



SOUTHERN  
**AFRICA EUROPE**  
CEO DIALOGUE



The European House  
**Ambrosetti**

## SOUTHERN AFRICA EUROPE CEO DIALOGUE

8<sup>th</sup> Edition

Live at The Capital On The Park - Johannesburg

**November 25-26, 2021**

# PRESENTATION BY BHAVTIK VALLABHJEE

*In cooperation with*



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REPUBLIC OF SOUTH AFRICA



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# THE ENERGY TRANSITION IN SOUTHERN AFRICA

Boosting the energy transition in Africa: the regional path towards decarbonization and the opportunities for international cooperation

Johannesburg, November 25<sup>th</sup>, 2021

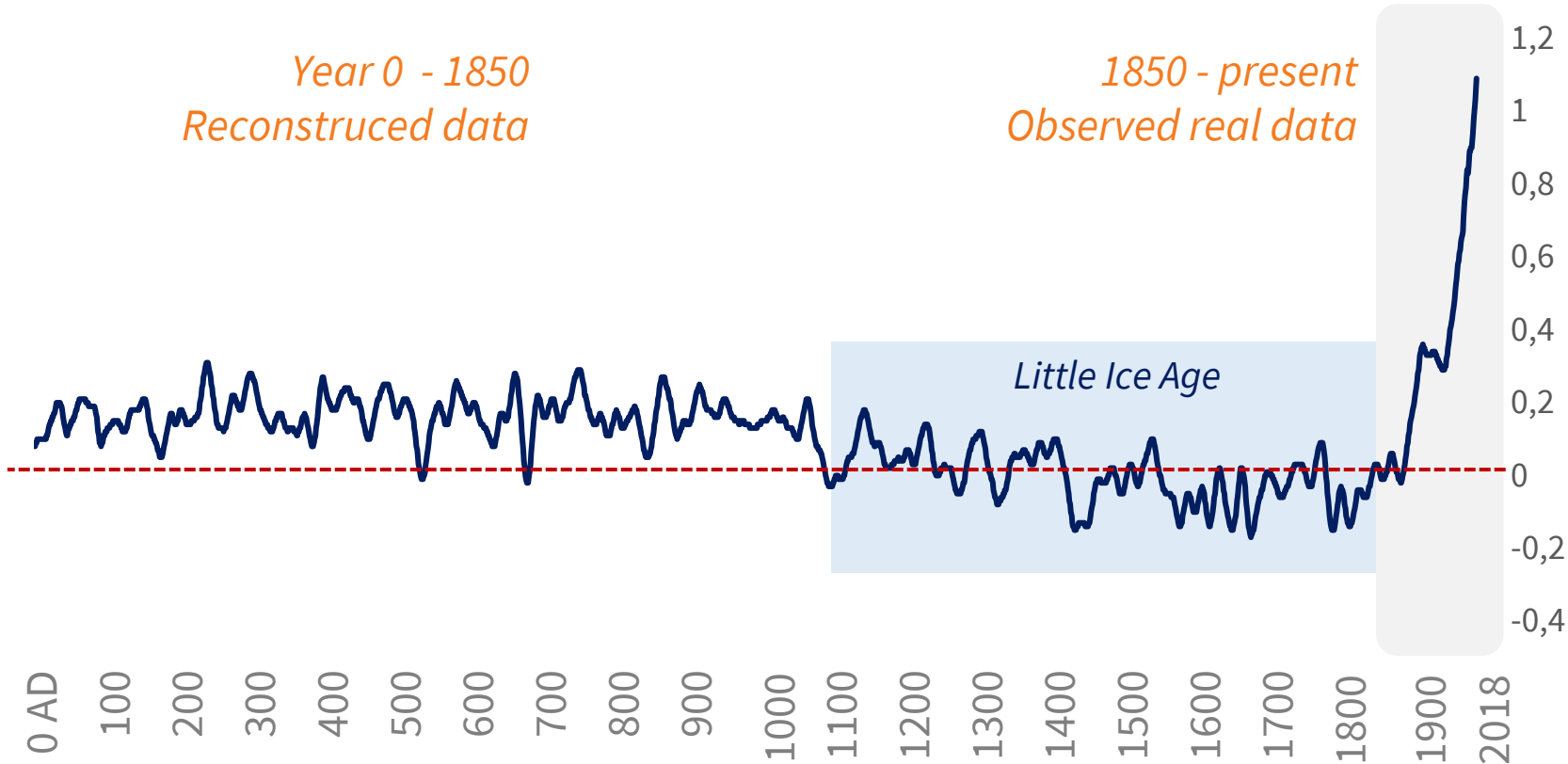
**Bhavtik Vallabhjee**

Head Power & Renewables, Resources & Energy, Absa Corporate and Investment Bank



# The temperature of the planet is increasing at an unprecedented rate

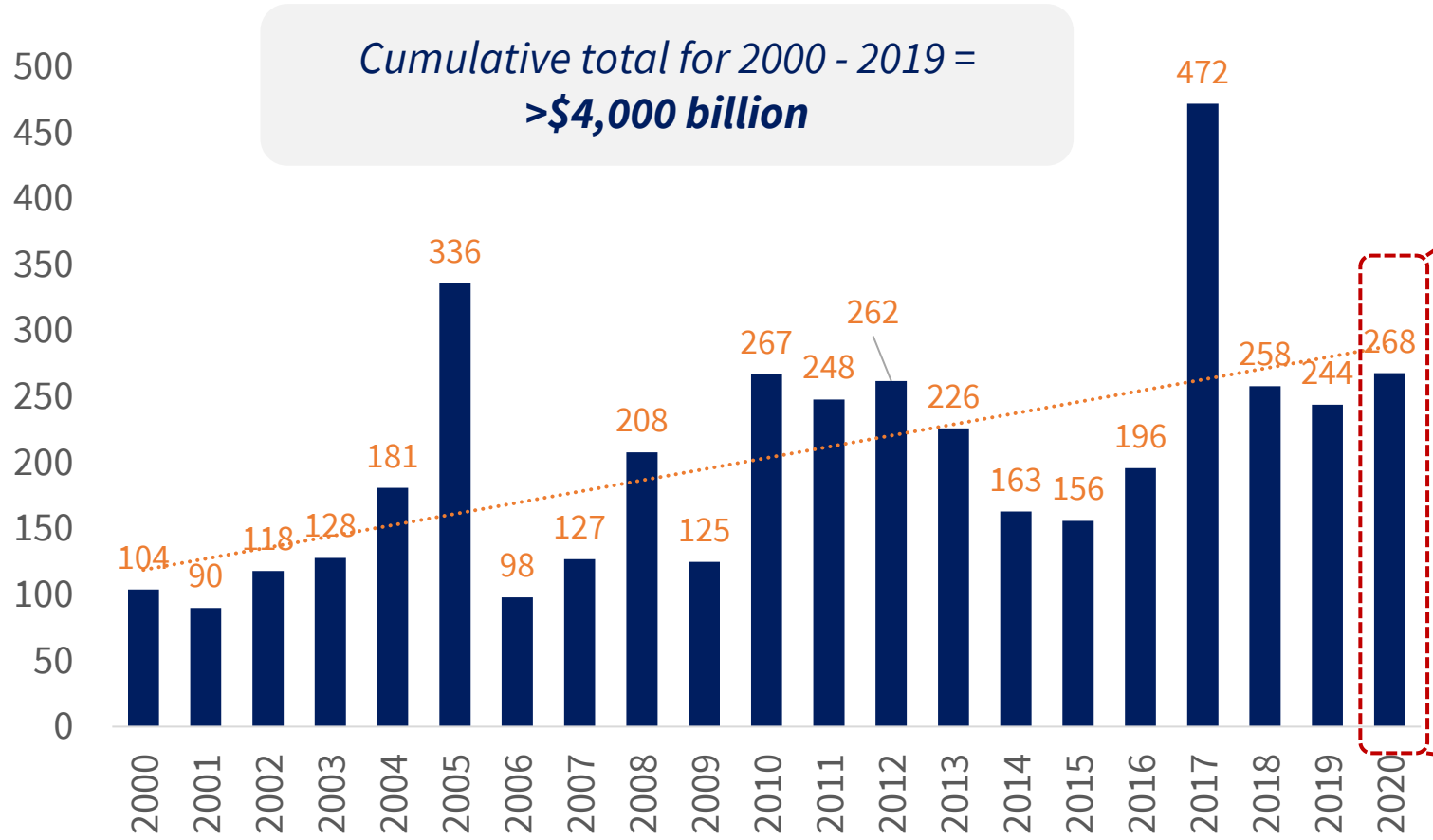
**Annual temperature changes in degree Celsius**  
(year 0 - 2018) averaged over decades vs baseline 1850 - 1900



