

# Africa and Europe

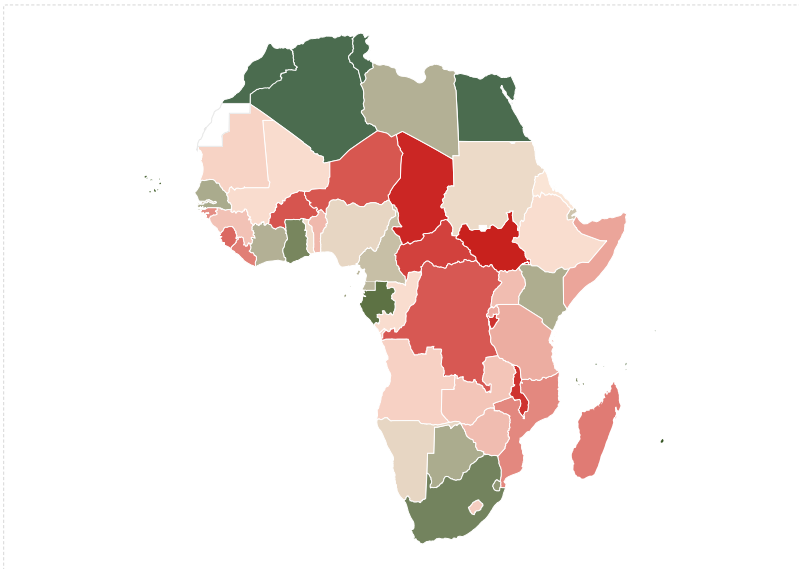
Facts and Figures on  
Climate and Energy

## Access to Energy: inequality between Europe and Africa, and between African countries

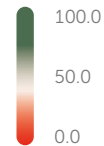
Access to energy is still very limited in many parts of Africa, whereas it is universal within the European Union (EU).

- In 2019, the entire population of the EU, accounting for just under 445 million people, have access to electricity, while only just over half (54.7%) of the 1.3 billion people living in Africa, have access.
- Almost 600 million Africans remain off-grid, more than 1.3 times the population of the EU.
- There are stark inequalities between African countries. Egypt for example has 100% coverage while South Sudan only has 6.7% coverage.
- Only four African countries have 100% electricity coverage: Egypt, Mauritius, Seychelles, and Tunisia. All 27 EU member states have full coverage.

