

NIGERIA

Nexus Profile



All references can be found under the following link: <https://www.water-energy-food.org/regions/nexus-regional-dialogues/country-profiles/>

A key regional **player** in **West Africa**, with approximately 184 million inhabitants, Nigeria has experienced a **moderate growth** driven by the continued recovery of **oil production** and sustained **growth in agriculture**. **Developmental challenges** include reducing the **dependency on oil** and **diversifying the economy**, addressing **insufficient infrastructure**, and **building strong and effective institutions** as well as improving **human development indicators** and the **living conditions** of the population. A **Nexus approach** could support the **design of holistic policies** addressing these challenges.

BASIC DATA

185.99 million

Population (2016)

4.3% annual

Urban population growth (2016)

0.527

Human development index (2015)

prélèvements totaux en eau

53 years

Life expectancy (2015)

2.6%
Population growth (2016)

53.5%
Poverty headcount ratio – less than 1.90 US\$ a day (2009)

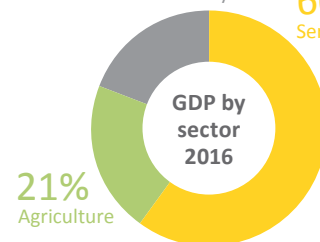
69%
Net attendance ratio in primary education (2013)

104/1,000
Child mortality rate under 5 years (2016)

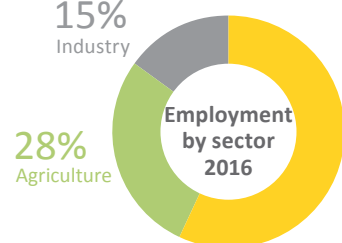
49.4%
Urban population (2017)

456 US\$
GNI per capita (2016)

19% Industry
60% Services



15% Industry
57% Services



NEXI

Nigeria has a **huge renewable energy potential** that can be used to meet both **urban and rural electrification** and **cooking needs**. The government **aims at increasing the on-grid power to 30,000 MW by 2030**. **Solar, bio-mass and hydro-power** are the main renewable energy sources expected to make a significant contribution to this challenge. Furthermore, **food production** has **not kept pace with population growth**, resulting in **rising food imports** and **declining levels of food self-sufficiency**. **Oil extraction** in

the **Niger delta**, the third largest wetland in the world, has had **huge environmental and social impacts** due to the continuous **oil spills**. Therefore, a more **environmentally friendly extraction technology** needs to be implemented together with **clean energy sources** to **reduce the pressure on the environment and on the communities** living in the delta.

WEF Index: 0.4
(Max value 1)

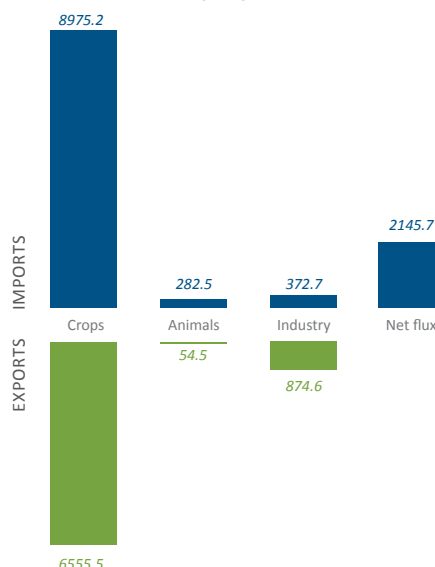
ENERGY – WATER

Fossil fuels continue to be the **main energy source**. For instance, in 2015, **total electricity** produced was **6,738 ktoe**, of which **91.5%** came from **fossil fuels** and **8.3%** from **hydro sources**. However, the country **aims to achieve a 13% contribution of hydroelectricity** (both large and small hydro) to the nation's electricity generation mix **by 2020**. Furthermore, electricity generation requires substantial amount of water.

WATER – FOOD

Nigeria has an **unexploited irrigation potential** – estimates vary from 1.5 to 3.2 million hectares – since currently **less than 1%** of cropped land is under irrigation. Two main reasons for this are the **inadequate water distribution infrastructure** and **pollution of freshwater supplies**. The Nigerian government has **invested in an irrigation-focused integrated water resources management project (IWRMP) to complete and rehabilitate existing irrigation schemes and dams** as well as to improve their irrigation management system.

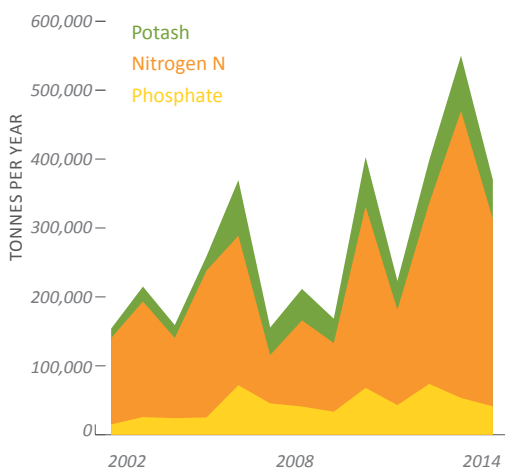
Virtual water (Mm³ per year, 1996-2005):



FOOD – ENERGY

Over **50 million metric tons of fuel wood** is consumed annually, especially in **rural areas** where **alternative fuels** for cooking are **limited or absent**. This has **led to changes in vegetation cover** and contributes to **desertification**. The rate of **fuel wood consumption** significantly exceeds the **replenishing rate**. Nigeria is the **third largest producer of bioenergy** in the world, after China and

India. In 2010, the **share of bioenergy** of total primary energy supply was over **80%**. In 2011, Nigeria was among the **largest fuel wood producers**, along with India, China, Brazil and Ethiopia.



