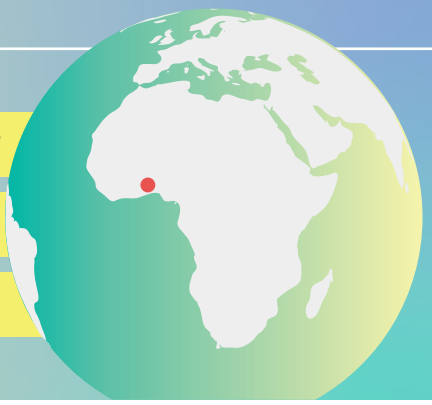
# Energy Sub-Saharan Africa Programme in **Benin**

Economic potential with **6.3% real GDP growth** in 2022

**Critical mineral** resources

Large **hydro** potential



Benin's primary energy production predominantly consists of bioenergy. The country's energy mix includes a **large share of oil which is all imported**. The **residential** and **transport** sectors make up most of the final consumption. In residential, most of the consumption is from **bioenergy**, and in **transport**, most of the demand is met by **oil**. Electricity accounts for **3% of total final consumption**, and the demand is met through imports and domestic generation using imported natural gas.

## KEY POLICIES

- **Vision Benin 2025** (2000) is the country's overarching plan for economic development, and the government recently launched the process to develop Vision Benin 2060. This plan is currently operationalised through the **National Development Plan** (2018-2025) and **Government Action Programme** (2021-2026) which seek to develop the country's human capital, increase economic productivity and competitivity, ensure sustainable environmental management and strengthen governance and laws. Key energy-related goals include expanding energy access, establishing financing for renewable energies and realising energy autonomy through the energy transition.

- The government has a national strategy and plan for electrification, and a target of universal access by 2030. There is also an **Off-Grid Electrification Policy** (2018-2035) to boost rural electrification.

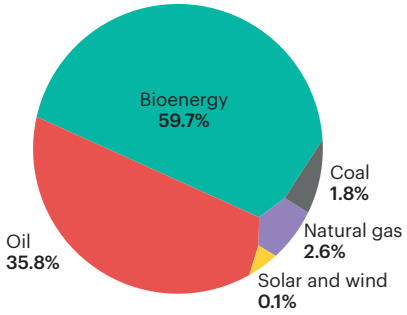
- Other key policies include the **Electricity Code** (2020), **National Policy for Renewable Energy Development** (PONADER) (2020-2030) and **National Action Plan for Energy Efficiency** (PANEE) (2015-2030). These policies aim to sustainably meet energy needs by 2030 through prioritising renewable energies, energy efficiency and energy diversification.

- Energy statistics in Benin are governed by **law no. 2022-07** which establishes a **National Statistical Development Fund** for sustainable funding, clarifies roles within the National Statistical System, ensures compliance with principles and good practices, reinforces governance tools, and institutionalises timely execution of major statistical operations.

## ENERGY MIX

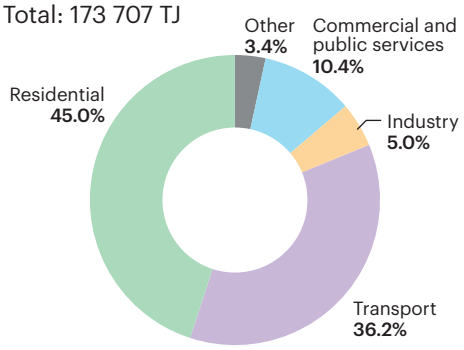
### Total energy supply, 2022

Total: 213 508 TJ




### Total final consumption, 2022

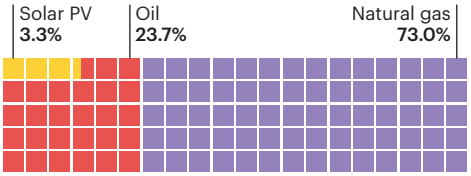
Total: 173 707 TJ




## ELECTRICITY MIX

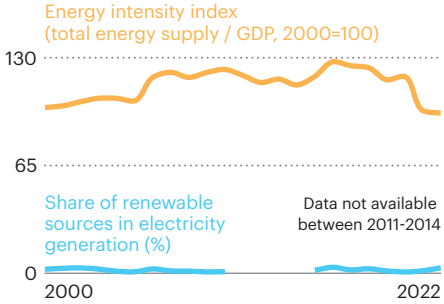
### Electricity generation by source, 2022

