
- Electricity from hydrolic
- Electricity from petroleum
- Electricity from biomass and waste
- Electricity from nuclear
- Electricity from coal



Energy Prices

Natural gas prices for households
0.003 USD / KWH
Dec 2024

Natural gas prices for business
0.004 USD / KWH
Dec 2024

LPG prices
0.069 USD / Liter
Aug 2025

Diesel prices
0.223 USD / Liter
Aug 2025

Gasoline prices
0.354 USD / Liter



Electricity prices for households
0.041 USD / KWH
Dec 2024

Electricity prices for business
0.036 USD / KWH
Dec 2024

reproduction interdite sans consentement formel de TABC



Angola

Central Africa

Land Area
1246 700 Km²
Rank in Africa: 7

Population (2025)
39 040 039
Rank in Africa: 11

Energy Demand

2023
8.470 MMtoe
Total energy consumption

2023
41.884 Mboe
Petroleum and other liquids consumption

2023
1.257 bcm
Natural gas consumption

Energy Units

Bcm
Billion Cubic Meters
10⁹ m³ = 1 000 000 000 m³

Mb
Thousand Barrels
1 000 barrels

Mboe
Million Barrels of Oil Equivalent
10⁶ barrels = 1 000 000 barrels

MMtoe
Million tonnes of Oil Equivalent
10⁶ tons of oil = 1 000 000 tons of oil equivalent

Energy Units

Mt
Million Tonnes
10⁶ metric tons = 1 000 000 tons

Quad Btu
Quadrillion British Thermal Units
10¹⁵ Btu = 1 000 000 000 000 000 Btu

TWh
Terawatt-hour
10¹² watt-hours = 1 000 000 000 Wh

1 tonne equivalent petrole (tep)
39 683 000 BTU
1 BTU = 1 055 joules

Energy Supply

2024
426 377.65 Mb
Crude oil including lease condensate

2023
5.984 bcm
Natural Gas production

2023
0.000 quad Btu
Nuclear energy production

2023
0.000 Mt
Coal production

2023
1.391 BTU/GDP
Energy Intensity

2023
17.939 billion kWh
electricity net generation

2023
4.228 billion kWh
fossil fuels electricity net generation

2023
13.711 billion kWh
renewable electricity net generation

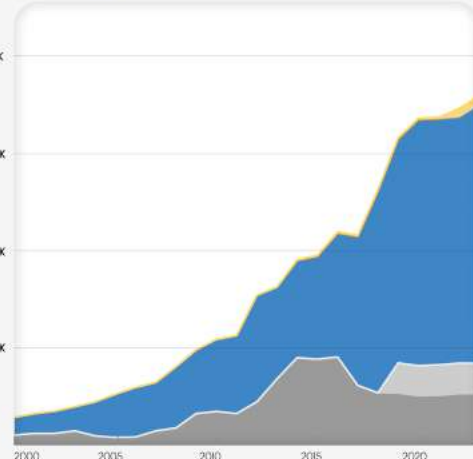
2023
51.10 %
Access to electricity (% of population)

2023
76.43 %
Renewable Electricity

Electricity Generation Mix

Legend keys

- Electricity from solar
- Electricity from geothermal
- Electricity from natural gas
- Electricity from wind
- Electricity from hydrolic
- Electricity from petroleum
- Electricity from biomass and waste
- Electricity from nuclear
- Electricity from coal



Energy Prices

LPG prices

0.109 USD / Liter
Aug 2025

Diesel prices

0.285 USD / Liter
Aug 2025

Gasoline prices

0.327 USD / Liter
Aug 2025



Electricity prices for business

0.011 USD / kWh
Dec 2024

Electricity prices for households

0.013 USD / kWh
Dec 2024

reproduction interdite sans consentement formel de TABC



Benin

Western Africa

Land Area
114 763 Km²
Rank in Africa: 39

Population (2025)
14 814 460
Rank in Africa: 28

Energy Demand

2023
2.301 MMToe
Total energy consumption

2023
13.538 Mboe
Petroleum and other liquids consumption

2023
0.158 bcm
Natural gas consumption

Energy Units

Bcm
Billion Cubic Meters
10⁹ m³ = 1 000 000 000 m³

Mb
Thousand Barrels
1 000 barrels

Mboe
Million Barrels of Oil Equivalent
10⁶ barrels = 1 000 000 barrels

MMtoe
Million tonnes of Oil Equivalent
10⁶ tons of oil = 1 000 000 tons of oil equivalent

Energy Units

Mt
Million Tonnes
10⁶ metric tons = 1 000 000 tons

Quad Btu
Quadrillion British Thermal Units
10¹⁵ Btu = 1 000 000 000 000 000 Btu

TWh
Terawatt-hour
10¹² watt-hours = 1 000 000 000 Wh

1 tonne equivalent petrole (tep)
39 683 000 BTU
1 BTU = 1 055 joules

Energy Supply

2024
0.00 Mb
Crude oil including lease condensate

2023
0.000 bcm
Natural Gas production

2023
0.000 quad Btu
Nuclear energy production

2023
0.000 Mt
Coal production

2023
1.391 BTU/GDP
Energy Intensity

2023
1.001 billion kWh
electricity net generation

2023
0.968 billion kWh
fossil fuels electricity net generation

2023
0.033 billion kWh
renewable electricity net generation

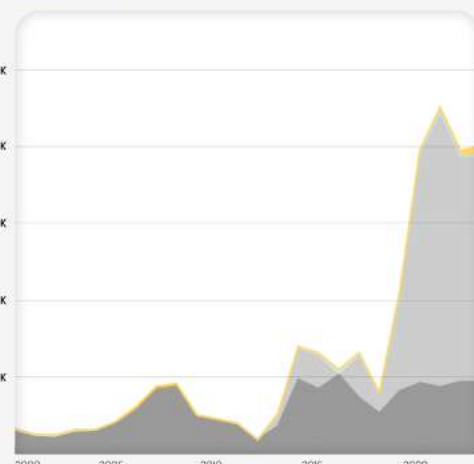
2023
57.00 %
Access to electricity (% of population)

2023
3.30 %
Renewable Electricity

Electricity Generation Mix

Legend keys

- Electricity from solar
- Electricity from geothermal
- Electricity from natural gas
- Electricity from wind
- Electricity from hydrolic
- Electricity from petroleum
- Electricity from biomass and waste
- Electricity from nuclear
- Electricity from coal



Energy Prices

Diesel prices
1.169 USD / Liter
Aug 2025

Gasoline prices
1.230 USD / Liter



reproduction interdite sans consentement formel de TABC



Botswana

Southern Africa

Land Area
581 730 Km²
Rank in Africa: 23

Population (2025)
2 562 122
Rank in Africa: 44

Energy Demand

2023 2.028 MMTon Total energy consumption	2023 1.361 Mt Coal consumption
2023 7.533 Mboe Petroleum and other liquids consumption	2023 0.000 quad Btu Nuclear energy consumption
2023 0.000 bcm Natural gas consumption	2023 3.879 billion kWh Electricity Net Consumption

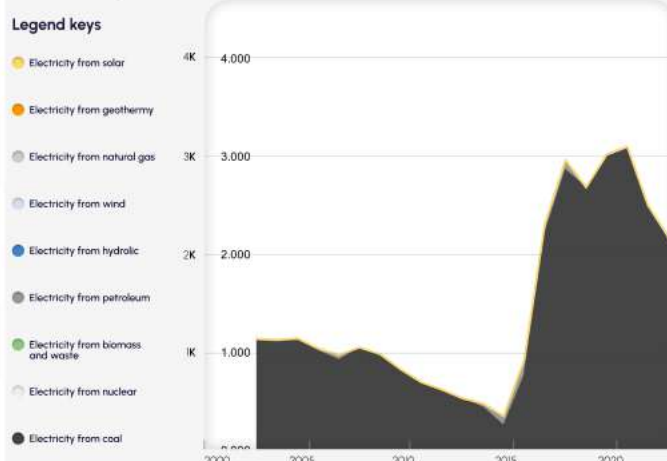
Energy Units
Bcm Billion Cubic Meters
10⁹ m³ = 1 000 000 000 m³
Mb Thousand Barrels
1 000 barrels
Mboe Million Barrels of Oil Equivalent
10⁶ barrels = 1 000 000 barrels
MMTonne Million tonnes of Oil Equivalent
10⁶ tons of oil = 1 000 000 tons of oil equivalent

MT Million Tonnes
10⁶ metric tons = 1 000 000 tons
Quad Btu Quadrillion British Thermal Units
10¹⁵ Btu = 1 000 000 000 000 000 Btu
TWh Terawatt-hour
10¹² watt-hour = 1 000 000 000 Wh
1 tonne équivalent pétrole (tep)
39 683 000 BTU
1 BTU = 1 055 joules

Energy Supply

2024 0.00 Mb Crude oil including lease condensate	2023 2.584 billion kWh electricity net generation
2023 0.000 bcm Natural Gas production	2023 2.578 billion kWh fossil fuels electricity net generation
2023 2.240 quad Btu Nuclear energy production	2023 13.711 billion kWh renewable electricity net generation
2023 2.240 Mt Coal production	2023 0.006 % Access to electricity (% of population)
2023 1.391 BTU/GDP Energy Intensity	2023 0.23 % Renewable Electricity

Electricity Generation Mix



Energy Prices

Gasoline prices
1.095 USD / Liter
Aug 2025

Diesel prices
1.098 USD / Liter
Aug 2025



Electricity prices for households
0.094 USD / KWH
Dec 2024

Electricity prices for business
0.112 USD / KWH
Dec 2024

reproduction interdite sans consentement formel de TABC

Burkina Faso

Western Africa

Land Area
270 764 Km²
Rank in Africa: 30

Population (2025)
24 074 580
Rank in Africa: 20

Energy Demand

2023 2.020 Mtoe Total energy consumption	2023 0.000 Mt Coal consumption
2023 12.636 Mboe Petroleum and other liquids consumption	2023 0.000 quad Btu Nuclear energy consumption
2023 0.000 bcm Natural gas consumption	2023 3.096 billion kWh Electricity Net Consumption

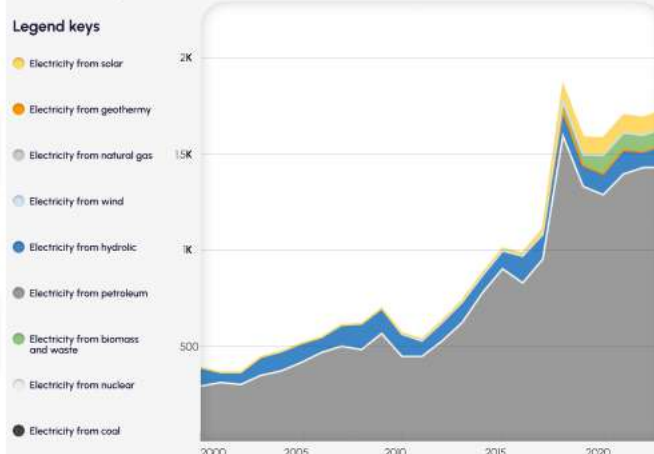
Energy Units
Bcm Billion Cubic Meters
10⁹ m³ = 1 000 000 000 m³
Mb Thousand Barrels
1 000 barrels
Mboe Million Barrels of Oil Equivalent
10⁶ barrels = 1 000 000 barrels
MMtoe Million tonnes of Oil Equivalent
10⁶ tons of oil = 1 000 000 tons of oil equivalent

MT Million Tonnes
10⁶ metric tons = 1 000 000 tons
Quad Btu Quadrillion British Thermal Units
10¹⁵ Btu = 1 000 000 000 000 000 Btu
TWh Terawatt-hour
10¹² watt-hours = 1 000 000 000 Wh
1 tonne équivalent pétrole (tep)
39 683 000 BTU
1 BTU = 1 055 joules

Energy Supply

2024 0.00 Mb Crude oil including lease condensate	2023 1.732 billion kWh electricity net generation
2023 0.000 bcm Natural Gas production	2023 1.435 billion kWh fossil fuels electricity net generation
2023 0.000 quad Btu Nuclear energy production	2023 0.297 billion kWh renewable electricity net generation
2023 2.240 Mt Coal production	2023 21.70 % Access to electricity (% of population)
2023 1.576 BTU/GDP Energy intensity	2023 17.13 % Renewable Electricity

Electricity Generation Mix



Energy Prices

Diesel prices
1.095 USD / Liter
Aug 2025

Gasoline prices
1.504 USD / Liter



Electricity prices for households
0.218 USD / KWH
Dec 2024

Electricity prices for business
0.232 USD / KWH
Dec 2024

reproduction interdite sans consentement formel de TABC



Burundi

East Africa

Land Area
27 834 Km²
Rank in Africa: 46

Population (2025)
14 390 003
Rank in Africa: 30

Energy Demand

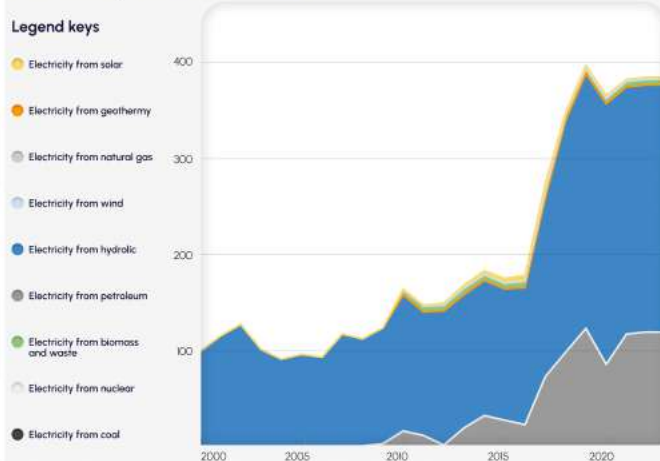
2023 0.326 MMTon Total energy consumption	2023 0.001 Mt Coal consumption
2023 1.963 Mboe Petroleum and other liquids consumption	2023 0.000 quad Btu Nuclear energy consumption
2023 0.000 bcm Natural gas consumption	2023 0.444 billion kWh Electricity Net Consumption

Energy Units
Bcm Billion Cubic Meters
10⁹ m³ = 1 000 000 000 m³
Mb Thousand Barrels
1 000 barrels
Mboe Million Barrels of Oil Equivalent
10⁶ barrels = 1 000 000 barrels
MMTee Million tonnes of Oil Equivalent
10⁶ tons of oil = 1 000 000 tons of oil equivalent
Mt Million Tonnes
10⁶ metric tons = 1 000 000 tons
Quad Btu Quadrillion British Thermal Units
10¹⁵ Btu = 1 000 000 000 000 000 Btu
TWh Terawatt-hour
10¹² watt-hours = 1 000 000 000 Wh
1 tonne equivalent petrole (tep)
39 683 000 BTU
1 BTU = 1 055 joules

Energy Supply

2024 0.00 Mb Crude oil including lease condensate	2023 0.384 billion kWh electricity net generation
2023 0.000 bcm Natural Gas production	2023 0.120 billion kWh fossil fuels electricity net generation
2023 0.000 quad Btu Nuclear energy production	2023 0.264 billion kWh renewable electricity net generation
2023 2.240 Mt Coal production	2023 11.60 % Access to electricity (% of population)
2023 1.357 BTU/GDP Energy Intensity	2023 68.75 % Renewable Electricity

Electricity Generation Mix



Energy Prices

Gasoline prices
1.356 USD / Liter
Jan 2025

Diesel prices
1.405 USD / Liter
Jan 2025



reproduction interdite sans consentement formel de TABC



Cameroon

Central Africa

Land Area
466 050 Km²
Rank in Africa: 24

Population (2025)
29 879 337
Rank in Africa: 17

Energy Demand

2023
3.054 MMTon
Total energy consumption

2023
14.274 Mboe
Petroleum and other liquids consumption

2023
0.540 bcm
Natural gas consumption

Energy Units
Bcm
Billion Cubic Meters
10⁹ m³ = 1 000 000 000 m³
Mb
Thousand Barrels
1 000 barrels
Mboe
Million Barrels of Oil Equivalent
10⁶ barrels = 1 000 000 barrels
MMTone
Million tonnes of Oil Equivalent
10⁶ tons of oil = 1 000 000 tons of oil equivalent

2023
0.000 Mt
Coal consumption

2023
0.000 quad Btu
Nuclear energy consumption

2023
6.161 billion kWh
Electricity Net Consumption

MT
Million Tonnes
10⁶ metric tons = 1 000 000 tons
Quad Btu
Quadrillion British Thermal Units
10¹⁵ Btu = 1 000 000 000 000 000 Btu
TWh
Terawatt-hour
10¹² watt-hours = 1 000 000 000 Wh
1 tonne equivalent petrole (tep)
39 683 000 BTU
1 BTU = 1 055 joules

Energy Supply

2024
22 508.00 Mb
Crude oil including lease condensate

2023
2.356 bcm
Natural Gas production

2023
0.000 quad Btu
Nuclear energy production

2023
0.000 Mt
Coal production

2023
8.339 billion kWh
electricity net generation

2023
3.011 billion kWh
fossil fuels electricity net generation

2023
5.329 billion kWh
renewable electricity net generation

2023
72.00 %
Access to electricity (% of population)

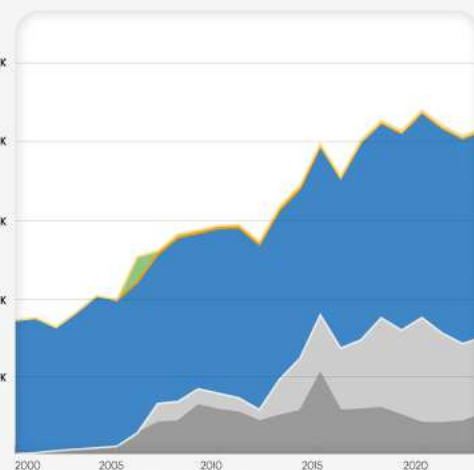
2023
1.157 BTU/GDP
Energy Intensity

2023
63.90 %
Renewable Electricity

Electricity Generation Mix

Legend keys

- Electricity from solar
- Electricity from geothermal
- Electricity from natural gas
- Electricity from wind
- Electricity from hydrolic
- Electricity from petroleum
- Electricity from biomass and waste
- Electricity from nuclear
- Electricity from coal



Energy Prices

Diesel prices
1.366 USD / Liter
Aug 2025

Gasoline prices
1.486 USD / Liter
Aug 2025



Electricity prices for households
0.088 USD / kWh
Dec 2024

Electricity prices for business
0.187 USD / kWh
Dec 2024

reproduction interdite sans consentement formel de TABC



Cape Verde

Western Africa

Land Area
4 033 Km²
Rank in Africa: 51

Population (2025)
527 326
Rank in Africa: 54

Energy Demand

2023
0.263 MMToe
Total energy consumption

2023
1.715 Mboe
Petroleum and other liquids consumption

2023
0.000 bcm
Natural gas consumption

Energy Units

Bcm
Billion Cubic Meters
10⁹ m³ = 1 000 000 000 m³

Mb
Thousand Barrels
1 000 barrels

Mboe
Million Barrels of Oil Equivalent
10⁶ barrels = 1 000 000 barrels

MMToe
Million tonnes of Oil Equivalent
10⁶ tons of oil = 1 000 000 tons of oil equivalent