### African countries: access to electricity (2019)

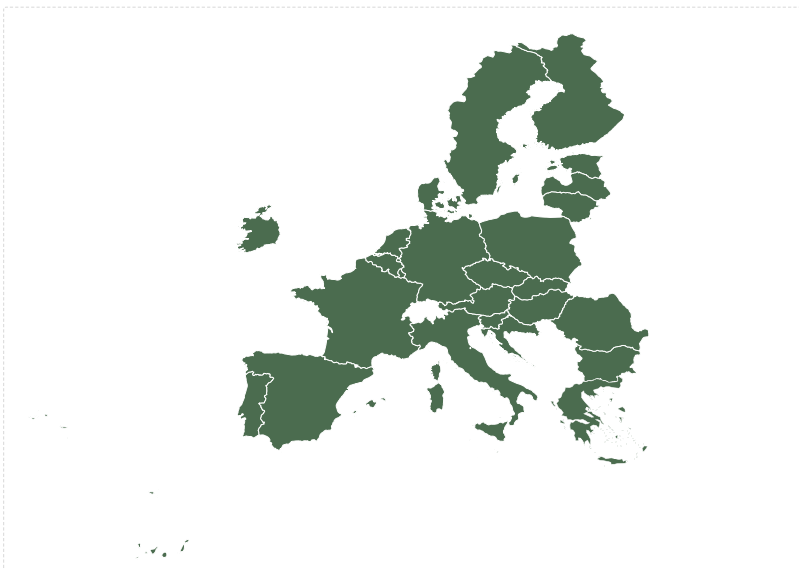


% of population

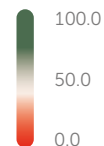


Source: MIF based on World Bank

### EU countries: access to electricity (2019)



% of population

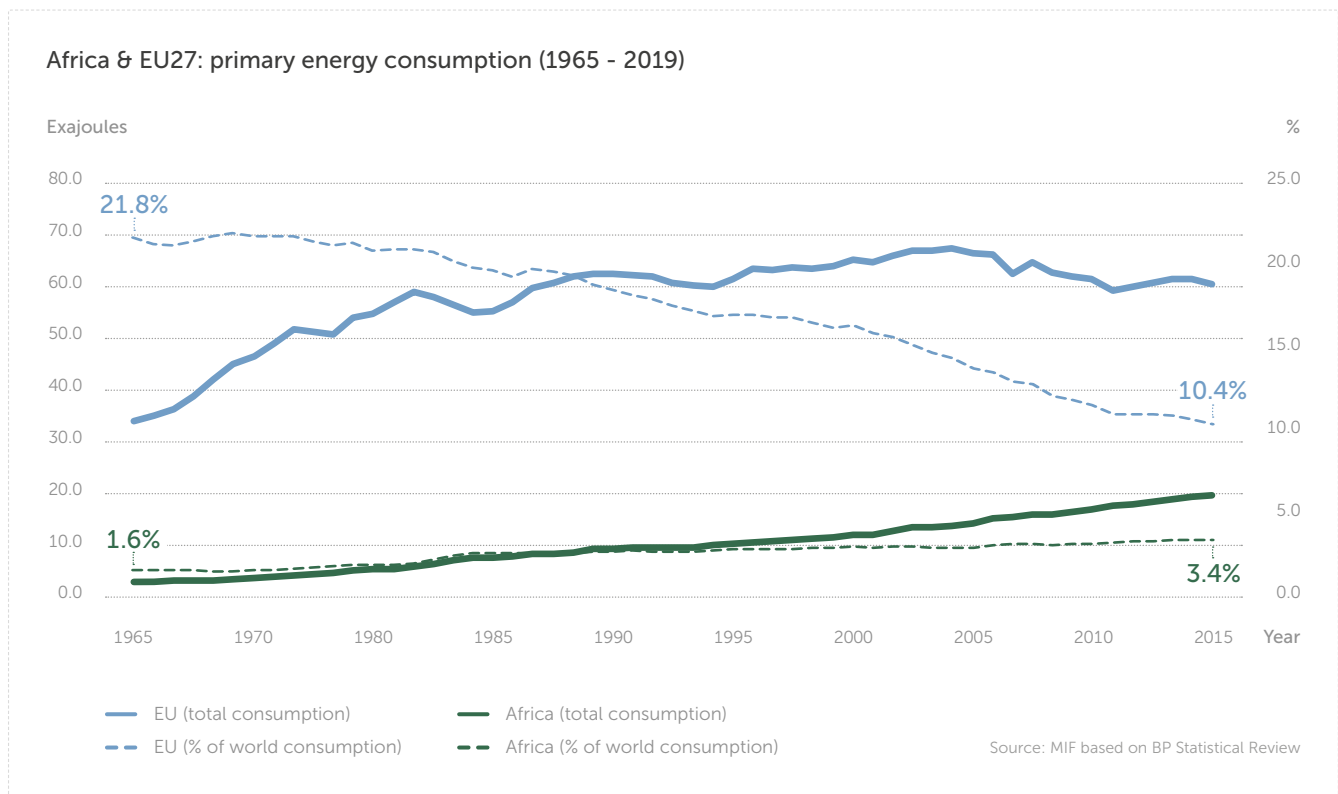


Source: MIF based on World Bank

**Energy Consumption: Africa accounts for 17.0% of the global population but only for 3.4% of global energy consumption, while the European Union represents 5.8% of the global population but accounts for 10.4% of global energy consumption**

While still going up, African countries' energy consumption still only accounted for 3.4% of the world's primary energy consumption in 2019, much lower than the 17.0% share of the global population they represent.

- African countries' energy consumption has increased almost eight-fold in absolute terms since 1965, while its population has increased four-fold in the same period.
- At 3.4% in 2019, Africa's share of global energy consumption has doubled since 1965 (1.6%). Africa's share of the global population has also near-doubled in this period, going from 9.6% in 1965 to 17.0% in 2019.
- In 2019, South Africa alone accounted for over a quarter of Africa's energy use.

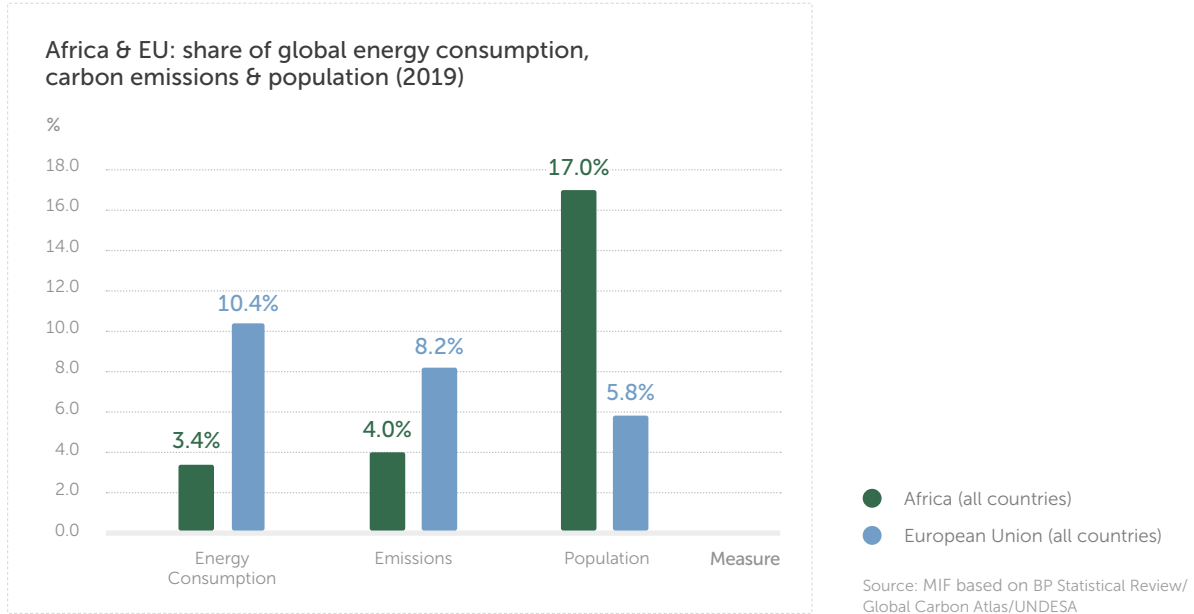


Meanwhile, EU countries accounted for 10.4% of the world's primary energy consumption in 2019, much higher than the 5.8% of the world's population the EU represents.