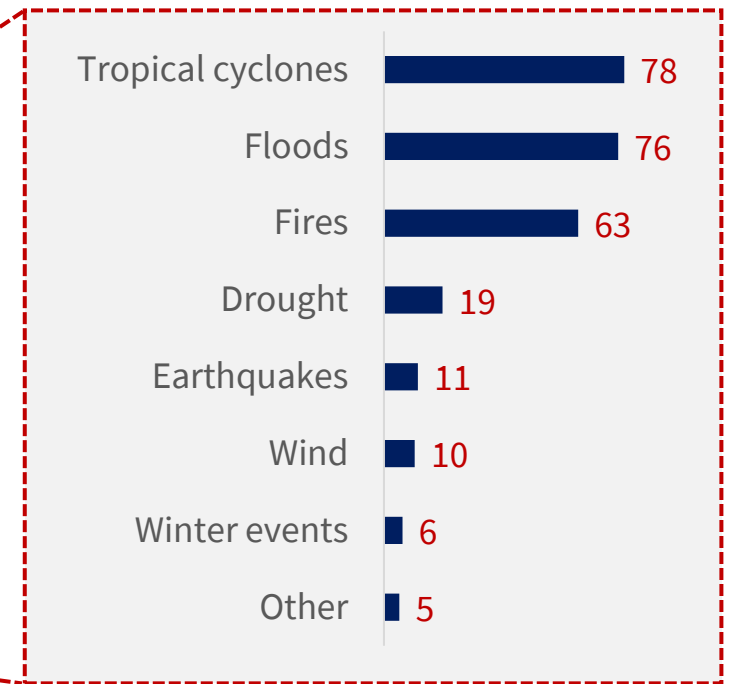
- The observed global warming is **unprecedented** on human scales
- The current temperature level is higher than that of the warmest period over the last 100,000 years

