



Energy Transition in Ivory Coast:

Politics, Projects and Emerging Initiatives

Presented by

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CONTEXT



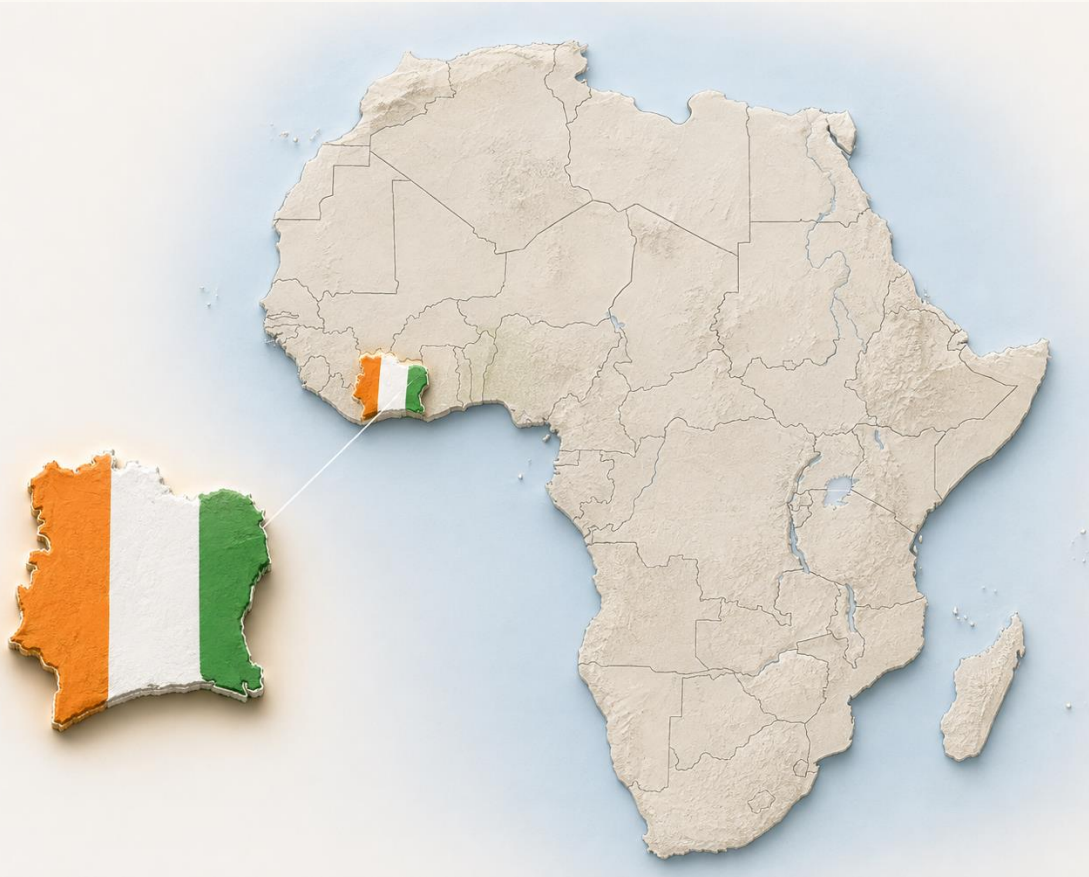
Ivory Coast 's energy policy aims to ensure access to reliable, affordable, competitive and sustainable energy, while supporting the country's economic and social development.

It focuses on expanding electricity infrastructure, achieving universal access to electricity, strengthening security of supply, and enhancing regional energy integration.

The country also aims to increase the share of renewable energy in its **electricity mix to 46.3% by 2035**, driven by the development of hydropower, solar energy and biomass.

However, the sector continues to face several challenges, including its strong dependence on natural gas, rapidly growing electricity demand, the need to control generation costs, and the financial sustainability of the electricity sector.