MT

Million Tonnes
10⁶ metric tons = 1 000 000 tons

Quad Btu
Quadrillion British Thermal Units
10¹⁵ Btu = 1 000 000 000 000 000 Btu

TWh
Terawatt-hour
10¹² watt-hours = 1 000 000 000 Wh

1 tonne équivalent pétrole (tep)
39 683 000 BTU
1 BTU = 1 055 joules

Energy Supply

2024
0.00 Mb
Crude oil including lease condensate

2023
0 bcm
Natural Gas production

2023
0.000 quad Btu
Nuclear energy production

2023
0.000 Mt
Coal production

2023
BTU/GDP
Energy Intensity

2023
0.506 billion kWh
electricity net generation

2023
0.360 billion kWh
fossil fuels electricity net generation

2023
0.146 billion kWh
renewable electricity net generation

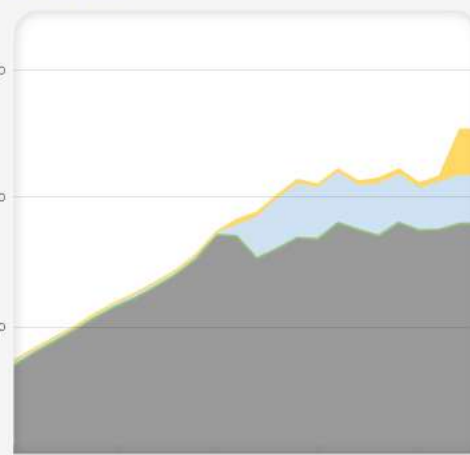
2023
98.60 %
Access to electricity (% of population)

2023
28.85 %
Renewable Electricity

Electricity Generation Mix

Legend keys

- Electricity from solar
- Electricity from geothermal
- Electricity from natural gas
- Electricity from wind
- Electricity from hydrolic
- Electricity from petroleum
- Electricity from biomass and waste
- Electricity from nuclear
- Electricity from coal



Energy Prices

Diesel prices
1.124 USD / Liter
Aug 2025

Gasoline prices
1.383 USD / Liter
Aug 2025



Electricity prices for business
0.214 USD / KWH
Dec 2024

Electricity prices for households
0.392 USD / KWH
Dec 2024

reproduction interdite sans consentement formel de TABC



Central African Republic

Central Africa

Land Area
622 436 Km²
Rank in Africa: 20

Population (2025)
5 513 282
Rank in Africa: 38

Energy Demand

2023 0.124 MMToe Total energy consumption	2023 0.000 Mt Coal consumption
2023 0.764 Mboe Petroleum and other liquids consumption	2023 0.000 quad Btu Nuclear energy consumption
2023 0.000 bcm Natural gas consumption	2023 0.132 billion kWh Electricity Net Consumption

Energy Units
Bcm Billion Cubic Meters
10⁹ m³ = 1 000 000 000 m³
Mb Thousand Barrels
1 000 barrels
Mboe Million Barrels of Oil Equivalent
10⁶ barrels = 1 000 000 barrels
MMtoe Million tonnes of Oil Equivalent
10⁶ tons of oil = 1 000 000 tons of oil equivalent

MT Million Tonnes
10⁶ metric tons = 1 000 000 tons
Quad Btu Quadrillion British Thermal Units
10¹⁵ Btu = 1 000 000 000 000 000 Btu
TWh Terawatt-hour
10¹² watt-hour = 1 000 000 000 Wh
1 tonne équivalent pétrole (tep)
39 683 000 BTU
1 BTU = 1 055 joules

Energy Supply

2024 0.00 Mb Crude oil including lease condensate	2023 0.142 billion kWh electricity net generation
2023 0.000 bcm Natural Gas production	2023 0.001 billion kWh fossil fuels electricity net generation
2023 0.000 quad Btu Nuclear energy production	2023 0.141 billion kWh renewable electricity net generation
2023 0.000 Mt Coal production	2023 17.60 % Access to electricity (% of population)
2023 1.079 BTU/GDP Energy Intensity	2023 99.22 % Renewable Electricity

Electricity Generation Mix



Energy Prices



reproduction interdite sans consentement formel de TABC



Chad

Central Africa

Land Area
1284 000 Km²
Rank in Africa: 5

Population (2025)
21 003 705
Rank in Africa: 23

Energy Demand

2023 0.731 MMtoe Total energy consumption	2023 0.000 Mt Coal consumption
2023 4.979 Mboe Petroleum and other liquids consumption	2023 0.000 quad Btu Nuclear energy consumption
2023 0.000 bcm Natural gas consumption	2023 0.282 billion kWh Electricity Net Consumption
Energy Units Bcm Billion Cubic Meters 10 ⁹ m ³ = 1 000 000 000 m ³ Mb Thousand Barrels 1 000 barrels Mboe Million Barrels of Oil Equivalent 10 ³ barrels = 1 000 000 barrels MMtoe Million tonnes of Oil Equivalent 10 ⁶ tons of oil = 1 000 000 tons of oil equivalent Mt Million Tonnes 10 ⁶ metric tons = 1 000 000 tons Quad Btu Quadrillion British Thermal Units 10 ¹⁵ Btu = 1 000 000 000 000 000 Btu TWh Terawatt-hour 10 ¹² watt-hours = 1 000 000 000 Wh 1 tonne équivalent pétrole (tep) 39 683 000 BTU 1 BTU = 1 055 joules	

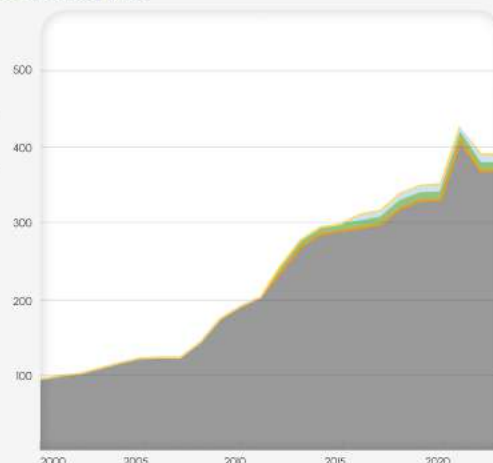
Energy Supply

2024 46 575.00 Mb Crude oil including lease condensate	2023 0.391 billion kWh electricity net generation
2023 0.000 bcm Natural Gas production	2023 0.369 billion kWh fossil fuels electricity net generation
2023 0.000 quad Btu Nuclear energy production	2023 0.022 billion kWh renewable electricity net generation
2023 0.000 Mt Coal production	2023 12.00 % Access to electricity (% of population)
2023 0.735 BTU/GDP Energy Intensity	2023 5.66 % Renewable Electricity

Electricity Generation Mix

Legend keys

- Electricity from solar
- Electricity from geothermal
- Electricity from natural gas
- Electricity from wind
- Electricity from hydrolic
- Electricity from petroleum
- Electricity from biomass and waste
- Electricity from nuclear
- Electricity from coal



Energy Prices



reproduction interdite sans consentement formel de TABC



Comoros

East Africa

Land Area
1 861 Km²
Rank in Africa: 53

Population (2025)
882 847
Rank in Africa: 51

Energy Demand

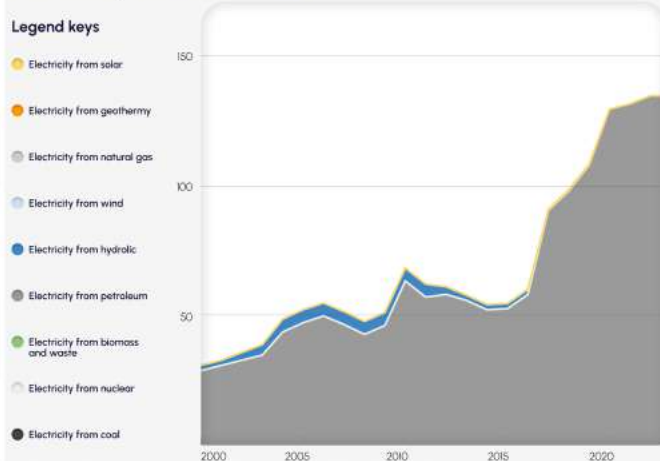
2023 0.153 MMTon Total energy consumption	2023 0.000 Mt Coal consumption
2023 1.047 Mboe Petroleum and other liquids consumption	2023 0.000 quad Btu Nuclear energy consumption
2023 0.000 bcm Natural gas consumption	2023 0.113 billion kWh Electricity Net Consumption

Energy Units
Bcm Billion Cubic Meters
10⁹ m³ = 1 000 000 000 m³
Mb Thousand Barrels
1 000 barrels
Mboe Million Barrels of Oil Equivalent
10⁶ barrels = 1 000 000 barrels
MMTee Million tonnes of Oil Equivalent
10⁶ tons of oil = 1 000 000 tons of oil equivalent
Mt Million Tonnes
10⁶ metric tons = 1 000 000 tons
Quad Btu Quadrillion British Thermal Units
10¹⁵ Btu = 1 000 000 000 000 000 Btu
TWh Terawatt-hour
10¹² watt-hours = 1 000 000 000 Wh
1 tonne equivalent petrole (tep)
39 683 000 BTU
1 BTU = 1 055 joules

Energy Supply

2024 0.00 Mb Crude oil including lease condensate	2023 0.135 billion kWh electricity net generation
2023 0.000 bcm Natural Gas production	2023 0.135 billion kWh fossil fuels electricity net generation
2023 0.000 quad Btu Nuclear energy production	2023 0.022 billion kWh renewable electricity net generation
2023 0.000 Mt Coal production	2023 89.80 % Access to electricity (% of population)
2023 2.171 BTU/GDP Energy Intensity	2023 0.00 % Renewable Electricity

Electricity Generation Mix



Energy Prices



reproduction interdite sans consentement formel de TABC



Congo

Central Africa

Land Area
342 000 Km²
Rank in Africa: 27

Population (2025)
6 484 437
Rank in Africa: 36

Energy Demand

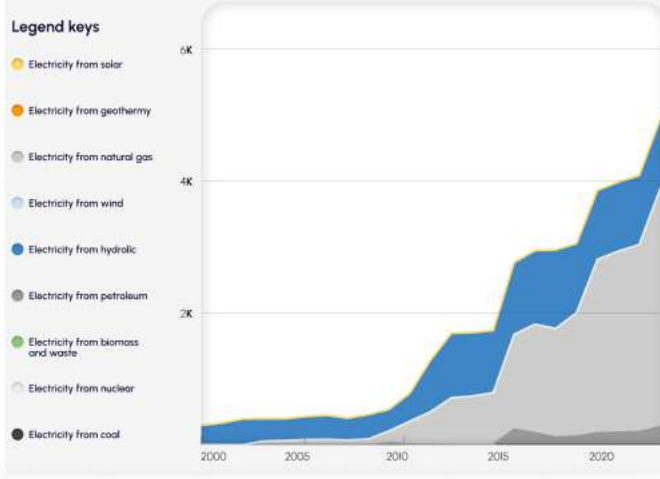
2023 1.145 MMToe Total energy consumption	2023 0.000 Mt Coal consumption
2023 4.493 Mboe Petroleum and other liquids consumption	2023 0.000 quad Btu Nuclear energy consumption
2023 0.429 bcm Natural gas consumption	2023 2.832 billion kWh Electricity Net Consumption

Energy Units Bcm Billion Cubic Meters 10 ⁹ m ³ = 1 000 000 000 m ³ Mb Thousand Barrels 1 000 barrels Mboe Million Barrels of Oil Equivalent 10 ⁶ barrels = 1 000 000 barrels MMtoe Million tonnes of Oil Equivalent 10 ⁶ tons of oil = 1 000 000 tons of oil equivalent	MT Million Tonnes 10 ⁶ metric tons = 1 000 000 tons Quad Btu Quadrillion British Thermal Units 10 ¹⁵ Btu = 1 000 000 000 000 000 Btu TWh Terawatt-hour 10 ¹² watt-hours = 1 000 000 000 Wh 1 tonne equivalent petrole (tep) 39 683 000 BTU 1 BTU = 1 055 joules
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Energy Supply

2024 93 375.00 Mb Crude oil including lease condensate	2023 5.168 billion kWh electricity net generation
2023 0.425 bcm Natural Gas production	2023 4.104 billion kWh fossil fuels electricity net generation
2023 0.000 quad Btu Nuclear energy production	2023 1.064 billion kWh renewable electricity net generation
2023 0.000 Mt Coal production	2023 51.30 % Access to electricity (% of population)
2023 BTU/GDP Energy Intensity	2023 20.59 % Renewable Electricity

Electricity Generation Mix



Energy Prices



reproduction interdite sans consentement formel de TABC



Cote d'Ivoire

Western Africa

Land Area
N/A Km²
Rank in Africa: N/A

Population (2025)
N/A
Rank in Africa: N/A

Energy Demand

2023
6.667 MMtoe
Total energy consumption

2023
28.863 Mboe
Petroleum and other liquids consumption

2023
2.389 bcm
Natural gas consumption

Energy Units

Bcm
Billion Cubic Meters
10⁹ m³ = 1 000 000 000 m³

Mb
Thousand Barrels
1 000 barrels

Mboe
Million Barrels of Oil Equivalent
10⁶ barrels = 1 000 000 barrels

MMtoe
Million tonnes of Oil Equivalent
10⁶ tons of oil = 1 000 000 tons of oil equivalent

Mt

Million Tonnes
10⁶ metric tons = 1 000 000 tons

Quad Btu
Quadrillion British Thermal Units
10¹⁵ Btu = 1 000 000 000 000 000 Btu

TWh
Terawatt-hour
10¹² watt-hours = 1 000 000 000 Wh

1 tonne equivalent petrole (tep)
39 683 000 BTU
1 BTU = 1 055 joules

Energy Supply

2024
14 781.82 Mb
Crude oil including lease condensate

2023
2.474 bcm
Natural Gas production

2023
0.000 quad Btu
Nuclear energy production

2023

0.000 Mt
Coal production

2023
1.588 BTU/GDP
Energy Intensity

2023
11.132 billion kWh
electricity net generation

2023
7.672 billion kWh
fossil fuels electricity net generation

2023
3.460 billion kWh
renewable electricity net generation

2023

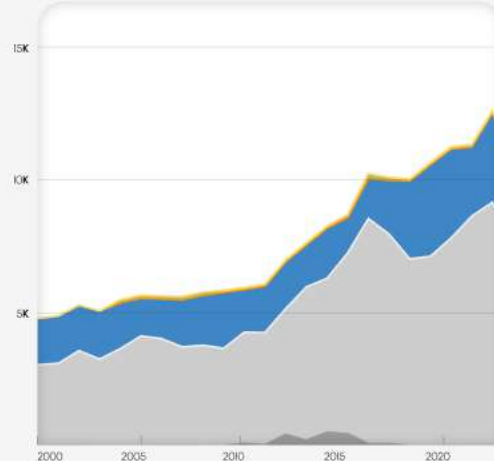
72.40 %
Access to electricity (% of population)

2023
31.08 %
Renewable Electricity

Electricity Generation Mix

Legend keys

- Electricity from solar
- Electricity from geothermal
- Electricity from natural gas
- Electricity from wind
- Electricity from hydrolic
- Electricity from petroleum
- Electricity from biomass and waste
- Electricity from nuclear
- Electricity from coal



Energy Prices



Electricity prices for households

0.141 USD / KWH
Dec 2024

Electricity prices for business

0.251 USD / KWH
Dec 2024

reproduction interdite sans consentement formel de TABC



Democratic Republic of Congo

Central Africa

Land Area
2345 000 Km²
Rank in Africa: 2

Population (2025)
112 832 473
Rank in Africa: 4

Energy Demand

2023 3.479 MMTon Total energy consumption	2023 0.263 Mt Coal consumption
2023 12.308 Mboe Petroleum and other liquids consumption	2023 0.000 quad Btu Nuclear energy consumption
2023 0.000 bcm Natural gas consumption	2023 16.069 billion kWh Electricity Net Consumption

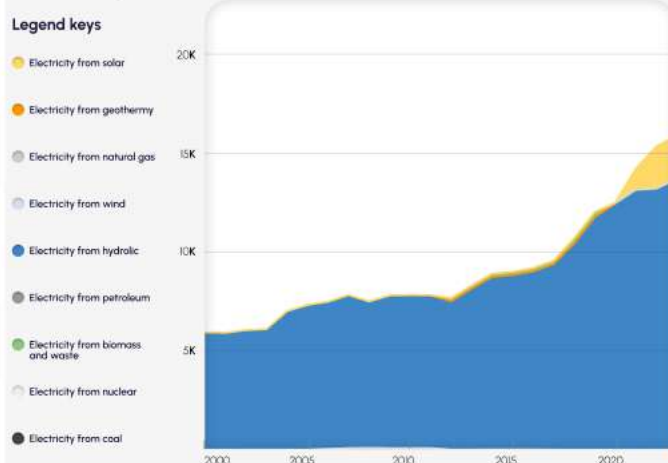
Energy Units
Bcm Billion Cubic Meters
10⁹ m³ = 1 000 000 000 m³
Mb Thousand Barrels
1 000 barrels
Mboe Million Barrels of Oil Equivalent
10⁶ barrels = 1 000 000 barrels
MMTonne Million tonnes of Oil Equivalent
10⁶ tons of oil = 1 000 000 tons of oil equivalent

MT Million Tonnes
10⁶ metric tons = 1 000 000 tons
Quad Btu Quadrillion British Thermal Units
10¹⁵ Btu = 1 000 000 000 000 000 Btu
TWh Terawatt-hour
10¹² watt-hour = 1 000 000 000 Wh
1 tonne équivalent pétrole (tep)
39 683 000 BTU
1 BTU = 1 055 joules

Energy Supply

2024 6 222.00 Mb Crude oil including lease condensate	2023 15.900 billion kWh electricity net generation
2023 0.000 bcm Natural Gas production	2023 0.004 billion kWh fossil fuels electricity net generation
2023 0.000 quad Btu Nuclear energy production	2023 15.896 billion kWh renewable electricity net generation
2023 0.000 Mt Coal production	2023 22.10 % Access to electricity (% of population)
2023 BTU/GDP Energy Intensity	2023 99.97 % Renewable Electricity

Electricity Generation Mix



Energy Prices



Electricity prices for households
0.057 USD / KWH
Dec 2024

Electricity prices for business
0.067 USD / KWH
Dec 2024

reproduction interdite sans consentement formel de TABC



Djibouti

East Africa

Land Area
23 000 Km²
Rank in Africa: 48

Population (2025)
1 184 076
Rank in Africa: 50

Energy Demand

2023 0.303 MMToe Total energy consumption	2023 0.000 Mt Coal consumption
2023 1.663 Mboe Petroleum and other liquids consumption	2023 0.000 quad Btu Nuclear energy consumption
2023 0.000 bcm Natural gas consumption	2023 0.585 billion kWh Electricity Net Consumption
Energy Units Bcm Billion Cubic Meters 10 ⁹ m ³ = 1 000 000 000 m ³ Mb Thousand Barrels 1 000 barrels Mboe Million Barrels of Oil Equivalent 10 ³ barrels = 1 000 000 barrels MMToe Million tonnes of Oil Equivalent 10 ⁶ tons of oil = 1 000 000 tons of oil equivalent Mt Million Tonnes 10 ⁶ metric tons = 1 000 000 tons Quad Btu Quadrillion British Thermal Units 10 ¹⁵ Btu = 1 000 000 000 000 000 Btu TWh Terawatt-hour 10 ¹² watt-hours = 1 000 000 000 Wh 1 tonne equivalent petrole (tep) 39 683 000 BTU 1 BTU = 1 055 joules	

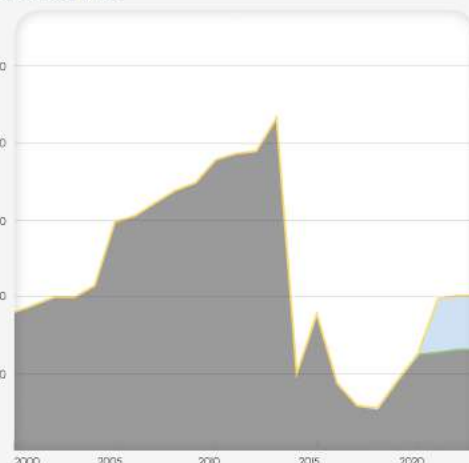
Energy Supply

2024 0.00 Mb Crude oil including lease condensate	2023 0.000 bcm Natural Gas production
2023 0.000 quad Btu Nuclear energy production	2023 0.000 Mt Coal production
2023 0.000 Mt Coal production	2023 1.847 BTU/GDP Energy Intensity
2023 0.202 billion kWh electricity net generation	2023 0.132 billion kWh fossil fuels electricity net generation
2023 0.070 billion kWh renewable electricity net generation	2023 65.20 % Access to electricity (% of population)
2023 34.70 % Renewable Electricity	