# Over the past 20 years, the direct damages from extreme events have exceeded \$4 trillion and are steadily increasing

**Economic losses from extreme weather events**  
billions of dollars, current prices, 2000-2020



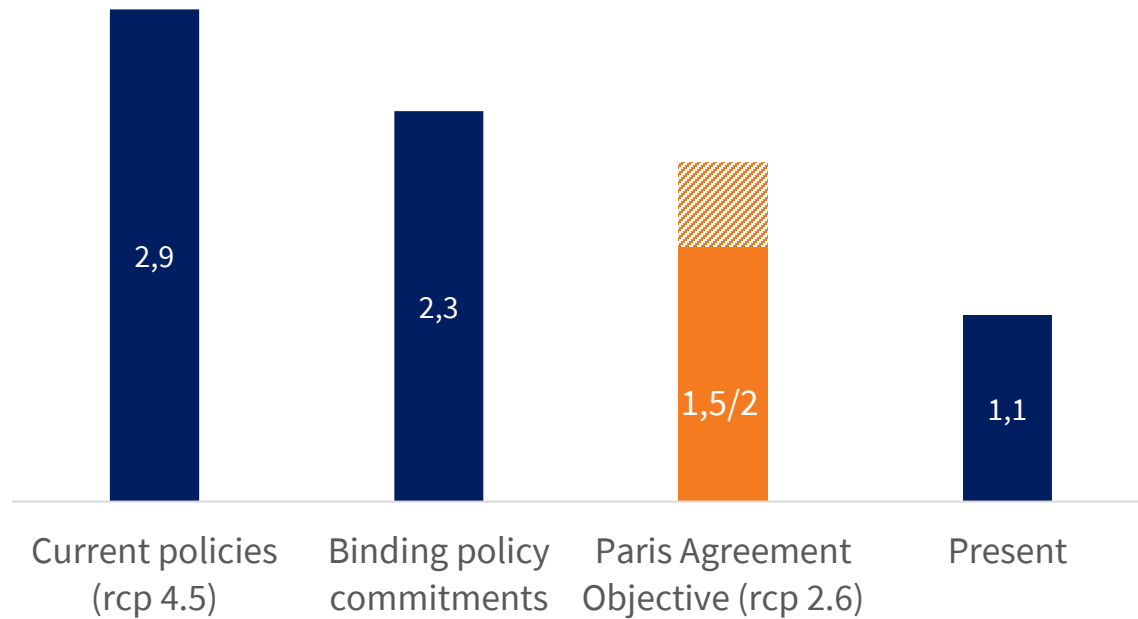
**Economic losses by type of climate event**, billions of dollars, 2020