I- PRESENTATION OF THE IVORY COAST

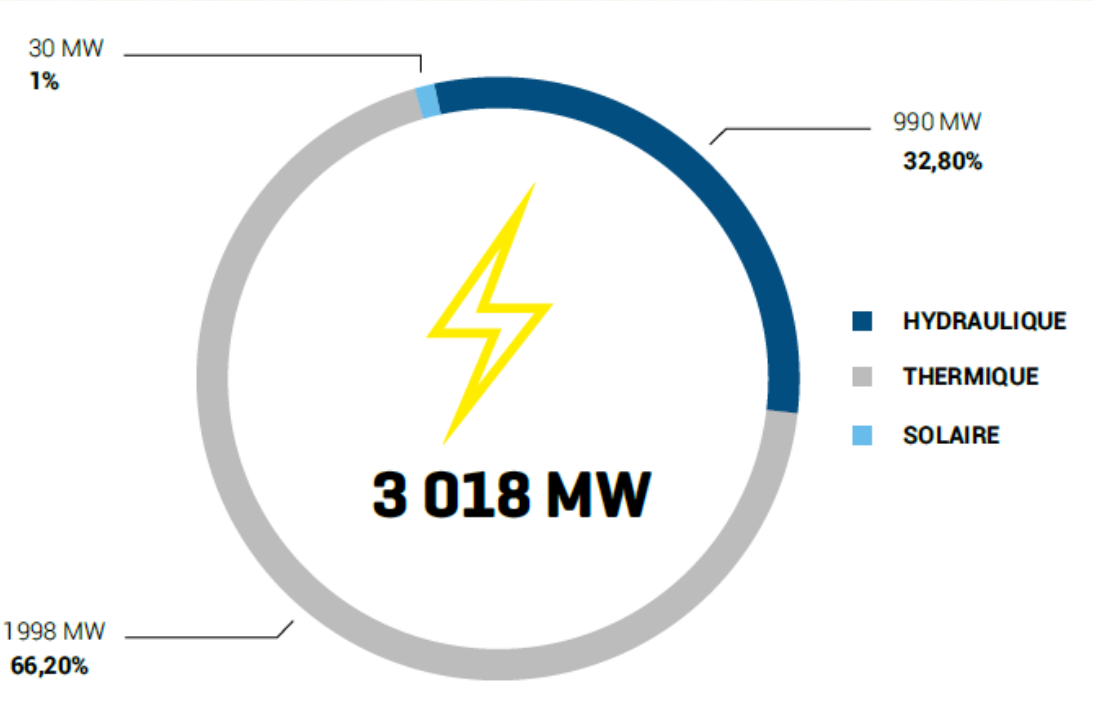


Located in West Africa, Ivory Coast covers an area of **322,462 km²** and has a seafront of approximately **550 km** on the Gulf of Guinea. It shares its borders with the **Ghana**, **THE Burkina Faso**, **THE Mali**, **there Guinea** and the **Liberia**.

- ✓ Political capital: **Yamoussoukro**
- ✓ Economic capital: **Abidjan**
- ✓ Population : **approximately 31.9 million inhabitants in 2024**
- ✓ Official language: **French**
- ✓ Cash : **CFA franc**
- ✓ Administrative organization: **14 districts, including the autonomous districts of Abidjan and Yamoussoukro, and 31 regions**
- ✓ Climate : **Tropical and humid in the south and drier in the north.**
- ✓ Main waterways: **Comoé, Bandama, Sassandra and Cavally**
- ✓ GDP: **approximately 86.5 billion US dollars, or nearly 52 trillion FCFA**
- ✓ GDP per capita **approximately \$2,710, or nearly 1.64 million FCFA**
- ✓ Economic growth **around 6% per year**
- ✓ Main engines **export agriculture, industry, construction, trade, telecommunications, financial services, mining, oil and energy**

I- SITUATION OF THE ELECTRICITY SECTOR

The Production Park



In 2024, **the electricity sector in Ivory Coast** continued to expand, with an installed capacity of approximately **3,018 MW** and gross electricity generation of **13,919 GWh**.

The electricity mix remained largely dominated by **thermal generation**, which accounted for nearly **67%** of total production, compared with approximately **34% for hydropower**. Solar power, following the commissioning of the country's first solar plant in 2023, accounted for around **1%** of total gross generation.

National electricity consumption reached **13,189 GWh**, representing a **7.3%** increase compared with 2023. Access to electricity also continued to improve, **with the national access rate reaching 98.6%, locality coverage reaching 94.3%**, and the household connection rate reaching **71%**. This progress has been supported by the "Electricity for All" Programme.