Electricity Generation Mix

Legend keys

- Electricity from solar
- Electricity from geothermal
- Electricity from natural gas
- Electricity from wind
- Electricity from hydrolic
- Electricity from petroleum
- Electricity from biomass and waste
- Electricity from nuclear
- Electricity from coal



Energy Prices



reproduction interdite sans consentement formel de TABC

Egypt

Northern Africa

Land Area
996 603 Km²
Rank in Africa: 12

Population (2025)
118 365 995
Rank in Africa: 3

Energy Demand

2023
100.946 MMTon
Total energy consumption

2023
289.481 Mboe
Petroleum and other liquids consumption

2023
59.284 bcm
Natural gas consumption

Energy Units

Bcm
Billion Cubic Meters
10⁹ m³ = 1 000 000 000 m³

Mb
Thousand Barrels
1 000 barrels

Mboe
Million Barrels of Oil Equivalent
10⁶ barrels = 1 000 000 barrels

MMTone
Million tonnes of Oil Equivalent
10⁶ tons of oil = 1 000 000 tons of oil equivalent

2023
3.119 Mt
Coal consumption

2023
0.000 quad Btu
Nuclear energy consumption

2023
162.026 billion kWh
Electricity Net Consumption

Energy Units

Mt
Million Tonnes
10⁶ metric tons = 1 000 000 tons

Quad Btu
Quadrillion British Thermal Units
10¹⁵ Btu = 1 000 000 000 000 000 Btu

TWh
Terawatt-hour
10¹² watt-hours = 1 000 000 000 Wh

1 tonne equivalent petrole (tep)
39 683 000 BTU
1 BTU = 1 055 joules

Energy Supply

2024
234 205.47 Mb
Crude oil including lease condensate

2023
57.181 bcm
Natural Gas production

2023
0.000 quad Btu
Nuclear energy production

Energy Units

2023
0.000 Mt
Coal production

2023
2.739 BTU/GDP
Energy Intensity

2023
209.294 billion kWh
electricity net generation

2023
183.926 billion kWh
fossil fuels electricity net generation

2023
25.368 billion kWh
renewable electricity net generation

Energy Units

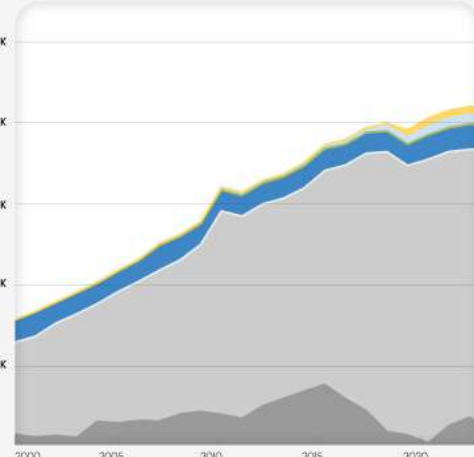
2023
100.00 %
Access to electricity (% of population)

2023
12.12 %
Renewable Electricity

Electricity Generation Mix

Legend keys

- Electricity from solar
- Electricity from geothermal
- Electricity from natural gas
- Electricity from wind
- Electricity from hydrolic
- Electricity from petroleum
- Electricity from biomass and waste
- Electricity from nuclear
- Electricity from coal



Energy Prices

Natural gas prices for households

0.009 USD / KWH
Dec 2024

Diesel prices

0.320 USD / Liter
Aug 2025

Gasoline prices

0.392 USD / Liter



Electricity prices for households

0.022 USD / KWH
Dec 2024

Electricity prices for business

0.040 USD / KWH
Dec 2024

reproduction interdite sans consentement formel de TABC



Equatorial Guinea

Central Africa

Land Area
28 052 Km²
Rank in Africa: 45

Population (2025)
1 938 431
Rank in Africa: 47

Energy Demand

2023
2.538 MMTon
Total energy consumption

2023
2.205 Mboe
Petroleum and other liquids consumption

2023
2.356 bcm
Natural gas consumption

Energy Units

Bcm
Billion Cubic Meters
10⁹ m³ = 1 000 000 000 m³

Mb
Thousand Barrels
1 000 barrels

Mboe
Million Barrels of Oil Equivalent
10⁶ barrels = 1 000 000 barrels

MMTee
Million tonnes of Oil Equivalent
10⁶ tons of oil = 1 000 000 tons of oil equivalent

2023
3.119 Mt
Coal consumption

2023
0.000 quad Btu
Nuclear energy consumption

2023
1.402 billion kWh
Electricity Net Consumption

Mt
Million Tonnes
10⁶ metric tons = 1 000 000 tons

Quad Btu
Quadrillion British Thermal Units
10¹⁵ Btu = 1 000 000 000 000 000 Btu

TWh
Terawatt-hour
10¹² watt-hours = 1 000 000 000 Wh

1 tonne equivalent petrole (tep)
39 683 000 BTU
1 BTU = 1 055 joules

Energy Supply

2024
34 975.94 Mb
Crude oil including lease condensate

2023
6.013 bcm
Natural Gas production

2023
0.000 quad Btu
Nuclear energy production

Energy Units

2023
0.000 Mt
Coal production

2023
4.309 BTU/GDP
Energy Intensity

2023
1.573 billion kWh
electricity net generation

2023
1.079 billion kWh
fossil fuels electricity net generation

2023
0.494 billion kWh
renewable electricity net generation

Energy Units

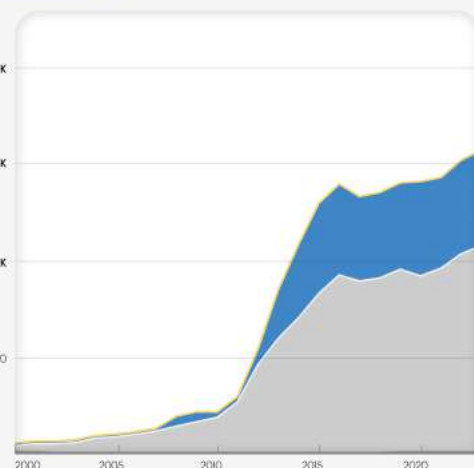
2023
66.90 %
Access to electricity (% of population)

2023
31.42 %
Renewable Electricity

Electricity Generation Mix

Legend keys

- Electricity from solar
- Electricity from geothermal
- Electricity from natural gas
- Electricity from wind
- Electricity from hydrolic
- Electricity from petroleum
- Electricity from biomass and waste
- Electricity from nuclear
- Electricity from coal



Energy Prices



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Eritrea

East Africa

Land Area
121 100 Km²
Rank in Africa: 37

Population (2025)
3 607 003
Rank in Africa: 40

Energy Demand

2023
0.260 MMToe
Total energy consumption

2023
1.753 Mboe
Petroleum and other liquids consumption

2023
0.000 bcm
Natural gas consumption

Energy Units

Bcm
Billion Cubic Meters
10⁹ m³ = 1 000 000 000 m³

Mb
Thousand Barrels
1 000 barrels

Mboe
Million Barrels of Oil Equivalent
10⁶ barrels = 1 000 000 barrels

MMtoe
Million tonnes of Oil Equivalent
10⁶ tons of oil = 1 000 000 tons of oil equivalent

Mt
Million Tonnes
10⁶ metric tons = 1 000 000 tons

Quad Btu
Quadrillion British Thermal Units
10¹⁵ Btu = 1 000 000 000 000 000 Btu

TWh
Terawatt-hour
10¹² watt-hours = 1 000 000 000 Wh

1 tonne equivalent petrole (tep)
39 683 000 BTU
1 BTU = 1 055 joules

Energy Supply

2024
0.00 Mb
Crude oil including lease condensate

2023
0.000 bcm
Natural Gas production

2023
0.000 quad Btu
Nuclear energy production

Coal production

2023
0.000 Mt

2023
1.574 BTU/GDP
Energy Intensity

2023
0.441 billion kWh
electricity net generation

2023
0.393 billion kWh
fossil fuels electricity net generation

2023
0.048 billion kWh
renewable electricity net generation

Access to electricity (% of population)

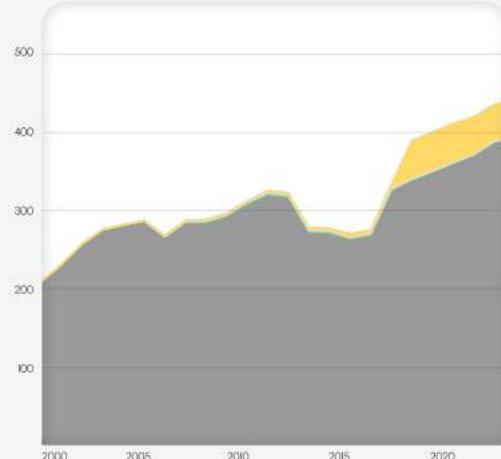
2023
54.40 %

2023
10.90 %
Renewable Electricity

Electricity Generation Mix

Legend keys

- Electricity from solar
- Electricity from geothermal
- Electricity from natural gas
- Electricity from wind
- Electricity from hydrolic
- Electricity from petroleum
- Electricity from biomass and waste
- Electricity from nuclear
- Electricity from coal



Energy Prices



reproduction interdite sans consentement formel de TABC



Eswatini

Southern Africa

Land Area
17 364 Km²
Rank in Africa: 49

Population (2025)
1 256 174
Rank in Africa: 49

Energy Demand

2023 0.584 MMToe Total energy consumption	2023 0.194 Mt Coal consumption
2023 2.201 Mboe Petroleum and other liquids consumption	2023 0.000 quad Btu Nuclear energy consumption
2023 0.000 bcm Natural gas consumption	2023 1.308 billion kWh Electricity Net Consumption

Energy Units
Bcm Billion Cubic Meters
10⁹ m³ = 1 000 000 000 m³
Mb Thousand Barrels
1 000 barrels
Mboe Million Barrels of Oil Equivalent
10⁶ barrels = 1 000 000 barrels
MMtoe Million tonnes of Oil Equivalent
10⁶ tons of oil = 1 000 000 tons of oil equivalent

MT Million Tonnes
10⁶ metric tons = 1 000 000 tons
Quad Btu Quadrillion British Thermal Units
10¹⁵ Btu = 1 000 000 000 000 000 Btu
TWh Terawatt-hour
10¹² watt-hour = 1 000 000 000 Wh
1 tonne équivalent pétrole (tep)
39 683 000 BTU
1 BTU = 1 055 joules

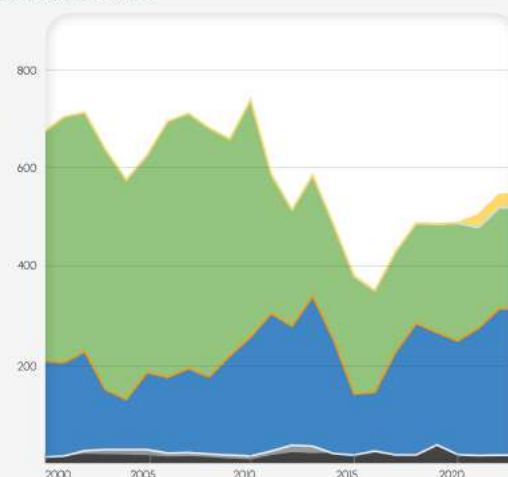
Energy Supply

2024 0.00 Mb Crude oil including lease condensate	2023 0.548 billion kWh electricity net generation
2023 0.000 bcm Natural Gas production	2023 0.017 billion kWh fossil fuels electricity net generation
2023 0.000 quad Btu Nuclear energy production	2023 0.048 billion kWh renewable electricity net generation
2023 0.289 Mt Coal production	2023 86.40 % Access to electricity (% of population)
2023 2.116 BTU/GDP Energy Intensity	2023 96.90 % Renewable Electricity

Electricity Generation Mix

Legend keys

- Electricity from solar
- Electricity from geothermal
- Electricity from natural gas
- Electricity from wind
- Electricity from hydrolic
- Electricity from petroleum
- Electricity from biomass and waste
- Electricity from nuclear
- Electricity from coal



Energy Prices



Electricity prices for business
0.094 USD / KWH
Dec 2024

Electricity prices for households
0.132 USD / KWH
Dec 2024

reproduction interdite sans consentement formel de TABC

Ethiopia

East Africa

Land Area
1120 000 Km²
Rank in Africa: 10

Population (2025)
135 472 051
Rank in Africa: 2

Energy Demand

2023 7.672 Mtoe Total energy consumption	2023 1.636 Mt Coal consumption
2023 36.523 Mboe Petroleum and other liquids consumption	2023 0.000 quad Btu Nuclear energy consumption
2023 0.000 bcm Natural gas consumption	2023 12.298 billion kWh Electricity Net Consumption

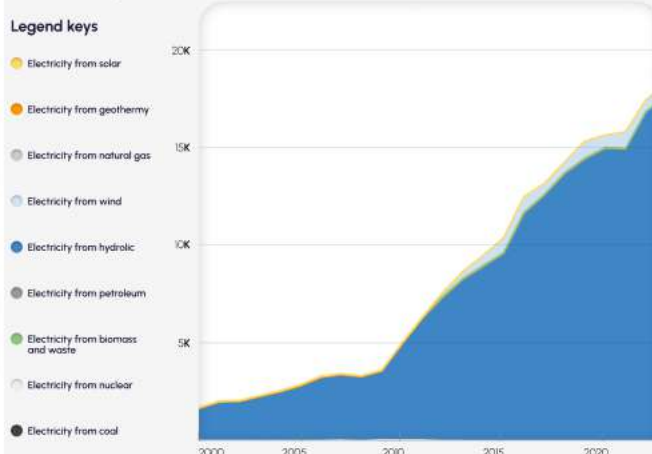
Energy Units
Bcm Billion Cubic Meters
10⁹ m³ = 1 000 000 000 m³
Mb Thousand Barrels
1 000 barrels
Mboe Million Barrels of Oil Equivalent
10⁶ barrels = 1 000 000 barrels
MMtoe Million tonnes of Oil Equivalent
10⁶ tons of oil = 1 000 000 tons of oil equivalent

Conversion factors
Mt Million Tonnes
10⁶ metric tons = 1 000 000 tons
Quad Btu Quadrillion British Thermal Units
10¹⁵ Btu = 1 000 000 000 000 000 Btu
TWh Terawatt-hour
10¹² watt-hours = 1 000 000 000 Wh
1 tonne équivalent pétrole (tep)
39 683 000 BTU
1 BTU = 1 055 joules

Energy Supply

2024 0.00 Mb Crude oil including lease condensate	2023 18.254 billion kWh electricity net generation
2023 0.000 bcm Natural Gas production	2023 0.002 billion kWh fossil fuels electricity net generation
2023 0.000 quad Btu Nuclear energy production	2023 18.252 billion kWh renewable electricity net generation
2023 0.502 Mt Coal production	2023 55.40 % Access to electricity (% of population)
2023 0.970 BTU/GDP Energy intensity	2023 99.99 % Renewable Electricity

Electricity Generation Mix



Energy Prices

Diesel prices
0.787 USD / Liter
Aug 2025

Gasoline prices
0.875 USD / Liter
Aug 2025



Electricity prices for households
0.005 USD / KWH
Dec 2024

Electricity prices for business
0.011 USD / KWH
Dec 2024

reproduction interdite sans consentement formel de TABC



Gabon

Central Africa

Land Area
267 667 Km²
Rank in Africa: 31

Population (2025)
2 593 130
Rank in Africa: 43

Energy Demand

2023
1.384 MMtoe
Total energy consumption

2023
4.912 Mboe
Petroleum and other liquids consumption

2023
0.468 bcm
Natural gas consumption

Energy Units
Bcm
Billion Cubic Meters
10⁹ m³ = 1 000 000 000 m³
Mb
Thousand Barrels
1 000 barrels
Mboe
Million Barrels of Oil Equivalent
10⁶ barrels = 1 000 000 barrels
MMtoe
Million tonnes of Oil Equivalent
10⁶ tons of oil = 1 000 000 tons of oil equivalent

2023
0.000 Mt
Coal consumption

2023
0.000 quad Btu
Nuclear energy consumption

2023
3.173 billion kWh
Electricity Net Consumption

MT
Million Tonnes
10⁶ metric tons = 1 000 000 tons
Quad Btu
Quadrillion British Thermal Units
10¹⁵ Btu = 1 000 000 000 000 000 Btu
TWh
Terawatt-hour
10¹² watt-hours = 1 000 000 000 Wh
1 tonne equivalent petrole (tep)
39 683 000 BTU
1 BTU = 1 055 joules

Energy Supply

2024
78 700.00 Mb
Crude oil including lease condensate

2023
0.463 bcm
Natural Gas production

2023
0.000 quad Btu
Nuclear energy production

2023
0.000 Mt
Coal production

2023
1.605 BTU/GDP
Energy Intensity

2023
3.193 billion kWh
electricity net generation

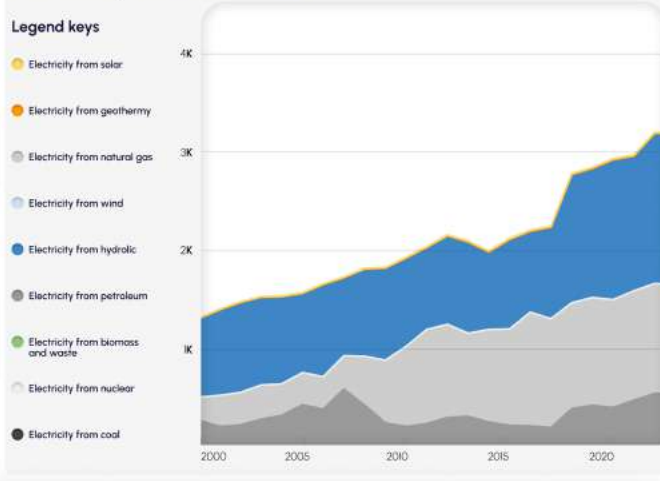
2023
1.658 billion kWh
fossil fuels electricity net generation

2023
18.252 billion kWh
renewable electricity net generation

2023
94.10 %
Access to electricity (% of population)

2023
48.07 %
Renewable Electricity

Electricity Generation Mix



Energy Prices

Diesel prices
0.888 USD / Liter
Aug 2025

Gasoline prices
1.053 USD / Liter
Aug 2025



Electricity prices for households
0.218 USD / KWH
Dec 2024

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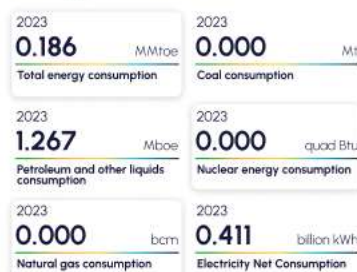
Gambia

Western Africa

Land Area
10 689 Km²
Rank in Africa: 50

Population (2025)
2 822 093
Rank in Africa: 42

Energy Demand



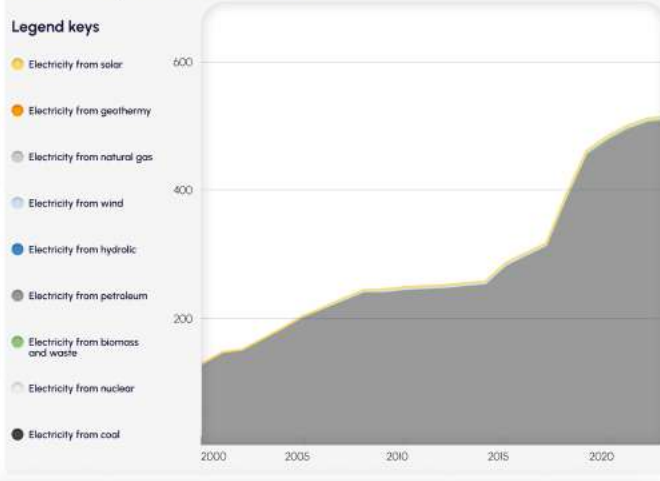
Energy Units
Bcm
Billion Cubic Meters
10⁹ m³ = 1 000 000 000 m³
Mb
Thousand Barrels
1 000 barrels
Mboe
Million Barrels of Oil Equivalent
10⁶ barrels = 1 000 000 barrels
MMtoe
Million tonnes of Oil Equivalent
10⁶ tons of oil = 1 000 000 tons of oil equivalent