# Even the most ambitious policies are not enough to contain temperature increase within the 2/1.5 °C agreed in Paris

## Temperature increases under different scenarios

Degree Celsius, 1880-2020

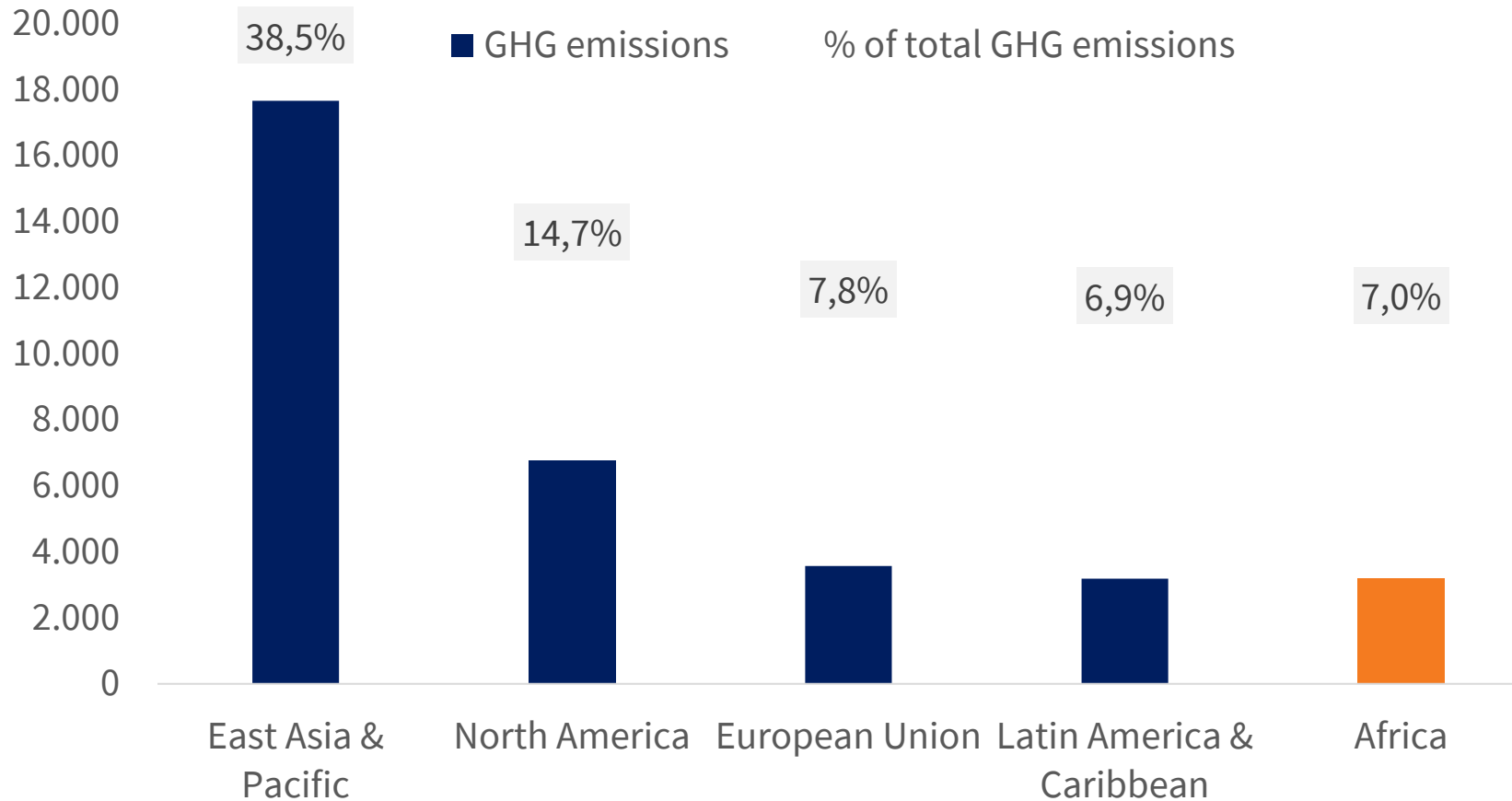


**The Paris Agreement** introduces the international goal of keeping global warming “well below **2°C**”, preferably below **1.5°C**, by the end of the century

Note: RCP stands for Representative Concentration Pathways, i.e., trends in greenhouse gas concentration trajectories on which the IPCC builds climate change models.

# The African continent contributes to only 7% of the world's total greenhouse gas emissions...

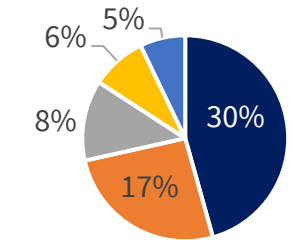
**Greenhouse gas emissions (Mt of CO<sub>2</sub> equivalent, left axis) and contribution to the total (% , right axis) in world regions, 2018**



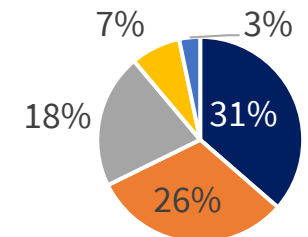
## Comparison of world regions

- East Asia and Pacific
- North America
- European Union
- Latin America & Caribbean
- Africa

**GDP**  
(% of total)



**Population**  
(% of total)



# ... however, Africa carries a heavier burden in terms of climate change compared to other regions of the world

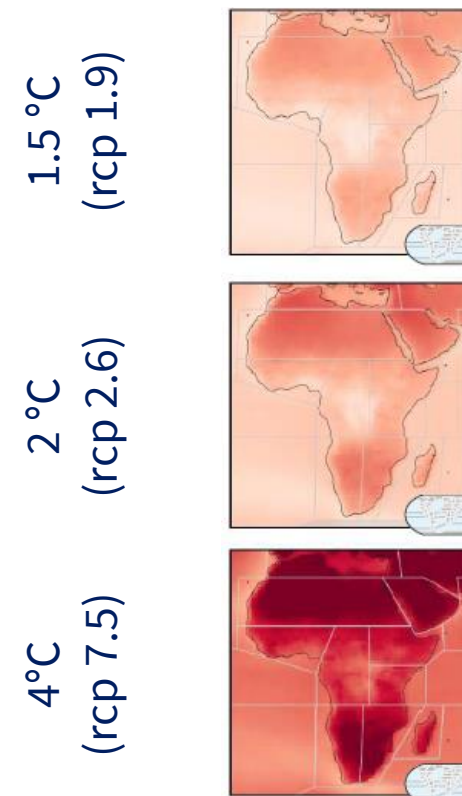


- **Mean temperatures** and hot extremes have risen across the African continent, with the increase in rate of surface temperature being **more rapid in Africa than global average**, with human-induced climate change being the dominant driver
- Observed increases in **heatwaves** and decreases in **cold waves** are projected to continue in the 21<sup>st</sup> century
- **Marine heatwaves** have become more frequent since the 20<sup>th</sup> century and are projected to increase

