



Africa Energy Balance & Indicators 2022

AFRICAN ENERGY COMMISSION





AFRICAN UNION



ENERGY

**An Integrated, Prosperous
and Peaceful Africa**

**African Energy Commission
Commission Africaine de l'Energie**

Africa Energy Balance & Indicators 2022

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FOREWORD

Africa energy data and statistics remain a key component in developing the African energy sector. With a demand for countries to transition to net-zero and reduce CO₂ Emission, it is imperative that Africa balances both renewable and non-renewable energy resources to ensure proper planning, design and implementation of energy programmes geared towards building a strong energy industry which can provide its citizens on the continent with access to electricity and reducing energy poverty.

To achieve the ambition of developing the sector and member states commitment to the implementation of Africa's Common position on energy development, strong mechanisms to enhance countries data system and providing capacity building on energy are catalyst to facilitate the availability of quality and reliable energy data across all sector. Over the past year, AFREC has taken actions to develop and improve member states National Energy Information Systems and various studies are being conducted to determine Africa's energy outlook in its current states vis-à-vis future planning. Training on data collection procedures at country level has also intensified including assisting countries on National Determined Contribution (NDCs) and data modelling. These efforts have improved on how countries view on the importance of evidence-based information and how that can help address current situations and challenges faced, using the lenses immersed in the real situation of the country.

Creating a domestic market is also one of our focus, to respond to the African Union Agenda 2063 on resources sharing and integration. We are committed to see how Africa's needed collaboration on energy will pen-out to ensure we meet the continents' common goal of developing strong infrastructures which will respond to the continent and its people's need.

Hence, in this edition of the 2022 energy balance, AFREC thus provides you with a comprehensive outlook on energy supply and demand for 2020 from 15 countries. The data provide perspectives on how various countries are performing in energy supply, consumption and production. Still, despite numerous new energy fuel discovery across the continent, you will notice that biofuels still remain the principal energy of the Total Primary Energy Supply (TPES) for many countries, though a few countries rely on natural gas to over 50%. This information is relevant to policy makers to make informed decision on their energy planning to reduce energy accessibility gaps, and spur meaningful debates.

I do hope you will find the analysis presented herein useful, and further encourages you to refocus your actions towards resolving real challenges facing countries, region and the continent on energy as a necessity.

RASHID Ali Abdallah
Executive Director, African Energy Commission

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UNIT ABBREVIATIONS

bcm	Billion cubic metres
Gcal	Gigacalorie
GCV	Gross calorific value
GW	Gigawatt
GWh	Gigawatt hour
kb/cd	Thousand barrels per calendar day
kcal	Kilocalorie
kg	Kilogram
kJ	Kilojoule
kWh	Kilowatt hour
MBtu	Million British thermal units
Mt	Million tons
Mtoe	Million tons of oil equivalent
t	Metric ton=tonne=1000kg
kt	Kiloton
TJ	Terajoule
toe	Ton of oil equivalent=107 kcal
TWh	Terrawatt hour

THE AFRICAN ENERGY COMMISSION (AFREC)

The African Energy Commission (AFREC) is a specialized agency of the African Union, created by Decision AHG/Dec.167 (XXXVII) of the 37th Summit of the OAU African Heads of States and Governments which was held in Lusaka, Zambia, on 11 July 2001 and was launched by the African Union Ministers in charge of Energy in the meeting held on 15 – 17 February 2008 in Algiers, Algeria through the Algiers Declaration AU/EXP/EN/Decl (III).

As per its convention, AFREC has a broad mandate including:

- Develop policies, strategies, research and plans based on Member States, sub regional, regional and continental development priorities and recommend their implementation.
- Design, create and update an energy continental database and facilitate the rapid dissemination of information and exchange of information among Member States, sub-regional, regional and continental institutions;
- Provide technical support, mobilize financial and technical support while providing capacity building to the Member States, sub-regional, regional and continental institutions;
- Undertake training and capacity building programmes in various African energy sectors in order to develop political, managerial, technical and decision-making capacities in AU member states and advise and encourage the development of human resources in the energy sector;
- In addition to its convention, AFREC's activities and programmes are also based on the AUC Strategic Plan, various resolutions and declarations adopted by AU Summits and Energy Ministers with regard to energy development in Africa.

AFREC PILLARS

African Energy Information System Programme (AEIS)
Energy Transition Programme
Capacity Building Programme
Oil and Gas Programme
Bioenergy Programme
Energy Efficiency Programme

In order to fulfil the mandate of designing, creating and updating a continental database, AFREC successfully created the first ever Africa Energy Information System (AEIS). This made it possible for AFREC to develop, annually publish and disseminate the African Energy Database book since 2012. Other annual publications include: Africa Energy Efficiency for the Residential Sector, Key Africa Energy Statistics and Africa Energy Balance and Indicators. Other planned contents to be included in future publications include Africa Energy Efficiency for all Sector, CO2 emissions and Energy Prices and Taxes etc.

AFREC has also developed 5 main pillars that have been approved by the AU Specialized Technical Committee (STC) on Transport, Transcontinental and Interregional Infrastructure, Energy and Tourism (STC-TTIET) and recently AFREC added a supplementary programme. These pillars are classified into **5 Programmes namely: Bioenergy, African Energy Information System, Energy Efficiency, Oil and Gas, Energy Transition and Capacity Building.**

- **The Bioenergy Programme** provides sustainability indicators for bioenergy and related Food and Agriculture Organization (FAO) best practices by providing technical support capacity building of relevant institutions of the beneficiary countries to measure/collect, analyze and monitor bioenergy data. This will enable them to track the environmental, social and economic impacts of their bioenergy production and consumption, particularly the actual contribution to GHG emission reductions by replacing fossil fuel and traditional biomass use while harnessing socio-economic co-benefits.
- **African Energy Efficiency Programme** was developed with the aim of significantly reducing the final energy demand and pollution emissions across the continent and to provide increased electricity access, competitiveness, energy security and economic development by supporting the unlocking of some \$175 Billion in available savings by 2030.

- **The Oil and Gas Programme** focuses on creating an African domestic crude oil and petroleum products market in collaboration with main African stakeholders mainly crude oil producers, net oil products consumers, current owners of unused and underused refineries and regional and national authorities.
- **The African Energy Sector Transition Programme** was an analytical and engagement dimension that was inspired by the international “Deep Decarbonization Pathways (DDP)” initiative. This initiative, coordinated was by the Paris based Institut du Développement Durable et des Relations Internationales (IDDRI) since 2014 and is active today in around 40 countries where it supports the deployment of in-country capacities to elaborate context-driven strategies articulating development, sustainability and climate objectives.
- **The Capacity Building Programme**, the main objective is to invest in African human resources by designing a comprehensive capacity building programme with a 5-year implementation plan for AU Member States to enhance the capacities of policymakers, energy planners, regulators, experts and technicians from AU Member States, Regional Economic Communities (RECs), regional power pools, centres for renewable energy & energy efficiency and other relevant stakeholders supporting the sustainability of the African energy sector.

INDICATOR DEFINITIONS

Energy dependency rate

The Energy dependency rate represents the share of net imports compared to the total primary energy supply. It is negative when exports are greater than imports in absolute value. It reflects the level at which an economy depends on the outside to provide for its needs. It can be defined for all products total as well as for individual fuels (for example: crude oil, natural gas).

Example: In the case of Algeria, exports exceed imports. The net import is negative and represents 1.30 times the total primary energy supply.

Share in imports

Coal and coal products

Share of Coal and coal products in the national imports.

Crude Oil

Share of Crude Oil in the national imports.

Oil products

Share of Oil products in the national imports.

Biofuels and Waste

Share of biofuels and waste in the national imports.

Natural gas

Share of Natural Gas in the national imports.

Electricity and Heat

Share of Electricity in the national imports.

Primary energy supply

Coal and Coal Product

Share of Coal and coal product in the total primary energy supply.

Crude Oil

Share of Crude Oil in the total primary energy supply.

Biofuels and Waste

Share of Biofuels and waste in the total primary energy supply.

Natural Gas

Share of Natural Gas in the total primary energy supply.

Nuclear

Share of Nuclear in total primary energy supply.

Hydro

Share of Hydro in total primary energy supply.

Solar

Share of Solar in total primary energy supply.

Wind

Share of Wind in total primary energy supply.

Other sources

Share of nuclear in total primary energy supply.

Heat

Share of Heat in total primary energy supply.

Electricity

Electricity transmission and distribution losses (% of output)

These are Electricity transmission and distribution losses divided by the sum of final electricity consumption, expressed as a percentage.

Electricity production mix

Coal and coal products

Share of Coal and Coal Products used for Gross Electricity Production.

Crude Oil

Share of Crude Oil used for Gross Electricity Production.

Oil Products

Share of Oil Products used for Gross Electricity Production.

Natural Gas

Share of Natural Gas used for Gross Electricity Production.

Biofuels and waste

Share of Biofuels and waste used for Gross Electricity Production.

Nuclear

Share of Nuclear used for Gross Electricity Production.

Hydro

Share of Hydro used for Gross Electricity Production.

Solar PV

Share of Solar PV used for Gross Electricity Production.

Wind

Share of Wind used for Gross Electricity Production.

Other

Share of Other fuels used for Gross Electricity Production.

INTRODUCTION

In line with its mandate, AFREC has established and maintained the African Energy Information System (AEIS) since 2012, which allows collection and validation of African country energy statistics through the use of questionnaires and disseminate these statistics through publications and datasets, which are available on AFREC website & visualization Dashboard at www.au-afrec.org.

In 2019, AFREC assessed the current AEIS and came up with a holistic improvement plan which attempted to address all the challenges including the information technology infrastructure requirements, procedural mechanisms, information flow processing, human capacity, technology architecture, programming and equipment, required funding, enhancement and expansion of the energy data collection into more sectors and indicators, thus making the AEIS a more integrated and comprehensive system.

The new AEIS will enhance the quality of the energy data collected by AFREC and increase the coverage scope of AEIS, and includes more energy indicators (CO2 emission, SDG tracking, data visualisation tools etc.), so AFREC becomes the main source and central hub for quality, credible and reliable energy statistics for Africa.

For the African Energy Balance and Indicators publication of the year 2022, AFREC has validated Energy Balance from 15 African countries only, as a result of challenges presented by the impact of Covid 19, to process of data collection, validation and dissemination at National level.

ENERGY BALANCE AND INDICATORS

People's Democratic Republic of Algeria Aggregated Energy Balance 2020

Thousand Tonnes of Oil Equivalent (ktoe)	Coal and Coal Products	Crude Oil	Oil Products	Natural Gas	Biofuels and Waste	Hydro	Solar	Wind	Other Sources	Electricity	Total of all energy sources
Production	-	58 128.8	-	71 958.2	9.7	4.3	58.9	0.7	-	-	130 160.5
Imports (+)	121.6	-	1 635.9	-	-	-	-	-	-	44.1	1 801.5
Exports (-)	-	-20 194.5	-21 256.6	-33 564.2	-	-	-	-	-	-49.3	-75 064.6
International Marine Bunkers (-)	-	-	-314.3	-	-	-	-	-	-	-	-314.3
International Aviation Bunkers (-)	-	-	-	-	-	-	-	-	-	-	-
Stock Changes (+ draw, - build)	0.1	-285.7	9.3	-	-	-	-	-	-	-	-276.3
TOTAL PRIMARY ENERGY SUPPLY	121.6	37 648.5	-19 925.7	38 394.0	9.7	4.3	58.9	0.7	-	-5.2	56 306.8
Transfers : Origin (-) and Destination (+)	-	-7 436.9	8 315.9	-	-	-	-	-	-	-	879.0
Statistical Difference	1.0	-286.4	450.9	83.5	0.0	-	-	-	-	-27.9	221.1
TRANSFORMATION Inputs (-) and Outputs (+)	493.8	-29 241.4	28 964.6	-16 131.9	1.8	-4.3	-58.9	-0.7	-	6 806.1	-9 170.8
Electricity plants	-	-	-206.3	-16 131.9	-	-4.3	-16 131.9	-0.7	-	6 806.1	-9 595.9
CHP Plants	-	-	-	-	-	-	-	-	-	-	-
Heat Plants	-	-	-	-	-	-	-	-	-	-	-
Coke ovens	-	-	-	-	-	-	-	-	-	-	-
Blast furnaces	493.8	-	-	-	-	-	-	-	-	-	493.8
Oil Refineries	-	-29 241.4	28 637.3	-	-	-	-	-	-	-	-604.1
Coal-to-liquids plants	-	-	-	-	-	-	-	-	-	-	-
Gas-to-liquids plants	-	-	-	-	-	-	-	-	-	-	-
Charcoal production plants	-	-	-	-	1.8	-	-	-	-	-	1.8
Transformation not elsewhere specified	-	-	533.7	-	-	-	-	-	-	-	533.7
Energy Sector Own Use	136.1	584.7	155.6	3 271.9	-	-	-	-	-	981.4	5 129.6
Losses	468.8	651.7	76.2	199.4	-	-	-	-	-	772.1	2 168.2
FINAL CONSUMPTION	9.6	20.3	16 672.1	18 707.4	11.5	-	-	-	-	5 075.3	40 496.2
Industry	9.6	-	662.5	4 933.8	6.6	-	-	-	-	1 766.6	7 379.0
Transport	-	20.3	12 964.1	505.9	-	-	-	-	-	144.3	13 634.6
Households	-	-	1 504.6	9 259.2	3.5	-	-	-	-	1 986.4	12 753.7
Commercial and public services	-	-	584.5	928.3	1.4	-	-	-	-	990.7	2 505.0
Agriculture, Forestry and Fishing	-	-	38.5	20.2	-	-	-	-	-	187.2	245.9
Non-specified (HH, Com. & PS., Agri.)	-	-	-	-	-	-	-	-	-	-	-
Non-Energy Use	-	-	918.0	3 060.0	-	-	-	-	-	-	3 978.0

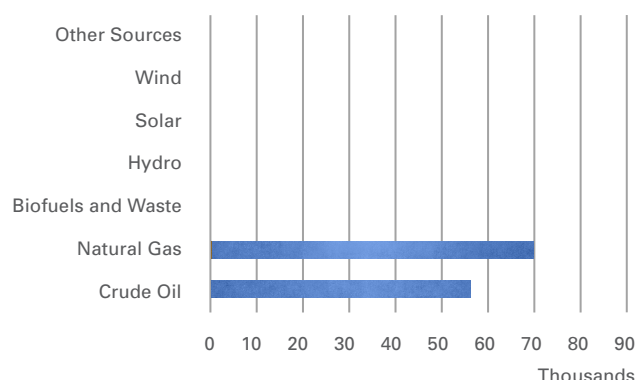
Note: Algeria's Energy Production is largely based on natural gas 55.2% and crude oil 44.66%. More than 98% of electricity production comes from natural gas with an average efficiency of Power Thermal Plants of 41,3%. Electricity Transmission & Distribution losses represent 13,2%.

Final consumption is mainly split between Natural Gas (46.20%), Petroleum Products (41.17%) and 12.53% for electricity. Biomass accounts for a negligible part of final consumption.

Unit: %	Coal and Coal Products	Crude Oil	Oil Products	Natural Gas	Biofuels and Waste	Hydro	Solar	Wind	Other Sources	Electricity
Energy Production	-	44.66	-	55.28	0.01	-	0.05	-	-	-
Share in imports	6.75	-	90.81	-	-	-	-	-	-	2.45
Electricity production mix	-	-	0.5	98.6	-	0.1	0.9	-	-	-
Final Consumption	0.02	0.05	41.17	46.20	0.03	-	-	-	-	12.53

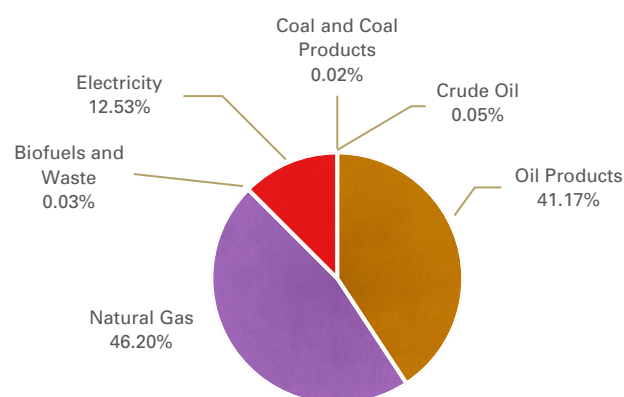
	Unit	Value
Energy dependency rate	%	-130.1
Average efficiency of conventional thermal power generation	%	41.3
Electricity transmission and distribution losses (% of output)	%	13.2
Share of renewables in primary production	%	0.1
Share of renewables in total primary energy supply	%	0.1
Share of renewables in total final energy consumption	%	0.2
Share of renewables in electricity production	%	0.9
Share of solar thermal in final consumption	%	0.0

Energy Production



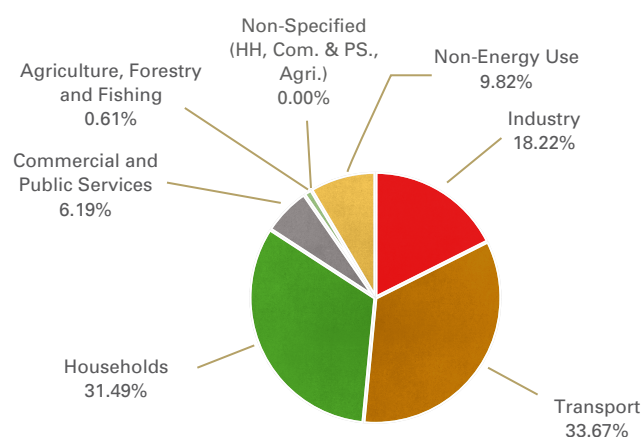
Unit : ktoe

Total Final Consumption (TFC)