Mt
Million Tonnes
10⁶ metric tons = 1 000 000 tons
Quad Btu
Quadrillion British Thermal Units
10¹⁵ Btu = 1 000 000 000 000 000 Btu
TWh
Terawatt-hour
10¹² watt-hours = 1 000 000 000 Wh
1 tonne equivalent petrole (tep)
39 683 000 BTU
1 BTU = 1 055 joules

Energy Supply



Electricity Generation Mix



Energy Prices



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Ghana

Western Africa

Land Area
238 533 Km²
Rank in Africa: 34

Population (2025)
35 064 272
Rank in Africa: 14

Energy Demand

2023
8.934 MMTon
Total energy consumption

2023
32.618 Mboe
Petroleum and other liquids consumption

2023
3.793 bcm
Natural gas consumption

Energy Units
Bcm
Billion Cubic Meters
10⁹ m³ = 1 000 000 000 m³
Mb
Thousand Barrels
1 000 barrels
Mboe
Million Barrels of Oil Equivalent
10⁶ barrels = 1 000 000 barrels
MMTone
Million tonnes of Oil Equivalent
10⁶ tons of oil = 1 000 000 tons of oil equivalent

2023
0.051 Mt
Coal consumption

2023
0.000 quad Btu
Nuclear energy consumption

2023
19.534 billion kWh
Electricity Net Consumption

MT
Million Tonnes
10⁶ metric tons = 1 000 000 tons
Quad Btu
Quadrillion British Thermal Units
10¹⁵ Btu = 1 000 000 000 000 000 Btu
TWh
Terawatt-hour
10¹² watt-hours = 1 000 000 000 Wh
1 tonne equivalent petrole (tep)
39 683 000 BTU
1 BTU = 1 055 joules

Energy Supply

2024
75 246.00 Mb
Crude oil including lease condensate

2023
3.116 bcm
Natural Gas production

2023
0.000 quad Btu
Nuclear energy production

2023
0.000 Mt
Coal production

2023
1.841 BTU/GDP
Energy Intensity

2023
24.282 billion kWh
electricity net generation

2023
14.925 billion kWh
fossil fuels electricity net generation

2023
9.357 billion kWh
renewable electricity net generation

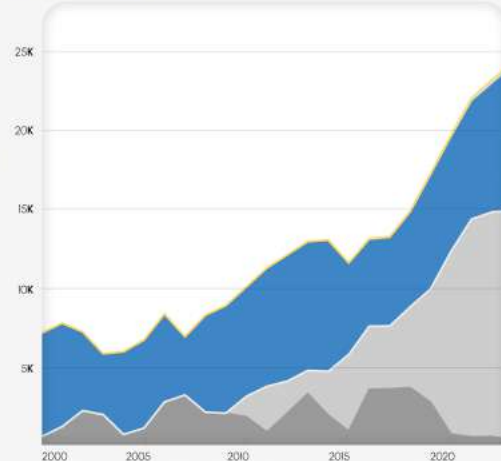
2023
89.50 %
Access to electricity (% of population)

2023
38.53 %
Renewable Electricity

Electricity Generation Mix

Legend keys

- Electricity from solar
- Electricity from geothermal
- Electricity from natural gas
- Electricity from wind
- Electricity from hydrolic
- Electricity from petroleum
- Electricity from biomass and waste
- Electricity from nuclear
- Electricity from coal



Energy Prices

Diesel prices
1.087 USD / Liter
Aug 2025

Gasoline prices
1.414 USD / Liter
Aug 2025



Electricity prices for business
0.157 USD / kWh
Dec 2024

Electricity prices for households
0.173 USD / kWh
Dec 2024

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Guinea-Bissau Western Africa

Land Area
36 125 km²
Rank in Africa: 43

Population (2025)
2 249 515
Rank in Africa: 46

Energy Demand

2023 0.128 MMTon Total energy consumption	2023 0.000 Mt Coal consumption
2023 0.871 Mboe Petroleum and other liquids consumption	2023 0.000 quad Btu Nuclear energy consumption
2023 0.000 bcm Natural gas consumption	2023 0.080 billion kWh Electricity Net Consumption

Energy Units
Bcm Billion Cubic Meters
10⁹ m³ = 1 000 000 000 m³
Mb Thousand Barrels
1 000 barrels
Mboe Million Barrels of Oil Equivalent
10⁶ barrels = 1 000 000 barrels
MMTonne Million tonnes of Oil Equivalent
10⁶ tons of oil = 1 000 000 tons of oil equivalent
Mt Million Tonnes
10⁶ metric tons = 1 000 000 tons
Quad Btu Quadrillion British Thermal Units
10¹⁵ Btu = 1 000 000 000 000 000 Btu
TWh Terawatt-hour
10¹² watt-hours = 1 000 000 000 Wh
1 tonne equivalent petrole (tep)
39 683 000 BTU
1 BTU = 1 055 joules

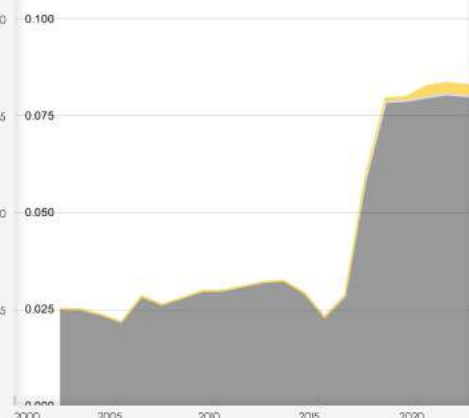
Energy Supply

2024 0.00 Mb Crude oil including lease condensate	2023 0.000 bcm Natural Gas production
2023 0.000 quad Btu Nuclear energy production	2023 0.000 billion kWh fossil fuels electricity net generation
2023 0.000 Mt Coal production	2023 0.003 billion kWh renewable electricity net generation
2023 1.025 BTU/GDP Energy Intensity	2023 40.50 % Access to electricity (% of population)
	2023 3.50 % Renewable Electricity

Electricity Generation Mix

Legend keys

- Electricity from solar
- Electricity from geothermal
- Electricity from natural gas
- Electricity from wind
- Electricity from hydrolic
- Electricity from petroleum
- Electricity from biomass and waste
- Electricity from nuclear
- Electricity from coal



Energy Prices



reproduction interdite sans consentement formel de TABC



Guinea

Western Africa

Land Area
245 857 Km²
Rank in Africa: 32

Population (2025)
15 099 727
Rank in Africa: 27

Energy Demand

2023 1.901 M.Mtoe Total energy consumption	2023 0.000 Mt Coal consumption
2023 11.221 Mboe Petroleum and other liquids consumption	2023 0.000 quad Btu Nuclear energy consumption
2023 0.000 bcm Natural gas consumption	2023 3.624 billion kWh Electricity Net Consumption

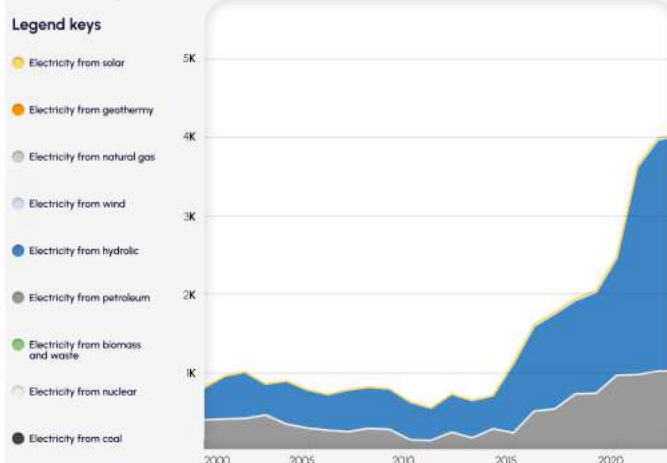
Energy Units
Bcm Billion Cubic Meters
10⁹ m³ = 1 000 000 000 m³
Mb Thousand Barrels
1 000 barrels
Mboe Million Barrels of Oil Equivalent
10⁶ barrels = 1 000 000 barrels
MMtoe Million tonnes of Oil Equivalent
10⁶ tons of oil = 1 000 000 tons of oil equivalent

MT Million Tonnes
10⁶ metric tons = 1 000 000 tons
Quad Btu Quadrillion British Thermal Units
10¹⁵ Btu = 1 000 000 000 000 000 Btu
TWh Terawatt-hour
10¹² watt-hour = 1 000 000 000 Wh
1 tonne équivalent pétrole (tep)
39 683 000 BTU
1 BTU = 1 055 joules

Energy Supply

2024 0.00 Mb Crude oil including lease condensate	2023 4.048 billion kWh electricity net generation
2023 0.000 bcm Natural Gas production	2023 1.023 billion kWh fossil fuels electricity net generation
2023 0.000 quad Btu Nuclear energy production	2023 3.025 billion kWh renewable electricity net generation
2023 0.000 Mt Coal production	2023 51.10 % Access to electricity (% of population)
2023 1.690 BTU/GDP Energy Intensity	2023 74.73 % Renewable Electricity

Electricity Generation Mix



Energy Prices

Gasoline prices
1.383 USD / Liter
Aug 2025

Diesel prices
1.427 USD / Liter
Aug 2025



reproduction interdite sans consentement formel de TABC



Kenya

East Africa

Land Area
582 646 Km²
Rank in Africa: 22

Population (2025)
57 532 493
Rank in Africa: 7

Energy Demand

2023
7.651 MMTon
Total energy consumption

2023
39.111 Mboe
Petroleum and other liquids consumption

2023
0.000 bcm
Natural gas consumption

Energy Units
Bcm Billion Cubic Meters
10⁹ m³ = 1 000 000 000 m³
Mb Thousand Barrels
1 000 barrels
Mboe Million Barrels of Oil Equivalent
10⁶ barrels = 1 000 000 barrels
MMTonne Million tonnes of Oil Equivalent
10⁶ tons of oil = 1 000 000 tons of oil equivalent

2023
1.601 Mt
Coal consumption

2023
0.000 quad Btu
Nuclear energy consumption

2023
10.002 billion kWh
Electricity Net Consumption

MT Million Tonnes
10⁶ metric tons = 1 000 000 tons
Quad Btu Quadrillion British Thermal Units
10¹⁵ Btu = 1 000 000 000 000 000 Btu
TWh Terawatt-hour
10¹² watt-hours = 1 000 000 000 Wh
1 tonne equivalent petrole (tep)
39 683 000 BTU
1 BTU = 1 055 joules

Energy Supply

2024
0.00 Mb
Crude oil including lease condensate

2023
0.000 bcm
Natural Gas production

2023
0.000 quad Btu
Nuclear energy production

2023
0.000 Mt
Coal production

2023
1.149 BTU/GDP
Energy Intensity

2023
12.789 billion kWh
electricity net generation

2023
1.305 billion kWh
fossil fuels electricity net generation

2023
11.484 billion kWh
renewable electricity net generation

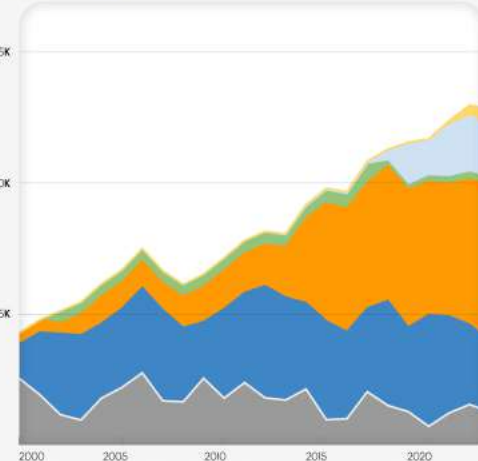
2023
76.20 %
Access to electricity (% of population)

2023
89.80 %
Renewable Electricity

Electricity Generation Mix

Legend keys

- Electricity from solar
- Electricity from geothermal
- Electricity from natural gas
- Electricity from wind
- Electricity from hydrolic
- Electricity from petroleum
- Electricity from biomass and waste
- Electricity from nuclear
- Electricity from coal



Energy Prices

Diesel prices
1.317 USD / Liter
Aug 2025

Gasoline prices
1.429 USD / Liter
Aug 2025



Electricity prices for business
0.174 USD / kWh
Dec 2024

Electricity prices for households
0.221 USD / kWh
Dec 2024

reproduction interdite sans consentement formel de TABC



Lesotho

Southern Africa

Land Area
30 355 Km²
Rank in Africa: 44

Population (2025)
2 363 325
Rank in Africa: 45

Energy Demand

2023
0.473 MMTon
Total energy consumption

2023
2.365 Mboe
Petroleum and other liquids consumption

2023
0.000 bcm
Natural gas consumption

Energy Units

Bcm
Billion Cubic Meters
10⁹ m³ = 1 000 000 000 m³
Mb
Thousand Barrels
1 000 barrels
Mboe
Million Barrels of Oil Equivalent
10⁶ barrels = 1 000 000 barrels
MMTone
Million tonnes of Oil Equivalent
10⁶ tons of oil = 1 000 000 tons of oil equivalent

2023
0.083 Mt
Coal consumption

2023
0.000 quad Btu
Nuclear energy consumption

2023
0.833 billion kWh
Electricity Net Consumption

Mt
Million Tonnes
10⁶ metric tons = 1 000 000 tons
Quad Btu
Quadrillion British Thermal Units
10¹⁵ Btu = 1 000 000 000 000 000 Btu
TWh
Terawatt-hour
10¹² watt-hours = 1 000 000 000 Wh
1 tonne equivalent petrole (tep)
39 683 000 BTU
1 BTU = 1 055 joules

Energy Supply

2024
0.00 Mb
Crude oil including lease condensate

2023
0.000 bcm
Natural Gas production

2023
0.000 quad Btu
Nuclear energy production

2023
0.062 Mt
Coal production

2023
3.455 BTU/GDP
Energy Intensity

2023
0.482 billion kWh
electricity net generation

2023
0.001 billion kWh
fossil fuels electricity net generation

2023
0.481 billion kWh
renewable electricity net generation

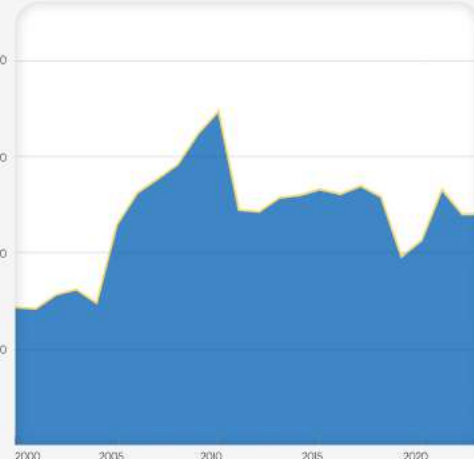
2023
57.30 %
Access to electricity (% of population)

2023
99.87 %
Renewable Electricity

Electricity Generation Mix

Legend keys

- Electricity from solar
- Electricity from geothermal
- Electricity from natural gas
- Electricity from wind
- Electricity from hydrolic
- Electricity from petroleum
- Electricity from biomass and waste
- Electricity from nuclear
- Electricity from coal



Energy Prices

Diesel prices
1.069 USD / Liter
Aug 2025

Gasoline prices
1.138 USD / Liter
Aug 2025



Electricity prices for business
0.023 USD / KWH
Dec 2024

Electricity prices for households
0.108 USD / KWH
Dec 2024

reproduction interdite sans consentement formel de TABC



Liberia

Western Africa

Land Area
97 036 Km²
Rank in Africa: 40

Population (2025)
5 731 206
Rank in Africa: 37

Energy Demand

2023
0.252 MMTon
Total energy consumption

2023
1.646 Mboe
Petroleum and other liquids consumption

2023
0.000 bcm
Natural gas consumption

Energy Units
Bcm
Billion Cubic Meters
10⁹ m³ = 1 000 000 000 m³
Mb
Thousand Barrels
1 000 barrels
Mboe
Million Barrels of Oil Equivalent
10⁶ barrels = 1 000 000 barrels
MMTone
Million tonnes of Oil Equivalent
10⁶ tons of oil = 1 000 000 tons of oil equivalent

2023
0.000 Mt
Coal consumption

2023
0.000 quad Btu
Nuclear energy consumption

2023
0.216 billion kWh
Electricity Net Consumption

MT
Metric Tonnes
10⁶ metric tons = 1 000 000 tons
Quad Btu
Quadrillion British Thermal Units
10¹⁵ Btu = 1 000 000 000 000 000 Btu
TWh
Terawatt-hour
10¹² watt-hours = 1 000 000 000 Wh
1 tonne equivalent petrole (tep)
39 683 000 BTU
1 BTU = 1 055 joules

Energy Supply

2024
0.00 Mb
Crude oil including lease condensate

2023
0.000 bcm
Natural Gas production

2023
0.000 quad Btu
Nuclear energy production

2023
0.062 Mt
Coal production

2023
1.178 BTU/GDP
Energy Intensity

2023
0.395 billion kWh
electricity net generation

2023
0.261 billion kWh
fossil fuels electricity net generation

2023
0.134 billion kWh
renewable electricity net generation

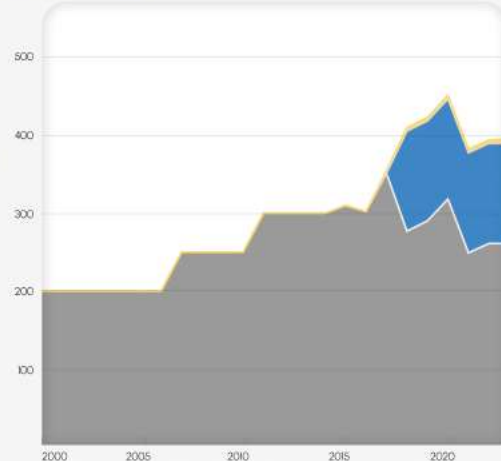
2023
32.50 %
Access to electricity (% of population)

2023
33.91 %
Renewable Electricity

Electricity Generation Mix

Legend keys

- Electricity from solar
- Electricity from geothermal
- Electricity from natural gas
- Electricity from wind
- Electricity from hydrolic
- Electricity from petroleum
- Electricity from biomass and waste
- Electricity from nuclear
- Electricity from coal



Energy Prices

Gasoline prices
0.906 USD / Liter
Aug 2023

Diesel prices
0.913 USD / Liter
Aug 2023



reproduction interdite sans consentement formel de TABC

Libya

Northern Africa

Land Area
1676 198 Km²
Rank in Africa: 4

Population (2025)
7 458 555
Rank in Africa: 35



Energy Demand

2023
18.565 MMTon
Total energy consumption

2023
0.000 Mt
Coal consumption

2023
71.503 Mboe
Petroleum and other liquids consumption

2023
0.000 quad Btu
Nuclear energy consumption

2023
8.720 bcm
Natural gas consumption

2023
28.826 billion kWh
Electricity Net Consumption

Energy Units
Bcm
Billion Cubic Meters
10⁹ m³ = 1 000 000 000 m³
Mb
Thousand Barrels
1 000 barrels
Mboe
Million Barrels of Oil Equivalent
10⁶ barrels = 1 000 000 barrels
MMTone
Million tonnes of Oil Equivalent
10⁶ tons of oil = 1 000 000 tons of oil equivalent