Under a global warming scenario of 4°C, **Northern** and **Southern Africa** will experience between 5°C - 6°C increase in maximum temperature, leading to aridity, agricultural and ecological droughts

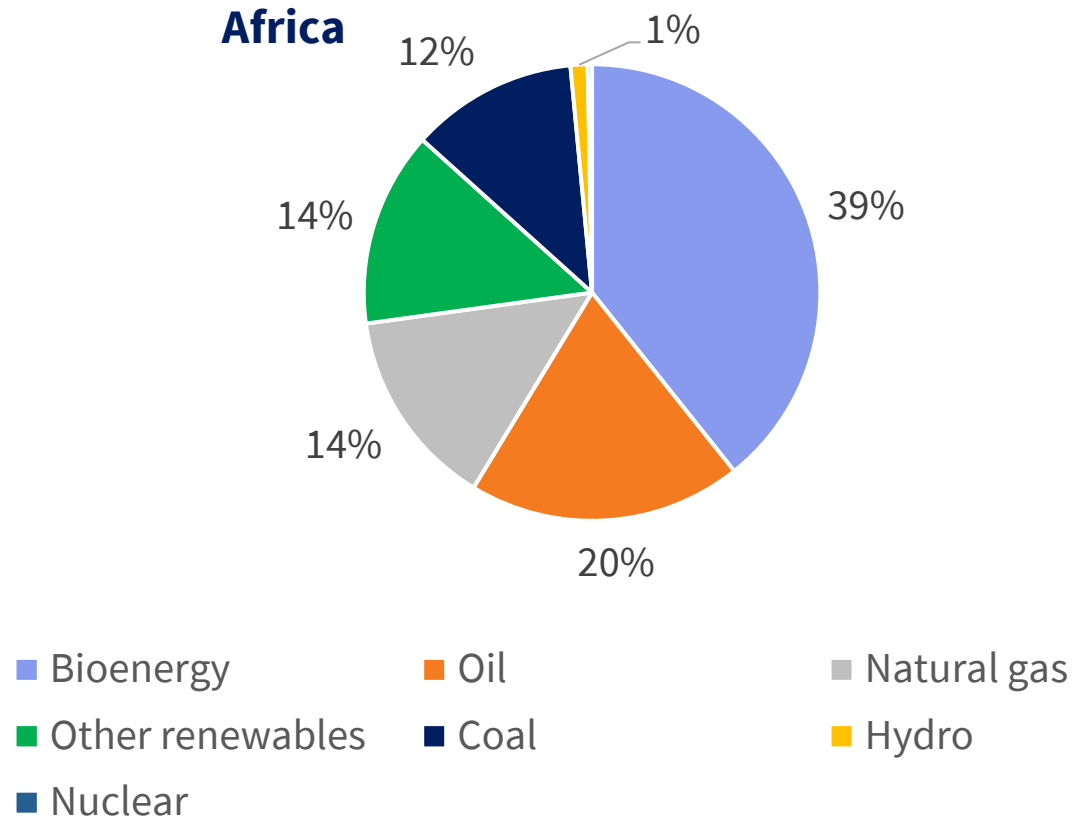
## Projected changes in annual maximum temperature at different degrees of global warming compared to 1851–1900

Global warming scenarios - 2100

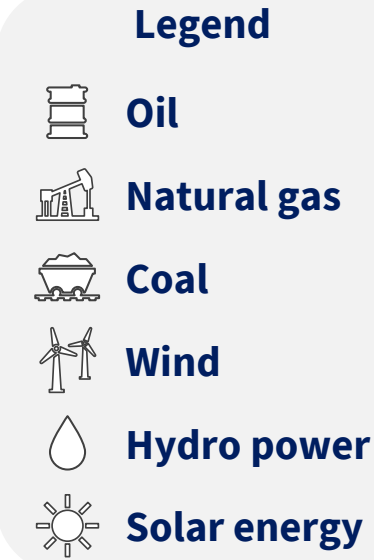


# Africa's current energy demand is met through a mix of bioenergy (biomass and waste) and fossil fuels (oil, natural gas and coal)