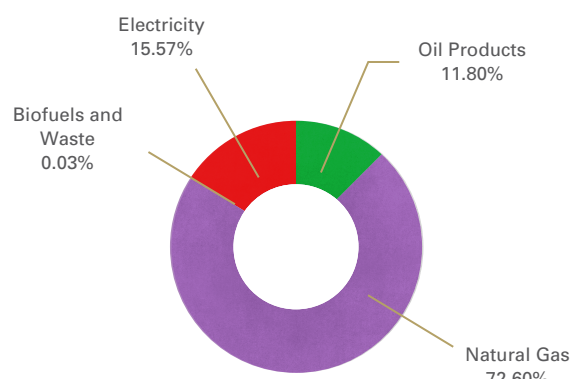
40 496 ktoe

Total Final Consumption by Sector



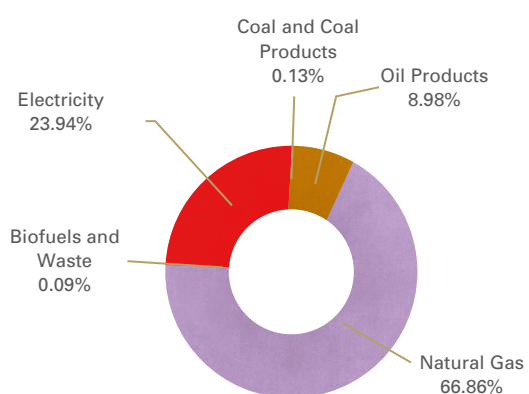
40 496 ktoe

Households Consumption



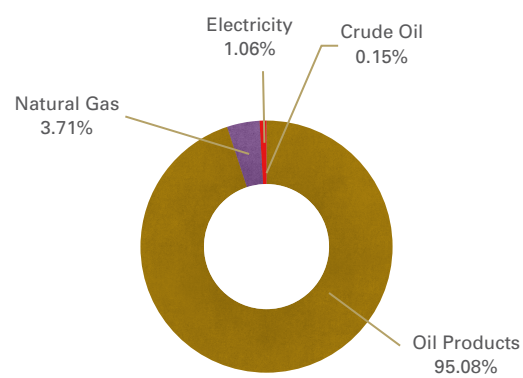
12 754 ktoe

Industry Consumption



7 379 ktoe

Transport Consumption



13 635 ktoe

ENERGY BALANCE AND INDICATORS

Republic of Benin
Aggregated Energy Balance 2020

Thousand Tonnes of Oil Equivalent (ktoe)	Coal and Coal Products	Crude Oil	Oil Products	Natural Gas	Biofuels and Waste	Hydro	Solar	Wind	Other Sources	Electricity	Total of all energy sources
Production	-	-	-	-	3 162.2	-	0.6	-	-	-	3 162.8
Imports (+)	69.8	-	3 117.4	138.8	-	-	-	-	-	55.5	3381.5
Exports (-)	-	-	- 792.3	-	-	-	-	-	-	- 0.2	- 792.5
International Marine Bunkers (-)	-	-	-	-	-	-	-	-	-	-	-
International Aviation Bunkers (-)	-	-	- 16.4	-	-	-	-	-	-	-	- 16.4
Stock Changes (+ draw, - build)	-	-	3.2	-	-	-	-	-	-	-	3.2
TOTAL PRIMARY ENERGY SUPPLY	69.8	-	- 2 312.0	138.8	3 162.2	-	0.6	-	-	55.4	5 738.7
Transfers : Origin (-) and Destination (+)	-	-	-	-	-	-	-	-	-	-	-
Statistical Difference	-	-	24.7	-	- 0.0	-	-	-	-	0.6	25.3
TRANSFORMATION Inputs (-) and Outputs (+)	-	-	- 54.3	- 138.8	- 973.1	-	- 0.6	-	-	85.1	- 1 081.8
Electricity plants	-	-	- 54.3	- 138.8	-	-	0.6	-	-	85.1	- 108.7
CHP Plants	-	-	-	-	-	-	-	-	-	-	-
Heat Plants	-	-	-	-	-	-	-	-	-	-	-
Coke ovens	-	-	-	-	-	-	-	-	-	-	-
Blast furnaces	-	-	-	-	-	-	-	-	-	-	-
Oil Refineries	-	-	-	-	-	-	-	-	-	-	-
Coal-to-liquids plants	-	-	-	-	-	-	-	-	-	-	-
Gas-to-liquids plants	-	-	-	-	-	-	-	-	-	-	-
Charcoal production plants	-	-	-	-	973.1	-	-	-	-	-	- 973.1
Transformation not elsewhere specified	-	-	-	-	-	-	-	-	-	-	-
Energy Sector Own Use	-	-	2.0	-	-	-	-	-	-	8.6	10.6
Losses	-	-	1.2	-	-	-	-	-	-	26.3	27.5
FINAL CONSUMPTION	69.8	-	2 229.8	-	2 189.0	-	-	-	-	104.9	4 593.5
Industry	69.8	-	58.0	-	15.0	-	-	-	-	26.9	169.7
Transport	-	-	2 095.1	-	-	-	-	-	-	-	2 095.1
Households	-	-	49.5	-	1 811.7	-	-	-	-	38.9	1 900.1
Commercial and public services	-	-	7.2	-	362.3	-	-	-	-	35.4	404.9
Agriculture, Forestry and Fishing	-	-	19.1	-	-	-	-	-	-	3.7	22.9
Non-specified (HH, Com. & PS., Agri.)	-	-	-	-	-	-	-	-	-	-	-
Non-Energy Use	-	-	0.9	-	-	-	-	-	-	-	0.9

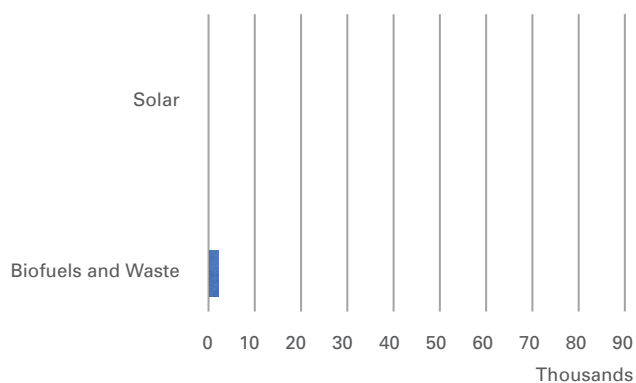
Note: The main source of energy production of Benin is biofuels with the rate of 99.98%. Petroleum products represent 92.19% of energy imports. The biofuels and oil products dominate the final consumption with 47.65% and 48.54% respectively.

Biofuels are consumed at 95.35% in the household sector which represent 41.37% of total final consumption.

Unit: %	Coal and Coal Products	Crude Oil	Oil Products	Natural Gas	Biofuels and Waste	Hydro	Solar	Wind	Other Sources	Electricity
Energy Production	-	-	-	-	99.98	-	0.02	-	-	-
Share in imports	2.06	-	92.19	4.11	-	-	-	-	-	1.62
Electricity production mix	-	-	23.5	75.8	-	-	0.7	-	-	-
Final Consumption	1.52	-	48.54	-	47.65	-	-	-	-	2.28

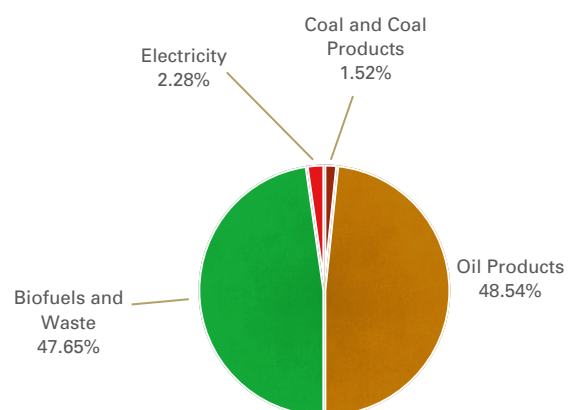
	Unit	Value
Energy dependency rate	%	45.1
Average efficiency of conventional thermal power generation	%	43.7
Electricity transmission and distribution losses (% of output)	%	20.1
Share of renewables in primary production	%	100.0
Share of renewables in total primary energy supply	%	55.1
Share of renewables in total final energy consumption	%	47.7
Share of renewables in electricity production	%	0.8
Share of solar thermal in final consumption	%	0.0

Energy Production



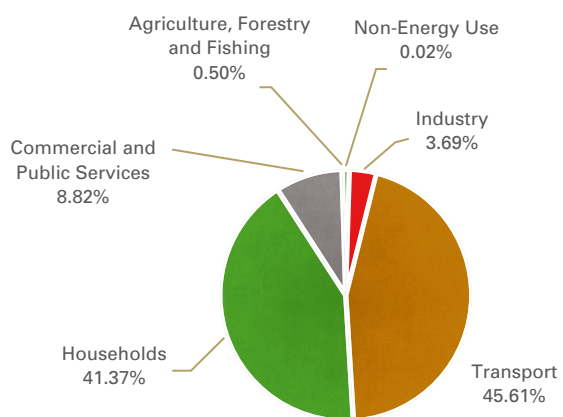
Unit : ktoe

Total Final Consumption (TFC)



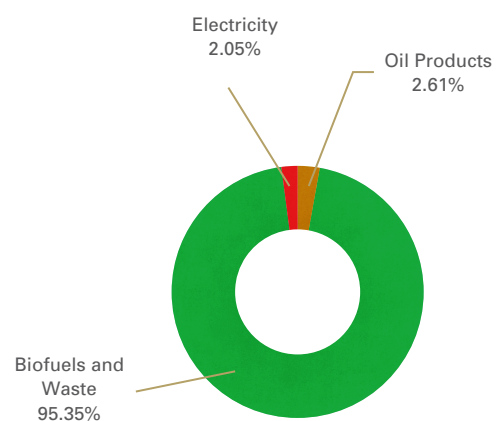
4 594 ktoe

Total Final Consumption by Sector



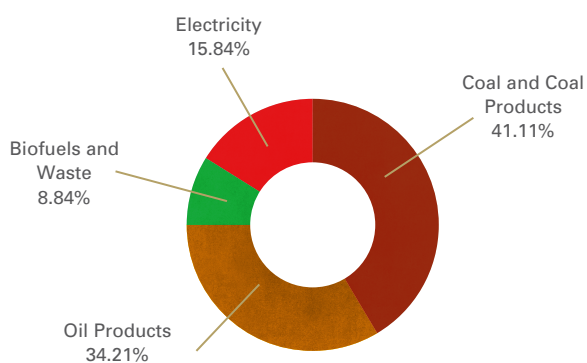
4 594 ktoe

Households Consumption



1 900 ktoe

Industry Consumption



170 ktoe

ENERGY BALANCE AND INDICATORS

Central African Republic Aggregated Energy Balance 2020

Thousand Tonnes of Oil Equivalent (ktoe)	Coal and Coal Products	Crude Oil	Oil Products	Natural Gas	Biofuels and Waste	Hydro	Solar	Wind	Other Sources	Electricity	Total of all energy sources
Production	-	-	-	-	1 160.4	-	-	-	-	-	1 172.5
Imports (+)	-	-	115.7	-	-	-	-	-	-	-	115.7
Exports (-)	-	-	-	-	-	-	-	-	-	-	-
International Marine Bunkers (-)	-	-	-	-	-	-	-	-	-	-	-
International Aviation Bunkers (-)	-	-	- 3.1	-	-	-	-	-	-	-	- 3.1
Stock Changes (+ draw, - build)	-	-	- 1.9	-	-	-	-	-	-	-	- 1.9
TOTAL PRIMARY ENERGY SUPPLY	-	-	110.7	-	1 160.4	12.0	-	-	-	-	1 283.2
Transfers : Origin (-) and Destination (+)	-	-	-	-	-	-	-	-	-	-	-
Statistical Difference	-	-	0.7	-	-	-	-	-	-	0.2	0.9
TRANSFORMATION Inputs (-) and Outputs (+)	-	-	- 0.2	-	- 26.9	- 12.0	-	-	-	12.1	- 27.0
Electricity plants	-	-	- 0.2	-	-	- 12.0	-	-	-	12.1	- 0.1
CHP Plants	-	-	-	-	-	-	-	-	-	-	-
Heat Plants	-	-	-	-	-	-	-	-	-	-	-
Coke ovens	-	-	-	-	-	-	-	-	-	-	-
Blast furnaces	-	-	-	-	-	-	-	-	-	-	-
Oil Refineries	-	-	-	-	-	-	-	-	-	-	-
Coal-to-liquids plants	-	-	-	-	-	-	-	-	-	-	-
Gas-to-liquids plants	-	-	-	-	-	-	-	-	-	-	-
Charcoal production plants	-	-	-	-	- 26.9	-	-	-	-	-	- 26.9
Transformation not elsewhere specified	-	-	-	-	-	-	-	-	-	-	-
Energy Sector Own Use	-	-	-	-	-	-	-	-	-	0.2	0.2
Losses	-	-	-	-	-	-	-	-	-	3.1	3.1
FINAL CONSUMPTION	-	-	109.9	-	1 133.5	-	-	-	-	8.5	1 252.0
Industry	-	-	12.9	-	-	-	-	-	-	2.0	14.8
Transport	-	-	95.5	-	-	-	-	-	-	-	95.5
Households	-	-	1.5	-	1 087.1	-	-	-	-	3.1	1 091.8
Commercial and public services	-	-	0.0	-	46.4	-	-	-	-	3.4	49.9
Agriculture, Forestry and Fishing	-	-	-	-	-	-	-	-	-	-	-
Non-specified (HH, Com. & PS., Agri.)	-	-	-	-	-	-	-	-	-	-	-
Non-Energy Use	-	-	-	-	-	-	-	-	-	-	-

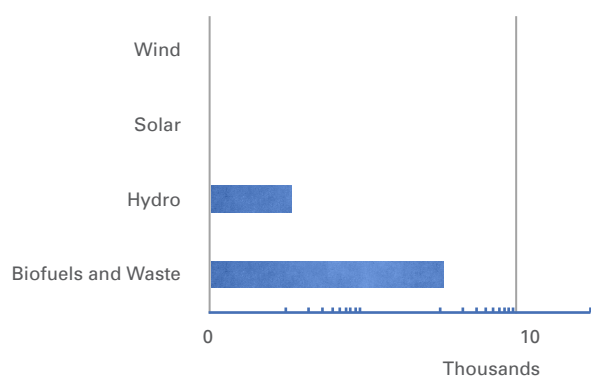
Note: Biofuels and hydroelectricity are the two sources of Energy Production in Central African Republic with 98.97% and 1.03% respectively. The final energy consumption is split between Biofuels 90.54%, Petroleum Products 8.78% and Electricity 0.68%.

The household sector which represents 87.20% of final consumption is dominated by Biofuels at 99.57%.

Unit: %	Coal and Coal Products	Crude Oil	Oil Products	Natural Gas	Biofuels and Waste	Hydro	Solar	Wind	Other Sources	Electricity
Energy Production	-	-	-	-	98.97	1.03	-	-	-	-
Share in imports	-	-	10-	-	-	-	-	-	-	-
Electricity production mix	-	-	0.5	-	-	99.5	-	-	-	-
Final Consumption	-	-	8.78	-	90.54	-	-	-	-	0.68

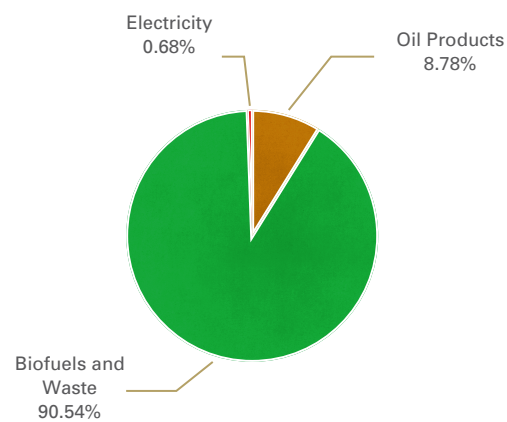
	Unit	Value
Energy dependency rate	%	9.0
Average efficiency of conventional thermal power generation	%	41.9
Electricity transmission and distribution losses (% of output)	%	26.8
Share of renewables in primary production	%	100
Share of renewables in total primary energy supply	%	91.4
Share of renewables in total final energy consumption	%	91.5
Share of renewables in electricity production	%	99.5
Share of solar thermal in final consumption	%	0.0

Energy Production



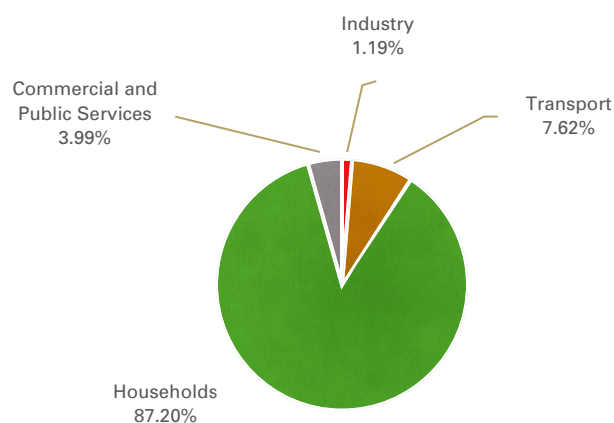
Unit : ktoe

Total Final Consumption (TFC)



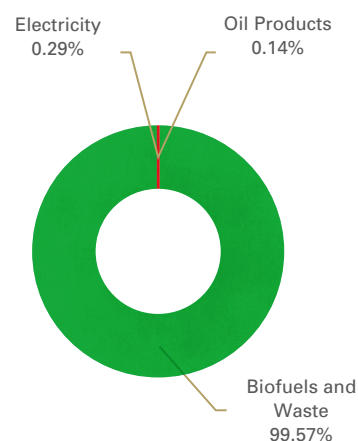
1 252 ktoe

Total Final Consumption by Sector



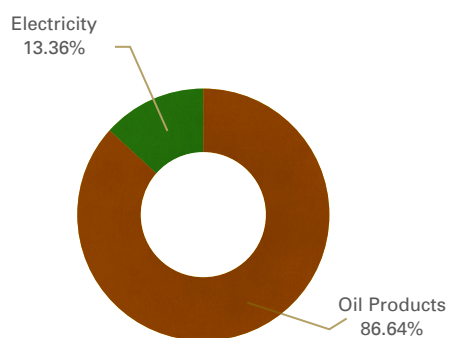
1 252 ktoe

Households Consumption



1 092 ktoe

Industry Consumption



15 ktoe

ENERGY BALANCE AND INDICATORS

Republic of Côte d'Ivoire
Aggregated Energy Balance 2020

Thousand Tonnes of Oil Equivalent (ktoe)	Coal and Coal Products	Crude Oil	Oil Products	Natural Gas	Biofuels and Waste	Hydro	Solar	Wind	Other Sources	Electricity	Total of all energy sources
Production	-	1 546.4	-	1 914.5	7 095.8	290.3	-	-	-	-	10 847.1
Imports (+)	-	3 724.1	473.3	-	-	-	-	-	-	13.1	4 210.5
Exports (-)	-	-1 432.8	-1 528.0	-	-	-	-	-	-	-114.3	-3 075.2
International Marine Bunkers (-)	-	-	-	-	-	-	-	-	-	-	-
International Aviation Bunkers (-)	-	-	-102.0	-	-	-	-	-	-	-	-102.0
Stock Changes (+ draw, - build)	-	32.1	-29.8	-	-	-	-	-	-	-	2.4
TOTAL PRIMARY ENERGY SUPPLY	-	3 869.9	-1 186.5	1 914.5	7 095.8	290.3	-	-	-	-101.3	11 882.8
Transfers : Origin (-) and Destination (+)	-	-	-0.0	-	-	-	-	-	-	-	-0.0
Statistical Difference	-	18.5	8.7	18.2	205.1	-	-	-	-	15.7	266.2
TRANSFORMATION Inputs (-) and Outputs (+)	-	-3 851.4	3 752.4	-1 611.7	-2 188.3	-290.3	-	-	-	970.1	-3 219.1
Electricity plants	-	-	-5.2	-1 611.7	-	-290.3	-	-	-	963.9	-943.3
CHP Plants	-	-	-	-	-47.9	-	-	-	-	6.2	-41.7
Heat Plants	-	-	-	-	-	-	-	-	-	-	-
Coke ovens	-	-	-	-	-	-	-	-	-	-	-
Blast furnaces	-	-	-	-	-	-	-	-	-	-	-
Oil Refineries	-	-3 851.4	3 757.7	-	-	-	-	-	-	-	-93.7
Coal-to-liquids plants	-	-	-	-	-	-	-	-	-	-	-
Gas-to-liquids plants	-	-	-	-	-	-	-	-	-	-	-
Charcoal production plants	-	-	-	-	-2 140.4	-	-	-	-	-	-2 140.4
Transformation not elsewhere specified	-	-	-	-	-	-	-	-	-	-	-
Energy Sector Own Use	-	-	0.3	163.9	-	-	-	-	-	5.3	169.4
Losses	-	-	-	-	-	-	-	-	-	149.3	149.3
FINAL CONSUMPTION	-	-	2 556.9	120.7	4 702.4	-	-	-	-	698.6	8 078.7
Industry	-	-	127.1	120.7	5.9	-	-	-	-	208.9	462.7
Transport	-	-	1 827.0	-	-	-	-	-	-	-	1 827.0
Households	-	-	456.1	-	4 193.2	-	-	-	-	262.4	4 911.7
Commercial and public services	-	-	3.9	-	503.3	-	-	-	-	205.8	713.0
Agriculture, Forestry and Fishing	-	-	37.7	-	-	-	-	-	-	20.0	57.7
Non-specified (HH, Com. & PS., Agri.)	-	-	-	-	-	-	-	-	-	1.5	1.5
Non-Energy Use	-	-	105.1	-	-	-	-	-	-	-	105.1