MT
Million Tonnes
10⁶ metric tons = 1 000 000 tons
Quad Btu
Quadrillion British Thermal Units
10¹⁵ Btu = 1 000 000 000 000 000 Btu
TWh
Terawatt-hour
10¹² watt-hours = 1 000 000 000 Wh
1 tonne équivalent pétrole (tep)
39 683 000 BTU
1 BTU = 1 055 joules

Energy Supply

2024
433 078.00 Mb
Crude oil including lease condensate

2023
11.160 bcm
Natural Gas production

2023
0.000 quad Btu
Nuclear energy production

2023
0.062 Mt
Coal production

2023
10.494 BTU/GDP
Energy Intensity

2023
35.107 billion kWh
electricity net generation

2023
35.097 billion kWh
fossil fuels electricity net generation

2023
0.010 billion kWh
renewable electricity net generation

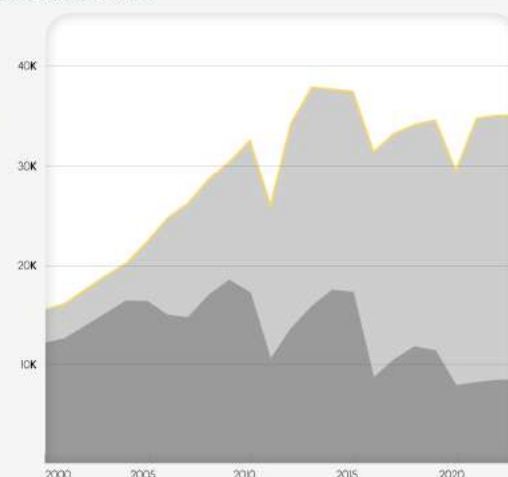
2023
73.20 %
Access to electricity (% of population)

2023
0.03 %
Renewable Electricity

Electricity Generation Mix

Legend keys

- Electricity from solar
- Electricity from geothermal
- Electricity from natural gas
- Electricity from wind
- Electricity from hydrolic
- Electricity from petroleum
- Electricity from biomass and waste
- Electricity from nuclear
- Electricity from coal



Energy Prices

Diesel prices
0.028 USD / Liter
Aug 2025

Gasoline prices
0.028 USD / Liter
Aug 2025



Electricity prices for households
0.008 USD / KWH
Dec 2024

Electricity prices for business
0.009 USD / KWH
Dec 2024

reproduction interdite sans consentement formel de TABC



Madagascar

East Africa

Land Area
591 896 Km²
Rank in Africa: 21

Population (2025)
32 740 678
Rank in Africa: 15

Energy Demand

2023
1.428 Mtoe
Total energy consumption

2023
7.242 Mboe
Petroleum and other liquids consumption

2023
0.000 bcm
Natural gas consumption

Energy Units
Bcm
Billion Cubic Meters
10⁹ m³ = 1 000 000 000 m³
Mb
Thousand Barrels
1 000 barrels
Mboe
Million Barrels of Oil Equivalent
10⁶ barrels = 1 000 000 barrels
MMtoe
Million tonnes of Oil Equivalent
10⁶ tons of oil = 1 000 000 tons of oil equivalent

2023
0.511 Mt
Coal consumption

2023
0.000 quad Btu
Nuclear energy consumption

2023
2.506 billion kWh
Electricity Net Consumption

MT
Million Tonnes
10⁶ metric tons = 1 000 000 tons
Quad Btu
Quadrillion British Thermal Units
10¹⁵ Btu = 1 000 000 000 000 000 Btu
TWh
Terawatt-hour
10¹² watt-hours = 1 000 000 000 Wh
1 tonne equivalent petrole (tep)
39 683 000 BTU
1 BTU = 1 055 joules

Energy Supply

2024
0.00 Mb
Crude oil including lease condensate

2023
0.000 bcm
Natural Gas production

2023
0.000 quad Btu
Nuclear energy production

2023
0.000 Mt
Coal production

2023
1.230 BTU/GDP
Energy Intensity

2023
2.645 billion kWh
electricity net generation

2023
1.714 billion kWh
fossil fuels electricity net generation

2023
0.931 billion kWh
renewable electricity net generation

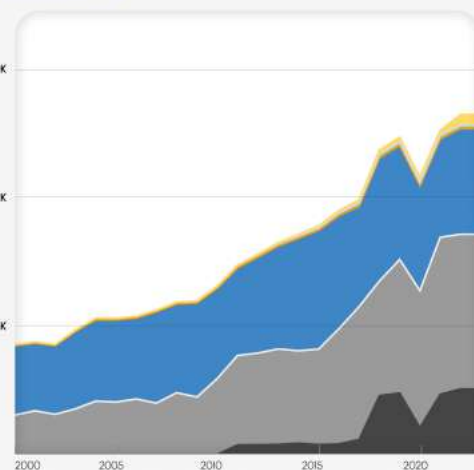
2023
39.40 %
Access to electricity (% of population)

2023
35.21 %
Renewable Electricity

Electricity Generation Mix

Legend keys

- Electricity from solar
- Electricity from geothermal
- Electricity from natural gas
- Electricity from wind
- Electricity from hydrolic
- Electricity from petroleum
- Electricity from biomass and waste
- Electricity from nuclear
- Electricity from coal



Energy Prices

Diesel prices
1.033 USD / Liter
Aug 2025

Gasoline prices
1.157 USD / Liter
Aug 2025



Electricity prices for households
0.132 USD / kWh
Dec 2024

Electricity prices for business
0.167 USD / kWh
Dec 2024

reproduction interdite sans consentement formel de TABC



Malawi

East Africa

Land Area
118 760 Km²
Rank in Africa: 38

Population (2025)
22 216 120
Rank in Africa: 21

Energy Demand

2023
0.953 MMTon
Total energy consumption

2023
5.346 Mboe
Petroleum and other liquids consumption

2023
0.000 bcm
Natural gas consumption

Energy Units
Bcm
Billion Cubic Meters
10³ m³ = 1 000 000 000 m³
Mb
Thousand Barrels
1 000 barrels
Mboe
Million Barrels of Oil Equivalent
10³ barrels = 1 000 000 barrels
MMTone
Million tonnes of Oil Equivalent
10³ tons of oil = 1 000 000 tons of oil equivalent

2023
0.003 Mt
Coal consumption

2023
0.000 quad Btu
Nuclear energy consumption

2023
1.585 billion kWh
Electricity Net Consumption

MT
Metric Tonnes
10³ metric tons = 1 000 000 tons
Quad Btu
Quadrillion British Thermal Units
10¹² Btu = 1 000 000 000 000 Btu
TWh
Terawatt-hour
10¹² watt-hours = 1 000 000 000 Wh
1 tonne equivalent petrole (tep)
39 683 000 BTU
1 BTU = 1 055 joules

Energy Supply

2024
0.00 Mb
Crude oil including lease condensate

2023
0.000 bcm
Natural Gas production

2023
0.000 quad Btu
Nuclear energy production

2023
0.003 Mt
Coal production

2023
1.306 BTU/GDP
Energy Intensity

2023
1.837 billion kWh
electricity net generation

2023
0.077 billion kWh
fossil fuels electricity net generation

2023
1.760 billion kWh
renewable electricity net generation

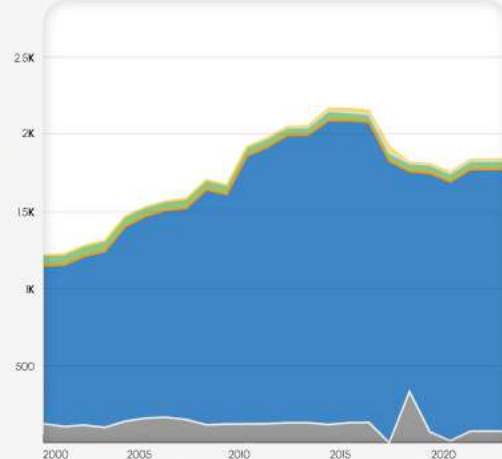
2023
15.60 %
Access to electricity (% of population)

2023
95.83 %
Renewable Electricity

Electricity Generation Mix

Legend keys

- Electricity from solar
- Electricity from geothermal
- Electricity from natural gas
- Electricity from wind
- Electricity from hydrolic
- Electricity from petroleum
- Electricity from biomass and waste
- Electricity from nuclear
- Electricity from coal



Energy Prices

Gasoline prices
1.459 USD / Liter
Aug 2025

Diesel prices
1.710 USD / Liter
Aug 2025



Electricity prices for households
0.075 USD / kWh
Dec 2024

Electricity prices for business
0.226 USD / kWh
Dec 2024

reproduction interdite sans consentement formel de TABC



Mali

Western Africa

Land Area
1241 238 Km²
Rank in Africa: 8

Population (2025)
25 198 821
Rank in Africa: 19

Energy Demand

2023
2.580 MMtoe
Total energy consumption

2023
16.358 Mboe
Petroleum and other liquids consumption

2023
0.000 bcm
Natural gas consumption

Energy Units
Bcm
Billion Cubic Meters
10⁹ m³ = 1 000 000 000 m³
Mb
Thousand Barrels
1 000 barrels
Mboe
Million Barrels of Oil Equivalent
10⁶ barrels = 1 000 000 barrels
MMtoe
Million tonnes of Oil Equivalent
10⁶ tons of oil = 1 000 000 tons of oil equivalent

2023
0.000 Mt
Coal consumption

2023
0.000 quad Btu
Nuclear energy consumption

2023
4.261 billion kWh
Electricity Net Consumption

Mt
Metric Tonnes
10⁶ metric tons = 1 000 000 tons
Quad Btu
Quadrillion British Thermal Units
10¹⁵ Btu = 1 000 000 000 000 000 Btu
TWh
Terawatt-hour
10¹² watt-hours = 1 000 000 000 Wh
1 tonne equivalent petrole (tep)
39 683 000 BTU
1 BTU = 1 055 joules

Energy Supply

2024
0.00 Mb
Crude oil including lease condensate

2023
0.000 bcm
Natural Gas production

2023
0.000 quad Btu
Nuclear energy production

2023
0.000 Mt
Coal production

2023
2.007 BTU/GDP
Energy Intensity

2023
4.363 billion kWh
electricity net generation

2023
2.500 billion kWh
fossil fuels electricity net generation

2023
1.863 billion kWh
renewable electricity net generation

2023
54.50 %
Access to electricity (% of population)

2023
42.70 %
Renewable Electricity

Electricity Generation Mix

Legend keys

- Electricity from solar
- Electricity from geothermal
- Electricity from natural gas
- Electricity from wind
- Electricity from hydrolic
- Electricity from petroleum
- Electricity from biomass and waste
- Electricity from nuclear
- Electricity from coal

Energy Prices

Diesel prices
1.217 USD / Liter
Aug 2025

Gasoline prices
1.372 USD / Liter
Aug 2025



Electricity prices for households
0.168 USD / KWH
Dec 2024

Electricity prices for business
0.232 USD / KWH
Dec 2024

reproduction interdite sans consentement formel de TABC



Mauritania

Western Africa

Land Area
1030 700 Km²
Rank in Africa: 11

Population (2025)
5 315 065
Rank in Africa: 39

Energy Demand

2023
1.789 MMtoe
Total energy consumption

2023
11.750 Mboe
Petroleum and other liquids consumption

2023
0.000 bcm
Natural gas consumption

Energy Units
Bcm
Billion Cubic Meters
10⁹ m³ = 1 000 000 000 m³
Mb
Thousand Barrels
1 000 barrels
Mboe
Million Barrels of Oil Equivalent
10⁶ barrels = 1 000 000 barrels
MMtoe
Million tonnes of Oil Equivalent
10⁶ tons of oil = 1 000 000 tons of oil equivalent

2023
0.000 Mt
Coal consumption

2023
0.000 quad Btu
Nuclear energy consumption

2023
1.700 billion kWh
Electricity Net Consumption

MT
Million Tonnes
10⁶ metric tons = 1 000 000 tons
Quad Btu
Quadrillion British Thermal Units
10¹⁵ Btu = 1 000 000 000 000 000 Btu
TWh
Terawatt-hour
10¹² watt-hours = 1 000 000 000 Wh
1 tonne equivalent petrole (tep)
39 683 000 BTU
1 BTU = 1 055 joules

Energy Supply

2024
0.00 Mb
Crude oil including lease condensate

2023
0.000 bcm
Natural Gas production

2023
0.000 quad Btu
Nuclear energy production

2023
0.000 Mt
Coal production

2023
1.642 billion kWh
electricity net generation

2023
1.189 billion kWh
fossil fuels electricity net generation

2023
0.453 billion kWh
renewable electricity net generation

2023
50.30 %
Access to electricity (% of population)

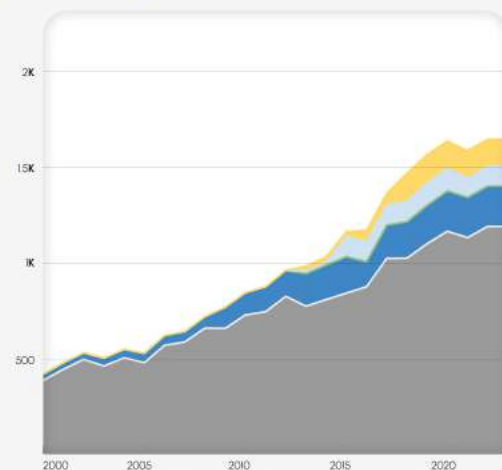
2023
2.623 BTU/GDP
Energy Intensity

2023
27.59 %
Renewable Electricity

Electricity Generation Mix

Legend keys

- Electricity from solar
- Electricity from geothermal
- Electricity from natural gas
- Electricity from wind
- Electricity from hydrolic
- Electricity from petroleum
- Electricity from biomass and waste
- Electricity from nuclear
- Electricity from coal



Energy Prices

Diesel prices
1.033 USD / Liter
Aug 2025

Gasoline prices
1.157 USD / Liter
Aug 2025



Electricity prices for households
0.132 USD / kWh
Dec 2024

Electricity prices for business
0.167 USD / kWh
Dec 2024

reproduction interdite sans consentement formel de TABC



Mauritius

East Africa

Land Area
2 007 Km²
Rank in Africa: 52

Population (2025)
1 268 280
Rank in Africa: 48

Energy Demand

2023
1.932 MMTon
Total energy consumption

2023
9.818 Mboe
Petroleum and other liquids consumption

2023
0.000 bcm
Natural gas consumption

Energy Units

Bcm
Billion Cubic Meters
10⁹ m³ = 1 000 000 000 m³

Mb
Thousand Barrels
1 000 barrels

Mboe
Million Barrels of Oil Equivalent
10⁶ barrels = 1 000 000 barrels

MMTone
Million tonnes of Oil Equivalent
10⁶ tons of oil = 1 000 000 tons of oil equivalent

2023
0.722 Mt
Coal consumption

2023
0.000 quad Btu
Nuclear energy consumption

2023
3.084 billion kWh
Electricity Net Consumption

Mt
Million Tonnes
10⁶ metric tons = 1 000 000 tons

Quad Btu
Quadrillion British Thermal Units
10¹⁵ Btu = 1 000 000 000 000 000 Btu

TWh
Terawatt-hour
10¹² watt-hours = 1 000 000 000 Wh

1 tonne equivalent petrole (tep)
39 683 000 BTU
1 BTU = 1 055 joules

Energy Supply

2024
0.00 Mb
Crude oil including lease condensate

2023
0.000 bcm
Natural Gas production

2023
0.000 quad Btu
Nuclear energy production

Energy Units

Mt
Million Tonnes
10⁶ metric tons = 1 000 000 tons

Quad Btu
Quadrillion British Thermal Units
10¹⁵ Btu = 1 000 000 000 000 000 Btu

TWh
Terawatt-hour
10¹² watt-hours = 1 000 000 000 Wh

1 tonne equivalent petrole (tep)
39 683 000 BTU
1 BTU = 1 055 joules

2023
3.264 billion kWh
electricity net generation

2023
2.690 billion kWh
fossil fuels electricity net generation

2023
0.574 billion kWh
renewable electricity net generation

Energy Units

Mt
Million Tonnes
10⁶ metric tons = 1 000 000 tons

Quad Btu
Quadrillion British Thermal Units
10¹⁵ Btu = 1 000 000 000 000 000 Btu

TWh
Terawatt-hour
10¹² watt-hours = 1 000 000 000 Wh

1 tonne equivalent petrole (tep)
39 683 000 BTU
1 BTU = 1 055 joules

Energy Units

Mt
Million Tonnes
10⁶ metric tons = 1 000 000 tons

Quad Btu
Quadrillion British Thermal Units
10¹⁵ Btu = 1 000 000 000 000 000 Btu

TWh
Terawatt-hour
10¹² watt-hours = 1 000 000 000 Wh

1 tonne equivalent petrole (tep)
39 683 000 BTU
1 BTU = 1 055 joules

BTU/GDP
Billion Tonnes of Oil Equivalent per GDP

Energy Intensity

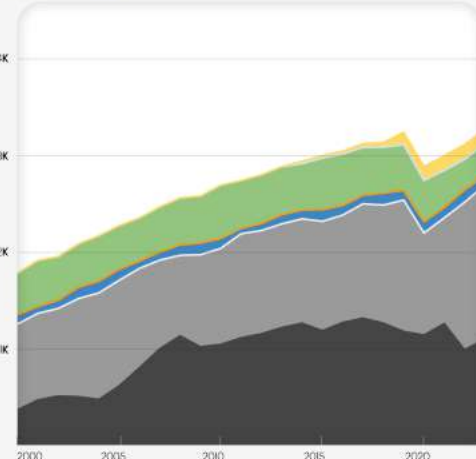
2023
2.553 BTU/GDP
Energy Intensity

2023
17.59 %
Renewable Electricity

Electricity Generation Mix

Legend keys

- Electricity from solar
- Electricity from geothermal
- Electricity from natural gas
- Electricity from wind
- Electricity from hydrolic
- Electricity from petroleum
- Electricity from biomass and waste
- Electricity from nuclear
- Electricity from coal



Energy Prices

Diesel prices

1.292 USD / Liter
Aug 2025

Gasoline prices

1.341 USD / Liter
Aug 2025

\$0



\$2

Electricity prices for households

0.135 USD / KWH
Dec 2024

Electricity prices for business

0.141 USD / KWH
Dec 2024

reproduction interdite sans consentement formel de TABC



Morocco

Northern Africa

Land Area
417 000 Km²
Rank in Africa: 25

Population (2025)
38 430 770
Rank in Africa: 12

Energy Demand

2023
22.352 MMTon
Total energy consumption

2023
98.054 Mboe
Petroleum and other liquids consumption

2023
0.937 bcm
Natural gas consumption

Energy Units

Bcm
Billion Cubic Meters
10⁹ m³ = 1 000 000 000 m³

Mb
Thousand Barrels
1 000 barrels

Mboe
Million Barrels of Oil Equivalent
10⁶ barrels = 1 000 000 barrels

MMTee
Million tonnes of Oil Equivalent
10⁶ tons of oil = 1 000 000 tons of oil equivalent

MT

Million Tonnes
10⁶ metric tons = 1 000 000 tons

Quad Btu
Quadrillion British Thermal Units
10¹⁵ Btu = 1 000 000 000 000 000 Btu

TWh
Terawatt-hour
10¹² watt-hours = 1 000 000 000 Wh

1 tonne équivalent pétrole (tep)
39 683 000 BTU
1 BTU = 1 055 joules

2023

10.934 Mt
Coal consumption

0.000 quad Btu
Nuclear energy consumption

36.379 billion kWh
Electricity Net Consumption

Energy Supply

2024
9.15 Mb
Crude oil including lease condensate

2023
0.055 bcm
Natural Gas production

2023
0.000 quad Btu
Nuclear energy production

2023
0.000 Mt
Coal production

2023
2.780 BTU/GDP
Energy intensity

2023
42.311 billion kWh
electricity net generation

2023
33.238 billion kWh
fossil fuels electricity net generation

2023
9.213 billion kWh
renewable electricity net generation

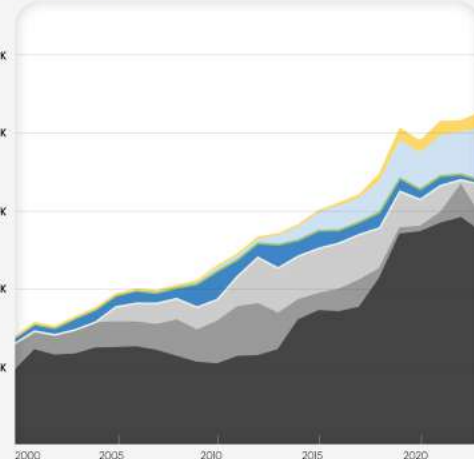
2023
100.00 %
Access to electricity (% of population)