Total energy demand in world regions by source, (%), 2019



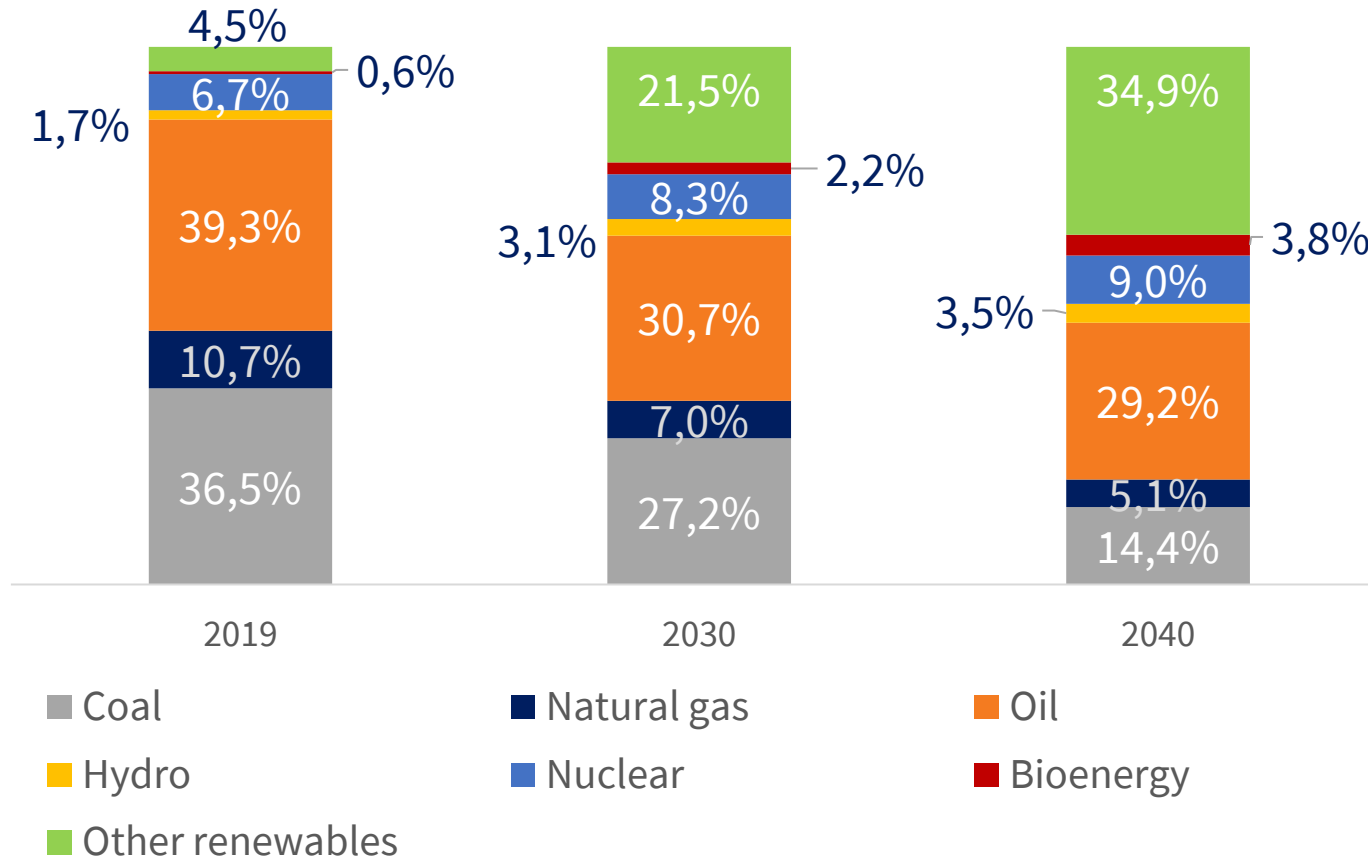
But there is no one size fits all in Africa: **fuel source varies across countries and regions**