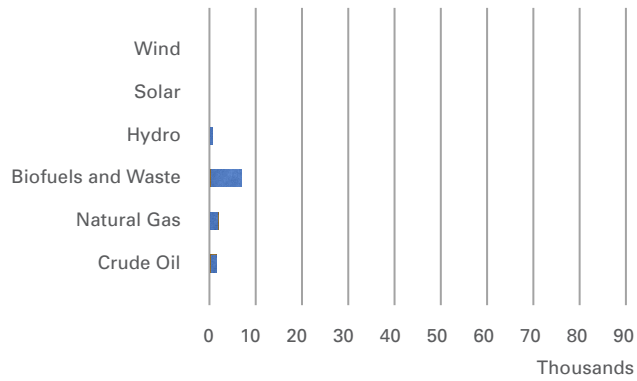
Note: Côte d'Ivoire's Energy Production is dominated by biofuels with 65.42%, followed by natural gas 17.65% and crude oil 14.26% and. Biomass represents 58.21% of total final consumption and 85.37% of final household consumption.

In the industrial sector, we observe that the final consumption is dominated by Electricity 45.15% followed by Oil products 27.48% and Natural Gas 26.09%.

Unit: %	Coal and Coal Products	Crude Oil	Oil Products	Natural Gas	Biofuels and Waste	Hydro	Solar	Wind	Other Sources	Electricity
Energy Production	-	14.26	-	17.65	65.42	2.68	-	-	-	-
Share in imports	-	88.45	11.24	-	-	-	-	-	-	0.31
Electricity production mix	-	-	0.3	69.2	0.6	29.9	-	-	-	-
Final Consumption	-	-	31.65	1.49	58.21	-	-	-	-	8.65

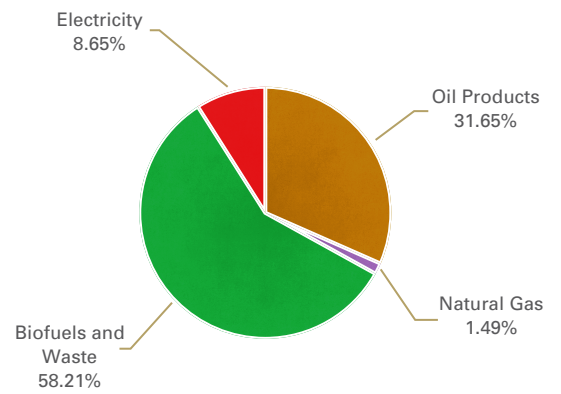
	Unit	Value
Energy dependency rate	%	9.6
Average efficiency of conventional thermal power generation	%	41.7
Electricity transmission and distribution losses (% of output)	%	17.6
Share of renewables in primary production	%	68.1
Share of renewables in total primary energy supply	%	62.2
Share of renewables in total final energy consumption	%	62.7
Share of renewables in electricity production	%	30.6
Share of solar thermal in final consumption	%	0.0

Energy Production



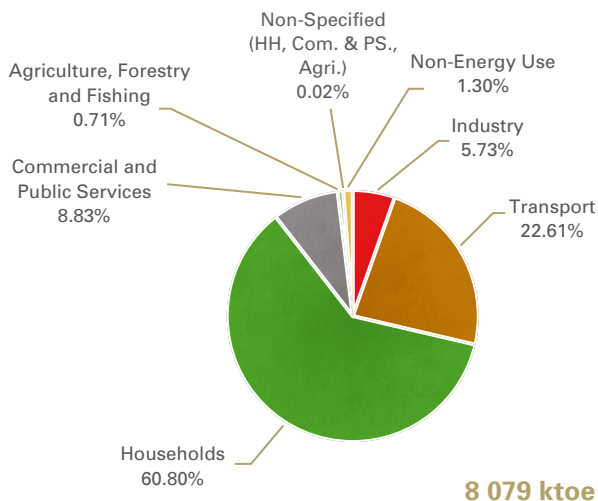
Unit : ktoe

Total Final Consumption (TFC)



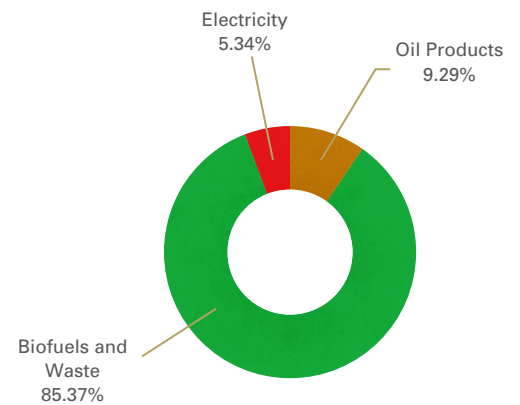
8 079 ktoe

Total Final Consumption by Sector



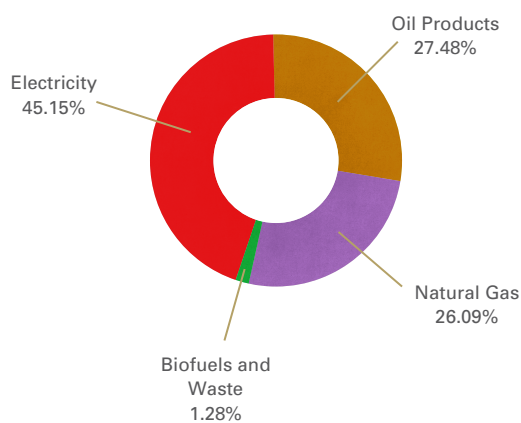
8 079 ktoe

Households Consumption



4 912 ktoe

Industry Consumption



463 ktoe

ENERGY BALANCE AND INDICATORS

Democratic Republic of Congo Aggregated Energy Balance 2020

Thousand Tonnes of Oil Equivalent (ktoe)	Crude Oil	Oil Products	Natural Gas	Biofuels and Waste	Hydro	Solar	Wind	Other Sources	Electricity	Total of all energy sources
Production	1 209.1	-	-	33 284.8	1 065.3	-	-	-	-	35 559.3
Imports (+)	-	1 235.0	-	-	-	-	-	-	102.3	1 337.2
Exports (-)	- 1 209.1	-	-	-	-	-	-	-	- 4.3	- 1 213.4
International Marine Bunkers (-)	-	-	-	-	-	-	-	-	-	-
International Aviation Bunkers (-)	-	-	-	-	-	-	-	-	-	-
Stock Changes (+ draw, - build)	-	-	-	-	-	-	-	-	-	-
TOTAL PRIMARY ENERGY SUPPLY	-	1 235.0	-	33 284.8	1 065.3	-	-	-	98.0	35 683.0
Transfers : Origin (-) and Destination (+)	-	-	-	-	-	-	-	-	-	-
Statistical Difference	-	-	-	-	-	-	-	-	23.6	23.6
TRANSFORMATION Inputs (-) and Outputs (+)	-	-	-	- 13 103.3	- 1 065.3	-	-	-	1 065.9	- 13 102.7
Electricity plants	-	-	-	-	- 1 065.3	-	-	-	1 065.9	0.6
CHP Plants	-	-	-	-	-	-	-	-	-	-
Heat Plants	-	-	-	-	-	-	-	-	-	-
Coke ovens	-	-	-	-	-	-	-	-	-	-
Blast furnaces	-	-	-	-	-	-	-	-	-	-
Oil Refineries	-	-	-	-	-	-	-	-	-	-
Coal-to-liquids plants	-	-	-	-	-	-	-	-	-	-
Gas-to-liquids plants	-	-	-	-	-	-	-	-	-	-
Charcoal production plants	-	-	-	- 13 103.3	-	-	-	-	-	-13 103.3
Transformation not elsewhere specified	-	-	-	-	-	-	-	-	-	-
Energy Sector Own Use	-	-	-	-	-	-	-	-	1.7	1.7
Losses	-	-	-	-	-	-	-	-	308.6	308.6
FINAL CONSUMPTION	-	1 235.0	-	20 181.5	-	-	-	-	830.0	22 246.4
Industry	-	1.2	-	-	-	-	-	-	589.6	590.7
Transport	-	1 219.8	-	-	-	-	-	-	1.1	1 221.0
Households	-	14.0	-	20 181.5	-	-	-	-	141.3	20 336.8
Commercial and public services	-	-	-	-	-	-	-	-	97.9	97.9
Agriculture, Forestry and Fishing	-	-	-	-	-	-	-	-	-	-
Non-specified (HH, Com. & PS., Agri.)	-	-	-	-	-	-	-	-	-	-
Non-Energy Use	-	-	-	-	-	-	-	-	-	-

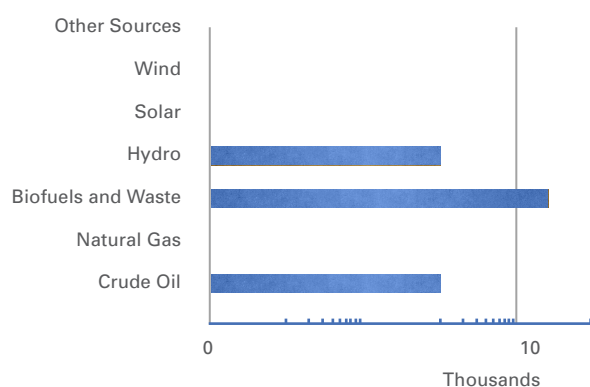
Note: Biofuels and hydroelectricity are the two sources of Energy Production in Democratic Republic of Congo with 93.6% and 3.0% respectively. The final energy consumption is split between Biofuels 90.72%, Petroleum Products 5.55% and Electricity 3.73%.

The household sector which represents 91.42% of final consumption is dominated by Biofuels at 99.24%.

Unit: %	Coal and Coal Products	Crude Oil	Oil Products	Natural Gas	Biofuels and Waste	Hydro	Solar	Wind	Other Sources	Electricity
Energy Production	-	3.40	-	-	93.60	3.00	-	-	-	7.65
Share in imports	-	-	92.35	-	-	-	-	-	-	-
Electricity production mix	-	-	0.1	-	-	99.9	-	-	-	3.73
Final Consumption	-	-	5.55	-	90.72	-	-	-	-	-

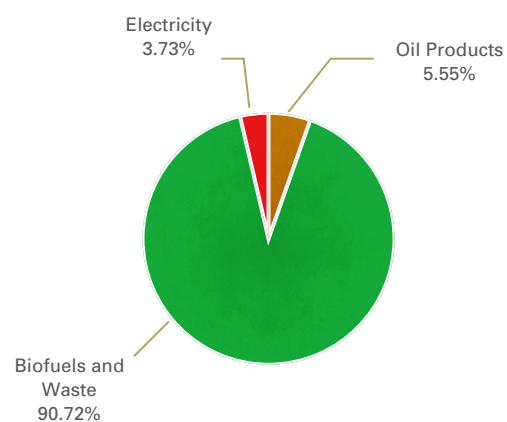
	Unit	Value
Energy dependency rate	%	0.3
Electricity transmission and distribution losses (% of output)	%	27.1
Share of renewables in primary production	%	96.6
Share of renewables in total primary energy supply	%	96.3
Share of renewables in total final energy consumption	%	95.5
Share of renewables in electricity production	%	99.9
Share of solar thermal in final consumption	%	0.0

Energy Production



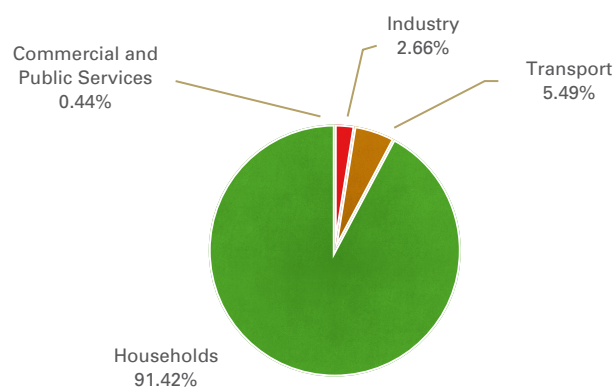
Unit : ktoe

Total Final Consumption (TFC)



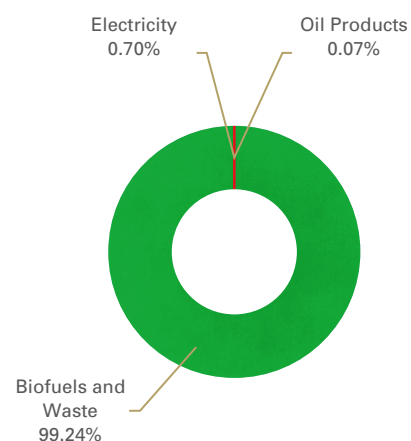
22 246 ktoe

Total Final Consumption by Sector



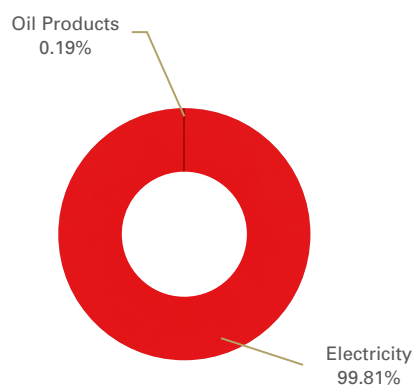
22 246 ktoe

Households Consumption



20 336 ktoe

Industry Consumption



590 ktoe

ENERGY BALANCE AND INDICATORS

Republic of Ghana
Aggregated Energy Balance 2020

Thousand Tonnes of Oil Equivalent (ktoe)	Coal and Coal Products	Crude Oil	Oil Products	Natural Gas	Biofuels and Waste	Hydro	Solar	Wind	Other Sources	Electricity	Total of all energy sources
Production	-	9 748.0	-	2 158.4	4 825.6	627.1	4.9	-	1 160.0	-	18 524.0
Imports (+)	-	699.0	4 148.2	554.3	0.0	-	-	-	-	5.0	5 406.6
Exports (-)	-	- 9 736.3	- 180.6	-	- 1.2	-	-	-	-	- 154.9	-10 073.0
International Marine Bunkers (-)	-	-	- 5.4	-	-	-	-	-	-	-	- 5.4
International Aviation Bunkers (-)	-	-	- 119.4	-	-	-	-	-	-	-	- 119.4
Stock Changes (+ draw, - build)	-	- 90.6	- 224.1	-	-	-	-	-	-	-	- 314.7
TOTAL PRIMARY ENERGY SUPPLY	-	620.0	3 618.8	2 712.	4 824.5	627.1	4.9	-	1 160.0	- 149.9	13 418.1
Transfers : Origin (-) and Destination (+)	-	- 88.4	94.6	-	-	-	-	-	-	-	6.2
Statistical Difference	-	- 97.4	- 28.0	174.9	- 0.4	-	-	-	-	- 0.0	49.0
TRANSFORMATION Inputs (-) and Outputs (+)	-	- 563.4	466.6	- 2 487.8	- 1 722.5	- 627.1	- 4.9	-	- 1 160.0	1 792.0	-4 307.0
Electricity plants	-	- 52.1	- 107.2	- 2 487.8	-	- 627.1	- 4.9	-	- 1 160.0	1 792.0	-2 647.1
CHP Plants	-	-	-	-	-	-	-	-	-	-	-
Heat Plants	-	-	-	-	-	-	-	-	-	-	-
Coke ovens	-	-	-	-	-	-	-	-	-	-	-
Blast furnaces	-	-	-	-	-	-	-	-	-	-	-
Oil Refineries	-	- 511.3	500.1	-	-	-	-	-	-	-	- 11.2
Coal-to-liquids plants	-	-	-	-	-	-	-	-	-	-	-
Gas-to-liquids plants	-	-	-	-	-	-	-	-	-	-	-
Charcoal production plants	-	-	-	-	- 1 722.5	-	-	-	-	-	- 1 722.5
Transformation not elsewhere specified	-	-	73.8	-	-	-	-	-	-	-	73.8
Energy Sector Own Use	-	21.0	34.6	-	-	-	-	-	-	110.2	165.8
Losses	-	44.7	-	-	-	-	-	-	-	110.5	155.2
FINAL CONSUMPTION	-	-	4 173.4	50.1	3 102.4	-	-	-	-	1 421.4	8 747.3
Industry	-	-	416.2	50.1	313.7	-	-	-	-	472.8	1 252.7
Transport	-	-	3 318.4	-	-	-	-	-	-	1.0	3 319.4
Households	-	-	253.5	-	2 657.8	-	-	-	-	667.7	3 579.0
Commercial and public services	-	-	24.4	-	131.0	-	-	-	-	278.8	434.1
Agriculture, Forestry and Fishing	-	-	145.3	-	-	-	-	-	-	1.1	146.4
Non-specified (HH, Com. & PS., Agri.)	-	-	-	-	-	-	-	-	-	-	-
Non-Energy Use	-	-	15.6	-	-	-	-	-	-	-	15.6

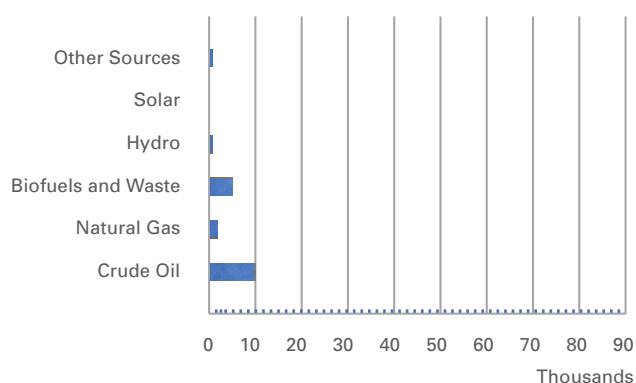
Note: The main sources of Energy Production in Ghana are Crude oil 52.62%, biofuels 26.05% and natural gas 11.65%. The final energy consumption is split between Biofuels 35.47%, Petroleum Products 47.71% and Electricity 16.25%.

