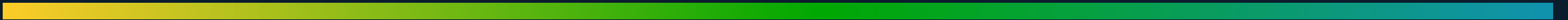
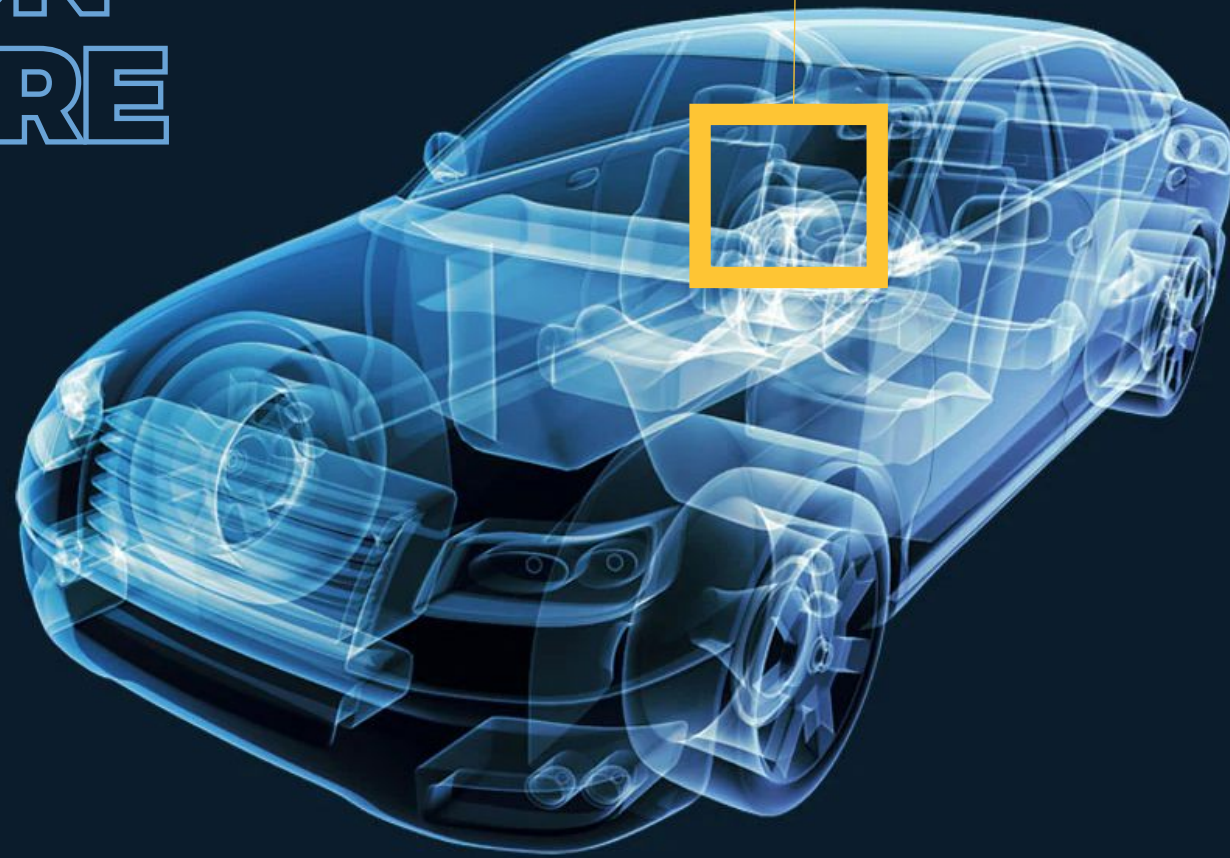




# CARBON CAPTURE BOX





**Oando Clean Energy**

# Green Transition - The Decade to Deliver

Presented by:

**Demola Ogunbanjo**  
Executive Vice President, OCEL

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**Human influences** are the number one cause of global warming, especially the carbon pollution we cause by burning fossil fuels and the pollution capture we prevent through the deforestation process.

**The Green Transition** refers to the social change strategy aimed at engineering the current accelerating environmental degradation into a cleaner and sustainable paradigm.