# In the next decades, Africa needs to shift away from coal and oil towards a more sustainable power mix

**The expected evolution of power sector in Africa according to stated policies scenario** (% of total power generation), 2019-2040f



Over the next two decades, Africa will reduce its dependency on coal (from 36.5% to 14.4%) and oil (from 39.3% to 29.2%), **in favor of renewables sources** including **hydropower** (from 1.7% to 3.5%) and **bioenergy** (from 0.6% to 3.8%)

# Energy transition in Africa presents win-win opportunities

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- Use of gas as a transition fuel
- New coal only if carbon capture solutions in place
- Improve grid interconnection between countries
- Beneficiation of battery metals (Li, Ni, Va, Cu, Co)
- Beneficiation of natural gas (gas pipelines, LNG, fertilizer & petchem plants, GTP) -> job creation and industrialization
- WtE (waste, incineration, tyres, ) -> solving two problems waste from landfills & energy crisis.
- Access to technology and access to capital
- Improve access to energy. Almost 50% of the population in SSA do not have reliable & affordable access to electricity, whilst electricity in north Africa is almost universal. The energy transition is a powerful lever to boost human, social & economic growth.
- Electric vehicles & downstream sector manufacturing.
- Leveraging best practice from around the world
- Rural electrification opportunities to improve access to energy in Africa.
- Hydrogen market (green, blue)



# COP26 highlights

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- Countries committed to **decarbonization** drive set in the Paris Accord of 2015 with a **phase-down** (rather than Phase-out of coal power plants)
- End or reverse **deforestation** by 2030 with USD19 bn pledged
- **Methane**: cut current emissions by 2030
- **Agreement between China & the USA** to boost climate cooperation on methane emissions, decarbonization & the transition to clean energy
- Developed countries urged to **increase funding for adaptation in developing countries**
- **Political Declaration on a Just Energy Transition in South Africa**, with USD8,5 bn to be mobilized over the next 3-5 yrs from France, Ger, Eu, USA in the form of grants, concessional finance & investments in Renewables to help Eskom repurpose existing coal power stations



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# Implications of COP26

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- With this trend towards decarbonization, prospecting for new O&G projects may slow
- Investment into **Renewables** will increase
- African Governments **updated their NDC** to remain on track to achieve the 1,5 °C target of global emissions
- Africa's energy mix will **reduce dependency on coal** in favour of natural gas & Renewables
- SA's coal dependency would have to decrease from 90% currently to around 40% by 2040
- AfDB's AAPP (Africa Adaptation Acceleration Program). USD25 bn mobilized to scale-up bankable adaptation investments

# How to get there?

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- **Climate finance** in the context of rising government debt burdens post covid 19
- **Debt relief** in lieu of green & climate change initiatives
- Unlocking **private sector investment**
- UN Economic Commission for Africa. USD3 bn **Liquidity & Sustainability Facility** to de-risk private sector investments with the use of Green Bonds

The Time to Act is **NOW**:

**Green is the new Gold**

Projects are generally well structured & Africa boasts attractive returns on a risk-return basis

# Bhavtik Vallabhjee

Head Power & Renewables  
Resources & Energy  
Absa Corporate and Investment Bank

*In 2021, for the eighth consecutive year, The European House – Ambrosetti was named – in the category “Best Private Think Tanks” – the **no. 1 think tank in Italy**, the **no. 4 think tank in the European Union** and among the **most respected independents in the world** out of 11,175 on a global level in the latest “Global Go To Think Tanks Report” of the University of Pennsylvania.*

*The European House - Ambrosetti was recognized by Top Employers Institute as **one of the 112 Top Employers 2021** in Italy.*