The household sector represents 40.92% of final energy consumption with a very high consumption of Biofuels 74.26%.

Unit: %	Coal and Coal Products	Crude Oil	Oil Products	Natural Gas	Biofuels and Waste	Hydro	Solar	Wind	Other Sources	Electricity
Energy Production	-	52.62	-	11.65	26.05	3.39	0.03	-	6.26	-
Share in imports	-	12.93	76.73	10.25	-	-	-	-	-	0.09
Electricity production mix	-	-	-	-	-	35	0.3	-	64.7	-
Final Consumption	-	-	47.71	0.57	35.47	-	-	-	-	16.25

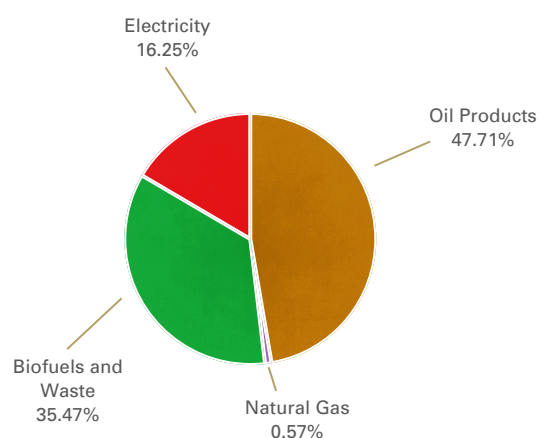
	Unit	Value
Energy dependency rate	%	-34.8
Electricity transmission and distribution losses (% of output)	%	7.2
Share of renewables in primary production	%	29.5
Share of renewables in total primary energy supply	%	40.7
Share of renewables in total final energy consumption	%	42.8
Share of renewables in electricity production	%	35.3
Share of solar thermal in final consumption	%	0.0

Energy Production



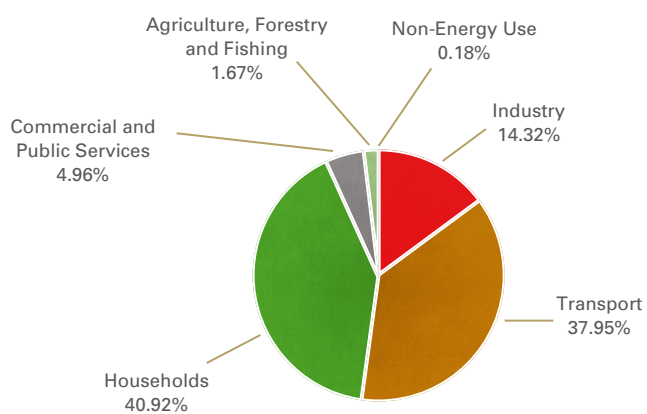
Unit : ktoe

Total Final Consumption (TFC)



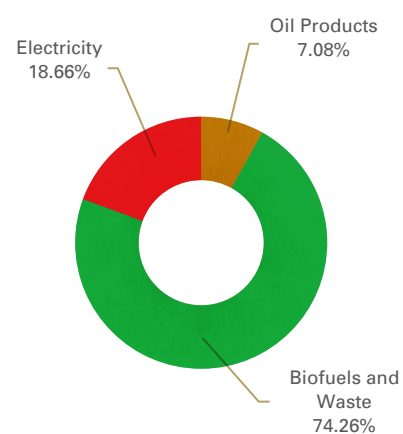
8 747 ktoe

Total Final Consumption by Sector



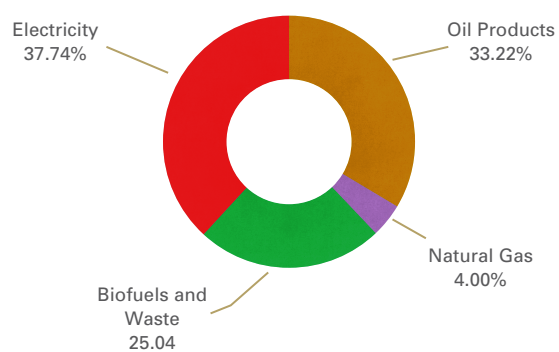
8 747 ktoe

Households Consumption



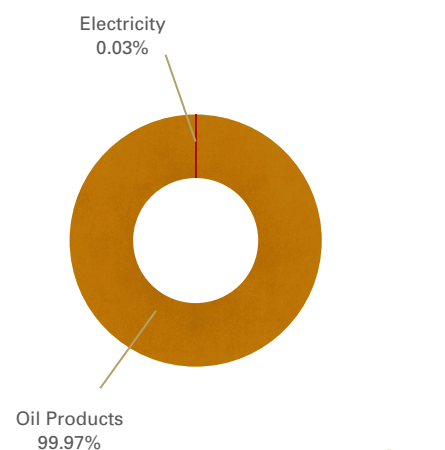
3 579 ktoe

Industry Consumption



1 253 ktoe

Transport Consumption



3 319 ktoe

ENERGY BALANCE AND INDICATORS

Kingdom of Lesotho
Aggregated Energy Balance 2020

Thousand Tonnes of Oil Equivalent (ktoe)	Coal and Coal Products	Crude Oil	Oil Products	Natural Gas	Biofuels and Waste	Hydro	Solar	Wind	Other Sources	Electricity	Total of all energy sources
Production	-	-	-	-	30.0	36.8	-	-	-	-	66.8
Imports (+)	2.1	-	230.8	7.6	1.2	-	-	-	-	38.0	279.7
Exports (-)	-	-	-	-	-	-	-	-	-	- 0.0	- 0.0
International Marine Bunkers (-)	-	-	-	-	-	-	-	-	-	-	-
International Aviation Bunkers (-)	-	-	-	-	-	-	-	-	-	-	-
Stock Changes (+ draw, - build)	-	-	-	-	-	-	-	-	-	-	-
TOTAL PRIMARY ENERGY SUPPLY	2.1	-	230.8	7.6	31.3	36.8	-	-	-	37.9	346.5
Transfers : Origin (-) and Destination (+)	-	-	-	-	-	-	-	-	-	-	-
Statistical Difference	-	-	- 0.1	-	0.2	- 0.0	-	-	-	- 0.0	0.2
TRANSFORMATION Inputs (-) and Outputs (+)	-	-	-	-	-	- 36.8	-	-	-	36.8	0.0
Electricity plants	-	-	-	-	-	- 36.8	-	-	-	36.8	0.0
CHP Plants	-	-	-	-	-	-	-	-	-	-	-
Heat Plants	-	-	-	-	-	-	-	-	-	-	-
Coke ovens	-	-	-	-	-	-	-	-	-	-	-
Blast furnaces	-	-	-	-	-	-	-	-	-	-	-
Oil Refineries	-	-	-	-	-	-	-	-	-	-	-
Coal-to-liquids plants	-	-	-	-	-	-	-	-	-	-	-
Gas-to-liquids plants	-	-	-	-	-	-	-	-	-	-	-
Charcoal production plants	-	-	-	-	-	-	-	-	-	-	-
Transformation not elsewhere specified	-	-	-	-	-	-	-	-	-	-	-
Energy Sector Own Use	-	-	-	-	-	-	-	-	-	0.2	0.2
Losses	-	-	-	-	-	-	-	-	-	6.8	6.8
FINAL CONSUMPTION	2.1	-	230.9	7.6	31.0	-	-	-	-	67.8	339.3
Industry	0.4	-	6.0	-	0.5	-	-	-	-	20.8	27.8
Transport	-	-	137.7	-	-	-	-	-	-	1.4	139.1
Households	0.3	-	64.2	7.6	29.9	-	-	-	-	28.2	130.1
Commercial and public services	1.4	-	19.8	-	0.6	-	-	-	-	15.7	37.4
Agriculture, Forestry and Fishing	-	-	3.2	-	-	-	-	-	-	0.1	3.3
Non-specified (HH, Com. & PS., Agri.)	-	-	-	-	-	-	-	-	-	1.6	1.6
Non-Energy Use	-	-	-	-	-	-	-	-	-	-	-

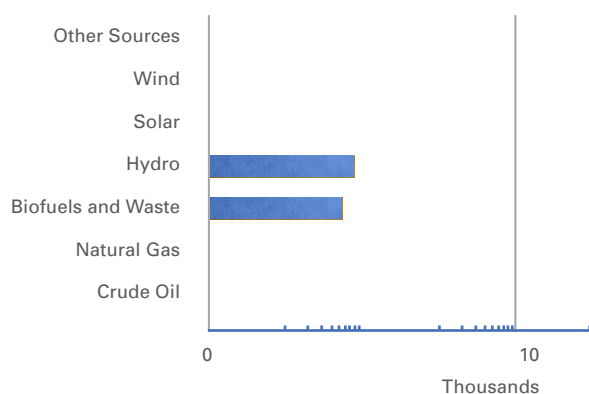
Note: The main source of Energy Production in Lesotho is Hydroelectricity with 55.07% followed by biofuel and waste 44.93%. The total final consumption is dominated by Oil products at 68% and followed by Electricity with 19.99%.

Oil products represent 52.50% in the final household consumption. In the industrial sector, 74.76% of final consumption is made from Electricity followed by Oil Products 21.69%.

Unit: %	Coal and Coal Products	Crude Oil	Oil Products	Natural Gas	Biofuels and Waste	Hydro	Solar	Wind	Other Sources	Electricity
Energy Production	-	-	-	-	44.93	55.07	-	-	-	-
Share in imports	0.74	-	82.54	2.70	0.44	-	-	-	-	13.58
Electricity production mix	-	-	-	-	-	100	-	-	-	-
Final Consumption	0.61	-	68.04	2.23	9.14	-	-	-	-	19.99

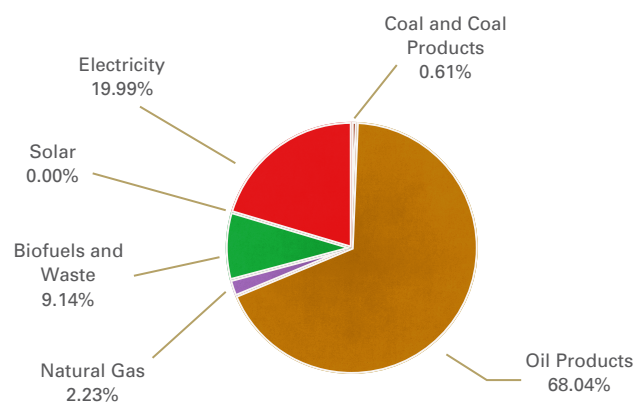
	Unit	Value
Energy dependency rate	%	80.7
Electricity transmission and distribution losses (% of output)	%	9.1
Share of renewables in primary production	%	78.2
Share of renewables in total primary energy supply	%	18.6
Share of renewables in total final energy consumption	%	18.9
Share of renewables in electricity production	%	100.0
Share of solar thermal in final consumption	%	0.0

Energy Production



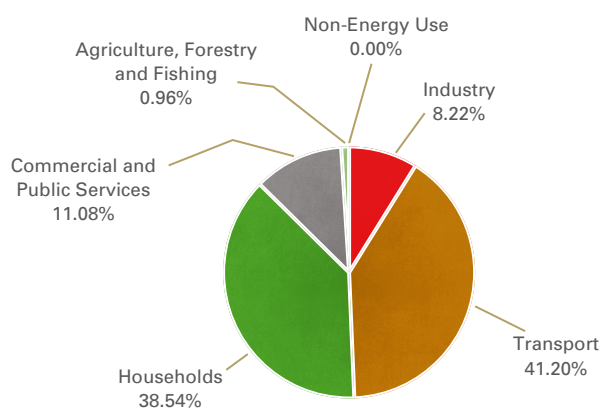
Unit : ktoe

Total Final Consumption (TFC)



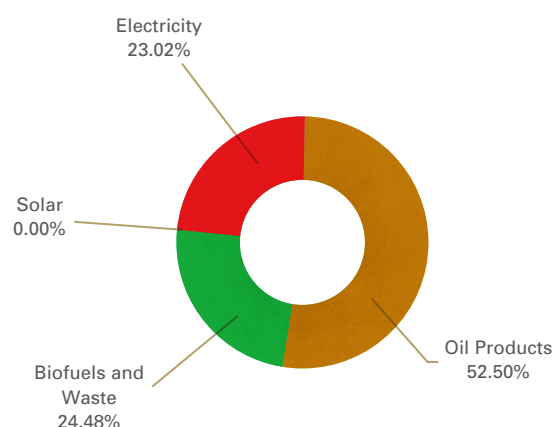
339 ktoe

Total Final Consumption by Sector



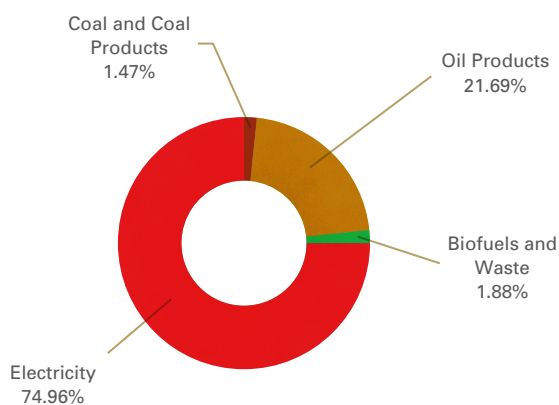
339 ktoe

Households Consumption



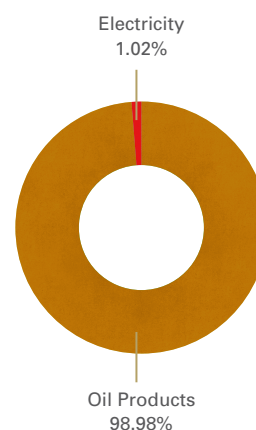
130 ktoe

Industry Consumption



28 ktoe

Transport Consumption



139 ktoe

ENERGY BALANCE AND INDICATORS

Republic of Mauritius
Aggregated Energy Balance 2020

Thousand Tonnes of Oil Equivalent (ktoe)	Coal and Coal Products	Crude Oil	Oil Products	Biofuels and Waste	Hydro	Solar	Wind	Other Sources	Electricity	Total of all energy sources
Production	-	-	-	175.6	10.0	12.5	1.6	-	-	199.7
Imports (+)	732.8	-	1 254.4	0.1	-	-	-	-	-	1 987.3
Exports (-)	-	-	-	-	-	-	-	-	-	-
International Marine Bunkers (-)	-	-	- 625.9	-	-	-	-	-	-	- 625.9
International Aviation Bunkers (-)	-	-	- 58.8	-	-	-	-	-	-	- 58.8
Stock Changes (+ draw, - build)	- 325.7	-	182.4	-	-	-	-	-	-	- 143.4
TOTAL PRIMARY ENERGY SUPPLY	407.0	-	752.1	175.8	10.0	12.5	1.6	-	-	1 359.0
Transfers : Origin (-) and Destination (+)	-	-	-	-	-	-	-	-	-	-
Statistical Difference	- 0.0	-	2.0	-	-	-	-	-	- 0.0	2.0
TRANSFORMATION Inputs (-) and Outputs (+)	- 383.1	-	- 205.9	- 158.0	- 10.0	- 12.5	- 1.6	-	247.8	- 523.2
Electricity plants	- 383.1	-	- 205.9	- 157.7	- 10.0	- 12.5	- 1.6	-	247.8	- 522.9
CHP Plants	-	-	-	-	-	-	-	-	-	-
Heat Plants	-	-	-	-	-	-	-	-	-	-
Coke ovens	-	-	-	-	-	-	-	-	-	-
Blast furnaces	-	-	-	-	-	-	-	-	-	-
Oil Refineries	-	-	-	-	-	-	-	-	-	-
Coal-to-liquids plants	-	-	-	-	-	-	-	-	-	-
Gas-to-liquids plants	-	-	-	-	-	-	-	-	-	-
Charcoal production plants	-	-	-	0.3	-	-	-	-	-	0.3
Transformation not elsewhere specified	-	-	-	- 0.6	-	-	-	-	-	- 0.6
Energy Sector Own Use	-	-	-	-	-	-	-	-	4.0	4.0
Losses	-	-	-	-	-	-	-	-	12.3	12.3
FINAL CONSUMPTION	23.9	-	544.2	17.8	-	-	-	-	231.6	817.6
Industry	23.9	-	71.3	14.1	-	-	-	-	74.2	183.5
Transport	-	-	395.2	-	-	-	-	-	-	395.2
Households	-	-	58.9	3.4	-	-	-	-	82.7	145.0
Commercial and public services	-	-	18.5	0.4	-	-	-	-	69.1	87.9
Agriculture, Forestry and Fishing	-	-	-	-	-	-	-	-	1.4	1.4
Non-specified (HH, Com. & PS., Agri.)	-	-	0.3	-	-	-	-	-	4.3	4.6
Non-Energy Use	-	-	-	-	-	-	-	-	-	-

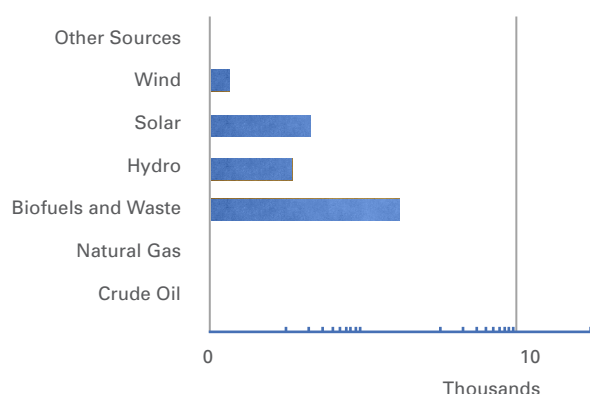
Note: Biofuels represents 87.96% of the Energy Production of Mauritius, but it represents only 2.18% in the final energy consumption. The large part of the final consumption is dominated by Petroleum Products with a rate of 66.57% followed by Electricity 28.33%.