- The EU consumed over three times as much energy as Africa in 2019, despite having a population just over one third of the size of Africa's.
- **France's and Germany's combined energy consumption alone was greater than the entire African continent's in 2019.**
- In per capita terms, someone living in the EU in 2019 consumed on average **nine times** as much energy as someone living in Africa.
- Since 1965, the current EU countries energy consumption has almost doubled.

**Carbon Emissions: Africa's share of the global carbon emissions (4.0%) is less than half its share of the global population (17.0%), while the EU's (8.2%) is considerably higher than its share of the global population (5.8%)**

*Olusegun Obasanjo, former President of Nigeria "No other continent in history has been tasked with the challenge of developing without polluting, whilst being simultaneously the major victim and lowest contributor to emissions".*

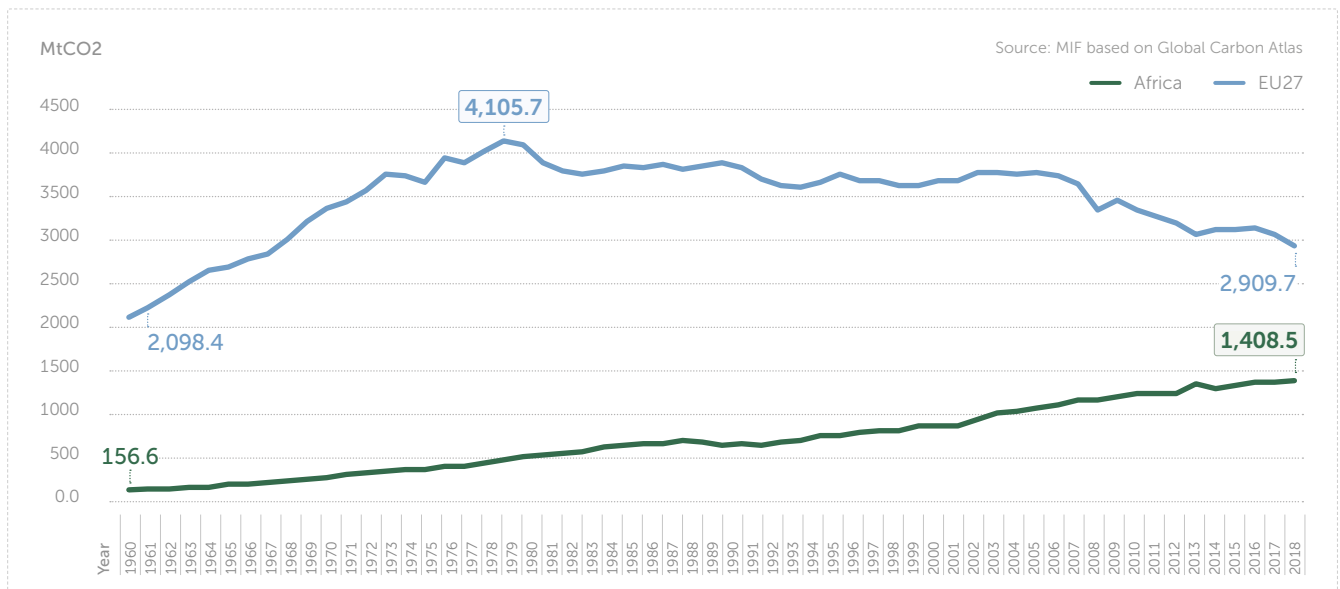


**EU emissions still twice as high as Africa's despite opposing trajectories**

Africa's carbon emissions are steadily going up and reached their highest ever levels in 2019.

The EU's carbon emissions have declined from a peak in 1979 yet in 2019 were still over twice as high as Africa's.

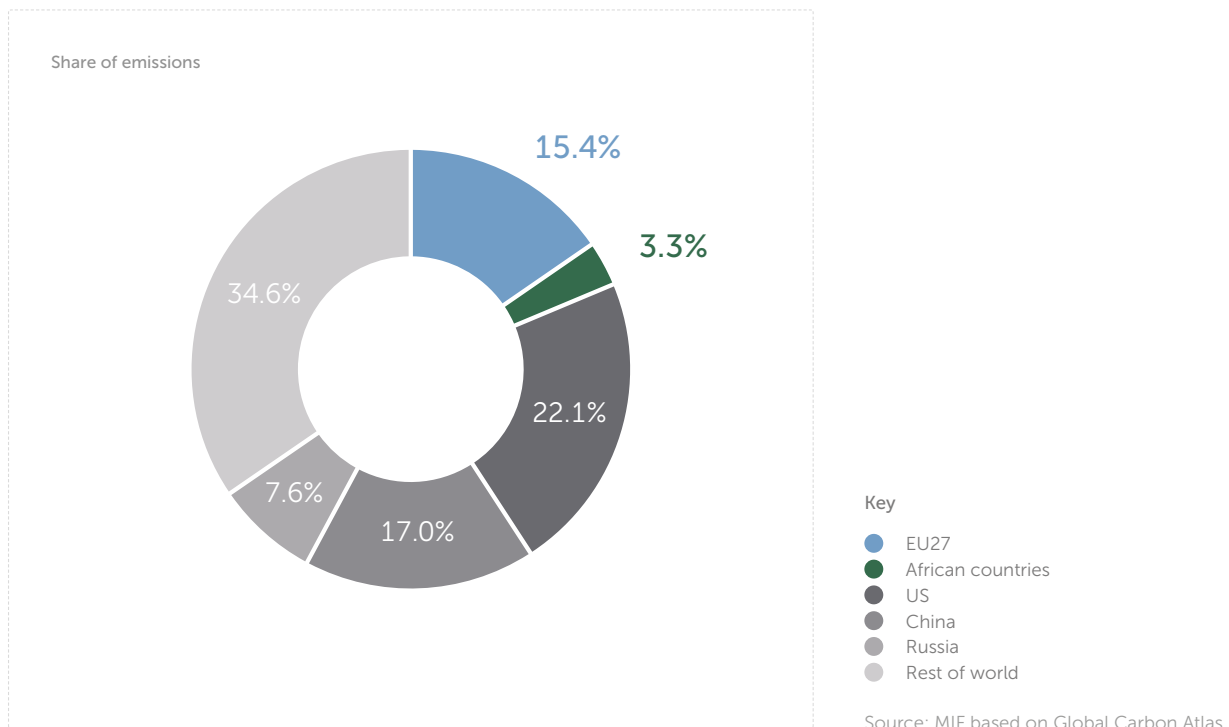
**Africa & EU27: territorial carbon emissions (1960-2019)**