Fertilizer consumption in nutrients

4,549 x 10⁶ m³
for irrigation (2010)

233 x 10⁶ m³
for livestock (2010)

728 x 10⁶ m³
for aquaculture every year (2010)

WATER SECTOR

1,213 m³/year

Total internal renewable water resources per capita (2014)

23%

Dependency ratio (2014)
Percent of total renewable water resources originating outside the country

1,150 mm

Annual precipitation

54%

Renewable water resources withdrawn (2014)

69%

Improved drinking water sources (2015)

29%

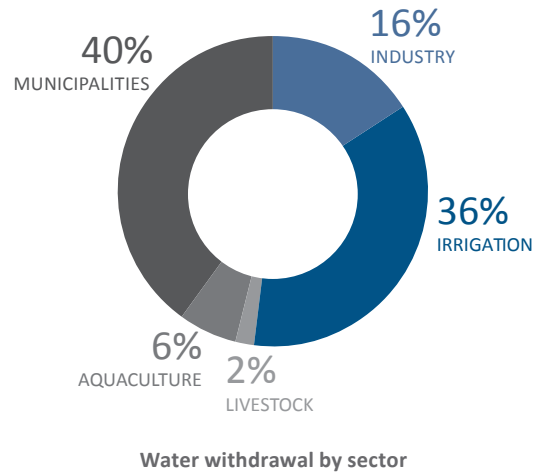
Improved sanitation facilities (2015)

12.47 km³

Total water withdrawals (2010)

0.35

Water sub-index
(Max value: 1)



ENERGY SECTOR

26.17 TWh

(144.5 kWh per capita per year)
Electricity consumption (2015)
Germany: 573 TWh
(7.01 per capita per year)

31,426 GWh

Total electricity production (2015)

254.26 Mtoe

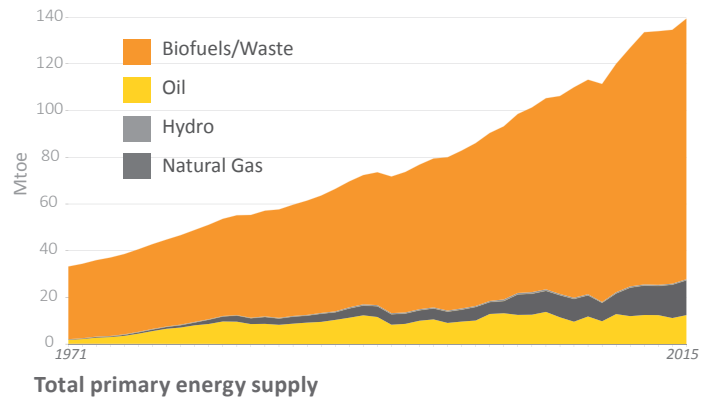
Energy production (2015)

57.7%

Access to electricity (2014)

0.42

Energy sub-index
(Max value: 1)



FOOD SECTOR

1,219 million US\$

Exports (2014)

6,402 million US\$

Imports (2014)

23.7–34 million ha

Arable land (1961 – 2015)

2,3 million ha

Irrigation potential (2013)

293,000 ha

Area equipped for irrigation (2014)

21.2% du PIB

Agriculture, added value (2016)

14.3 millions

(7.7% of the population)

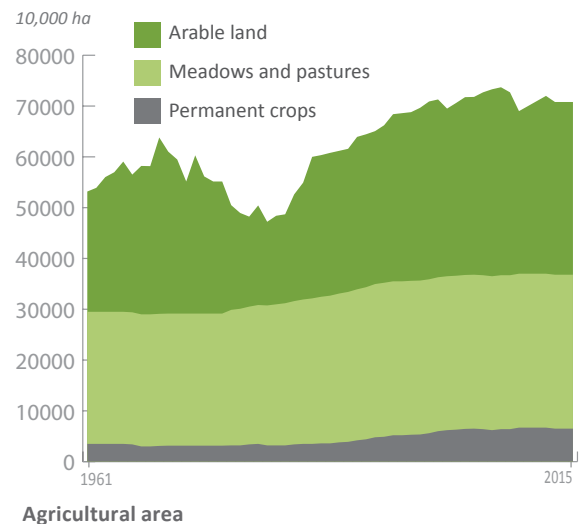
Prevalence of undernourishment (2014–2016)

21.7%

Cereal import dependency ratio (2014)

0.42

Food sub-index
(Max value: 1)



ENVIRONMENT SECTOR

172,300 – 69,900 km²

(18.9 – 7.7%)

Forest area (1990 – 2015)

11.6%

Terrestrial and marine protected areas (2016)

64.44 Mt of CO₂

CO₂ emissions (2015)