Electricity consumed at the household sector represents 57.03% while at the industrial sector, it occupies 40.45%. Petroleum Products, represents 40.6% in households and 38.86% in industry.

Unit: %	Coal and Coal Products	Crude Oil	Oil Products	Natural Gas	Biofuels and Waste	Hydro	Solar	Wind	Other Sources	Electricity
Energy Production	-	-	-	-	87.96	4.99	6.27	0.78	-	-
Share in imports	36.87	-	63.12	-	0.01	-	-	-	-	-
Electricity production mix	39.5	-	36.7	-	14.2	4.0	5.1	0.6	-	-
Final Consumption	2.92	-	66.57	-	2.18	-	-	-	-	28.33

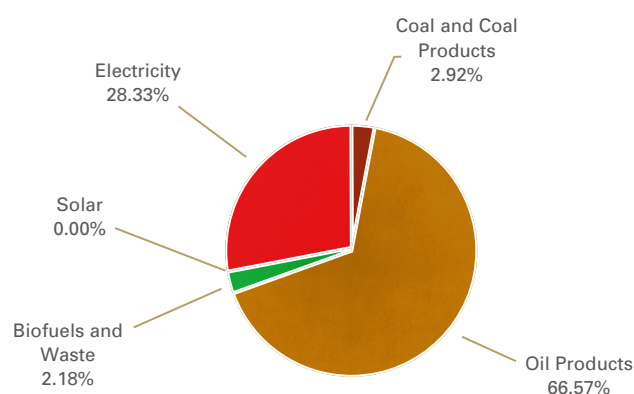
	Unit	Value
Energy dependency rate	%	146.2
Average efficiency of conventional thermal power generation	%	30.0
Electricity transmission and distribution losses (% of output)	%	5.0
Share of renewables in primary production	%	100
Share of renewables in total primary energy supply	%	14.7
Share of renewables in total final energy consumption	%	9.4
Share of renewables in electricity production	%	23.9
Share of solar thermal in final consumption	%	0.0

Energy Production



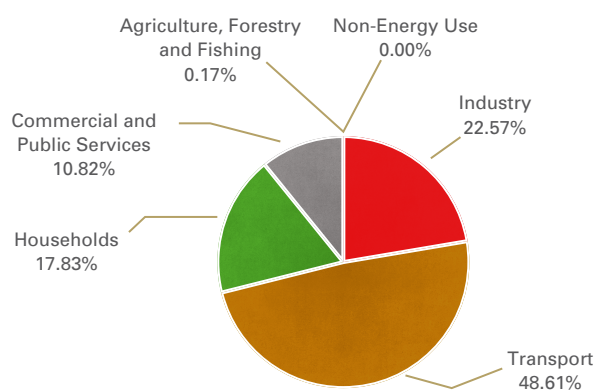
Unit : ktoe

Total Final Consumption (TFC)



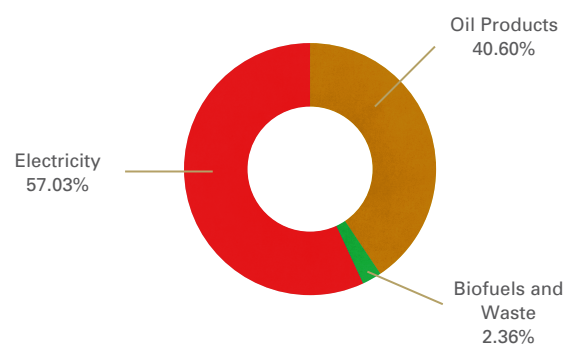
818 ktoe

Total Final Consumption by Sector



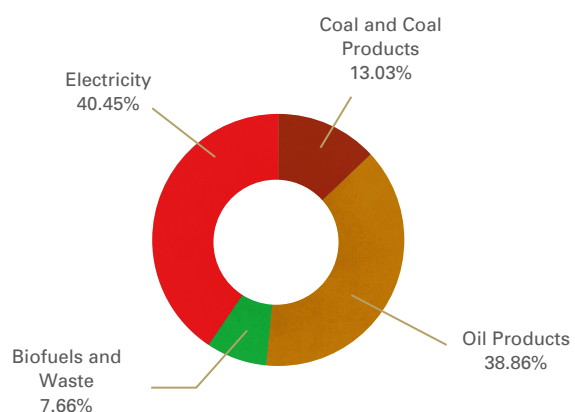
818 ktoe

Households Consumption



145 ktoe

Industry Consumption



184 ktoe

ENERGY BALANCE AND INDICATORS

Kingdom of Morocco Aggregated Energy Balance 2020

Thousand Tonnes of Oil Equivalent (ktoe)	Coal and Coal Products	Crude Oil	Oil Products	Natural Gas	Biofuels and Waste	Hydro	Solar	Wind	Other Sources	Electricity	Total of all energy sources
Production	-	4.1	-	74.6	1 269.1	74.6	379.8	394.8	112.0	-	2 309.0
Imports (+)	6 576.2	-	11 906.3	606.1	-	-	-	-	-	73.6	19 162.1
Exports (-)	-	-	-	-	-	-	-	-	-	- 53.6	- 53.6
International Marine Bunkers (-)	-	-	- 134.0	-	-	-	-	-	-	-	- 134.0
International Aviation Bunkers (-)	-	-	- 296.5	-	-	-	-	-	-	-	- 296.5
Stock Changes (+ draw, - build)	112.7	-	2.5	-	-	-	-	-	-	-	115.1
TOTAL PRIMARY ENERGY SUPPLY	6 688.8	4.1	11 478.2	680.7	1 269.1	74.6	379.8	394.8	112.0	20.0	21 102.1
Transfers : Origin (-) and Destination (+)	-	-	-	-	-	-	-	-	-	-	-
Statistical Difference	0.0	-	- 9.5	4.5	-	-	-	- 0.0	-	-	- 5.0
TRANSFORMATION Inputs (-) and Outputs (+)	- 6 672.8	-	- 163.8	- 601.8	- 34.8	- 74.6	- 328.0	- 394.8	- 112.0	3 407.9	-4 974.6
Electricity plants	- 6 672.8	-	- 163.8	- 601.8	-	- 74.6	- 328.0	- 394.8	-	3 296.0	-4 939.8
CHP Plants	-	-	-	-	-	-	-	-	- 112.0	112.0	-
Heat Plants	-	-	-	-	-	-	-	-	-	-	-
Coke ovens	-	-	-	-	-	-	-	-	-	-	-
Blast furnaces	-	-	-	-	-	-	-	-	-	-	-
Oil Refineries	-	-	-	-	-	-	-	-	-	-	-
Coal-to-liquids plants	-	-	-	-	-	-	-	-	-	-	-
Gas-to-liquids plants	-	-	-	-	-	-	-	-	-	-	-
Charcoal production plants	-	-	-	-	- 34.8	-	-	-	-	-	- 34.8
Transformation not elsewhere specified	-	-	-	-	-	-	-	-	-	-	-
Energy Sector Own Use	-	4.1	-	-	-	-	-	-	-	16.6	20.7
Losses	-	-	-	-	-	-	-	-	-	582.2	582.2
FINAL CONSUMPTION	16.1	-	11 323.8	74.4	1 234.3	-	51.8	-	-	2 829.2	15 529.5
Industry	16.1	-	1 806.8	74.4	99.0	-	-	-	-	1 016.9	3 013.2
Transport	-	-	5 173.2	-	-	-	-	-	-	18.4	5 191.6
Households	-	-	2 832.9	-	477.7	-	38.8	-	-	1 009.5	4 358.9
Commercial and public services	-	-	152.8	-	657.5	-	12.9	-	-	476.6	1 299.9
Agriculture, Forestry and Fishing	-	-	835.7	-	-	-	-	-	-	307.9	1 143.6
Non-specified (HH, Com. & PS., Agri.)	-	-	-	-	-	-	-	-	-	-	-
Non-Energy Use	-	-	522.2	-	-	-	-	-	-	-	522.2

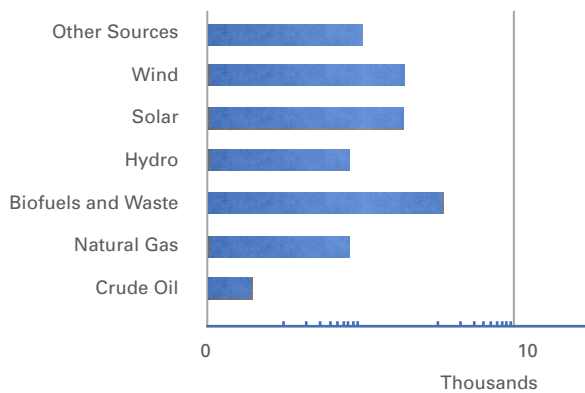
Note: Biofuels is the main source of energy production in Morocco's with 54.96%. There is a production of renewable energy in particular solar (16.45%) and wind (17.10%). The final energy consumption is dominated by petroleum products with 72.92% mainly consumed at household level with 64.99% and by industry with 59.96%.

Electricity represents 23.16% in household consumption and 33.75% in industry.

Unit: %	Coal and Coal Products	Crude Oil	Oil Products	Natural Gas	Biofuels and Waste	Hydro	Solar	Wind	Other Sources	Electricity
Energy Production	-	0.18	-	3.23	54.96	3.23	16.45	17.10	4.85	-
Share in imports	34.32	-	62.13	3.16	-	-	-	-	-	0.38
Electricity production mix	68.6	-	1.7	8.7	-	2.2	1.0	11.69	6.1	-
Final Consumption	0.10	-	72.92	0.48	7.95	-	0.33	-	-	18.22

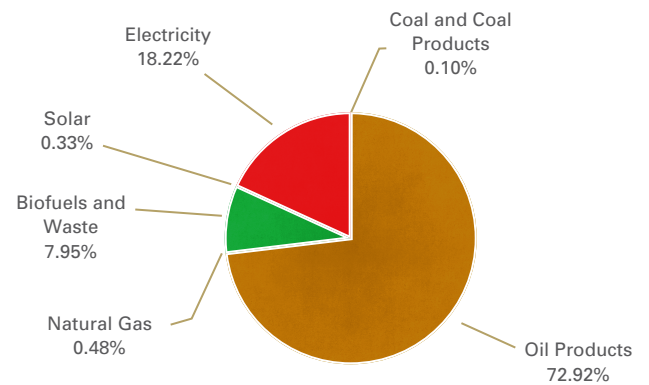
	Unit	Value
Energy dependency rate	%	90.6
Average efficiency of conventional thermal power generation	%	36.2
Electricity transmission and distribution losses (% of output)	%	17.1
Share of renewables in primary production	%	91.7
Share of renewables in total primary energy supply	%	10.0
Share of renewables in total final energy consumption	%	12.6
Share of renewables in electricity production	%	17.6
Share of solar thermal in final consumption	%	0.3

Energy Production



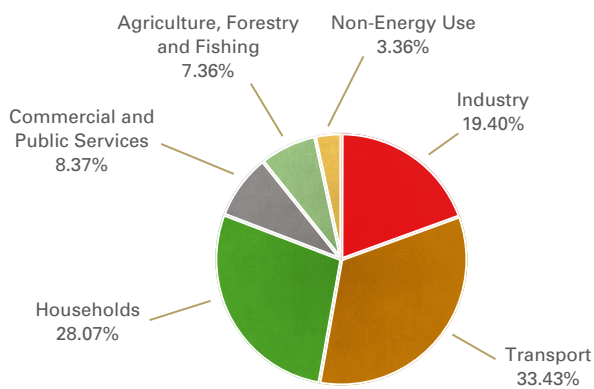
Unit : ktoe

Total Final Consumption (TFC)



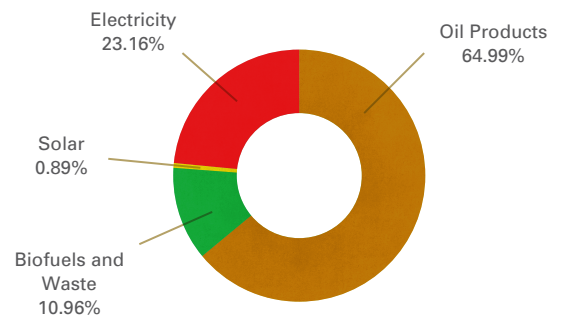
15 530 ktoe

Total Final Consumption by Sector



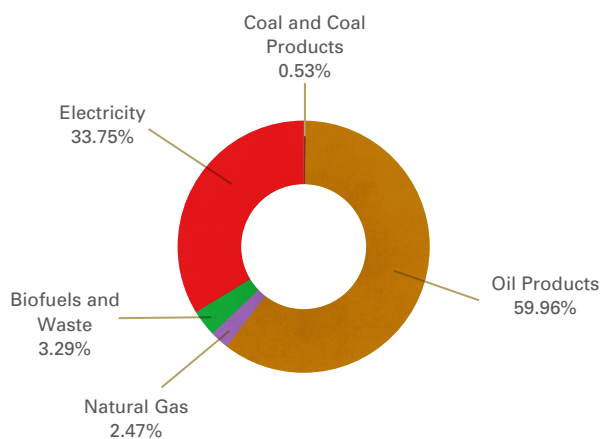
15 530 ktoe

Households Consumption



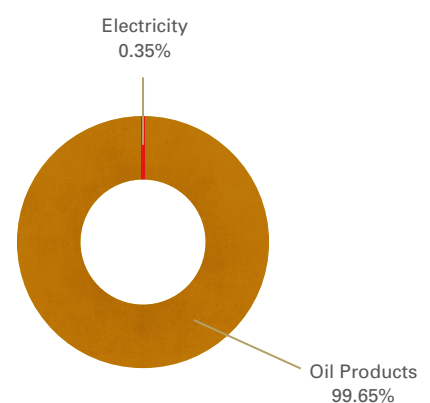
4 359 ktoe

Industry Consumption



3 013 ktoe

Transport Consumption



5 192 ktoe

ENERGY BALANCE AND INDICATORS

Republic of Mozambique Aggregated Energy Balance 2020

Thousand Tonnes of Oil Equivalent (ktoe)	Coal and Coal Products	Crude Oil	Oil Products	Natural Gas	Biofuels and Waste	Hydro	Solar	Wind	Other Sources	Electricity	Total of all energy sources
Production	4 835.0	6.6	-	3 984.0	7 383.2	1 350.2	5.9	-	-	-	17 565.0
Imports (+)	-	-	1 295.5	-	-	-	-	-	-	697.4	1 992.8
Exports (-)	- 4 597.4	- 6.5	- 13.8	- 3 258.4	-	-	-	-	-	- 1 056.7	- 8 932.8
International Marine Bunkers (-)	-	-	- 5.3	-	-	-	-	-	-	-	- 5.3
International Aviation Bunkers (-)	-	-	- 51.0	-	-	-	-	-	-	-	- 51.0
Stock Changes (+ draw, - build)	- 217.2	-	-	-	-	-	-	-	-	-	- 217.2
TOTAL PRIMARY ENERGY SUPPLY	20.5	0.0	1 225.4	725.6	7 383.2	1 350.2	5.9	-	-	- 359.4	10 351.5
Transfers : Origin (-) and Destination (+)	-	-	- 0.1	-	-	-	-	-	-	-	- 0.1
Statistical Difference	- 0.0	0.0	- 88.8	- 25.4	-	-	-	-	-	- 51.7	- 165.9
TRANSFORMATION Inputs (-) and Outputs (+)	-	-	- 29.2	- 592.3	- 2 067.5	- 1 350.2	- 5.9	-	-	1 635.8	- 2 409.4
Electricity plants	-	-	- 29.2	- 592.3	- 57.6	- 1 350.2	- 5.9	-	-	1 635.8	- 399.5
CHP Plants	-	-	-	-	-	-	-	-	-	-	-
Heat Plants	-	-	-	-	-	-	-	-	-	-	-
Coke ovens	-	-	-	-	-	-	-	-	-	-	-
Blast furnaces	-	-	-	-	-	-	-	-	-	-	-
Oil Refineries	-	-	-	-	-	-	-	-	-	-	-
Coal-to-liquids plants	-	-	-	-	-	-	-	-	-	-	-
Gas-to-liquids plants	-	-	-	-	-	-	-	-	-	-	-
Charcoal production plants	-	-	-	-	- 2 009.9	-	-	-	-	-	- 2 009.9
Transformation not elsewhere specified	-	-	-	-	-	-	-	-	-	-	-
Energy Sector Own Use	-	-	0.2	104.3	-	-	-	-	-	18.3	122.8
Losses	-	-	-	-	-	-	-	-	-	261.6	261.6
FINAL CONSUMPTION	20.5	-	1 284.7	54.4	5 315.7	-	-	-	-	1 048.2	7 723.5
Industry	20.5	-	169.0	38.7	220.4	-	-	-	-	879.4	1 327.9
Transport	-	-	1 083.0	0.6	-	-	-	-	-	-	1 083.6
Households	-	-	24.7	-	4 964.5	-	-	-	-	129.9	5 119.1
Commercial and public services	-	-	8.0	1.0	130.7	-	-	-	-	3.2	142.9
Agriculture, Forestry and Fishing	-	-	-	-	-	-	-	-	-	0.0	0.0
Non-specified (HH, Com. & PS., Agri.)	-	-	-	14.2	-	-	-	-	-	35.7	49.9
Non-Energy Use	-	-	-	-	-	-	-	-	-	-	-

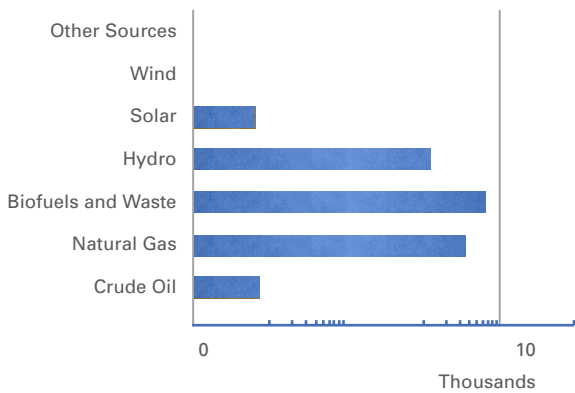
Note: The Energy Production of Mozambique is dominated by Biofuels with the rate of 42.03% and followed by coal with 27.53%. Biofuels is the main source in final consumption with 68.82%.

Oil products represent 16.63% and electricity 13.57%. Biofuels is consumed at 96.98% in the household sector which represents 66.71% of total final consumption.