Historically, the EU bears a much larger responsibility for climate change, with a longer and greater legacy of carbon emissions compared to Africa.

- In 1960, the EU27 countries, with a population only marginally larger than Africa's at the time, emitted more than thirteen times as much carbon as the entire African continent.
- Between 1960 and 2020 current EU countries have been responsible for 15.4% of all global carbon emissions while African countries have accounted for only 3.3%.
  - Germany alone accounted for 4.2% of global carbon emissions between 1960 and 2020, more than all African countries combined.
  - South Africa alone accounted for 42.3% of Africa's carbon emissions between 1960 and 2020.

### Selected regional groups and countries: share of global carbon emissions (1960-2020)



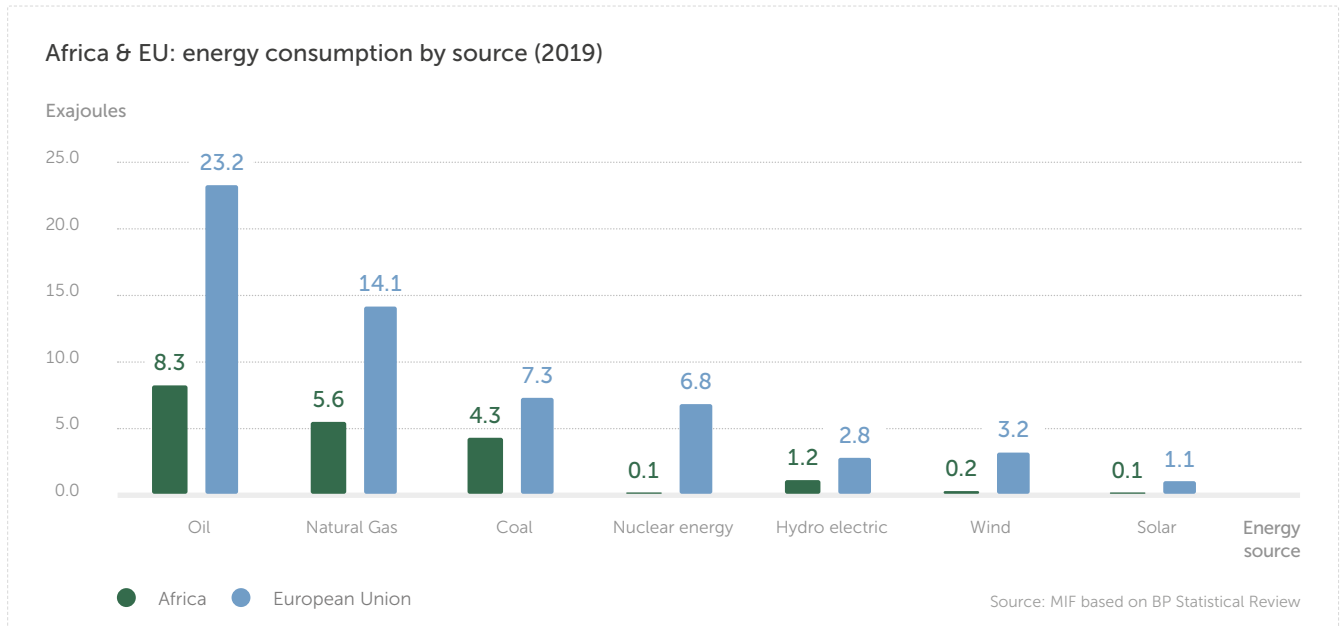
### Energy sources: fossil fuels still dominate in both EU and Africa

#### Fossil fuels

Fossil fuels play a prominent part in energy provision in both Africa and the EU, with oil, gas and coal the three leading commercially traded fuels for electricity generation in both regions.

- Oil remains the primary energy source for both regions, followed by natural gas and coal.
  - These three fossil fuels account for 91.5% of energy consumption in Africa and 73.4% of energy consumption in the EU.

- Energy consumption from oil, gas and coal is growing in Africa, but declining in the EU.
- However, in absolute terms the EU still consumes over twice as much energy through fossil fuels than Africa.