Nevertheless, the sector continues to face several challenges, including strong dependence on natural gas, insufficient capacity at some power plants, reliance on liquid fuels, grid incidents, and rising generation costs. The average generation cost increased from CFAF 53.3 to CFAF 60.1 per kWh. In addition, unused firm power purchase commitments resulted in an additional cost of CFAF 54.7 billion

I- SITUATION OF THE ELECTRICITY SECTOR

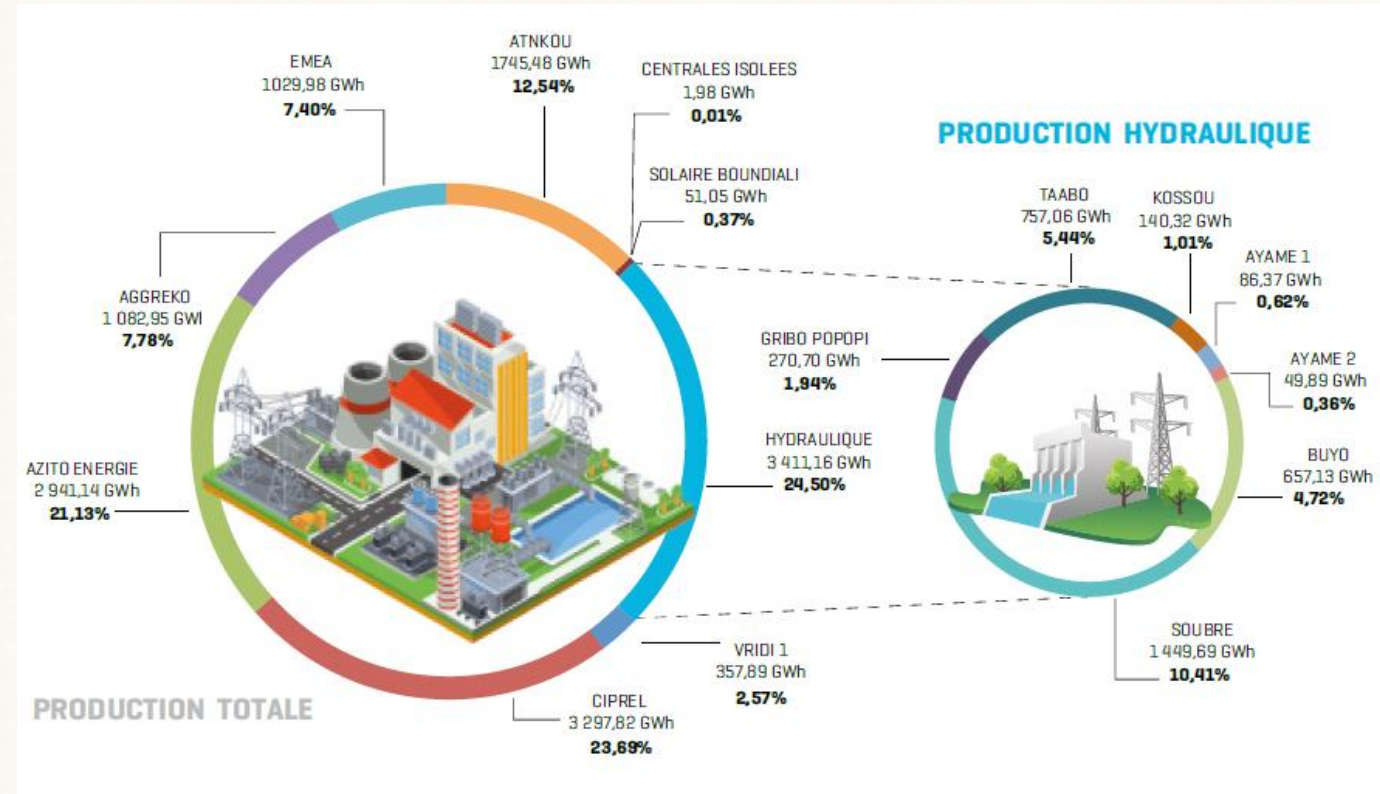
Electricity Production and Gross Consumption

Production remains largely dominated by thermal power plants, which supply approximately 10,457 GWh, or nearly 75% of the total.

The main producers are **CIPREL** with **3,297.82 GWh (23.69%)**, **Azito Energy** with **2,941.14 GWh (21.13%)** and **Atinkou** with **1,745.48 GWh (12.54%)**. These three power plants together provide more than **57%** of national production, which reflects a high concentration of thermal supply.