Unit: %	Coal and Coal Products	Crude Oil	Oil Products	Natural Gas	Biofuels and Waste	Hydro	Solar	Wind	Other Sources	Electricity
Energy Production	2 7.53	0.04	-	22.68	42.03	7.69	0.03	-	-	-
Share in imports	-	-	65.01	-	-	-	-	-	-	34.99
Electricity production mix	-	-	0.7	15.8	0.6	82.5	0.4	-	-	-
Final Consumption	0.27	-	16.63	0.70	68.82	-	-	-	-	13.57

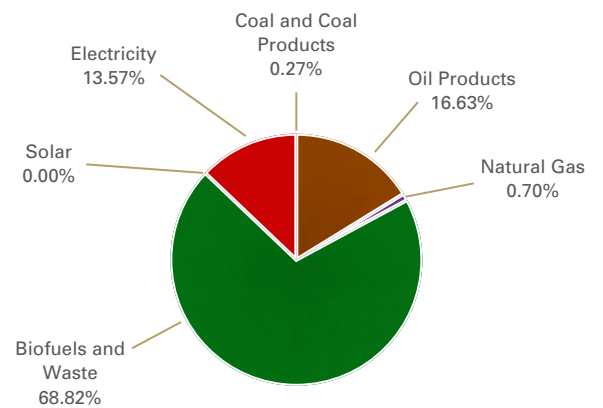
	Unit	Value
Energy dependency rate	%	-67.0
Average efficiency of conventional thermal power generation	%	41.2
Electricity transmission and distribution losses (% of output)	%	20.0
Efficiency of refineries	%	0
Share of renewables in primary production	%	49.8
Share of renewables in total primary energy supply	%	84.4
Share of renewables in total final energy consumption	%	86.5
Share of renewables in electricity production	%	83.5

Energy Production



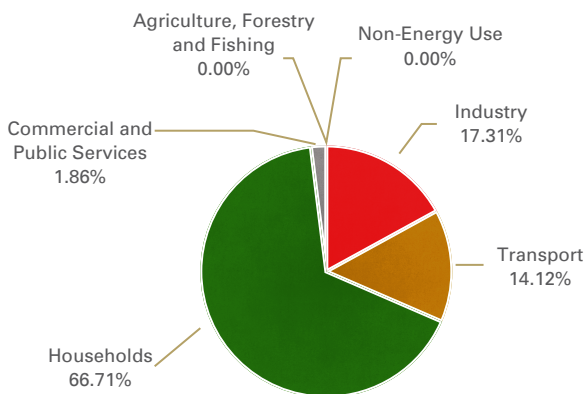
Unit : ktoe

Total Final Consumption (TFC)



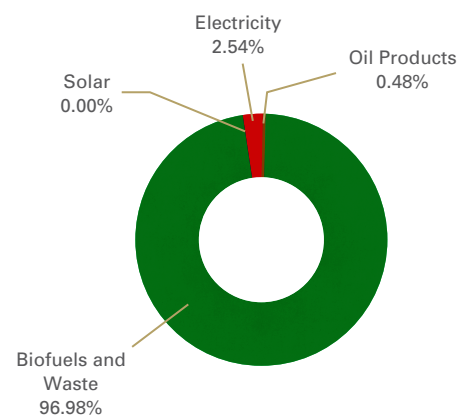
7 724 ktoe

Total Final Consumption by Sector



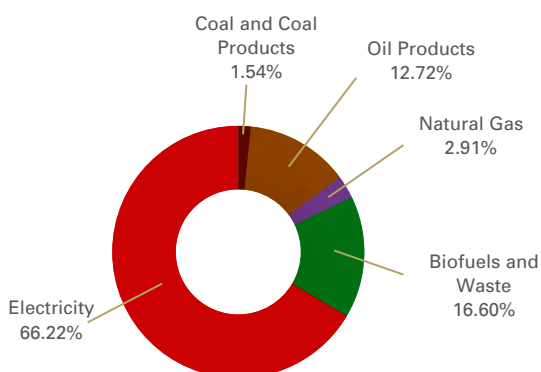
7 724 ktoe

Households Consumption



5 119 ktoe

Industry Consumption



1 328 ktoe

ENERGY BALANCE AND INDICATORS

Republic of Niger
Aggregated Energy Balance 2020

Thousand Tonnes of Oil Equivalent (ktoe)	Coal and Coal Products	Crude Oil	Oil Products	Natural Gas	Biofuels and Waste	Hydro	Solar	Wind	Other Sources	Electricity	Total of all energy sources
Production	88.4	863.3	-	32.8	2 290.6	-	2.1	-	-	-	3 277.3
Imports (+)	-	-	138.9	-	42.8	-	-	-	-	95.3	277.0
Exports (-)	-	-	- 339.5	-	-	-	-	-	-	-	- 339.5
International Marine Bunkers (-)	-	-	-	-	-	-	-	-	-	-	-
International Aviation Bunkers (-)	-	-	- 44.1	-	-	-	-	-	-	-	- 44.1
Stock Changes (+ draw, - build)	- 0.5	-	6.6	-	-	-	-	-	-	-	6.0
TOTAL PRIMARY ENERGY SUPPLY	87.9	863.3	- 238.1	32.8	2 333.5	-	2.1	-	-	95.3	3 176.7
Transfers : Origin (-) and Destination (+)	-	-	-	-	-	-	-	-	-	-	-
Statistical Difference	0.7	3.5	- 2.9	-	- 0.0	-	-	-	-	- 4.9	- 3.5
TRANSFORMATION Inputs (-) and Outputs (+)	- 87.2	- 859.8	718.4	- 32.8	-	-	- 2.1	-	-	54.6	- 208.9
Electricity plants	- 84.7	-	- 94.6	- 32.8	-	-	- 2.1	-	-	54.6	- 159.7
CHP Plants	-	-	-	-	-	-	-	-	-	-	-
Heat Plants	-	-	-	-	-	-	-	-	-	-	-
Coke ovens	-	-	-	-	-	-	-	-	-	-	-
Blast furnaces	-	-	-	-	-	-	-	-	-	-	-
Oil Refineries	-	- 859.8	813.0	-	-	-	-	-	-	-	- 46.8
Coal-to-liquids plants	-	-	-	-	-	-	-	-	-	-	-
Gas-to-liquids plants	-	-	-	-	-	-	-	-	-	-	-
Charcoal production plants	-	-	-	-	-	-	-	-	-	-	-
Transformation not elsewhere specified	- 2.4	-	-	-	-	-	-	-	-	-	- 2.4
Energy Sector Own Use	-	-	-	-	-	-	-	-	-	14.8	14.8
Losses	-	-	0.7	-	-	-	-	-	-	28.3	29.1
FINAL CONSUMPTION	-	-	482.4	-	2 333.5	-	-	-	-	111.5	2 927.4
Industry	-	-	60.5	-	-	-	-	-	-	17.8	78.3
Transport	-	-	372.3	-	-	-	-	-	-	-	372.3
Households	-	-	30.3	-	1 860.0	-	-	-	-	62.2	1 952.5
Commercial and public services	-	-	19.4	-	473.5	-	-	-	-	30.7	523.6
Agriculture, Forestry and Fishing	-	-	-	-	-	-	-	-	-	0.7	0.7
Non-specified (HH, Com. & PS., Agri.)	-	-	-	-	-	-	-	-	-	-	-
Non-Energy Use	-	-	-	-	-	-	-	-	-	-	-

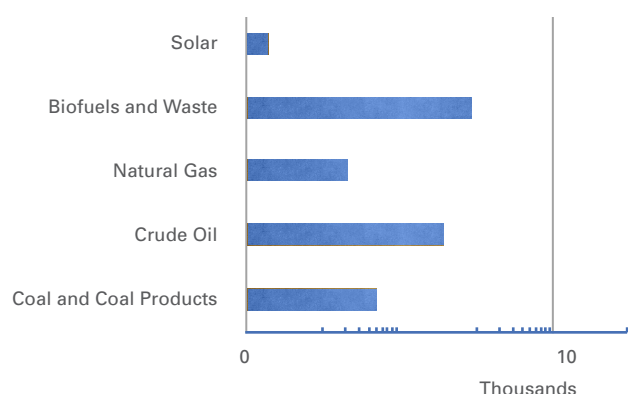
Note: Niger is a Coal and Crude Oil producer country with a Energy production dominated by Biofuel with 69.89%. The final energy consumption is dominated by Biofuels with 79.71%, and the same energy form is the main source in the household sector consumption with 95.26%.

Final Consumption in the industrial sector is shared between Petroleum Products 77.24% and Electricity 22.76%.

Unit: %	Coal and Coal Products	Crude Oil	Oil Products	Natural Gas	Biofuels and Waste	Hydro	Solar	Wind	Other Sources	Electricity
Energy Production	2.70	26.34	-	1.00	69.89	-	0.06	-	-	-
Share in imports	-	-	50.16	-	15.46	-	-	-	-	34.38
Electricity production mix	32.8	-	55.5	7.9	-	-	3.8	-	-	-
Final Consumption	-	-	16.48	-	79.71	-	-	-	-	3.81

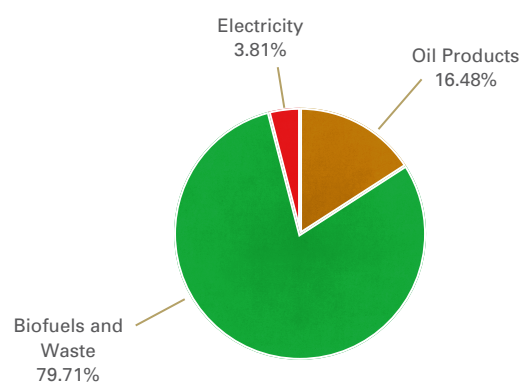
	Unit	Value
Energy dependency rate	%	-2.0
Average efficiency of conventional thermal power generation	%	24.7
Electricity transmission and distribution losses (% of output)	%	20.3
Share of renewables in primary production	%	45.4
Share of renewables in total primary energy supply	%	47.2
Share of renewables in total final energy consumption	%	49.7
Share of renewables in electricity production	%	3.8
Share of solar thermal in final consumption	%	0.0

Energy Production



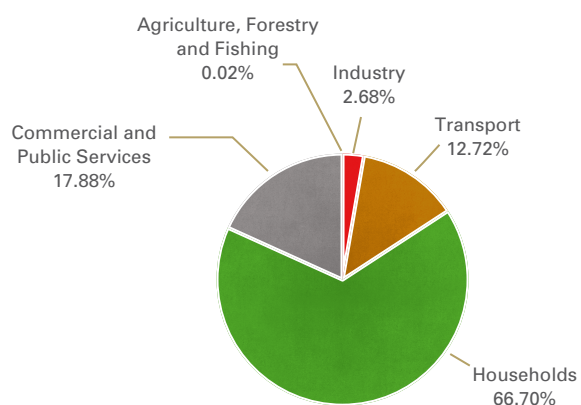
Unit : ktoe

Total Final Consumption (TFC)



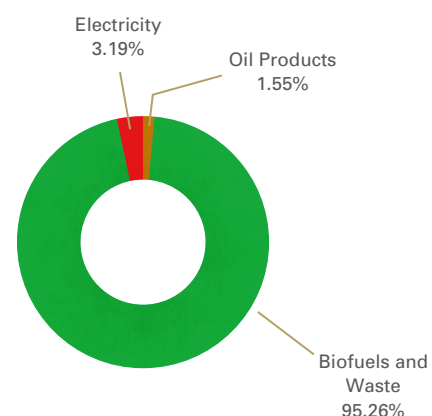
2 927 ktoe

Total Final Consumption by Sector



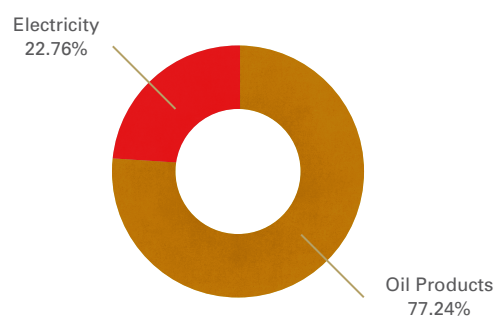
2 927 ktoe

Households Consumption



1 953 ktoe

Industry Consumption



78 ktoe

ENERGY BALANCE AND INDICATORS

Togolese Republic
Aggregated Energy Balance 2020

Thousand Tonnes of Oil Equivalent (ktoe)	Coal and Coal Products	Crude Oil	Oil Products	Natural Gas	Biofuels and Waste	Hydro	Solar	Wind	Other Sources	Electricity	Total of all energy sources
Production	-	-	-	-	3 255.7	6.4	1.3	-	-	-	3 263.5
Imports (+)	-	-	680.0	70.3	-	-	-	-	-	70.1	820.4
Exports (-)	-	-	-	-	-	-	-	-	-	-	-
International Marine Bunkers (-)	-	-	-	-	-	-	-	-	-	-	-
International Aviation Bunkers (-)	-	-	-56.9	-	-	-	-	-	-	-	-56.9
Stock Changes (+ draw, - build)	-	-	9.4	-	-	-	-	-	-	-	9.4
TOTAL PRIMARY ENERGY SUPPLY	-	-	632.6	70.3	3 255.7	6.4	1.3	-	-	70.1	4 036.4
Transfers : Origin (-) and Destination (+)	-	-	-	-	-	-	-	-	-	-	-
Statistical Difference	-	-	159.0	-	-	-	-	-	-	-0.0	159.0
TRANSFORMATION Inputs (-) and Outputs (+)	-	-	- 124.8	- 70.3	- 1 492.3	- 6.4	- 1.3	-	-	54.3	- 1 640.8
Electricity plants	-	-	- 124.8	- 70.3	- 6.4	- 6.4	- 1.3	-	-	54.3	- 154.9
CHP Plants	-	-	-	-	-	-	-	-	-	-	-
Heat Plants	-	-	-	-	-	-	-	-	-	-	-
Coke ovens	-	-	-	-	-	-	-	-	-	-	-
Blast furnaces	-	-	-	-	-	-	-	-	-	-	-
Oil Refineries	-	-	-	-	-	-	-	-	-	-	-
Coal-to-liquids plants	-	-	-	-	-	-	-	-	-	-	-
Gas-to-liquids plants	-	-	-	-	-	-	-	-	-	-	-
Charcoal production plants	-	-	-	-	- 1 485.9	-	-	-	-	-	- 1 485.9
Transformation not elsewhere specified	-	-	-	-	-	-	-	-	-	-	-
Energy Sector Own Use	-	-	-	-	-	-	-	-	-	0.9	0.9
Losses	-	-	-	-	-	-	-	-	-	8.2	8.2
FINAL CONSUMPTION	-	-	348.7	-	1 763.4	-	-	-	-	115.3	2 227.4
Industry	-	-	24.3	-	-	-	-	-	-	8.8	33.1
Transport	-	-	262.6	-	-	-	-	-	-	-	262.6
Households	-	-	31.4	-	1 539.8	-	-	-	-	101.1	1 672.3
Commercial and public services	-	-	2.4	-	223.6	-	-	-	-	5.4	231.4
Agriculture, Forestry and Fishing	-	-	-	-	-	-	-	-	-	-	-
Non-specified (HH, Com. & PS., Agri.)	-	-	-	-	-	-	-	-	-	0.0	0.0
Non-Energy Use	-	-	27.9	-	-	-	-	-	-	-	27.9

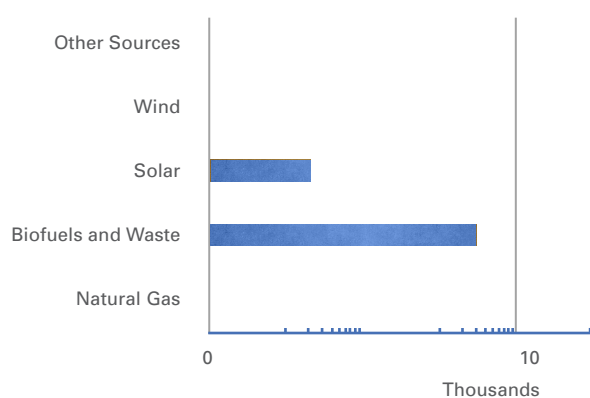
Note: The Energy Production in Togo is dominated by Biofuels with the rate of 99.76%. The biofuel is the main source in final consumption with 79.17%. Oil product represents 15.65% and electricity 5.18%.

Biofuels is consumed at 92.08% in the household sector which represents 75.08% of total final consumption.