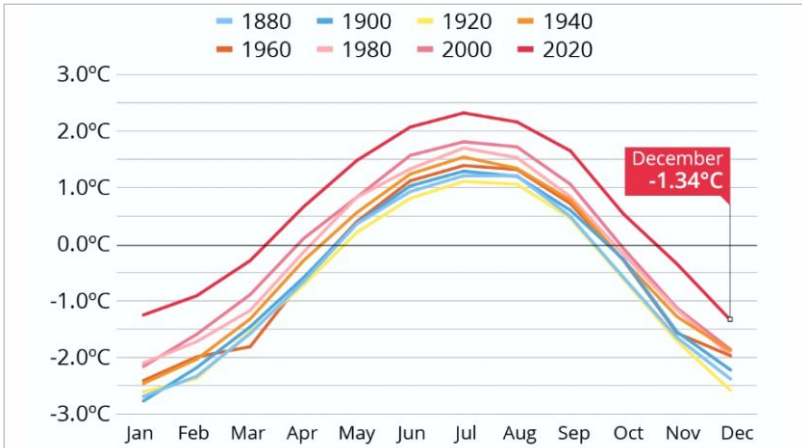
**The energy transition** is a pathway toward transformation of the global energy sector from fossil-based to zero-carbon by the second half of this century. At its heart is the need to reduce energy-related CO2 emissions to limit climate change.

**According to the World Bank**, Energy, transport and water infrastructure are collectively responsible for 60% of global carbon emissions.

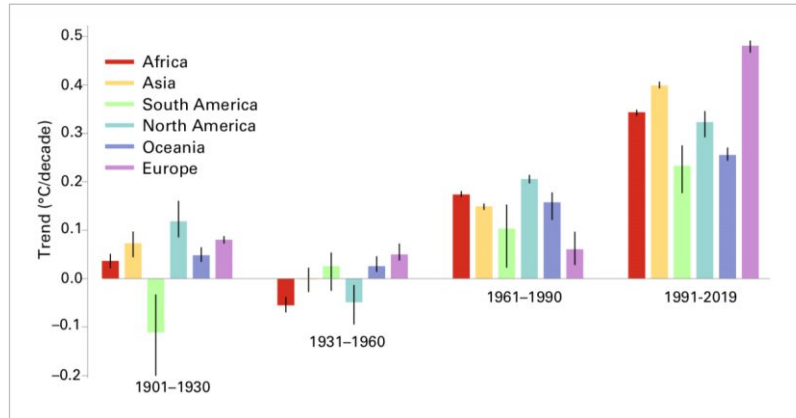
**'Going Green'** is not only imperative to achieve global climate and development commitments in this "decade for delivery" but will also be critical to sustain socio-economic development during the post-COVID19 recovery.

**Private investment** is required to bridge the global energy gap, given institutional investors' large pools of long-term capital.

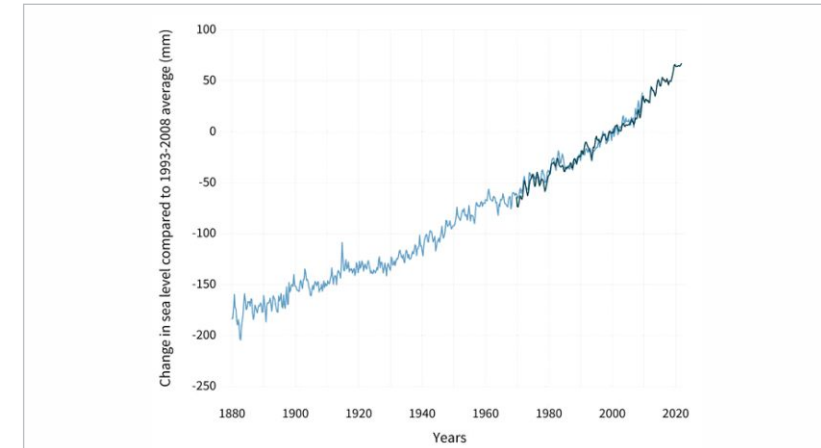
# Climate Change – A Harsh Reality



According to NOAA's 2021 Annual Climate Report the combined land and ocean temperature has increased at an average rate of 0.14 degrees Fahrenheit (0.08 degrees Celsius) per decade since 1880



Temperature Trend: 1901 - 2019



Global mean sea level has risen about 8–9 inches (21–24 centimeters) since 1880



## Other impacts of climate change

### Extreme Events

Southern Africa extensive drought in 2019

### Food Security Impact

Increase in number of undernourished people by 45.6% since 2012 in drought-prone Sub-Saharan African countries\*\*

### Health Impact

Warmer temperatures and higher rainfall increase habitat suitability for biting insects and the transmission of vector-borne diseases.