- Over six times as much energy is consumed from oil, gas and coal in the EU than from renewables such as hydro, wind and solar.
- Germany is the EU's biggest consumer of fossil fuels and accounts for almost one third (30.7%) of the bloc's coal consumption.
- Over twelve times as much energy is produced from oil, gas and coal in Africa than from renewables such as hydro, wind and solar.
- South Africa alone accounted for 84.3% of Africa's coal consumption and over a quarter of the continent's overall fossil fuel consumption in 2019.

### Natural Gas

Abundant in Africa, gas is also the cleanest burning fossil fuel and thus could be the best transitional fuel to increase energy access. Some African leaders, such as President Macky Sall, incoming President of the African Union, have touted gas as a transitional fuel. It has contributed to almost one-third of total energy demand growth globally throughout the last decade.

At 14.9 trillion cubic metres, Africa's proven natural gas reserves were over 33 times larger than the EU's at 0.4 trillion cubic metres in 2019. In the same year Africa's gas production stood at 243.8 billion cubic metres, almost four times greater than the EU's at 61.1 billion cubic metres.

- Algeria, Egypt, Libya and Nigeria each have more proven gas reserves than the entire EU.
- Algeria and Egypt each produced more natural gas in 2019 than the entire EU.

- Algeria (87.0 bcm), Egypt (64.9 bcm) and Nigeria (49.3 bcm) are Africa's biggest natural gas producers, accounting for 82.5% of Africa's total production.
- Netherlands (27.8 bcm), Romania (9.6 bcm) and Germany (5.3 bcm) are the EU's biggest producers of natural gas producers accounting for 70.1% of the EU's total production.
  - Europe's major producers are not EU member states, with levels of production in both Russia and Norway higher than for the entire EU.

However, in 2019, the EU consumed over two and a half times more energy from natural gas than African countries.

- Germany and Italy are the biggest consumers of natural gas within the EU, accounting for over 40% of the bloc's total consumption. Oil was still the primary fuel source in both countries in 2019, though gas was almost on par in Italy.
- Algeria and Egypt account for 67.0% of Africa's energy consumption through natural gas, with the fuel accounting for over half of all energy consumption in both countries.
- Italy and Germany combined consumed more energy from natural gas in 2019 than the entire African continent.

Europe currently has 585 natural gas pipelines in operation, with another 27 under construction. Africa currently has 86 under operation with four under construction.

In 2019, African countries exported \$19.7 billion worth of natural gas collectively.

- Over half of all African natural gas exports went to four EU countries - France, Italy, Portugal and Spain. All four countries committed to withdrawing funding for overseas gas projects at COP26.

## Nuclear

Nuclear power accounts for a uniquely large share of EU energy consumption at 11.2%, higher than for any other world region. In Africa it only accounts for 0.6% of energy consumption.

- France alone accounts for 52.1% of total nuclear energy consumption within the EU, with nuclear providing more than one third of France's energy.
- South Africa is currently the only African country with an operating nuclear power plant, that accounts 2.3% of the country's energy consumption.
- Egypt has commissioned a nuclear power plant that will begin operations in 2026.
- Algeria, Ghana, Kenya, Morocco, Nigeria and Sudan all have plans in place that could see them generating nuclear power in the 2030's.

### Renewables (hydro, solar, wind)

Currently, the EU consumes a higher share of its energy through commercially traded renewables than Africa.

- Energy sources such as hydro-electric, wind and solar energy account for 7.5% of energy consumption in Africa and 11.8% in the EU.

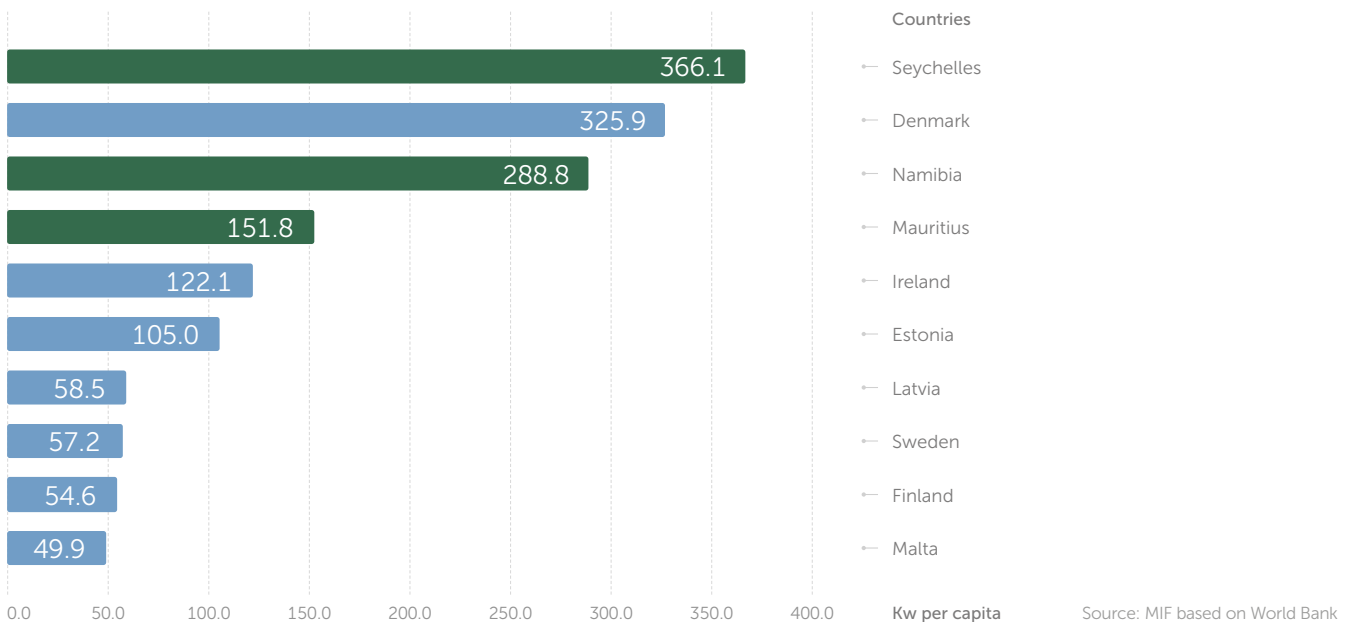
However, solar and wind are the fastest growing energy sources in both Africa and the EU. The renewable potential of Africa is vast, particularly in solar.