Unit: %	Coal and Coal Products	Crude Oil	Oil Products	Natural Gas	Biofuels and Waste	Hydro	Solar	Wind	Other Sources	Electricity
Energy Production	-	-	-	-	99.76	0.20	0.04	-	-	-
Share in imports	-	-	82.89	8.57	-	-	-	-	-	8.54
Electricity production mix	-	-	9.2	76.0	0.6	11.9	2.3	-	-	-
Final Consumption	-	-	15.65	-	79.17	-	-	-	-	5.18

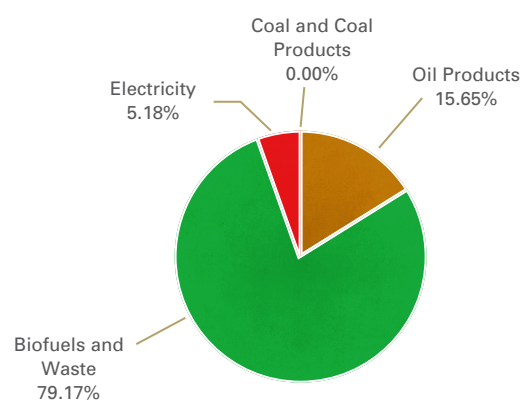
	Unit	Value
Energy dependency rate	%	20.3
Average efficiency of conventional thermal power generation	%	23.1
Electricity transmission and distribution losses (% of output)	%	6.6
Share of renewables in primary production	%	100
Share of renewables in total primary energy supply	%	80.9
Share of renewables in total final energy consumption	%	80.5
Share of renewables in electricity production	%	14.8
Share of solar thermal in final consumption	%	0.0

Energy Production



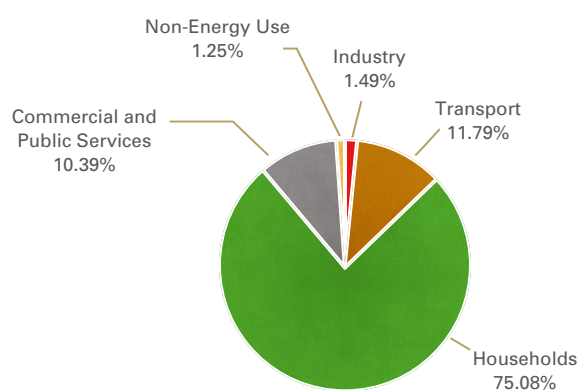
Unit : ktoe

Total Final Consumption (TFC)



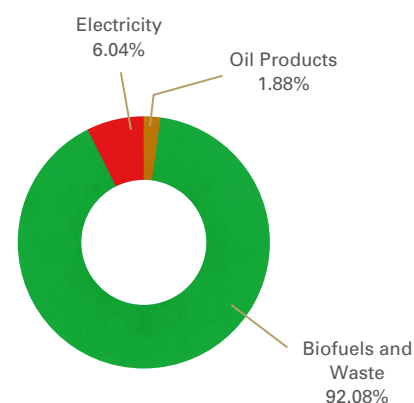
2 227 ktoe

Total Final Consumption by Sector



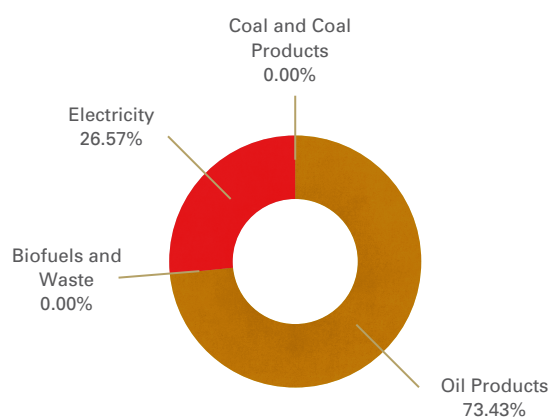
2 227 ktoe

Households Consumption



1 672 ktoe

Industry Consumption



33 ktoe

ENERGY BALANCE AND INDICATORS

Republic of Tunisia
Aggregated Energy Balance 2020

Thousand Tonnes of Oil Equivalent (ktoe)	Crude Oil	Oil Products	Natural Gas	Biofuels and Waste	Hydro	Solar	Wind	Other Sources	Electricity	Heat	Total of all energy sources
Production	1 742.0	-	1 924.9	1 100.2	4.0	92.5	40.0	18.6	-	75.4	4 997.7
Imports (+)	824.4	3 607.8	3 344.5	-	-	-	-	-	31.8	-	7 808.4
Exports (-)	-1 239.9	- 546.4	-	-	-	-	-	-	- 83.3	-	- 1 869.5
International Marine Bunkers (-)	-	- 6.8	-	-	-	-	-	-	-	-	- 6.8
International Aviation Bunkers (-)	-	- 104.5	-	-	-	-	-	-	-	-	- 104.5
Stock Changes (+ draw, - build)	- 20.1	- 49.6	-	-	-	-	-	-	-	-	- 69.7
TOTAL PRIMARY ENERGY SUPPLY	1 306.6	2 900.4	5 269.4	1 100.2	4.0	92.5	40.0	18.6	- 51.5	75.4	10 755.6
Transfers : Origin (-) and Destination (+)	- 102.4	112.0	-	-	-	-	-	-	-	-	9.7
Statistical Difference	58.4	- 140.9	19.2	-	-	0.1	-	-	4.1	-	- 59.1
TRANSFORMATION Inputs (-) and Outputs (+)	- 1 139.9	1 109.9	- 3 876.0	- 238.3	- 4.0	- 28.6	- 40.0	- 18.6	1 860.4	- 75.4	-2 450.5
Electricity plants	-	- 17.5	- 3 818.7	-	- 4.0	- 28.6	- 40.0	- 18.6	1 803.1	- 75.4	-2 199.8
CHP Plants	-	-	- 57.3	-	-	-	-	-	57.3	-	0.0
Heat Plants	-	-	-	-	-	-	-	-	-	-	-
Coke ovens	-	-	-	-	-	-	-	-	-	-	-
Blast furnaces	-	-	-	-	-	-	-	-	-	-	-
Oil Refineries	- 1 139.9	1 127.4	-	-	-	-	-	-	-	-	- 12.5
Coal-to-liquids plants	-	-	-	-	-	-	-	-	-	-	-
Gas-to-liquids plants	-	-	-	-	-	-	-	-	-	-	-
Charcoal production plants	-	-	-	- 238.3	-	-	-	-	-	-	- 238.3
Transformation not elsewhere specified	-	-	-	-	-	-	-	-	-	-	-
Energy Sector Own Use	4.0	43.9	146.2	-	-	-	-	-	69.7	-	263.8
Losses	2.0	-	-	-	-	-	-	-	320.3	-	322.3
FINAL CONSUMPTION	-	4 219.4	1 228.0	861.9	-	63.8	-	-	1 414.7	-	7 787.8
Industry	-	761.8	660.4	-	-	-	-	-	454.7	-	1 876.9
Transport	-	2 233.1	128.8	-	-	-	-	-	7.0	-	2 368.9
Households	-	607.9	243.3	850.2	-	61.0	-	-	473.1	-	2 235.4
Commercial and public services	-	90.8	164.1	11.7	-	2.8	-	-	366.5	-	635.9
Agriculture, Forestry and Fishing	-	355.2	31.4	-	-	-	-	-	113.4	-	500.0
Non-specified (HH, Com. & PS., Agri.)	-	-	-	-	-	-	-	-	-	-	-
Non-Energy Use	-	170.6	-	-	-	-	-	-	-	-	170.6

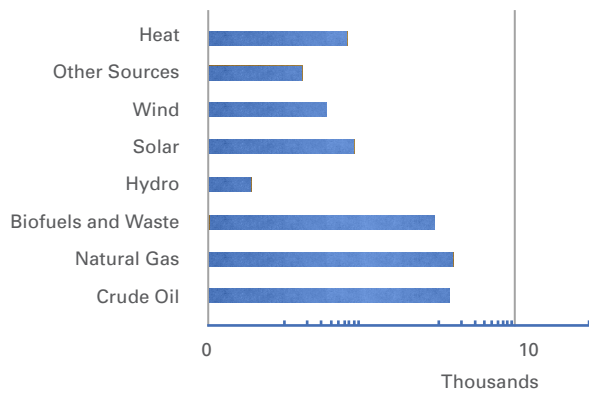
Note: Natural gas represents 38.52% in Tunisia's Energy Production, followed by Crude Oil with 34.86%, then Biofuels and waste with 22.01%. The breakdown of the final energy consumption gives 54.18% for petroleum products, 18.17% for electricity, 15.77% for natural gas and 11.07% for biomass.

At the household sector level, it can be seen that 38.03% of consumption comes from biomass followed by petroleum products and electricity, respectively 27.19% and 21.16%.

Unit: %	Coal and Coal Products	Crude Oil	Oil Products	Natural Gas	Biofuels and Waste	Hydro	Solar	Wind	Other Sources	Electricity	Heat
Energy Production	-	34.86	-	38.52	22.01	0.08	1.85	0.80	-	-	1.51
Share in imports	-	10.56	46.20	42.83	-	-	-	-	0.37	0.41	-
Electricity production mix	-	-	0.2	94.9	-	0.2	1.2	2.2	-	-	-
Final Consumption	-	-	54.18	15.77	11.07	-	0.82	-	1	18.17	-

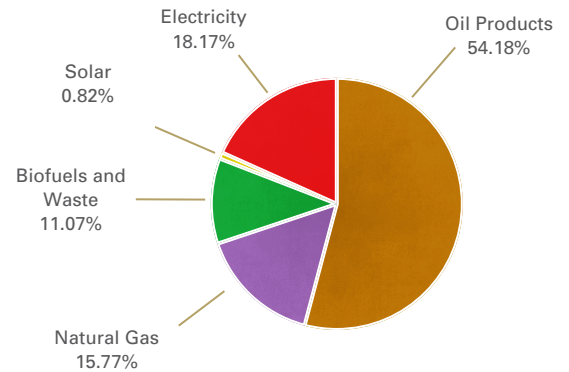
	Unit	Value
Energy dependency rate	%	55.2
Average efficiency of conventional thermal power generation	%	44.6
Electricity transmission and distribution losses (% of output)	%	18.5
Share of renewables in primary production	%	24.7
Share of renewables in total primary energy supply	%	11.5
Share of renewables in total final energy consumption	%	13.1
Share of renewables in electricity production	%	3.9
Share of solar thermal in final consumption	%	0.8

Energy Production



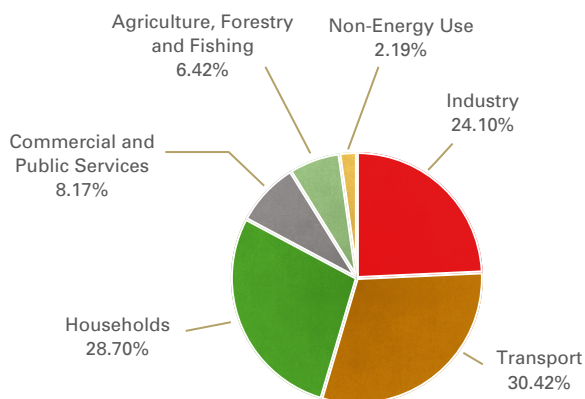
Unit : ktoe

Total Final Consumption (TFC)



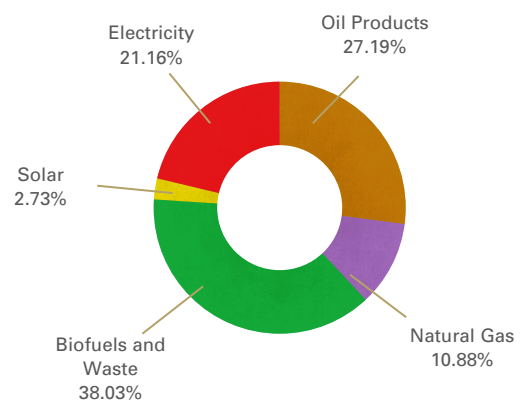
7 788 ktoe

Total Final Consumption by Sector



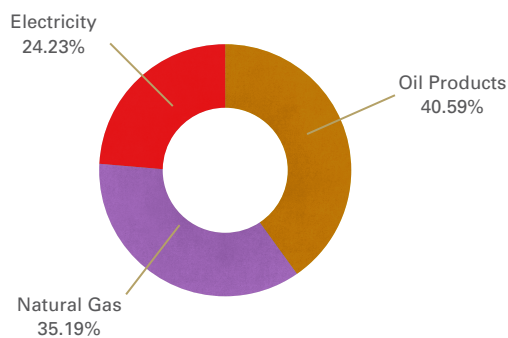
7 788 ktoe

Households Consumption



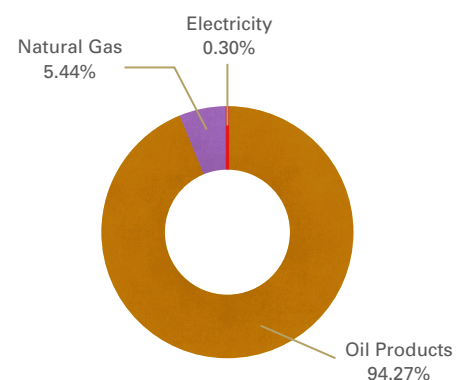
2 235 ktoe

Industry Consumption



1 877 ktoe

Transport Consumption



2 369 ktoe

ENERGY BALANCE AND INDICATORS

Republic of Uganda
Aggregated Energy Balance 2020

Thousand Tonnes of Oil Equivalent (ktoe)	Oil Products	Natural Gas	Biofuels and Waste	Hydro	Solar	Wind	Other Sources	Electricity	Total of all energy sources
Production	-	-	18 327.9	350.9	7.7	-	-	-	18 686.5
Imports (+)	1 767.0	-	3 241.6	-	-	-	-	1.8	5 010.5
Exports (-)	-	-	-	-	-	-	-	- 19.1	- 19.1
International Marine Bunkers (-)	-	-	-	-	-	-	-	-	-
International Aviation Bunkers (-)	- 60.1	-	-	-	-	-	-	-	- 60.1
Stock Changes (+ draw, - build)	- 5.2	-	-	-	-	-	-	-	- 5.2
TOTAL PRIMARY ENERGY SUPPLY	1 701.6	-	21 569.5	350.9	7.7	-	-	- 17.3	23 612.5
Transfers : Origin (-) and Destination (+)	-	-	-	-	-	-	-	-	-
Statistical Difference	- 5.3	-	80.7	-	-	-	-	2.0	77.5
TRANSFORMATION Inputs (-) and Outputs (+)	- 15.6	-	-5 062.4	- 350.9	- 7.7	-	-	379.8	-5 056.8
Electricity plants	- 15.6	-	-	- 350.9	- 7.7	-	-	363.6	- 10.6
CHP Plants	-	-	- 89.3	-	-	-	-	16.2	- 73.2
Heat Plants	-	-	-	-	-	-	-	-	-
Coke ovens	-	-	-	-	-	-	-	-	-
Blast furnaces	-	-	-	-	-	-	-	-	-
Oil Refineries	-	-	-	-	-	-	-	-	-
Coal-to-liquids plants	-	-	-	-	-	-	-	-	-
Gas-to-liquids plants	-	-	-	-	-	-	-	-	-
Charcoal production plants	-	-	-4 973.0	-	-	-	-	-	-4 973.0
Transformation not elsewhere specified	-	-	-	-	-	-	-	-	-
Energy Sector Own Use	-	-	-	-	-	-	-	3.7	3.7
Losses	-	-	-	-	-	-	-	75.7	75.7
FINAL CONSUMPTION	1 691.3	-	16 426.5	-	-	-	-	281.1	18 398.8
Industry	376.7	-	4 704.1	-	-	-	-	187.3	5 268.2
Transport	1 130.7	-	-	-	-	-	-	-	1 130.7
Households	15.2	-	10 414.7	-	-	-	-	62.8	10 492.6
Commercial and public services	4.6	-	1 307.6	-	-	-	-	31.0	1 343.3
Agriculture, Forestry and Fishing	164.0	-	-	-	-	-	-	-	164.0
Non-specified (HH, Com. & PS., Agri.)	-	-	-	-	-	-	-	-	-
Non-Energy Use	-	-	-	-	-	-	-	-	-

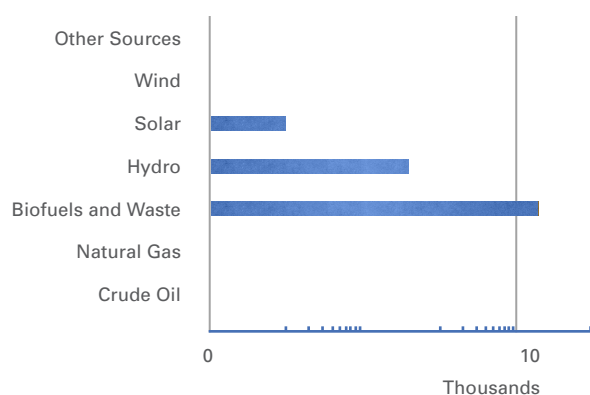
Note: Biofuels and waste is the main source of Energy Production in Uganda with 98.08%. The final energy consumption is split between Biofuels and waste with 89.28%, Petroleum Products 9.19% and Electricity 1.53%.

The household sector which represents 57.03% of final consumption is dominated by Biofuels and waste at 99.26%. There is also a high consumption of Biofuels and waste in the industrial sector at 89.29%.

Unit: %	Coal and Coal Products	Crude Oil	Oil Products	Natural Gas	Biofuels and Waste	Hydro	Solar	Wind	Other Sources	Electricity
Energy Production	-	-	-	-	98.08	1.88	0.04	-	-	-
Share in imports	-	-	35.27	-	64.70	-	-	-	-	0.04
Electricity production mix	-	-	1.3	-	4.3	92.4	2.0	-	-	-
Final Consumption	-	-	9.19	-	89.28	-	-	-	-	1.53

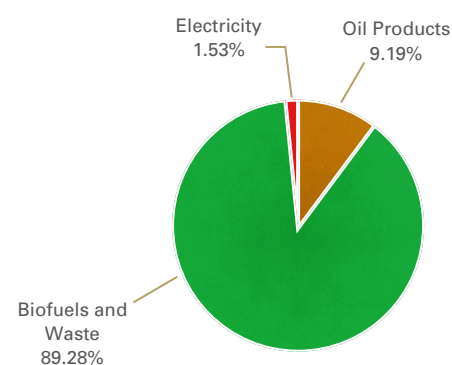
	Unit	Value
Energy dependency rate	%	21.1
Average efficiency of conventional thermal power generation	%	32.0
Electricity transmission and distribution losses (% of output)	%	21.2
Share of renewables in primary production	%	100
Share of renewables in total primary energy supply	%	92.9
Share of renewables in total final energy consumption	%	91.3
Share of renewables in electricity production	%	98.7
Share of solar thermal in final consumption	%	0.0

Energy Production



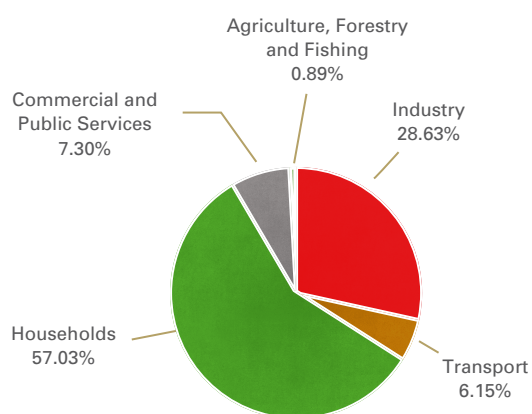
Unit : ktoe

Total Final Consumption (TFC)