### Economic Impact

Adverse consequences of climate change are concentrated in regions with relatively hot climates, where a disproportionately large number of low-income countries are located.\*\*\*



# Going Green: Renewable and Low Carbon Energy



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## Renewable Energy

This comes from natural sources that are constantly replenished such as solar, geothermal, hydro and wind. Low carbon simply means less carbon dioxide (CO2).

## Renewable Sources

These are often associated with green energy and clean energy, but there are some subtle differences. Renewable sources are those that are recyclable, clean energy are those that do not release pollutants, and green energy is that which comes from natural sources.

## Green Transition

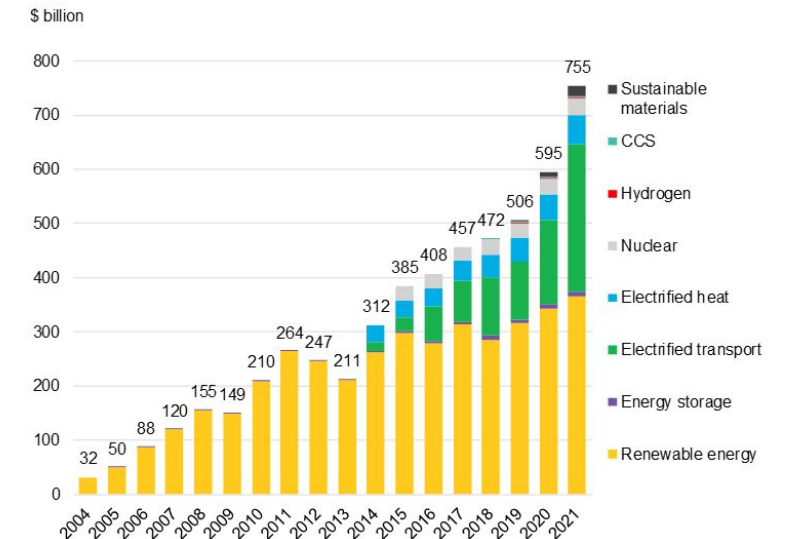
This is essential for a climate-safe future in which sustainable development prerogatives are met and is key to ensuring global energy security.

**\$750 billion**  
in global energy  
transition investment  
2021\*

**27%**  
low carbon energy  
investment rise from  
2020 to 2021\*

**c.50%**  
of global energy  
transition investment  
occurring in Asia\*

## BloombergNEF global investment by sector - 2021



Source: BloombergNEF.

Note: Start-years differ by sector but all sectors are present from 2019 onwards

**\$366 billion**  
committed to renewables

Renewables remains the largest sector in investment terms- \$366 billion committed, up 6.5% from 2020. EVs and EVI, was the second-largest - \$273 billion.

# Global Renewable Energy Growth Rate and Spending



Renewable energy will play a key role in the decarbonization of our energy systems in the coming decades

European Investment Bank to **end its support** for Oil gas and coal by 2022.

World energy investment is set to rise over **8%** in 2022 to reach a total of US\$2.4trn

Capital raised for fossil fuels in 2020 was **84% less (at \$8.3bn)** than renewables (at \$52.2bn).

Private equity firms have reduced capital injection to fossil fuels by **82%** in 5 years.