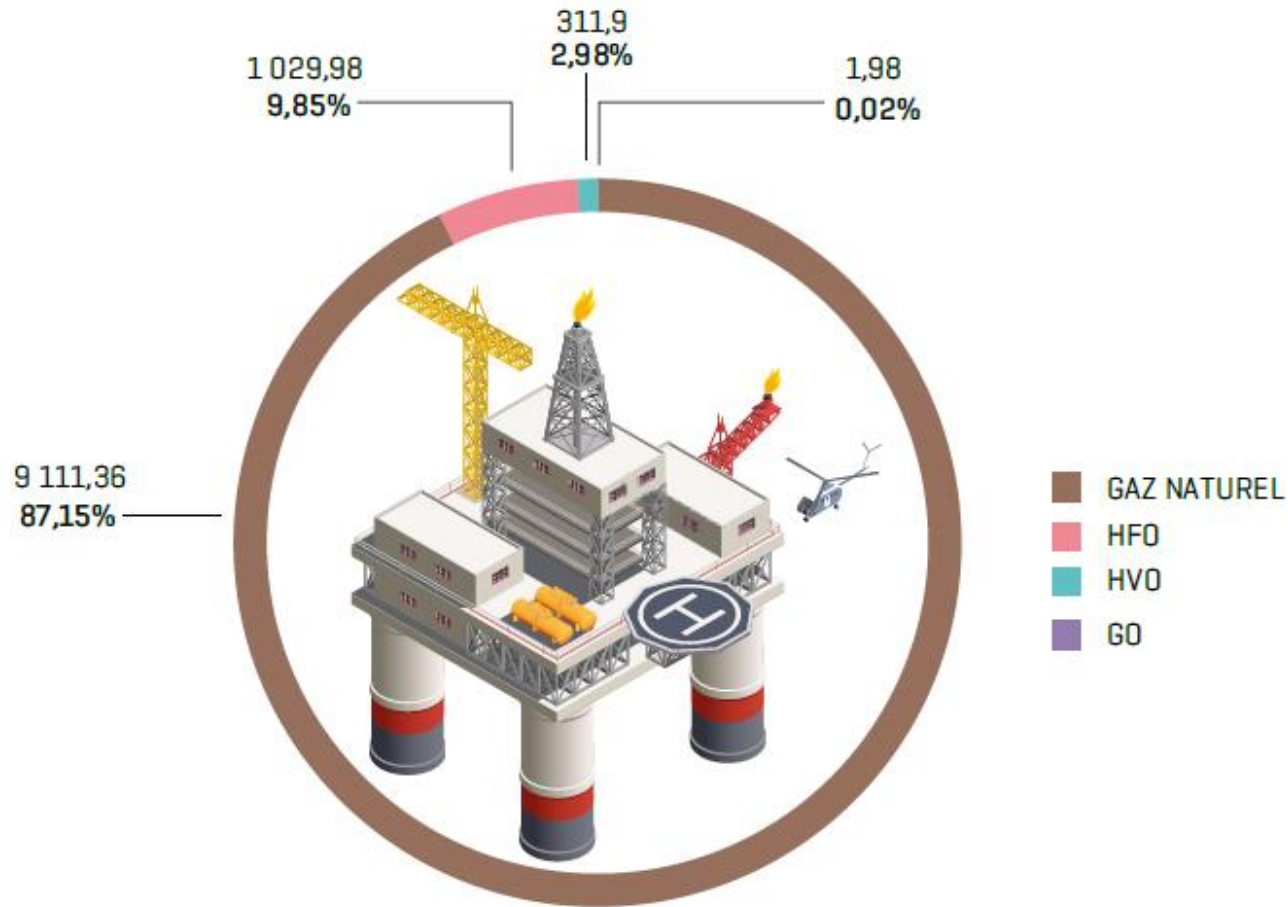
Hydropower is the second largest source of production with **3,411.16 GWh, or 24.50%** of the total. The **Soubré** power plant occupies a prominent place with **1,449.69 GWh**, representative **10.41%** of national production and more **42%** of hydroelectric production. It is followed by **Tabo**, **Buyo** and **Gribo-Popoli**.

The contribution of solar power remains limited: the **Boundiali** power plant produces **51.05 GWh** or only **0.37%** of total production. Isolated power plants also represent a marginal share of **0.01%**.



I- SITUATION OF THE ELECTRICITY SECTOR

Fuel consumption



The distribution of thermal electricity production in Ivory Coast according to the fuel used in 2024 is as follows.

THE **natural gas** constitutes the main source of thermal production, with **9,111.36 GWh, or 87.15%** of the total. This high proportion confirms that the Ivorian thermal power plant relies primarily on gas resources.

Liquid fuels together account for approximately 12.85% of thermal production:

- THE **HFO (heavy fuel oil)** contributes to the extent of **1,029.98 GWh, or 9.85%**
- **HVO (hydrotreated vegetable oil)** represents **311.9 GWh, or 2.98%**;
- **diesel (GO)** remains marginal, with **1.98 GWh, or 0.02%**.

This structure offers a relative economic and environmental advantage, as natural gas is generally less expensive and produces fewer emissions than liquid fuels. However, it reveals a strong dependence of the electricity sector on gas availability.