Total: 1 002 GWh




## KEY DATA

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




**Population** ▲

**13.4** million

**$CO_2$ emissions per capita** ▲

**0.42** $tCO_2$ per capita

**Energy intensity** ▼

**12 913** MJ per thousand 2015 USD

**Gross Domestic Product** ▲

**16.8** billion USD (2015 prices and ex rates)

**Net imports** ▼

**88.6** PJ

**Share of renewables in electricity generation** ▲

**3.3** %

This program is funded by the European Union

**Source**: IEA World Energy Balances 2024. Total energy supply excludes electricity.

## ACCESS TO CLEAN COOKING AND ELECTRICITY

**12 million**
people rely on **traditional biomass for cooking**

**6%**
of population has **access to clean cooking**

**38%**
of population has **access to electricity**

Over the past 20 years, Benin has made progress in electrification and clean cooking. The country, however, remains in the **bottom third** of countries in Africa regarding access rates, with rural access rates lagging considerably behind urban rates. Recent improvements in energy access and supporting policy frameworks indicate increasing political prioritisation. Scaling up electricity access will require a combination of **grid extensions** and **off-grid solutions**, with solar home systems poised to play an important role in rural areas. Clean cooking solutions have largely focused on improved biomass cookstoves, but there is a **growing focus on electric cooking**.

**Electricity access breakdown**

**65%**
of the population in **urban areas** has access to electricity

**11%**
of the population in **rural areas** has access to electricity

**8 million**
people are **without access to electricity**

## TRACKING SECURE ENERGY TRANSITION

- **A significant share of Benin's electricity is imported** from Ghana, Nigeria, and Togo through the West African Power Pool. Grid reliability is low, with frequent monthly outages affecting businesses and households. Industrial development is driving a significant increase in peak energy demand.
- The combination of **rising energy demand** and a **high coastal population** heightens vulnerability to climate risks, making adaptation essential to prevent millions from falling back into poverty.
- Benin is highly **dependent on imports for oil products**, making it vulnerable to exchange rate fluctuations and oil price changes. These fluctuations hinder the development of domestic energy services. The recently completed Niger-Benin oil export pipeline connects Benin with Nigerien oil supplies and is expected to facilitate regional oil exports.
- Boosting energy security through **diversification, renewable energy development**, and **improved infrastructural resilience** will be key to addressing these challenges.

### Benin imports and exports (energy security)

| TJ | Exports | Imports |
|---|---|---|
| Oil products | -831 | 76 183 |
| Electricity | -7 | 3 004 |
| Natural gas | | 5 579 |
| Coal | | 4 628 |
| **Total** | **-837** | **89 394** |

--- Net trade

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

### Nationally determined contribution targets for energy

| Base year (2018) | Unconditional (2030) | Conditional (2030) |
|---|---|---|
| **9.8** Mt $CO_2$-eq | **17.2** Mt $CO_2$-eq | **16.3** Mt $CO_2$-eq |

### Power infrastructure map

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

**Energy source**
- Bioenergy
- Geothermal
- Hydro
- Oil
- Wind

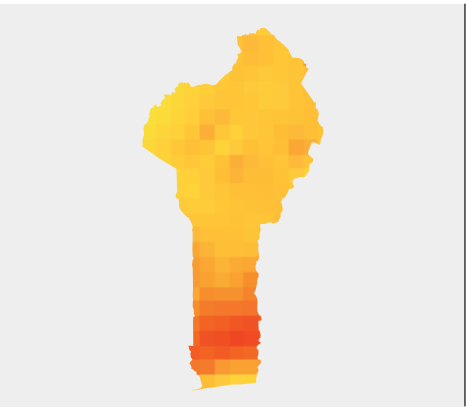
**Power capacity (MW)**
- 8.5
- 1 870

**Electricity grid**
- Existing
- Planned

**Source:** IEA, Global Energy Monitor, World Bank Group, WorldPop

### Weather trend map

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



**Linear regression trend coefficient**
- 12 °C-days/year
- 0
- -12

**Source:** IEA and CMCC Weather for Energy Tracker

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

This program is funded by the European Union

**Source:** IEA SDG7 Database, Nationally Determined Contributions as reported to the UNFCCC, IEA World Energy Balances 2024. Data refer to year 2022.