2023
21.77 %
Renewable Electricity

Electricity Generation Mix

Legend keys

- Electricity from solar
- Electricity from geothermal
- Electricity from natural gas
- Electricity from wind
- Electricity from hydrolic
- Electricity from petroleum
- Electricity from biomass and waste
- Electricity from nuclear
- Electricity from coal



Energy Prices

Diesel prices

1.158 USD / Liter
Aug. 2025

Gasoline prices

1.428 USD / Liter
Aug. 2025



Electricity prices for business

0.119 USD / kWh
Dec 2024

Electricity prices for households

0.130 USD / kWh
Dec 2024

reproduction interdite sans consentement formel de TABC



Mozambique

East Africa

Land Area
799 380 Km²
Rank in Africa: 16

Population (2025)
35 631 653
Rank in Africa: 13

Energy Demand

2023
4.907 MMToe
Total energy consumption

2023
14.837 Mboe
Petroleum and other liquids consumption

2023
1.737 bcm
Natural gas consumption

Energy Units
Bcm
Billion Cubic Meters
10⁹ m³ = 1 000 000 000 m³
Mb
Thousand Barrels
1 000 barrels
Mboe
Million Barrels of Oil Equivalent
10⁶ barrels = 1 000 000 barrels
MMtoe
Million tonnes of Oil Equivalent
10⁶ tons of oil = 1 000 000 tons of oil equivalent

2023
0.014 Mt
Coal consumption

2023
0.000 quad Btu
Nuclear energy consumption

2023
12.983 billion kWh
Electricity Net Consumption

MT
Million Tonnes
10⁶ metric tons = 1 000 000 tons
Quad Btu
Quadrillion British Thermal Units
10¹⁵ Btu = 1 000 000 000 000 000 Btu
TWh
Terawatt-hour
10¹² watt-hours = 1 000 000 000 Wh
1 tonne equivalent petrole (tep)
39 683 000 BTU
1 BTU = 1 055 joules

Energy Supply

2024
0.00 Mb
Crude oil including lease condensate

2023
8.873 bcm
Natural Gas production

2023
0.000 quad Btu
Nuclear energy production

2023
10.888 Mt
Coal production

2023
4.326 BTU/GDP
Energy Intensity

2023
19.559 billion kWh
electricity net generation

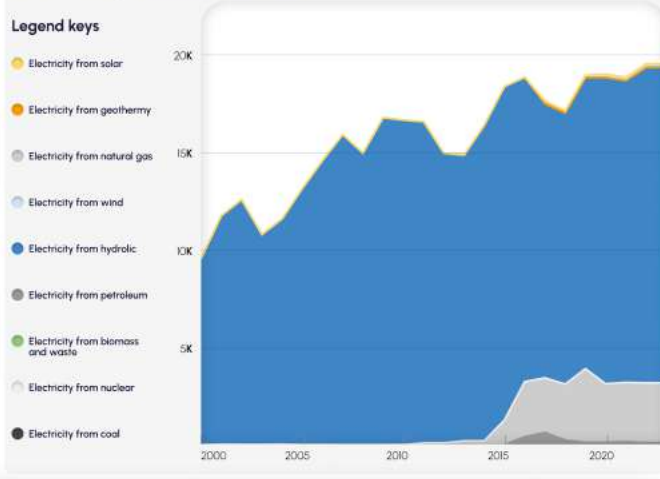
2023
3.188 billion kWh
fossil fuels electricity net generation

2023
16.371 billion kWh
renewable electricity net generation

2023
36.00 %
Access to electricity (% of population)

2023
83.70 %
Renewable Electricity

Electricity Generation Mix



Energy Prices

Gasoline prices
1.307 USD / Liter
Aug 2025

Diesel prices
1.489 USD / Liter
Aug 2025



Electricity prices for business
0.080 USD / KWH
Dec 2024

Electricity prices for households
0.127 USD / KWH
Dec 2024

reproduction interdite sans consentement formel de TABC



Namibia

Southern Africa

Land Area
824 292 Km²
Rank in Africa: 15

Population (2025)
3 092 816
Rank in Africa: 41

Energy Demand

2023 1.623 MMTon Total energy consumption	2023 0.023 Mt Coal consumption
2023 8.307 Mboe Petroleum and other liquids consumption	2023 0.000 quad Btu Nuclear energy consumption
2023 0.000 bcm Natural gas consumption	2023 3.891 billion kWh Electricity Net Consumption

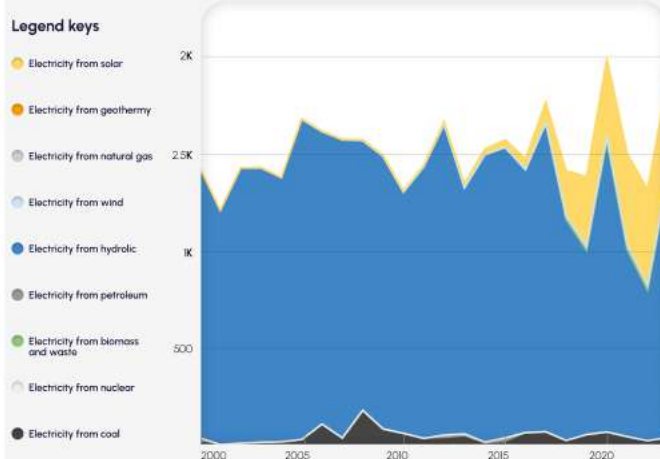
Energy Units
Bcm Billion Cubic Meters
10⁹ m³ = 1 000 000 000 m³
Mb Thousand Barrels
1 000 barrels
Mboe Million Barrels of Oil Equivalent
10⁶ barrels = 1 000 000 barrels
MMTee Million tonnes of Oil Equivalent
10⁶ tons of oil = 1 000 000 tons of oil equivalent

Mt Million Tonnes
10⁶ metric tons = 1 000 000 tons
Quad Btu Quadrillion British Thermal Units
10¹⁵ Btu = 1 000 000 000 000 000 Btu
TWh Terawatt-hour
10¹² watt-hours = 1 000 000 000 Wh
1 tonne equivalent pétrole (tep)
39 683 000 BTU
1 BTU = 1 055 joules

Energy Supply

2024 0.00 Mb Crude oil including lease condensate	2023 1.890 billion kWh electricity net generation
2023 0.000 bcm Natural Gas production	2023 0.036 billion kWh fossil fuels electricity net generation
2023 0.000 quad Btu Nuclear energy production	2023 1.854 billion kWh renewable electricity net generation
2023 0.000 Mt Coal production	2023 56.70 % Access to electricity (% of population)
2023 2.542 BTU/GDP Energy intensity	2023 98.10 % Renewable Electricity

Electricity Generation Mix



Energy Prices

Diesel prices
1.029 USD / Liter
Aug 2025

Gasoline prices
1.149 USD / Liter
Aug 2025



Electricity prices for households
0.145 USD / kWh
Dec 2024

reproduction interdite sans consentement formel de TABC



Niger

Western Africa

Land Area
1267 000 Km²
Rank in Africa: 6

Population (2025)
27 917 831
Rank in Africa: 18

Energy Demand

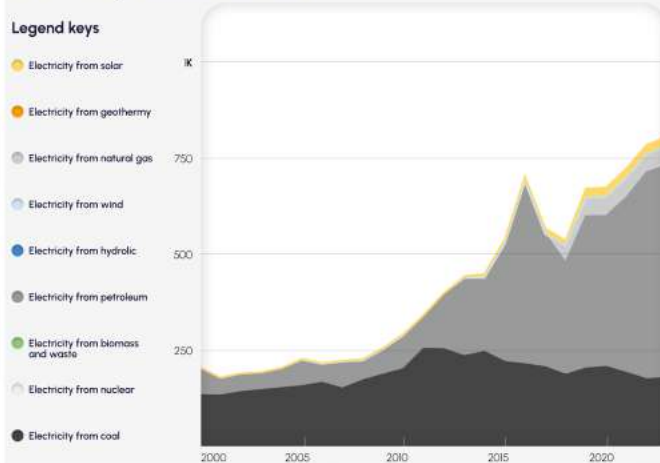
2023 1.168 MMTon Total energy consumption	2023 0.289 Mt Coal consumption
2023 5.990 Mboe Petroleum and other liquids consumption	2023 0.000 quad Btu Nuclear energy consumption
2023 0.027 bcm Natural gas consumption	2023 1.645 billion kWh Electricity Net Consumption

Energy Units
Bcm Billion Cubic Meters
10⁹ m³ = 1 000 000 000 m³
Mb Thousand Barrels
1 000 barrels
Mboe Million Barrels of Oil Equivalent
10⁶ barrels = 1 000 000 barrels
MMTee Million tonnes of Oil Equivalent
10⁶ tons of oil = 1 000 000 tons of oil equivalent
Mt Million Tonnes
10⁶ metric tons = 1 000 000 tons
Quad Btu Quadrillion British Thermal Units
10¹⁵ Btu = 1 000 000 000 000 000 Btu
TWh Terawatt-hour
10¹² watt-hours = 1 000 000 000 Wh
1 tonne équivalent pétrole (tep)
39 683 000 BTU
1 BTU = 1 055 joules

Energy Supply

2024 11 188.00 Mb Crude oil including lease condensate	2023 0.804 billion kWh electricity net generation
2023 0.027 bcm Natural Gas production	2023 0.780 billion kWh fossil fuels electricity net generation
2023 0.000 quad Btu Nuclear energy production	2023 0.024 billion kWh renewable electricity net generation
2023 0.290 Mt Coal production	2023 20.10 % Access to electricity (% of population)
2023 1.345 BTU/GDP Energy Intensity	2023 2.99 % Renewable Electricity

Electricity Generation Mix



Energy Prices



reproduction interdite sans consentement formel de TABC



Nigeria

Western Africa

Land Area
923 768 Km²
Rank in Africa: 14

Population (2025)
237 527 782
Rank in Africa: 1

Energy Demand

2023
45.903 MMTon
Total energy consumption

2023
177.440 Mboe
Petroleum and other liquids consumption

2023
20.085 bcm
Natural gas consumption

Energy Units

Bcm
Billion Cubic Meters
10⁹ m³ = 1 000 000 000 m³

Mb
Thousand Barrels
1 000 barrels

Mboe
Million Barrels of Oil Equivalent
10⁶ barrels = 1 000 000 barrels

MMTee
Million tonnes of Oil Equivalent
10⁶ tons of oil = 1 000 000 tons of oil equivalent

2023
1.430 Mt
Coal consumption

2023
0.000 quad Btu
Nuclear energy consumption

2023
34.135 billion kWh
Electricity Net Consumption

Mt
Million Tonnes
10⁶ metric tons = 1 000 000 tons

Quad Btu
Quadrillion British Thermal Units
10¹⁵ Btu = 1 000 000 000 000 000 Btu

TWh
Terawatt-hour
10¹² watt-hours = 1 000 000 000 Wh

1 tonne équivalent pétrole (tep)
39 683 000 BTU
1 BTU = 1 055 joules

Energy Supply

2024
570 685.44 Mb
Crude oil including lease condensate

2023
38.248 bcm
Natural Gas production

2023
0.000 quad Btu
Nuclear energy production

2023
1.430 Mt
Coal production

2023
1.762 BTU/GDP
Energy Intensity

2023
42.509 billion kWh
electricity net generation

2023
32.781 billion kWh
fossil fuels electricity net generation

2023
9.728 billion kWh
renewable electricity net generation

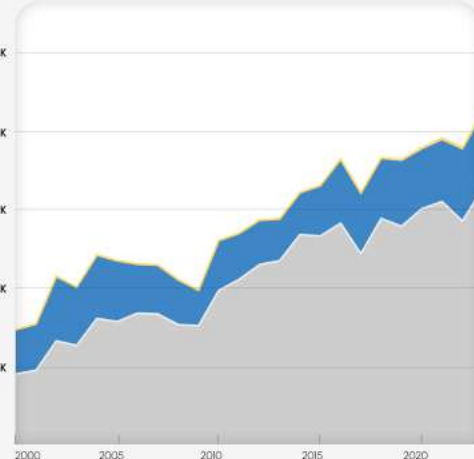
2023
61.20 %
Access to electricity (% of population)

2023
22.88 %
Renewable Electricity

Electricity Generation Mix

Legend keys

- Electricity from solar
- Electricity from geothermal
- Electricity from natural gas
- Electricity from wind
- Electricity from hydrolic
- Electricity from petroleum
- Electricity from biomass and waste
- Electricity from nuclear
- Electricity from coal



Energy Prices

LPG prices

0.533 USD / Liter
Aug 2025

Gasoline prices

0.544 USD / Liter
Aug 2025

Diesel prices

0.963 USD / Liter
Aug 2025

\$0



Electricity prices for households

0.033 USD / KWH
Dec 2024

Electricity prices for business

0.043 USD / KWH
Dec 2024

reproduction interdite sans consentement formel de TABC



Rwanda

East Africa

Land Area
26 338 Km²
Rank in Africa: 47

Population (2025)
14 569 341
Rank in Africa: 29

Energy Demand

2023
0.636 MMToe
Total energy consumption

2023
3.181 Mboe
Petroleum and other liquids consumption

2023
0.064 bcm
Natural gas consumption

Energy Units
Bcm Billion Cubic Meters
10⁹ m³ = 1 000 000 000 m³
Mb Thousand Barrels
1 000 barrels
Mboe Million Barrels of Oil Equivalent
10⁶ barrels = 1 000 000 barrels
MMtoe Million tonnes of Oil Equivalent
10⁶ tons of oil = 1 000 000 tons of oil equivalent

2023
0.105 Mt
Coal consumption

2023
0.000 quad Btu
Nuclear energy consumption

2023
0.876 billion kWh
Electricity Net Consumption

MT Million Tonnes
10⁶ metric tons = 1 000 000 tons
Quad Btu Quadrillion British Thermal Units
10¹⁵ Btu = 1 000 000 000 000 000 Btu
TWh Terawatt-hour
10¹² watt-hours = 1 000 000 000 Wh
1 tonne équivalent pétrole (tep)
39 683 000 BTU
1 BTU = 1 055 joules

Energy Supply

2024
0.00 Mb
Crude oil including lease condensate

2023
0.064 bcm
Natural Gas production

2023
0.000 quad Btu
Nuclear energy production

2023
0.000 Mt
Coal production

2023
0.725 BTU/GDP
Energy intensity

2023
1.051 billion kWh
electricity net generation

2023
0.458 billion kWh
fossil fuels electricity net generation

2023
0.593 billion kWh
renewable electricity net generation

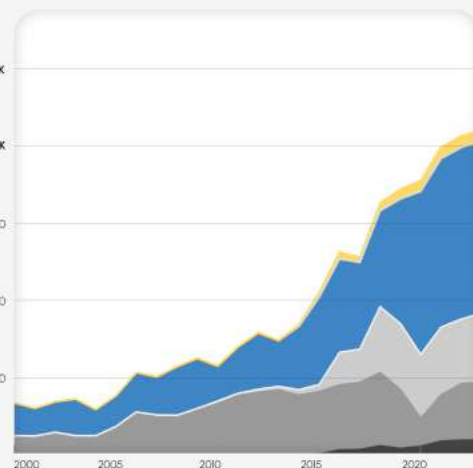
2023
63.90 %
Access to electricity (% of population)

2023
56.44 %
Renewable Electricity

Electricity Generation Mix

Legend keys

- Electricity from solar
- Electricity from geothermal
- Electricity from natural gas
- Electricity from wind
- Electricity from hydrolic
- Electricity from petroleum
- Electricity from biomass and waste
- Electricity from nuclear
- Electricity from coal



Energy Prices

Diesel prices
1.188 USD / Liter
Aug 2025

Gasoline prices
1.249 USD / Liter
Aug 2025



Electricity prices for business
0.066 USD / kWh
Dec 2024

Electricity prices for households
0.178 USD / kWh
Dec 2024

reproduction interdite sans consentement formel de TABC



Sao Tome and Principe

Central Africa

Land Area
1 001 Km²
Rank in Africa: 54

Population (2025)
240 254
Rank in Africa: 56

Energy Demand

2023
0.052 MMToe
Total energy consumption

2023
0.350 Mboe
Petroleum and other liquids consumption

2023
0.000 bcm
Natural gas consumption

Energy Units
Bcm
Billion Cubic Meters
10⁹ m³ = 1 000 000 000 m³
Mb
Thousand Barrels
1 000 barrels
Mboe
Million Barrels of Oil Equivalent
10⁶ barrels = 1 000 000 barrels
MMtoe
Million tonnes of Oil Equivalent
10⁶ tons of oil = 1 000 000 tons of oil equivalent

2023
0.000 Mt
Coal consumption

2023
0.000 quad Btu
Nuclear energy consumption

2023
0.047 billion kWh
Electricity Net Consumption

MT
Million Tonnes
10⁶ metric tons = 1 000 000 tons
Quad Btu
Quadrillion British Thermal Units
10¹⁵ Btu = 1 000 000 000 000 000 Btu
TWh
Terawatt-hour
10¹² watt-hours = 1 000 000 000 Wh
1 tonne équivalent pétrole (tep)
39 683 000 BTU
1 BTU = 1 055 joules

Energy Supply

2024
0.00 Mb
Crude oil including lease condensate

2023
0.000 bcm
Natural Gas production

2023
0.000 quad Btu
Nuclear energy production

2023
0.000 Mt
Coal production

2023
1.806 BTU/GDP
Energy Intensity

2023
0.088 billion kWh
electricity net generation

2023
0.082 billion kWh
fossil fuels electricity net generation

2023
0.006 billion kWh
renewable electricity net generation

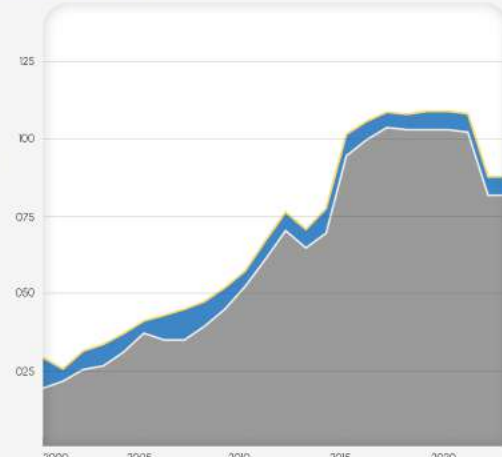
2023
81.30 %
Access to electricity (% of population)

2023
6.82 %
Renewable Electricity

Electricity Generation Mix

Legend keys

- Electricity from solar
- Electricity from geothermal
- Electricity from natural gas
- Electricity from wind
- Electricity from hydrolic
- Electricity from petroleum
- Electricity from biomass and waste
- Electricity from nuclear
- Electricity from coal



Energy Prices



reproduction interdite sans consentement formel de TABC



Senegal

Western Africa

Land Area
196 712 Km²
Rank in Africa: 35

Population (2025)
18 931 966
Rank in Africa: 25

Energy Demand

2023
3.782 MMTon
Total energy consumption

2023
23.479 Mboe
Petroleum and other liquids consumption

2023
0.000 bcm
Natural gas consumption

Energy Units
Bcm
Billion Cubic Meters
10⁹ m³ = 1 000 000 000 m³
Mb
Thousand Barrels
1 000 barrels
Mboe
Million Barrels of Oil Equivalent
10⁶ barrels = 1 000 000 barrels
MMTee
Million tonnes of Oil Equivalent
10⁶ tons of oil = 1 000 000 tons of oil equivalent