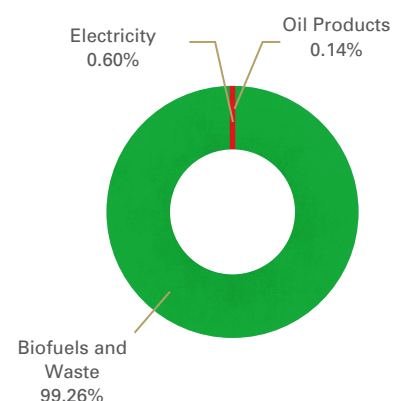
18 399 ktoe

Total Final Consumption by Sector



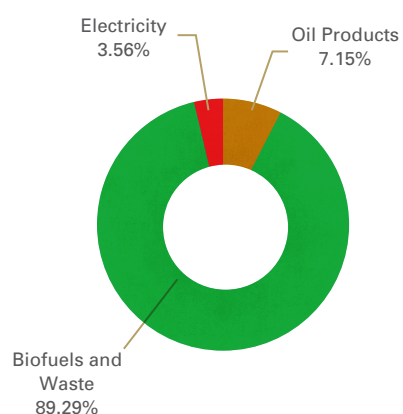
18 399 ktoe

Households Consumption



10 493 ktoe

Industry Consumption



5 268 ktoe

ENERGY BALANCE AND INDICATORS

Republic of Zimbabwe Aggregated Energy Balance 2020

Thousand Tonnes of Oil Equivalent (ktoe)	Coal and Coal Products	Crude Oil	Oil Products	Natural Gas	Biofuels and Waste	Hydro	Solar	Wind	Other Sources	Electricity	Total of all energy sources
Production	2 057.6	-	-	-	31 606.1	352.7	0.8	-	-	-	34 017.1
Imports (+)	0.1	-	1 018.4	-	-	-	-	-	-	204.1	1 222.7
Exports (-)	- 117.7	-	-	-	-	-	-	-	-	- 30.5	- 148.2
International Marine Bunkers (-)	-	-	-	-	-	-	-	-	-	-	-
International Aviation Bunkers (-)	-	-	-	-	-	-	-	-	-	-	-
Stock Changes (+ draw, - build)	-	-	1.0	-	-	-	-	-	-	-	1.0
TOTAL PRIMARY ENERGY SUPPLY	1 940.0	-	1 019.5	-	31 606.1	352.7	0.8	-	-	173.6	35 092.7
Transfers : Origin (-) and Destination (+)	-	-	-	-	-	-	-	-	-	-	-
Statistical Difference	199.8	-	55.6	-	739.6	-	-	-	-	31.6	1 026.6
TRANSFORMATION Inputs (-) and Outputs (+)	- 1 512.1	-	-	-	207.9	- 352.7	- 0.8	-	-	584.5	- 1 073.2
Electricity plants	- 1 187.5	-	-	-	154.6	- 352.7	- 0.8	-	-	584.5	- 801.8
CHP Plants	-	-	-	-	-	-	-	-	-	-	-
Heat Plants	-	-	-	-	-	-	-	-	-	-	-
Coke ovens	- 324.6	-	-	-	-	-	-	-	-	-	- 324.6
Blast furnaces	-	-	-	-	-	-	-	-	-	-	-
Oil Refineries	-	-	-	-	-	-	-	-	-	-	-
Coal-to-liquids plants	-	-	-	-	-	-	-	-	-	-	-
Gas-to-liquids plants	-	-	-	-	-	-	-	-	-	-	-
Charcoal production plants	-	-	-	-	-	-	-	-	-	-	-
Transformation not elsewhere specified	-	-	-	-	53.3	-	-	-	-	-	53.3
Energy Sector Own Use	-	-	-	-	-	-	-	-	-	43.3	43.3
Losses	-	-	-	-	-	-	-	-	-	-	-
FINAL CONSUMPTION	228.1	-	963.9	-	31 074.4	-	-	-	-	683.2	32 949.6
Industry	212.7	-	176.1	-	581.3	-	-	-	-	385.5	1 355.6
Transport	6.2	-	66.6	-	-	-	-	-	-	-	72.8
Households	2.5	-	-	-	28 894.9	-	-	-	-	146.8	29 044.1
Commercial and public services	3.1	-	147.6	-	-	-	-	-	-	32.6	183.3
Agriculture, Forestry and Fishing	3.7	-	-	-	1 598.3	-	-	-	-	118.3	1 720.3
Non-specified (HH, Com. & PS., Agri.)	-	-	573.5	-	-	-	-	-	-	-	573.5
Non-Energy Use	-	-	-	-	-	-	-	-	-	-	-

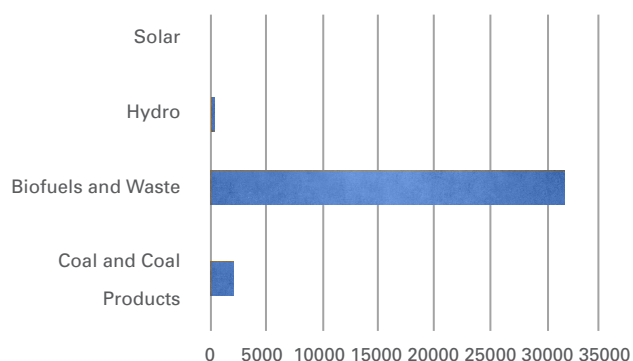
Note: Zimbabwe's Energy Production is made up largely of 92.91% Biofuels and waste. It includes also Hydro with 1.04%, and Coal and coal products with 6.05%. Biofuels and waste represent 94.31% in the total final consumption and 99.49% in the final household consumption.

In the industrial sector, 42.88% of final consumption is made from Biofuels and waste, followed by Electricity 28.44%.

Unit: %	Coal and Coal Products	Crude Oil	Oil Products	Natural Gas	Biofuels and Waste	Hydro	Solar	Wind	Other Sources	Electricity
Energy Production	6.05	-	-	-	92.91	1.04	-	-	-	-
Share in imports	0.01	-	83.29	-	-	-	-	-	-	16.69
Electricity production mix	39.4	-	-	-	0.1	60.3	0.1	-	-	-
Final Consumption	0.69	-	2.93	-	94.31	-	-	-	-	2.07

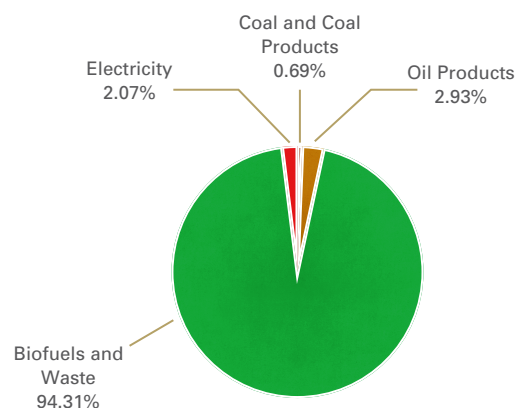
	Unit	Value
Energy dependency rate	%	3.1
Share of renewables in primary production	%	93.2
Share of renewables in total primary energy supply	%	90.7
Share of renewables in total final energy consumption	%	
Share of renewables in electricity production	%	
Share of solar thermal in final consumption	%	0.0

Energy Production



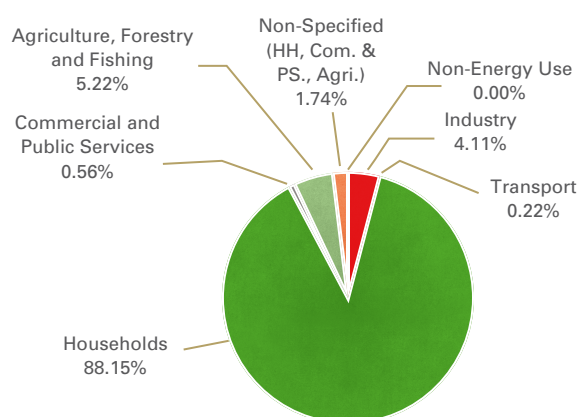
Unit : ktoe

Total Final Consumption (TFC)



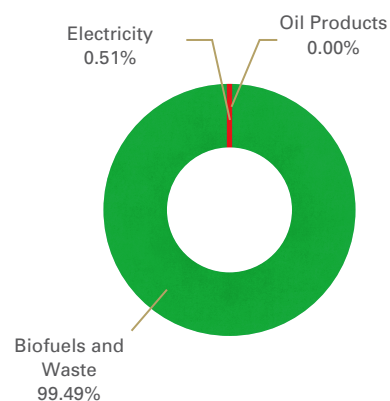
32 950 ktoe

Total Final Consumption by Sector



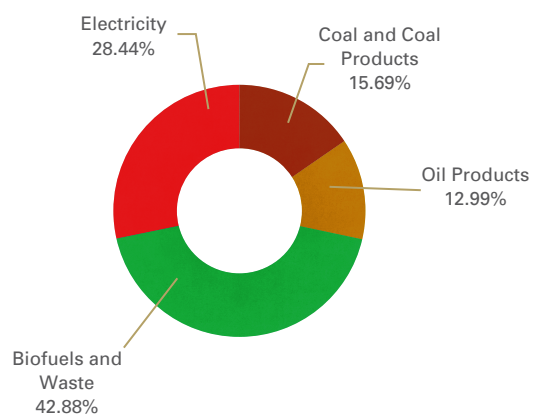
32 950 ktoe

Households Consumption



29 044 ktoe

Industry Consumption



1 356 ktoe

GLOSSARY



Coal/Peat

Coal/peat includes all coal primary (including hard coal and lignite) and derived fuels (including patent fuel, coke oven coke, gas coke, BKB, gas works gas, coke oven gas, blast furnace gas and other recovered gases). Peat is also included in this category.

Hard coal

Hard coal comprises anthracite coking coal and other bituminous coal.

Steam coal

Steam coal comprises anthracite, other bituminous coal and sub-bituminous coal.

Crude oil

Crude oil comprises crude oil, natural gas liquids, refinery feedstock and additives as well as other hydrocarbons.

Oil products

Oil products comprise refinery gas liquids, refinery feedstock and additives as well as other hydrocarbons.

Oil products

Oil products comprises refinery gas, ethane, LPG, aviation gasoline, motor gasoline, jet fuels, kerosene, gas/diesel oil, fuel oil, naphtha, white spirit, lubricants, bitumen, paraffin waxes, petroleum coke and other oil products.

Natural gas

Natural gas includes both “associated” and “non-associated” gas.

Nuclear

Nuclear shows the primary heat equivalent of the electricity produced by a nuclear power plant with an average thermal efficiency of 33%.

Hydro

Hydro shows the energy content of the electricity produced in hydro power plants hydro output excludes output from pumped storage plants.

Biofuels and waste

Biofuels and waste comprises solid biofuels liquid biofuels, biogases, industrial waste and municipal waste. Biofuels are defined as any plant matter used directly as fuel or converted into fuels (e.g., charcoal) or electricity and/or heat. Included here are wood, vegetal waste (including wood waste and crops used for energy production), ethanol, animal materials/ wastes and sulphite lyes. Municipal waste comprises wastes produced by residential, commercial and public services that are collected by local authorities for disposal in a central location for the production of heat and/or power.

Other

Other includes geothermal, solar, wind, tide/wave/ocean energy, electricity and heat. Unless the actual efficiency of the geothermal process is known, the quantity of geothermal energy entering electricity generation is inferred from the electricity production at geothermal plants assuming an average thermal efficiency of 10% For solar, wind and tide/Wave/ocean energy, the quantities entering electricity generation are equal to the electrical energy generated. Direct use of geothermal and solar heat is also included here. Electricity is accounted for at the same heat value as electricity in final consumption (i.e., 1GWh = 0.000086 Mtoe). Heat includes heat that is produced for sale and is accounted for in the transformation sector.

Production

Production is the production of primary energy, i.e., hard coal, lignite, peat, crude oil, NGLs, natural gas, biofuels and waste, nuclear, hydro, geothermal, solar and the heat from heat pumps that is extracted from the ambient environment production is calculated after removal of impurities (e.g., sulphur from natural gas).

Imports and exports

Imports and exports comprise amounts having crossed the national territorial boundaries of the country, whether or not customs clearance has taken place.

Oil and natural gas

Quantities of crude oil and oil products imported or exported under processing agreements (i.e., refining on account) are included. Quantities of oil in transit are excluded. Crude oil, NGL and natural gas are reported as coming from the country of origin; refinery feedstock and oil products are reported as coming from the country of last consignment. Re-exports of oil imported for processing within bonded areas are shown as exports of product from the processing country to the final destination.

Coal/peat

Imports and exports comprise the amount of fuels obtained from or supplied to other countries, whether or not there is an economic or customs union between the relevant countries. Coal in transit is not included.

Electricity

Amounts are considered as imported or exported when they have crossed the national territorial boundaries of the country.

International marine bunkers

International marine bunkers cover those quantities delivered to ships of all flags that are engaged in international navigation. The international navigation may take place at sea, on inland lakes and waterways, and in coastal waters. Consumption by ships engaged in domestic navigation is excluded. The domestic/International split is determined on the basis of port of departure and port of arrival, and not by the flag or nationality of the ship. Consumption by fishing vessels and by military forces is also excluded.

International aviation bunkers

International aviation bunkers covers deliveries of aviation fuels to aircraft for international aviation. Fuels used by airlines for their road vehicles are excluded. The domestic/International split should be determined ON THE BASIS OF DEPARTURE AND LANDING LOCATIONS AND NOT BY THE NATIONALITY OF THE AIRLINE; For many countries this incorrectly excludes fuel used by domestically owned carriers for their international departures.

Stock changes

Stock changes reflects the difference between opening stock levels on the first day of the year and closing levels on the last day of the year of stocks on national territory held by producers, importers, energy transformation industries and large consumers. A stock build is shown as a negative number, and a stock draw as a positive number.

Total primary energy supply (TPES)

Total primary energy supply (TPES) is made up of production + imports – exports – international marine bunkers – international aviation bunkers ± stock changes. For the world total, international marine bunkers and international aviation bunkers are not subtracted from TPES.

Transfers

Transfers includes both inter-product transfers, products transferred and recycled products.

Statistical differences

Statistical differences include the sum of the unexplained statistical differences for individual fuels, as they appear in the basic energy statistics. It also includes the statistical differences that arise because of the variety of conversion factors in the coal/peat and oil columns.

Electricity plants

Electricity plants refer to plants which are designed to produce electricity only. If one or more units of the plant is a CHP unit (and the inputs and outputs cannot be distinguished on a unit basis) then the whole plant is designated as a CHP plant. Both main activity producers and auto producer plants are included here.

Combined heat and power plants

Combined heat and power plants refers to plants which are designed to produce both heat and electricity. Sometimes referred to as cogeneration power stations. If possible, fuel inputs and electricity/heat outputs are on a unit basis rather than on a plan basis. However, if data are not available on a unit basis, the convention for defining a CHP plan noted above is adopted. Both main activity producers and auto producer plants are included here.

Blast furnaces

Blast furnaces contain inputs to and outputs of fuels from blast furnaces.

Gas works

Gas works is treated similarly to electricity generation, with the quantity produced appearing as a positive figure in the coal/peat column or the natural gas column after blending with natural gas, inputs as negative entries in the coal/peat and oil products columns, and conversion losses appearing in the total column.

Coke ovens

Coke ovens contain losses in transformation of coal from primary to secondary fuel and from secondary to tertiary fuels (hard coal to coke and patent fuel, lignite to BKB, etc.).

Oil refineries

Oil refineries show the use of primary energy for the manufacture of finished oil products and the corresponding output. Thus, the total reflects transformation losses. In certain cases the data in the total column are positive numbers. This can be due to either problem in the primary refinery balance or to the fact that the IEA uses regional net calorific values for oil products.

Petrochemical plants

Petrochemical plants covers backflows returned from the petrochemical industry. Note that backflows from oil products that are used for non-energy purposes (i.e white spirit and lubricants) are not included here, but in non-energy use.

Liquefaction plants

Liquefaction plants include diverse liquefaction processes, such as coal liquefaction plants and gas-to-liquid plants.

Other transformation

Other transformation covers non-specified transformation not shown elsewhere, such as the transformation of primary solid biofuels into charcoal.

Energy industry own use

Energy industry own use contains the primary and secondary energy consumed by transformation industries for heating, pumping, traction and lighting purposes (ISIC 05, 06, 19 and 35, Group 091 and Classes 0892 and 0721).

Losses

Losses include losses in energy distribution, transmission and transport.

Total final consumption (TFC)

Total final consumption (TFC) is the sum of consumption by the different end-use sectors; Backflows from the petrochemical industry are not included in final consumption.



Industry

Industry consumption is specified in the following subsectors (energy used for transport by industry is not included here but reported under transport):

Iron and steel industry [ISIC Group 241 and Class 2431];

Chemical and petrochemical industry [ISIC Divisions 20 and 21] excluding petrochemical feedstock;

Non-ferrous metals basic industries [ISIC Group 242 and class 2432];

Non-metallic minerals such as glass, ceramic, cement, etc. [ISIC Division 23];

Transport equipment [ISIC Divisions 29 and 30];

Machinery comprises fabricated metal product, machinery and equipment other than transport equipment [ISIC Divisions 25 to 28]

Mining (excluding fuels) and quarrying [ISIC Divisions 07 and 08 and Group 099];

Food and tobacco [ISIC Divisions 10 and 12];

Paper, pulp and printing [ISIC Divisions 17 and 18];

Wood and wood products (other than pulp and paper) [ISIC Division 16];

Construction [ISIC Divisions 41 and 43];

Textile and leather [ISIC Divisions 13 to 15];

Non-specified (any manufacturing industry not included above) [ISIC Divisions 22, 31 and 32].

Transport

Transport includes all fuels used for transport [ISIC Divisions 39 to 51]. It includes transport in industry and covers domestic aviation, road, rail, pipeline transport, domestic navigation and non-specified transport. Fuel used for ocean, coastal and inland fishing (included under fishing and military consumption (included in other non-specified) are excluded from transport.

Please note that international marine and international aviation bunkers are also included here for world total.

Other

Other covers residential, commercial and public services [ISIC Divisions 33, 36-39, 45-47, 52, 53, 56, 58-66, 68-75, 77-82, 84 (excluding Class 8422) 85-88, 90-99], agriculture/forestry [ISIC Divisions 01 and 02], fishing [ISIC Division 03] and non-specified consumption.

Non-energy use

Non-energy use covers those fuels that are used as raw materials in the different sectors and are not consumed as a fuel or transformed into another fuel. Non-energy use also includes petrochemical feedstock. Non-energy use is shown separately in final consumption under the heading non-energy use.

CONVERSION FACTORS

Conversion Factors for Energy

	TJ	Gcal	Mtoe	MBtu	GWh
TJ	1	238.8	2.388×10^{-5}	947.8	0.2778
Gcal	4.1868×10^{-3}	1	10^{-7}	3.968	1.163×10^{-3}
Mtoe	4.1868×10^4	10^7	1	3.968×10^7	11630
MBtu	1.0551×10^{-3}	0.252	2.52×10^{-8}	1	2.931×10^{-4}
GWh	3.6	860	8.6×10^{-5}	3412	1

Conversion Factors for Mass

	kg	t	lt	st	lb
kilogram (kg)	1	0.001	9.84×10^{-4}	1.102×10^{-3}	2.2046
ton (t)	1 000	1	0.984	1.1023	2 204.6
long ton (lt)	1 060	1.016	1	1.120	2 240.0
short ton (st)	907.2	0.9072	0.893	1	2 000.0 ⁴
pound (lb)	0454	4.54×10^{-4}	4.46×10^{-4}	5.0×10^{-4}	1

Conversion Factors for Volume

	gal U.S.	gal U.K.	bbl	Ft ³	l	m ³
U.S. gallon (gal)	1	0.8327	0.02381	0.1337	3.785	0.0038
U.K. gallon (gal)	1.201	1	0.02859	0.1605	4.5466	0.0045
barrel (bbl)	42.0	34.97	1	5.615	159.0	0.159
cubic foot (ft3)	7.48	6.229	0.1781	1	28.3	0.0283
litre(l)	0.2642	0.220	0.0063	0.0353	1	0.001
cubic metre (m3)	264.2	220.0	6.289	35.3147	1 000	1

Notes



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