- **Africa's solar potential is almost three times that of the EU's.**
  - Resources are being mobilised to realise this potential through programmes such as the African Development Banks 'Desert to Power' initiative in the Sahel.
- The rate of solar growth between 2009 and 2019 in Africa (+60.0%) has been over twice as fast as in the EU (+24.0%).
- Cyprus has the most solar potential in the EU, but 19 African countries have greater solar energy potential than Cyprus.
  - Namibia has the greatest solar potential in Africa.

The EU's combined potential for offshore wind is greater than Africa's, but some African countries have very high potential.

- Seychelles has the highest offshore wind potential out of the EU and Africa, while Denmark has the highest offshore wind potential in the EU.
  - Offshore wind has the potential to provide over 100 KW per capita in Seychelles, Namibia and Mauritius in Africa and in Denmark, Ireland and Estonia in the EU.
- The rate of offshore wind growth in Africa (+27.0%) between 2009 and 2019 has been over twice as fast in the EU (+11.0%).

### Selected African & EU countries: greatest offshore wind potential per capita (2019)



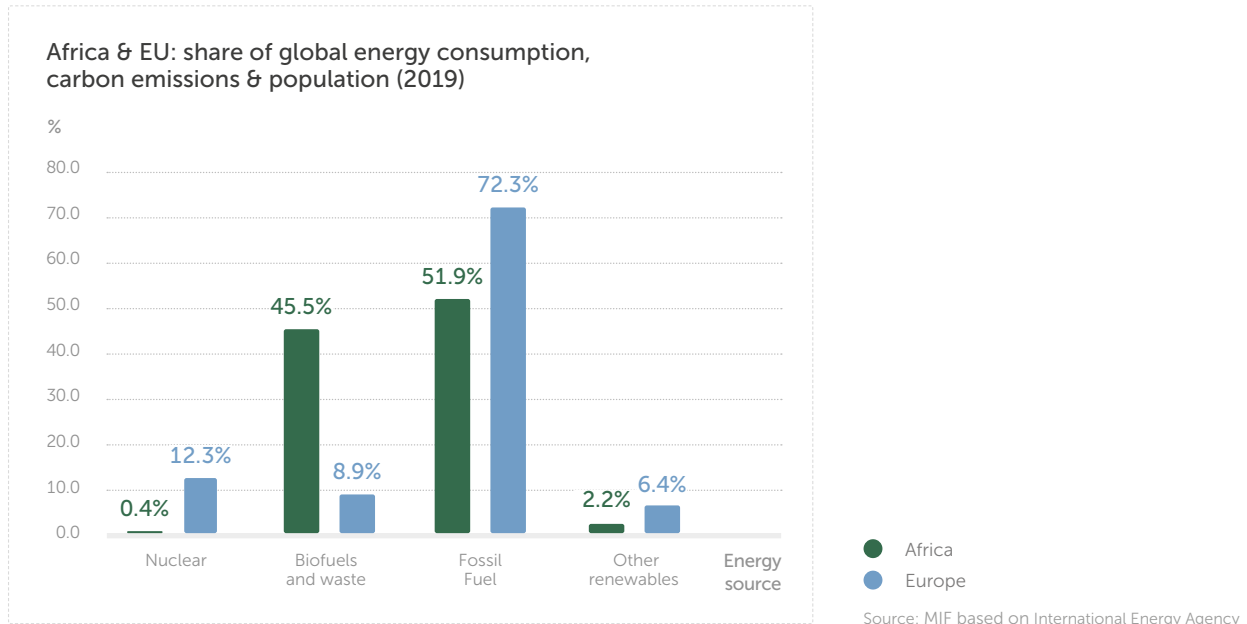
Africa's renewable potential varies greatly between countries.

- Ethiopia, endowed with hydro- and geothermal assets, or Seychelles with high offshore wind capacity in the short-term have much greater potential to utilise green technologies than countries such as Nigeria, which is heavily dependent on oil and gas.



## Biofuels and waste

Much of the current data on energy balance only accounts for commercially traded fuels, excluding biofuels and waste produced directly or indirectly from organic material – biomass – including plant materials and animal waste.



Biofuels are a key aspect of the energy landscape in Africa, where many use wood or charcoal for cooking and heating.