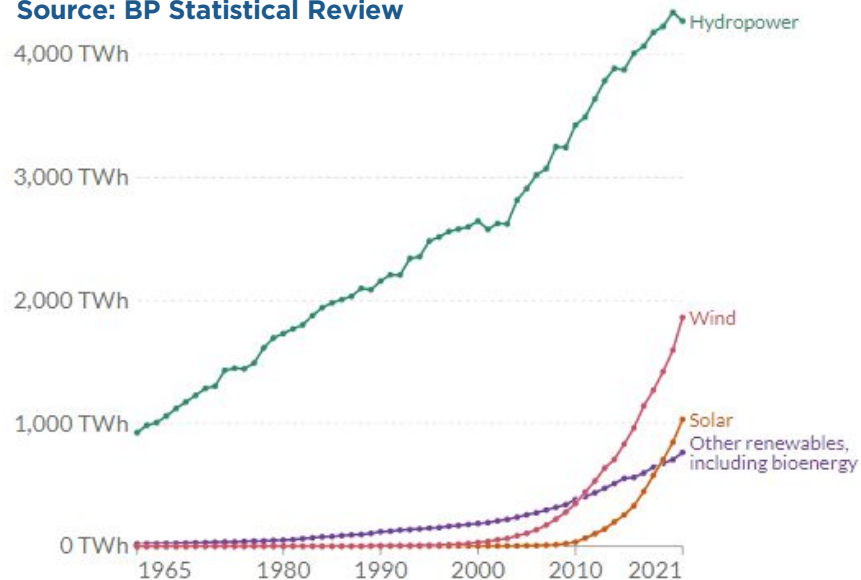
Clean energy investment is starting to pick up and is expected to exceed **\$1.4trn** in 2022.

ING to increase financing of renewable energy by **50%** by year-end 2025, and no longer provide dedicated financing to new oil and gas fields

**\$30trillion** Global requirement up to 2030 to meet green transition demand\*

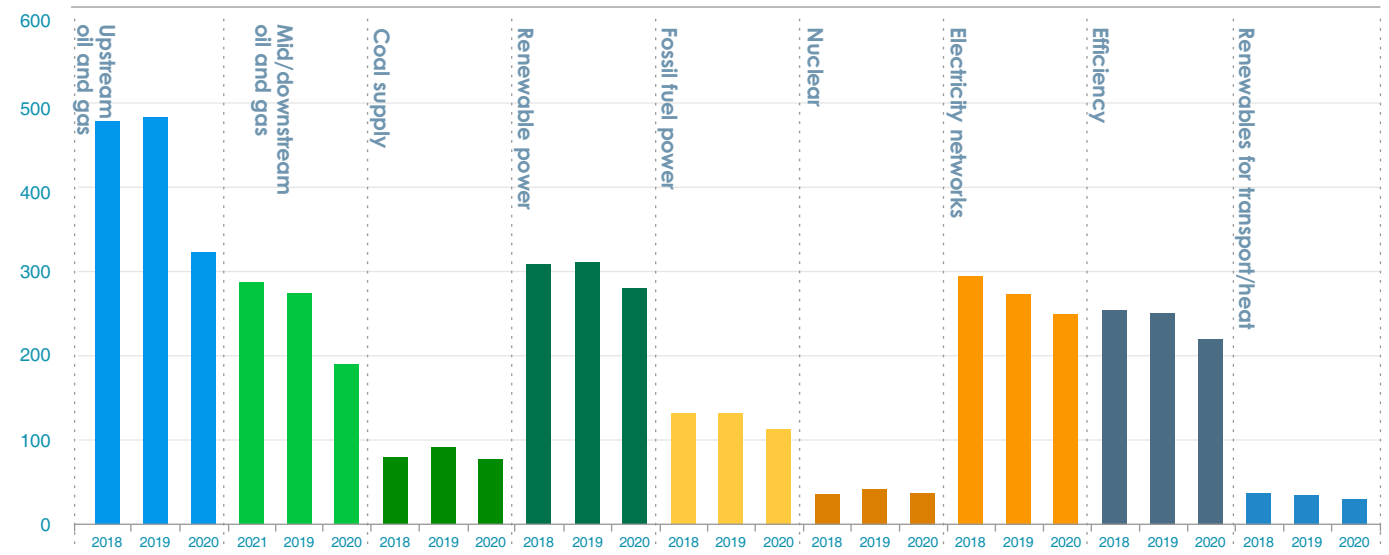
## RENEWABLE ENERGY GROWTH RATE

Source: BP Statistical Review



## ENERGY INVESTMENT BY SECTOR, 2018-2020

billion USD (2019)