2023
0.148 Mt
Coal consumption

2023
0.000 quad Btu
Nuclear energy consumption

2023
7.547 billion kWh
Electricity Net Consumption

MT
Million Tonnes
10⁶ metric tons = 1 000 000 tons
Quad Btu
Quadrillion British Thermal Units
10¹⁵ Btu = 1 000 000 000 000 000 Btu
TWh
Terawatt-hour
10¹² watt-hours = 1 000 000 000 Wh
1 tonne équivalent pétrole (tep)
39 683 000 BTU
1 BTU = 1 055 joules

Energy Supply

2024
13 315.00 Mb
Crude oil including lease condensate

2023
0.035 bcm
Natural Gas production

2023
0.000 quad Btu
Nuclear energy production

2023
0.000 Mt
Coal production

2023
2.372 BTU/GDP
Energy Intensity

2023
8.044 billion kWh
electricity net generation

2023
6.295 billion kWh
fossil fuels electricity net generation

2023
1.749 billion kWh
renewable electricity net generation

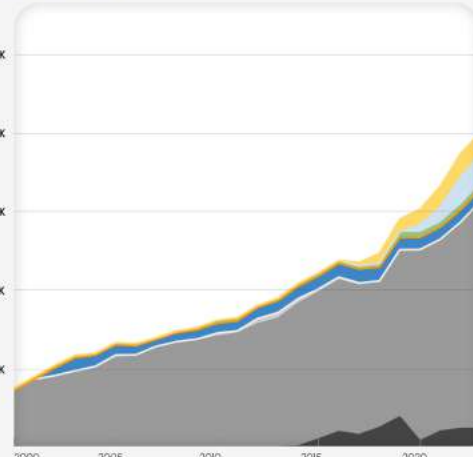
2023
74.20 %
Access to electricity (% of population)

2023
21.74 %
Renewable Electricity

Electricity Generation Mix

Legend keys

- Electricity from solar
- Electricity from geothermal
- Electricity from natural gas
- Electricity from wind
- Electricity from hydrolic
- Electricity from petroleum
- Electricity from biomass and waste
- Electricity from nuclear
- Electricity from coal



Energy Prices

Diesel prices
1.230 USD / Liter
Aug 2025

Gasoline prices
1.752 USD / Liter
Aug 2025



Electricity prices for households
0.194 USD / kWh
Dec 2024

reproduction interdite sans consentement formel de TABC



Seychelles

East Africa

Land Area
446 Km²
Rank in Africa: 55

Population (2025)
132 779
Rank in Africa: 57

Energy Demand

2023 0.319 MMTon Total energy consumption	2023 0.000 Mt Coal consumption
2023 2.130 Mboe Petroleum and other liquids consumption	2023 0.000 quad Btu Nuclear energy consumption
2023 0.000 bcm Natural gas consumption	2023 0.581 billion kWh Electricity Net Consumption

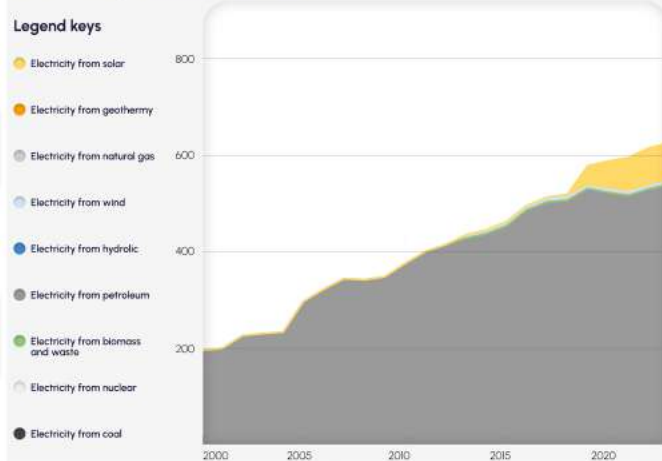
Energy Units
Bcm Billion Cubic Meters
10³ m³ = 1 000 000 000 m³
Mb Thousand Barrels
1 000 barrels
Mboe Million Barrels of Oil Equivalent
10³ barrels = 1 000 000 barrels
MMTee Million tonnes of Oil Equivalent
10³ tons of oil = 1 000 000 tons of oil equivalent

Mt Million Tonnes
10³ metric tons = 1 000 000 tons
Quad Btu Quadrillion British Thermal Units
10¹² Btu = 1 000 000 000 000 000 Btu
TWh Terawatt-hour
10¹² watt-hours = 1 000 000 000 Wh
1 tonne équivalent pétrole (tep)
39 683 000 BTU
1 BTU = 1 055 joules

Energy Supply

2024 0.00 Mb Crude oil including lease condensate	2023 0.000 bcm Natural Gas production
2023 0.000 quad Btu Nuclear energy production	2023 0.000 Mt Coal production
2023 0.000 Mt Crude oil including lease condensate	2023 3.908 BTU/GDP Energy Intensity
2023 0.625 billion kWh electricity net generation	2023 100.00 % Access to electricity (% of population)
2023 0.540 billion kWh fossil fuels electricity net generation	2023 13.64 % Renewable Electricity
2023 0.085 billion kWh renewable electricity net generation	

Electricity Generation Mix



Energy Prices

Gasoline prices
1.413 USD / Liter
Aug 2025

Diesel prices
1.465 USD / Liter
Aug 2025



reproduction interdite sans consentement formel de TABC



Sierra Leone

Western Africa

Land Area
72 929 km²
Rank in Africa: 41

Population (2025)
8 819 794
Rank in Africa: 34

Energy Demand

2023
0.491 MMTon
Total energy consumption

2023
3.231 Mboe
Petroleum and other liquids consumption

2023
0.000 bcm
Natural gas consumption

Energy Units
Bcm
Billion Cubic Meters
10⁹ m³ = 1 000 000 000 m³
Mb
Thousand Barrels
1 000 barrels
Mboe
Million Barrels of Oil Equivalent
10⁶ barrels = 1 000 000 barrels
MMTee
Million tonnes of Oil Equivalent
10⁶ tons of oil = 1 000 000 tons of oil equivalent

2023
0.000 Mt
Coal consumption

2023
0.000 quad Btu
Nuclear energy consumption

2023
0.131 billion kWh
Electricity Net Consumption

MT
Million Tonnes
10⁶ metric tons = 1 000 000 tons
Quad Btu
Quadrillion British Thermal Units
10¹⁵ Btu = 1 000 000 000 000 000 Btu
TWh
Terawatt-hour
10¹² watt-hours = 1 000 000 000 Wh
1 tonne équivalent pétrole (tep)
39 683 000 BTU
1 BTU = 1 055 joules

Energy Supply

2024
0.00 Mb
Crude oil including lease condensate

2023
0.000 bcm
Natural Gas production

2023
0.000 quad Btu
Nuclear energy production

2023
0.000 Mt
Coal production

2023
0.831 BTU/GDP
Energy intensity

2023
0.213 billion kWh
electricity net generation

2023
0.007 billion kWh
fossil fuels electricity net generation

2023
0.206 billion kWh
renewable electricity net generation

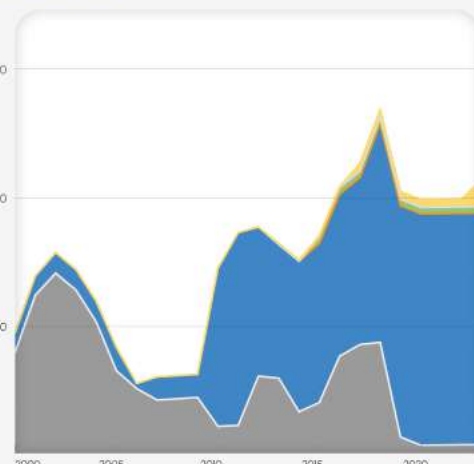
2023
35.50 %
Access to electricity (% of population)

2023
96.60 %
Renewable Electricity

Electricity Generation Mix

Legend keys

- Electricity from solar
- Electricity from geothermal
- Electricity from natural gas
- Electricity from wind
- Electricity from hydrolic
- Electricity from petroleum
- Electricity from biomass and waste
- Electricity from nuclear
- Electricity from coal



Energy Prices

Gasoline prices
1.387 USD / Liter
Aug 2025

Diesel prices
1.436 USD / Liter
Aug 2025



Electricity prices for households
0.253 USD / KWh
Dec 2024

Electricity prices for business
0.342 USD / KWh
Dec 2024

reproduction interdite sans consentement formel de TABC



Somalia

East Africa

Land Area
637 657 Km²
Rank in Africa: 19

Population (2025)
19 654 739
Rank in Africa: 24

Energy Demand

2023	MMtoe
0.300	Total energy consumption
2023	Mboe
2.011	Petroleum and other liquids consumption
2023	bcm
0.000	Natural gas consumption

Energy Units
Bcm
Billion Cubic Meters
10⁹ m³ = 1 000 000 000 m³
Mb
Thousand Barrels
1 000 barrels
Mboe
Million Barrels of Oil Equivalent
10⁶ barrels = 1 000 000 barrels
MMtoe
Million tonnes of Oil Equivalent
10⁶ tons of oil = 1 000 000 tons of oil equivalent

2023	Mt
0.000	Coal consumption
2023	quad Btu
0.000	Nuclear energy consumption
2023	billion kWh
0.397	Electricity Net Consumption

Energy Units
Mt
Million Tonnes
10⁶ metric tons = 1 000 000 tons
Quad Btu
Quadrillion British Thermal Units
10¹⁵ Btu = 1 000 000 000 000 000 Btu
TWh
Terawatt-hour
10¹² watt-hours = 1 000 000 000 Wh
1 tonne équivalent pétrole (tep)
39 683 000 BTU
1 BTU = 1 055 joules

Energy Supply

2024	Mb
0.00	Crude oil including lease condensate
2023	bcm
0.000	Natural Gas production
2023	quad Btu
0.000	Nuclear energy production
2023	Mt
0.000	Coal production
2023	BTU/GDP
8.410	Energy intensity

2023
17.52 %
Renewable Electricity

2023	billion kWh
0.412	electricity net generation
2023	billion kWh
0.340	fossil fuels electricity net generation
2023	billion kWh
0.072	renewable electricity net generation
2023	%
50.30	Access to electricity (% of population)
2023	%
17.52	Renewable Electricity

Electricity Generation Mix



Energy Prices



reproduction interdite sans consentement formel de TABC



South Africa

Southern Africa

Land Area
1220 813 Km²
Rank in Africa: 9

Population (2025)
64 747 319
Rank in Africa: 6

Energy Demand

2023
137.306 MMTon
Total energy consumption

2023
217.099 Mboe
Petroleum and other liquids consumption

2023
3.873 bcm
Natural gas consumption

Energy Units
Bcm
Billion Cubic Meters
10⁹ m³ = 1 000 000 000 m³
Mb
Thousand Barrels
1 000 barrels
Mboe
Million Barrels of Oil Equivalent
10⁶ barrels = 1 000 000 barrels
MMTone
Million tonnes of Oil Equivalent
10⁶ tons of oil = 1 000 000 tons of oil equivalent

2023
174.497 Mt
Coal consumption

2023
0.082 quad Btu
Nuclear energy consumption

2023
194.978 billion kWh
Electricity Net Consumption

Energy Units
Mt
Million Tonnes
10⁶ metric tons = 1 000 000 tons
Quad Btu
Quadrillion British Thermal Units
10¹⁵ Btu = 1 000 000 000 000 000 Btu
TWh
Terawatt-hour
10¹² watt-hours = 1 000 000 000 Wh
1 tonne equivalent petrole (tep)
39 683 000 BTU
1 BTU = 1 055 joules

Energy Supply

2024
28 623.61 Mb
Crude oil including lease condensate

2023
0.066 bcm
Natural Gas production

2023
0.101 quad Btu
Nuclear energy production

2023
0.000 Mt
Coal production

2023
6.860 BTU/GDP
Energy intensity

2023
219.608 billion kWh
electricity net generation

2023
191.610 billion kWh
fossil fuels electricity net generation

2023
21.107 billion kWh
renewable electricity net generation

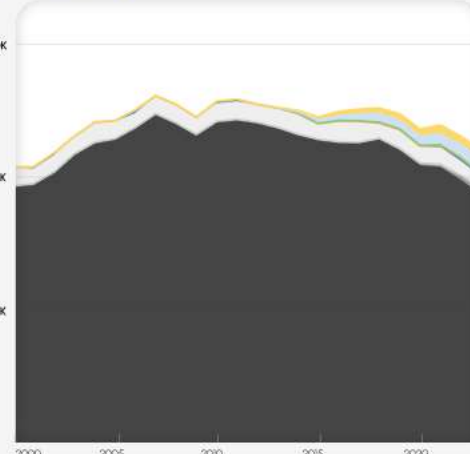
2023
87.70 %
Access to electricity (% of population)

2023
9.61 %
Renewable Electricity

Electricity Generation Mix

Legend keys

- Electricity from solar
- Electricity from geothermal
- Electricity from natural gas
- Electricity from wind
- Electricity from hydrolic
- Electricity from petroleum
- Electricity from biomass and waste
- Electricity from nuclear
- Electricity from coal



Energy Prices

Diesel prices
1.201 USD / Liter
Aug 2025

Gasoline prices
1.203 USD / Liter
Aug 2025



Electricity prices for business
0.102 USD / KWH
Dec 2024

Electricity prices for households
0.211 USD / KWH
Dec 2024

reproduction interdite sans consentement formel de TABC



South Sudan

East Africa

Land Area
644 329 km²
Rank in Africa: 18

Population (2025)
12 188 788
Rank in Africa: 32

Energy Demand

2023
0.605 MMToe
Total energy consumption

2023
4.118 Mboe
Petroleum and other liquids consumption

2023
0.000 bcm
Natural gas consumption

Energy Units
Bcm
Billion Cubic Meters
10⁹ m³ = 1 000 000 000 m³
Mb
Thousand Barrels
1 000 barrels
Mboe
Million Barrels of Oil Equivalent
10⁶ barrels = 1 000 000 barrels
MMToe
Million tonnes of Oil Equivalent
10⁶ tons of oil = 1 000 000 tons of oil equivalent

2023
0.000 Mt
Coal consumption

2023
0.000 quad Btu
Nuclear energy consumption

2023
0.566 billion kWh
Electricity Net Consumption

MT
Million Tonnes
10⁶ metric tons = 1 000 000 tons
Quad Btu
Quadrillion British Thermal Units
10¹⁵ Btu = 1 000 000 000 000 000 Btu
TWh
Terawatt-hour
10¹² watt-hours = 1 000 000 000 Wh
1 tonne équivalent pétrole (tep)
39 683 000 BTU
1 BTU = 1 055 joules

Energy Supply

2024
28 880.00 Mb
Crude oil including lease condensate

2023
0.000 bcm
Natural Gas production

2023
0.000 quad Btu
Nuclear energy production

2023
0.000 Mt
Coal production

2023
1.475 BTU/GDP
Energy intensity

2023
0.590 billion kWh
electricity net generation

2023
0.550 billion kWh
fossil fuels electricity net generation

2023
0.040 billion kWh
renewable electricity net generation

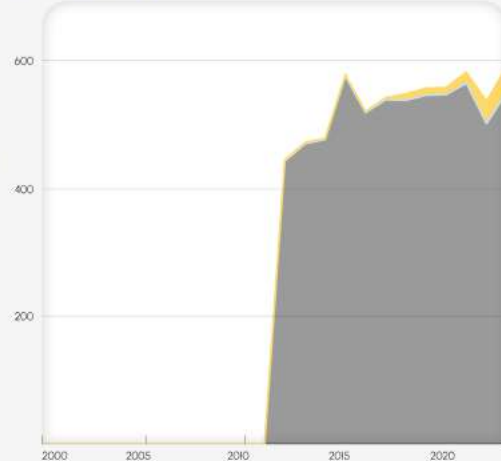
2023
5.40 %
Access to electricity (% of population)

2023
6.78 %
Renewable Electricity

Electricity Generation Mix

Legend keys

- Electricity from solar
- Electricity from geothermal
- Electricity from natural gas
- Electricity from wind
- Electricity from hydrolic
- Electricity from petroleum
- Electricity from biomass and waste
- Electricity from nuclear
- Electricity from coal



Energy Prices



reproduction interdite sans consentement formel de TABC



Sudan

Northern Africa

Land Area
1840 687 Km²
Rank in Africa: 3

Population (2025)
51 662 147
Rank in Africa: 8

Energy Demand

2023
7.749 MMToe
Total energy consumption

2023
45.488 Mboe
Petroleum and other liquids consumption

2023
0.000 bcm
Natural gas consumption

Energy Units
Bcm
Billion Cubic Meters
10⁹ m³ = 1 000 000 000 m³
Mb
Thousand Barrels
1 000 barrels
Mboe
Million Barrels of Oil Equivalent
10⁶ barrels = 1 000 000 barrels
MMToe
Million tonnes of Oil Equivalent
10⁶ tons of oil = 1 000 000 tons of oil equivalent

2023
0.000 Mt
Coal consumption

2023
0.000 quad Btu
Nuclear energy consumption

2023
13.983 billion kWh
Electricity Net Consumption

MT
Million Tonnes
10⁶ metric tons = 1 000 000 tons
Quad Btu
Quadrillion British Thermal Units
10¹⁵ Btu = 1 000 000 000 000 000 Btu
TWh
Terawatt-hour
10¹² watt-hours = 1 000 000 000 Wh
1 tonne équivalent pétrole (tep)
39 683 000 BTU
1 BTU = 1 055 joules

Energy Supply

2024
13 721.08 Mb
Crude oil including lease condensate

2023
0.000 bcm
Natural Gas production

2023
0.000 quad Btu
Nuclear energy production

2023
0.000 Mt
Coal production

2023
2.738 BTU/GDP
Energy intensity

2023
16.747 billion kWh
electricity net generation

2023
5.000 billion kWh
fossil fuels electricity net generation

2023
11.747 billion kWh
renewable electricity net generation

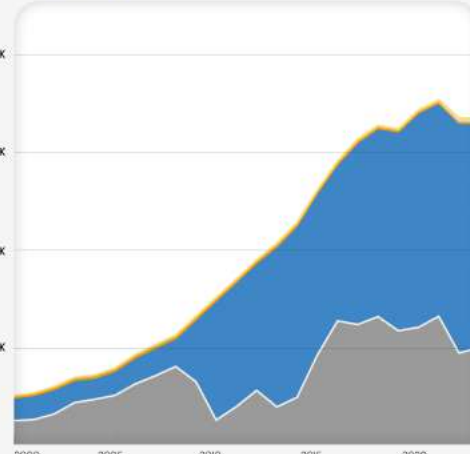
2023
66.00 %
Access to electricity (% of population)

2023
70.14 %
Renewable Electricity

Electricity Generation Mix

Legend keys

- Electricity from solar
- Electricity from geothermal
- Electricity from natural gas
- Electricity from wind
- Electricity from hydrolic
- Electricity from petroleum
- Electricity from biomass and waste
- Electricity from nuclear
- Electricity from coal



Energy Prices

Diesel prices
0.656 USD / Liter
Aug 2025

Gasoline prices
0.700 USD / Liter
Aug 2025



Electricity prices for households
0.006 USD / KWH
Dec 2024

Electricity prices for business
0.029 USD / KWH
Dec 2024

reproduction interdite sans consentement formel de TABC



Tanzania

East Africa

Land Area
945 500 km²
Rank in Africa: 13

Population (2025)
70 545 865
Rank in Africa: 5

Energy Demand

2023
6.868 MMToe
Total energy consumption

2023
29.211 Mboe
Petroleum and other liquids consumption

2023
2.036 bcm
Natural gas consumption

Energy Units
Bcm
Billion Cubic Meters
10⁹ m³ = 1 000 000 000 m³
Mb
Thousand Barrels
1 000 barrels
Mboe
Million Barrels of Oil Equivalent
10⁶ barrels = 1 000 000 barrels
MMtoe
Million tonnes of Oil Equivalent
10⁶ tons of oil = 1 000 000 tons of oil equivalent