- According to the International Energy Agency, when biofuels and waste are included in addition to commercially traded fuels, they are the leading source of energy in Africa, accounting for 45.5% of energy supply in 2018.
- In Europe, biofuels and waste only made up 8.9% of energy supply.
- When biofuels are included fossil fuels only account for 51.9% of energy production in Africa, in comparison to 72.3% in Europe.

The relationship between biofuels and climate is complicated. Biofuels are renewable unlike fossil fuels, but like fossil fuels are also combustible. Biofuels produce emissions when burnt, but also sequester carbon from the atmosphere as they grow. The net emissions vary based on the type of biofuel. However, biofuels such as wood and charcoal can also contribute to deforestation, cause major air pollution and pose serious risks to the health.

### The case of cooking fuel

- In Africa, only 26.6% had access to clean cooking fuels in 2016 compared to 98.8% in the EU.
  - In sub-Saharan Africa, around 70% of households depend on wood fuel for energy.
  - More than 50% of deaths from pneumonia, cancer and chronic long disease in sub-Saharan Africa are a result of solid fuel combustion.

### **COP26, Europe's 'Green New Deal', and the impacts for Africa:**

Thirty-nine countries and development agencies pledged to stop funding overseas fossil fuel projects on 4<sup>th</sup> November at COP26 in Glasgow. This included major European donors but also included some African countries and institutions. The agreements go further than previous similar deals, such as the G20 commitment to phasing out coal, and includes the lower-emitting fossil fuel natural gas.

- Twelve EU countries - Belgium, Denmark, Finland, France, Germany, Ireland, Italy, the Netherlands, Portugal, Slovenia, Spain, Sweden – plus the European Investment Bank and French and Dutch development agencies were signatories to the agreement reached in Glasgow.
- Seven African countries also signed the agreement - Burkina Faso, Ethiopia, Gabon, Gambia, Mali, South Sudan and Zambia, plus the East African Development Bank.

This builds upon the EU's Green New Deal, which saw a commitment from the European Investment Bank in 2019 to phase out fossil fuel investments within two years, including to polluting companies engaged in low-carbon projects.

#### **EU Taxonomy of Environmentally Sustainable Economic Activities**

The EU Taxonomy of Environmentally Sustainable Economic Activities is a common framework to help asset managers inside the bloc and make green activities more visible and attractive to investors. It will set specific criteria on emissions and other metrics that each economic activity must meet to be classed as a green investment. Coming into force in July 2020, secondary legislation released on 31st December 2021 raised controversy as it classifies nuclear and gas as green activities. It has led to disagreement among EU member states and could lead to accusations of hypocrisy from developing countries, where funding for new gas projects is drying up.

- The taxonomy has been greeted with criticism from the new German government and the Austrian government, with the latter threatening to sue the European Commission.
- Bulgaria, Croatia, Czechia, Finland, France, Hungary, Poland, Romania, Slovakia, and Slovenia signed a joint article to push for the inclusion of nuclear energy in the taxonomy. The Netherlands and Sweden also offered their support, while Austria, Luxembourg and Denmark are cynical about the inclusion of nuclear. Germany has been a long-term opponent of nuclear.
- Bulgaria, Croatia, Cyprus, Czechia, Greece, Hungary, Malta, Poland, Romania, and Slovakia vetoed a previous attempt to exclude gas from the taxonomy, due to its use as a transition fuel.

### A counter-productive approach?

The one-size-fits-all approach seen at COP26 does not consider the specific situation of the African continent, where access to energy is still lacking for 600 million people, nor consider that resources vary greatly between countries.

An excessive focus on wind and solar across the continent could leave many with unreliable and expensive power.

- Wind and solar are not consistently reliable, while potential varies between countries. The technologies still depend on diesel generators or batteries on overcast and still days.

If all funding for overseas gas projects is cut, it could be counterproductive pushing many in African countries towards cheaper, but higher polluting fuels.

- Cutting funding for gas projects leaves cooking with gas expensive and inaccessible for most Africans. Instead, this encourages wood and charcoal cooking, which creates more carbon emissions, has severe health consequences, and is contributing to the deforestation of the Congo Basin.
- China and Japan who have not mirrored the EU commitments could still provide finance for fossil fuel projects overseas including oil, which is more polluting than gas.

The Carbon Border Adjustment Mechanism (CBAM) proposed as part of the EU's Green New Deal, that could also see taxes imposed on imports to the European Union where production has caused emissions could also penalise African exporters in countries with limited renewable technologies.

Cutting overseas funding for all fossil fuel projects has led to accusations of hypocrisy, with many EU countries continuing to invest in and provide subsidies to fossil fuel intensive industries domestically.

- In 2020, Italy provided 9.02 billion Euros in fossil fuel subsidies, Germany provided 8.42 billion while France provided 7.9 billion.
- Nine of the twelve EU countries to sign the COP26 pledge had new fossil fuel pipelines in development as of December 2020 : Belgium, Denmark, Germany, Ireland, Italy, the Netherlands, Portugal, Slovenia, and Spain.
  - Twelve new gas pipelines were in development in Italy, with three already under construction
  - Seven new gas pipelines were in development in Slovenia
  - Four new gas pipelines were already under construction in Germany, while one oil pipeline was in development
  - Three new gas pipelines were in development in Spain, with one already under construction
- Furthermore, climate funds from the European Commission and the EIB to developing countries has not increased from an average of around 5.7 billion Euros since 2018.