# Africa and the Need for Green Transition



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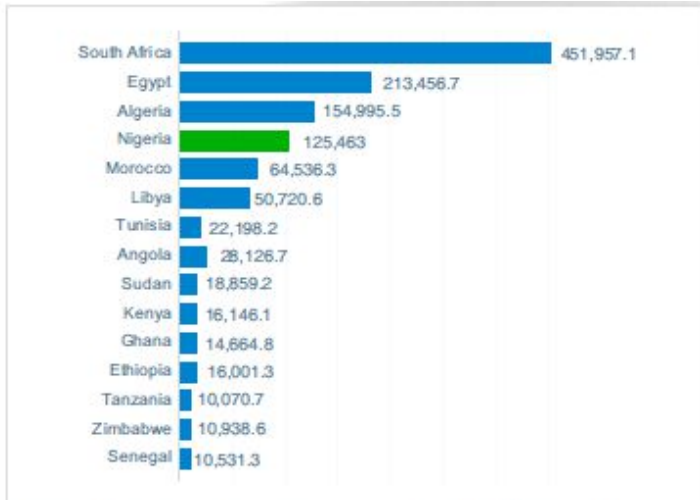
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Africa accounts for the smallest share of global greenhouse gas emissions, at just 3.8%, in contrast to 23% in China, 19% in the US, and 13% in the European Union.

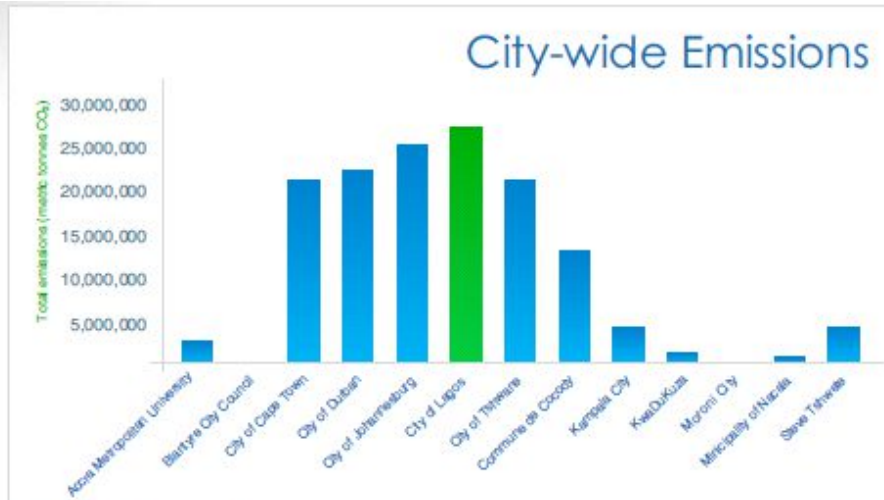
Africa, despite its low contribution to greenhouse gas emissions, remains the most vulnerable continent to climate change impacts.

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Africa, despite its low contribution to greenhouse gas emissions, remains the most vulnerable continent to climate change impacts.



Source: <https://www.statista.com/statistics/1268395/production-based-co2-emissions-in-africa-by-country/>



Source: [https://cdn.odp.net/cdp-production/cms/reports/documents/000/005/023/original/CDP\\_Africa\\_Report\\_2020.pdf?1583855467](https://cdn.odp.net/cdp-production/cms/reports/documents/000/005/023/original/CDP_Africa_Report_2020.pdf?1583855467)

# Africa's Energy Gap



- Africa's Energy Industry has been plagued and exacerbated by government ineffectiveness and inefficiencies, corruption, maladministration, lackluster energy policies and poor funding.
- These, coupled poor maintenance of existing, outdated energy facilities; an unviable energy sector, and a reputation of having unreliable electricity supply has all come together to stifle the continent's economic potential.
- The US identified improving the electricity supply as one of its top foreign policy priorities in Africa through its Power Africa initiative in 2013. According to Global Africa Network, \$2.6-trillion is required between 2019 and 2040 to meet Africa's growing energy demand.

- Energy & Power is one of 4 major essential infrastructure systems which includes water & sanitation, mass transit & telecoms and technology & infrastructure.
- Expanding electricity access across Africa which has a rapidly growing and urbanizing population is a mammoth engineering task that requires significant investment and a rethinking of what energy access means.
- Africa's population is among the fastest growing and youngest in the world. More than half a billion people are projected to be added to Africa's urban population by 2040 with its attendant growing demand for energy which if not addressed could cripple the already strained economy.