III- MOST RELEVANT PROJECTS AND INITIATIVES

In the energy and electricity sector, the most relevant projects and initiatives can be grouped as follows. The statutes reflect the latest available official information, primarily as of the end of 2025 or the first quarter of 2026.

Project or initiative	Nature and interest	Documented situation
Touba solar power plants and Laboa	Two power plants of 58.6MW and 49.7MW carried out as part of the program Scaling Solar	Operations are scheduled to begin in March 2027.
AMEA Goutougo solar power plant in Bondoukou	Power plant of 50MW with a 90 kV underground connection line	Financial completion and commissioning announced for March 2027
Tongon Solar Power Plant in M'Bengué	52 MWp photovoltaic project led by an Ivorian company	Commissioning announced for November 2027
Extension of the Boundiali solar power plant	Strengthening of the first major solar project connected to the national grid	Strategic project to increase solar contribution
BIOVEA biomass project	Electricity production from agricultural residues, particularly from oil palm: 46 MW	The first phase was announced at 23 MW
Atinkou Steam Turbine	Shutting down the combined cycle to increase production without a proportional increase in gas consumption	Additional capacity of approximately 135 MW

III- MOST RELEVANT PROJECTS AND INITIATIVES

Project or initiative	Nature and interest	Documented situation
Hydroelectric projects	Development of new hydraulic capacities and reinforcement of existing facilities	Several projects are planned for completion by 2030.
Electrical storage via batteries	Planned installation of batteries in Boundiali and Bondoukou, with indicative capacities of 45 MW/45 MWh per site	Projects to be further developed and funded
Solar electrification of camps	Deployment of stand-alone photovoltaic systems in areas far from the grid	Targeted experiments and deployments, particularly in the North
Mini-grids and solar kits	Decentralized solutions for camps and hard-to-reach areas.	Regulatory framework currently being developed and tested
Electricity for All Program	Facilitating connections for low-income households	Nationwide rollout underway
Clean cooking	Promotion of butane, biogas, biochar and improved cookstoves	National strategy and draft bioenergy code in preparation
Regional Interconnections	Reinforcement of the Ivory Coast–Ghana and Ivory Coast–Liberia lines and the 330 kV regional backbone	Projects monitored within the framework of WAPP
Network modernization	Construction of high-voltage substations and lines, remote control, protection and reinforcement of the distribution network	Approximately 50 projects or works identified by horizon 2

IV- RESEARCH DEVELOPMENTS, STUDIES AND INNOVATION

Several research, experimentation and technological development projects are underway:

- Development of the Master Plan for network expansion in rural areas for the period 2025-2040.**
- Studies on the integration of solar, biomass and battery storage into the electrical system.**
- Development and experimentation of a regulatory framework for private mini-grids, self-production and injection of renewable electricity.**
- Survey using the Multi-Tier Framework designed to better measure actual access to electricity and clean cooking solutions.**
- Development of the Bioenergy Code and the National Clean Cooking Strategy.**
- Development of competitive procurement mechanisms to reduce the cost of future private production projects.**
- Energy efficiency studies, widespread use of energy audits and implementation of standards applicable to buildings and equipment.**
- Exploring digital solutions for network monitoring, remote control, metering and loss reduction.**

V- PILOT INITIATIVES

Three categories show strong replication potential:

- 1. Solar-storage coupling, which would allow for better integration of intermittent photovoltaic production into the grid.**
- 2. Mini-grids and stand-alone solar systems, suitable for camps and localities where connection to the national grid is too expensive.**
- 3. Energy recovery from agricultural residues, particularly through biomass, biogas and biochar, is especially relevant in an economy based on cocoa, oil palm and other agricultural productions.**

CONCLUSION

Ivory Coast has embarked on a gradual transformation of its energy sector in order to meet growing demand, improve access to electricity and support its economic development.

Despite the progress made, the electricity system remains heavily dependent on natural gas and thermal production, while the contribution of solar, biomass and decentralized solutions remains limited.

Solar, hydroelectric and biomass projects, battery storage, grid modernization, regional interconnections and clean cooking initiatives are essential levers for achieving the goal **46.3% renewable energy by 2035**.

The success of this transition will, however, depend on the mobilization of funding, the strengthening of the regulatory framework, innovation and adherence to implementation schedules.

The challenge for Ivory Coast is to build a more diversified, reliable, accessible and financially sustainable energy system, capable of reconciling energy security, economic competitiveness and respect for climate commitments.