## References

<https://www.bp.com/en/global/corporate/energy-economics/statistical-review-of-world-energy.html>

<https://www.bp.com/content/dam/bp/business-sites/en/global/corporate/pdfs/energy-economics/statistical-review/bp-stats-review-2021-africa-insights.pdf>

<https://www.bp.com/content/dam/bp/business-sites/en/global/corporate/pdfs/energy-economics/statistical-review/bp-stats-review-2021-eu-insights.pdf>

<https://carnegieendowment.org/2021/10/18/what-does-european-green-deal-mean-for-africa-pub-85570>

<https://www.cleanenergywire.org/news/environment-minister-says-germany-prepares-clear-no-nuclear-eu-taxonomy>

<https://www.climatechangenews.com/2021/12/07/huge-blow-cuts-gas-finance-sparks-west-african-backlash/>

<https://comtrade.un.org/labs/data-explorer/>

<https://theconversation.com/biofuels-turn-out-to-be-a-climate-mistake-heres-why-64463>

<https://databank.worldbank.org/source/world-development-indicators>

[https://databank.worldbank.org/source/country-climate-and-development-report-\(ccdr\)#](https://databank.worldbank.org/source/country-climate-and-development-report-(ccdr)#)

<https://eagle.co.ug/2021/10/25/letting-us-use-reliable-energy-doesnt-mean-a-climate-disaster.html>

<https://www.economist.com/middle-east-and-africa/2021/05/06/donors-make-it-harder-for-africans-to-avoid-deadly-wood-smoke>

<https://www.energyforgrowth.org/memo/who-in-africa-is-ready-for-nuclear-power/>

<https://www.esi-africa.com/industry-sectors/generation/solar/desert-to-power-initiative-a-step-closer-to-lighting-up-the-sahel/>

[https://www.euractiv.com/section/politics/short\\_news/austria-threatens-to-sue-commission-over-eu-taxonomy-rules/](https://www.euractiv.com/section/politics/short_news/austria-threatens-to-sue-commission-over-eu-taxonomy-rules/)

<https://www.euractiv.com/section/energy-environment/news/eu-countries-ramp-up-pressure-to-grant-nuclear-a-green-investment-label/>

<https://www.euractiv.com/section/energy-environment/news/leaked-paper-on-gas-and-nuclears-inclusion-in-eu-green-finance-rules/>

<http://www.globalcarbonatlas.org/en/CO2-emissions>

<https://globalenergymonitor.org/projects/global-fossil-infrastructure-tracker/summary-tables/>

<https://www.theguardian.com/world/2021/oct/28/european-investment-bank-to-close-loophole-allowing-it-to-lend-to-oil-and-gas-firms>

<https://www.theguardian.com/world/2022/jan/03/fury-eu-moves-ahead-plans-label-gas-nuclear-green>

<https://www.theguardian.com/environment/2021/nov/03/twenty-countries-pledge-end-to-finance-for-overseas-fossil-fuel-projects>

<https://www.iea.org/fuels-and-technologies/gas>

<https://www.intechopen.com/chapters/72270#B2>

<https://mo.ibrahim.foundation/research-spotlight-17-covid-19-and-africas-governance>

<https://www.nsenerybusiness.com/projects/el-dabaa-nuclear-power-project/#>

[https://www.oecd-ilibrary.org/sites/5a3efe65-en/1/3/28/index.html?itemId=/content/publication/5a3efe65-en&\\_csp\\_=2ffa7a733148fec42dccf926d7619e1c&itemIGO=oecd&itemContentType=book](https://www.oecd-ilibrary.org/sites/5a3efe65-en/1/3/28/index.html?itemId=/content/publication/5a3efe65-en&_csp_=2ffa7a733148fec42dccf926d7619e1c&itemIGO=oecd&itemContentType=book)

[https://www.oecd-ilibrary.org/sites/5a3efe65-en/1/3/20/index.html?itemId=/content/publication/5a3efe65-en&\\_csp\\_=2ffa7a733148fec42dccf926d7619e1c&itemIGO=oecd&itemContentType=book](https://www.oecd-ilibrary.org/sites/5a3efe65-en/1/3/20/index.html?itemId=/content/publication/5a3efe65-en&_csp_=2ffa7a733148fec42dccf926d7619e1c&itemIGO=oecd&itemContentType=book)

[https://www.oecd-ilibrary.org/sites/5a3efe65-en/1/3/18/index.html?itemId=/content/publication/5a3efe65-en&\\_csp\\_=2ffa7a733148fec42dccf926d7619e1c&itemIGO=oecd&itemContentType=book](https://www.oecd-ilibrary.org/sites/5a3efe65-en/1/3/18/index.html?itemId=/content/publication/5a3efe65-en&_csp_=2ffa7a733148fec42dccf926d7619e1c&itemIGO=oecd&itemContentType=book)

<https://population.un.org/wpp/>

<https://www.power-technology.com/news/g20-overseas-coal-financing/>

<https://www.reuters.com/business/sustainable-business/one-taxonomy-rule-them-all-investors-face-myrriad-green-investing-rules-2021-10-19/>

<https://ukcop26.org/statement-on-international-public-support-for-the-clean-energy-transition/>





**mo.ibrahim.foundation**

 /MoIbrahimFoundation

 @Mo\_IbrahimFdn

 moibrahimfoundation



#TalkingAfricaEurope