2023
0.815 Mt
Coal consumption

2023
0.000 quad Btu
Nuclear energy consumption

2023
9.109 billion kWh
Electricity Net Consumption

MT
Million Tonnes
10⁶ metric tons = 1 000 000 tons
Quad Btu
Quadrillion British Thermal Units
10¹⁵ Btu = 1 000 000 000 000 000 Btu
TWh
Terawatt-hour
10¹² watt-hours = 1 000 000 000 Wh
1 tonne équivalent pétrole (tep)
39 683 000 BTU
1 BTU = 1 055 joules

Energy Supply

2024
0.00 Mb
Crude oil including lease condensate

2023
2.016 bcm
Natural Gas production

2023
0.000 quad Btu
Nuclear energy production

2023
2.581 Mt
Coal production

2023
1.499 BTU/GDP
Energy intensity

2023
10.991 billion kWh
electricity net generation

2023
8.183 billion kWh
fossil fuels electricity net generation

2023
2.808 billion kWh
renewable electricity net generation

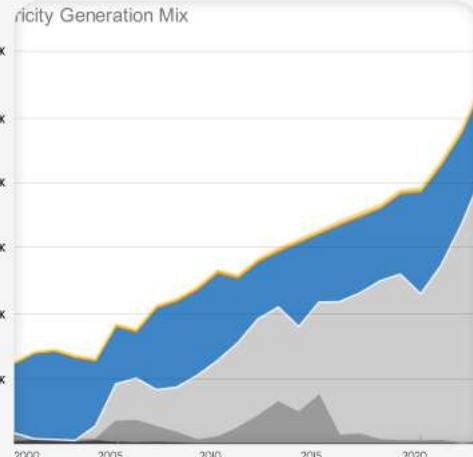
2023
48.30 %
Access to electricity (% of population)

2023
25.55 %
Renewable Electricity

Electricity Generation Mix

Legend keys

- Electricity from solar
- Electricity from geothermal
- Electricity from natural gas
- Electricity from wind
- Electricity from hydrolic
- Electricity from petroleum
- Electricity from biomass and waste
- Electricity from nuclear
- Electricity from coal



Energy Prices

Diesel prices
1.063 USD / Liter
Aug 2025

Gasoline prices
1.121 USD / Liter
Aug 2025



Electricity prices for households
0.091 USD / KWH
Dec 2024

Electricity prices for business
0.093 USD / KWH
Dec 2024

reproduction interdite sans consentement formel de TABC



Togo

Western Africa

Land Area
56 600 Km²
Rank in Africa: 42

Population (2025)
9 721 608
Rank in Africa: 33

Energy Demand

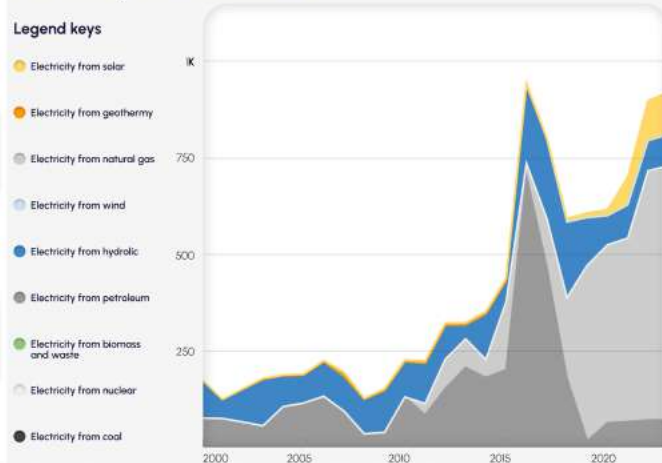
2023 1.064 MMTon Total energy consumption	2023 0.169 Mt Coal consumption
2023 4.723 Mboe Petroleum and other liquids consumption	2023 0.000 quad Btu Nuclear energy consumption
2023 0.177 bcm Natural gas consumption	2023 1.815 billion kWh Electricity Net Consumption

Energy Units
Bcm Billion Cubic Meters
10⁹ m³ = 1 000 000 000 m³
Mb Thousand Barrels
1 000 barrels
Mboe Million Barrels of Oil Equivalent
10⁶ barrels = 1 000 000 barrels
MMTonne Million tonnes of Oil Equivalent
10⁶ tons of oil = 1 000 000 tons of oil equivalent
Mt Million Tonnes
10⁶ metric tons = 1 000 000 tons
Quad Btu Quadrillion British Thermal Units
10¹⁵ Btu = 1 000 000 000 000 000 Btu
TWh Terawatt-hour
10¹² watt-hours = 1 000 000 000 Wh
1 tonne equivalent petrole (tep)
39 683 000 BTU
1 BTU = 1 055 joules

Energy Supply

2024 0.00 Mb Crude oil including lease condensate	2023 0.922 billion kWh electricity net generation
2023 0.000 bcm Natural Gas production	2023 0.731 billion kWh fossil fuels electricity net generation
2023 0.000 quad Btu Nuclear energy production	2023 0.191 billion kWh renewable electricity net generation
2023 0.000 Mt Coal production	2023 59.20 % Access to electricity (% of population)
2023 2.028 BTU/GDP Energy Intensity	2023 20.72 % Renewable Electricity

Electricity Generation Mix



Energy Prices

Diesel prices
1.102 USD / Liter
Aug 2025

Gasoline prices
1.203 USD / Liter
Aug 2025



Electricity prices for business
0.189 USD / KWH
Dec 2024

Electricity prices for households
0.205 USD / KWH
Dec 2024

reproduction interdite sans consentement formel de TABC

Tunisia

Northern Africa

Land Area
163 610 Km²
Rank in Africa: 36

Population (2025)
12 348 573
Rank in Africa: 31

Energy Demand

2023
10.377 MMtoe
Total energy consumption

2023
35.260 Mboe
Petroleum and other liquids consumption

2023
5.351 bcm
Natural gas consumption

Energy Units
Bcm
Billion Cubic Meters
10⁹ m³ = 1 000 000 000 m³
Mb
Thousand Barrels
1 000 barrels
Mboe
Million Barrels of Oil Equivalent
10⁶ barrels = 1 000 000 barrels
MMtoe
Million tonnes of Oil Equivalent
10⁶ tons of oil = 1 000 000 tons of oil equivalent

2023
0.000 Mt
Coal consumption

2023
0.000 quad Btu
Nuclear energy consumption

2023
19.153 billion kWh
Electricity Net Consumption

MT
Million Tonnes
10⁶ metric tons = 1 000 000 tons
Quad Btu
Quadrillion British Thermal Units
10¹⁵ Btu = 1 000 000 000 000 000 Btu
TWh
Terawatt-hour
10¹² watt-hours = 1 000 000 000 Wh
1 tonne equivalent petrole (tep)
39 683 000 BTU
1 BTU = 1 055 joules

Energy Supply

2024
11 327.33 Mb
Crude oil including lease condensate

2023
1.313 bcm
Natural Gas production

2023
0.000 quad Btu
Nuclear energy production

2023
0.000 Mt
Coal production

2023
3.153 BTU/GDP
Energy Intensity

2023
21.286 billion kWh
electricity net generation

2023
20.447 billion kWh
fossil fuels electricity net generation

2023
0.839 billion kWh
renewable electricity net generation

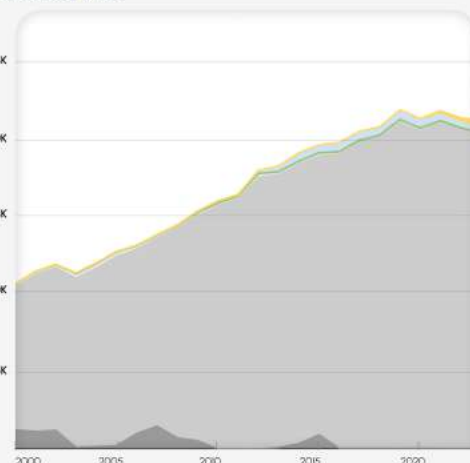
2023
100.00 %
Access to electricity (% of population)

2023
3.94 %
Renewable Electricity

Electricity Generation Mix

Legend keys

- Electricity from solar
- Electricity from geothermal
- Electricity from natural gas
- Electricity from wind
- Electricity from hydrolic
- Electricity from petroleum
- Electricity from biomass and waste
- Electricity from nuclear
- Electricity from coal



Energy Prices

Natural gas prices for households

0.032 USD / KWH
Mar 2025

Diesel prices

0.706 USD / Liter
Jan 2025

Gasoline prices

0.877 USD / Liter
Jan 2025



Electricity prices for households

0.073 USD / KWH
Mar 2025

Electricity prices for business

0.122 USD / KWH
Mar 2025

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Uganda

East Africa

Land Area
241 553 Km²
Rank in Africa: 33

Population (2025)
51 384 894
Rank in Africa: 9

Energy Demand

2023
2.762 MMTon
Total energy consumption

2023
15.388 Mboe
Petroleum and other liquids consumption

2023
0.000 bcm
Natural gas consumption

Energy Units

Bcm
Billion Cubic Meters
10⁹ m³ = 1 000 000 000 m³

Mb
Thousand Barrels
1 000 barrels

Mboe
Million Barrels of Oil Equivalent
10⁶ barrels = 1 000 000 barrels

MMTone
Million tonnes of Oil Equivalent
10⁶ tons of oil = 1 000 000 tons of oil equivalent

2023
0.000 Mt
Coal consumption

2023
0.000 quad Btu
Nuclear energy consumption

2023
4.254 billion kWh
Electricity Net Consumption

Mt
Million Tonnes
10⁶ metric tons = 1 000 000 tons

Quad Btu
Quadrillion British Thermal Units
10¹⁵ Btu = 1 000 000 000 000 000 Btu

TWh
Terawatt-hour
10¹² watt-hours = 1 000 000 000 Wh

1 tonne equivalent petrole (tep)
39 683 000 BTU
1 BTU = 1 055 joules

Energy Supply

2024
0.00 Mb
Crude oil including lease condensate

2023
0.000 bcm
Natural Gas production

2023
0.000 quad Btu
Nuclear energy production

2023
0.000 Mt
Coal production

2023
0.936 BTU/GDP
Energy Intensity

2023
5.747 billion kWh
electricity net generation

2023
0.151 billion kWh
fossil fuels electricity net generation

2023
5.596 billion kWh
renewable electricity net generation

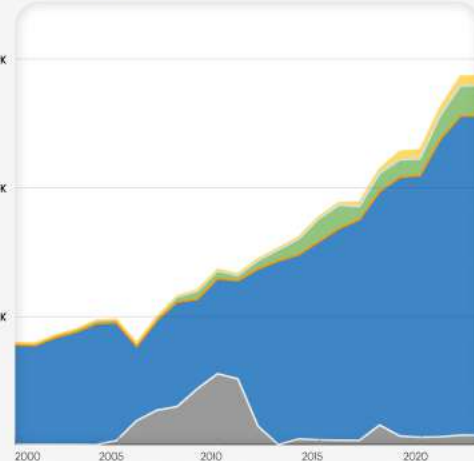
2023
51.50 %
Access to electricity (% of population)

2023
97.37 %
Renewable Electricity

Electricity Generation Mix

Legend keys

- Electricity from solar
- Electricity from geothermal
- Electricity from natural gas
- Electricity from wind
- Electricity from hydrolic
- Electricity from petroleum
- Electricity from biomass and waste
- Electricity from nuclear
- Electricity from coal



Energy Prices

Diesel prices
1.283 USD / Liter
Aug 2025

Gasoline prices
1.418 USD / Liter
Aug 2025



Electricity prices for business
0.126 USD / KWH
Dec 2024

Electricity prices for households
0.180 USD / KWH
Dec 2024

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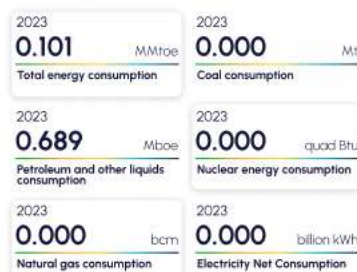
Western Sahara

Northern Africa

Land Area
272 000 Km²
Rank in Africa: 29

Population (2025)
600 904
Rank in Africa: 53

Energy Demand



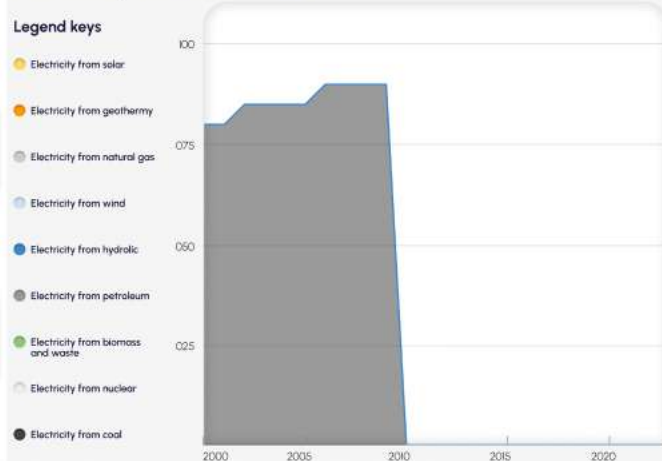
Energy Units
Bcm
Billion Cubic Meters
10⁹ m³ = 1 000 000 000 m³
Mb
Thousand Barrels
1 000 barrels
Mboe
Million Barrels of Oil Equivalent
10⁶ barrels = 1 000 000 barrels
MMtoe
Million tonnes of Oil Equivalent
10⁶ tons of oil = 1 000 000 tons of oil equivalent

MT
Million Tonnes
10⁶ metric tons = 1 000 000 tons
Quad Btu
Quadrillion British Thermal Units
10¹⁵ Btu = 1 000 000 000 000 000 Btu
TWh
Terawatt-hour
10¹² watt-hours = 1 000 000 000 Wh
1 tonne equivalent petrole (tep)
39 683 000 BTU
1 BTU = 1 055 joules

Energy Supply



Electricity Generation Mix



Energy Prices



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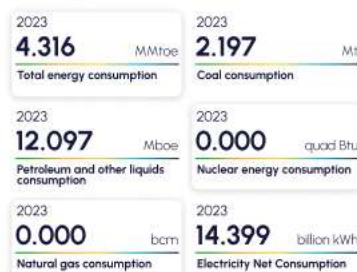
Zambia

East Africa

Land Area
752 612 Km²
Rank in Africa: 17

Population (2025)
21 913 874
Rank in Africa: 22

Energy Demand



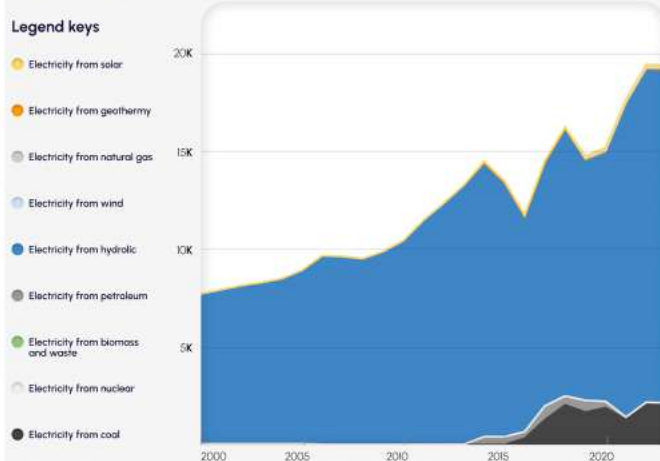
Energy Units
Bcm Billion Cubic Meters
10⁹ m³ = 1 000 000 000 m³
Mb Thousand Barrels
1 000 barrels
Mboe Million Barrels of Oil Equivalent
10⁶ barrels = 1 000 000 barrels
MMTonne Million tonnes of Oil Equivalent
10⁶ tons of oil = 1 000 000 tons of oil equivalent

MT Million Tonnes
10⁶ metric tons = 1 000 000 tons
Quad Btu Quadrillion British Thermal Units
10¹⁵ Btu = 1 000 000 000 000 000 Btu
TWh Terawatt-hour
10¹² watt-hours = 1 000 000 000 Wh
1 tonne equivalent petrole (tep)
39 683 000 BTU
1 BTU = 1 055 joules

Energy Supply



Electricity Generation Mix



Energy Prices

Diesel prices
1.210 USD / Liter
Aug 2025

Gasoline prices
1.213 USD / Liter
Aug 2025



Electricity prices for households
0.027 USD / KWH
Dec 2024

Electricity prices for business
0.037 USD / KWH
Dec 2024

reproduction interdite sans consentement formel de TABC



Zimbabwe

East Africa

Land Area
390 757 km²
Rank in Africa: 26

Population (2025)
16 950 795
Rank in Africa: 26

Energy Demand

2023
4.470 MMTon
Total energy consumption

2023
11.953 Mboe
Petroleum and other liquids consumption

2023
0.000 bcm
Natural gas consumption

Energy Units
Bcm
Billion Cubic Meters
10⁹ m³ = 1 000 000 000 m³
Mb
Thousand Barrels
1 000 barrels
Mboe
Million Barrels of Oil Equivalent
10⁶ barrels = 1 000 000 barrels
MMTone
Million tonnes of Oil Equivalent
10⁶ tons of oil = 1 000 000 tons of oil equivalent

2023
3.686 Mt
Coal consumption

2023
0.000 quad Btu
Nuclear energy consumption

2023
8.346 billion kWh
Electricity Net Consumption

MT
Metric Tonnes
10³ metric tons = 1 000 000 tons
Quad Btu
Quadrillion British Thermal Units
10¹⁵ Btu = 1 000 000 000 000 000 Btu
TWh
Terawatt-hour
10¹² watt-hours = 1 000 000 000 Wh
1 tonne equivalent petrole (tep)
39 683 000 BTU
1 BTU = 1 055 joules

Energy Supply

2024
292.80 Mb
Crude oil including lease condensate

2023
0.000 bcm
Natural Gas production

2023
0.000 quad Btu
Nuclear energy production

2023
4.367 Mt
Coal production

2023
3.703 BTU/GDP
Energy Intensity

2023
8.308 billion kWh
electricity net generation

2023
2.700 billion kWh
fossil fuels electricity net generation

2023
5.608 billion kWh
renewable electricity net generation

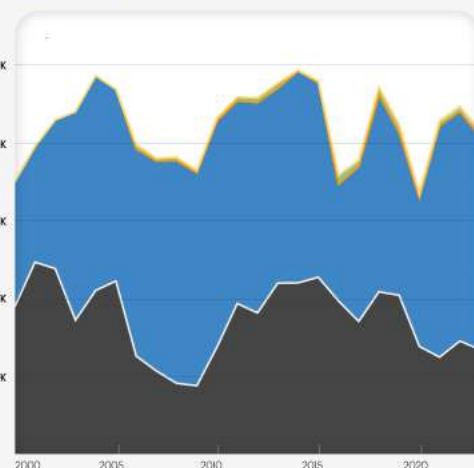
2023
62.00 %
Access to electricity (% of population)

2023
67.50 %
Renewable Electricity

Electricity Generation Mix

Legend keys

- Electricity from solar
- Electricity from geothermal
- Electricity from natural gas
- Electricity from wind
- Electricity from hydrolic
- Electricity from petroleum
- Electricity from biomass and waste
- Electricity from nuclear
- Electricity from coal



Energy Prices

Gasoline prices
1.560 USD / Liter
Aug 2025

Diesel prices
1.645 USD / Liter
Aug 2025



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TUnisia Consortium for
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“ Building Africa Together ”



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