**600 m**

Africans without electricity access

**43%**

Africans without electricity access

**\$120bn**

annual investment requirement through 2040 to meet energy demand\*

**700Twh**

Africa's electricity demand\*\*

**3%** annual growth

in Africa's energy demand, highest among all continents\*\*\*

**4%**

global GHG emissions emanate from Africa

## Africa's Energy Mix - 2021 by PWC

Oil	38.7%
Natural Gas	29.7%
Coal	22.1%
Hydro	6.8%
Wind	1.0%
Nuclear	0.7%
Solar	0.6%
Bioenergy	0.4%





# Africa Energy: the Past, the Now and the Future



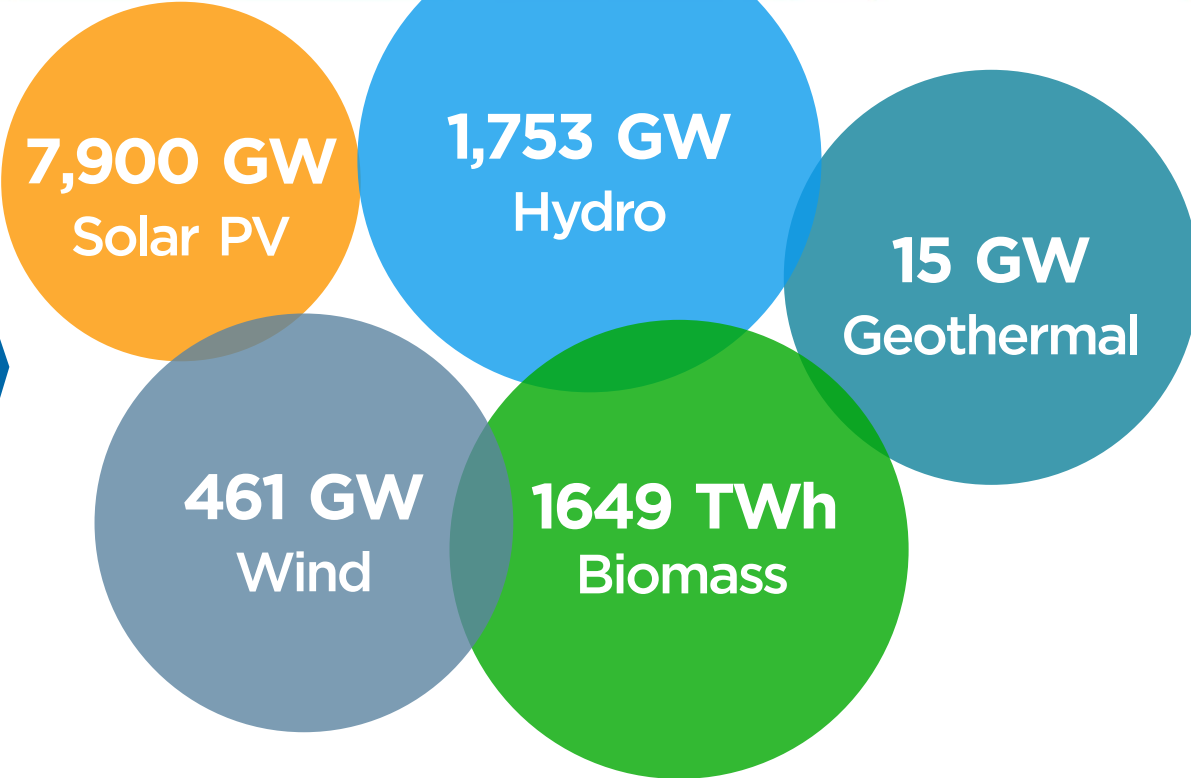
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# Africa Energy: the Past, the Now and the Future



Without a doubt, there is an urgent need for Africa (like the rest of the world) to respond with the issues of climate change with an intentional transition plan to clean, renewable and sustainable energy. Africa's energy gap presents a host of opportunities.



Findings by the International Energy Agency conclude that with appropriately funded, developed and executed policies, Africa has potential to close the energy gap by providing millions of African people with access to electricity by 2030 and could become the first continent to boost its economy largely through the use of modern, low-carbon energy sources. Additionally, Africa's abundant supplies of

natural gas can enable the continent to increase industrial operations, along with flexible electricity supply that complements renewables. Owing to vast natural resources, Africa has an exceptional opportunity to pursue a considerably lower carbon strategy allowing the continent provide its people with clean, reliable and accessible energy, while reducing the energy gap and raising the standard of living of its residents

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