

## Natural Gas as Africa's Transition Fuel: A Bridge Too Far?

### Abstract

The world is facing a climate crisis and one of the ways it intends to combat it is by transitioning from fossil fuels to cleaner renewable energy sources. However, with the widespread energy poverty across the region, African countries propose to utilize their natural gas resources as a transition fuel in the short to medium term, whilst concurrently working to scale the addition of renewable energy resources into their energy mix. Consistent with several of the debates on issues around climate change, most of the countries within the Global North have a restrictive view on the role of natural gas in the transition and favour an outright transition directly to renewable energy sources. This paper discusses the technical, social, political, and economic issues underpinning the policy debate in this area. Consistent with the thesis of my broader research, the evaluation of the role of gas in the transition brings to the fore several of the risks and opportunities around Africa's energy transition. It deals with questions like whether the transition could stifle Africa's economic development? Whether the continent can find a balance between the transition and energy security? What would a just transition look like for Africa?

### Introduction

The Paris Agreement mandates countries to combat climate change by taking action to reduce greenhouse gas ("GHG") emissions. Energy is of course one of the biggest contributors to GHGs and therefore any progress in this regard must involve the moderation of the use of energy resources that produce GHGs.<sup>1</sup> This is why energy transition from fossil fuels to renewable energy sources has been topmost on the agenda on all nations, including African countries. Despite the broad agreement on the need for a transition, there have however been manifest disagreements across board on nearly all the parameters of the transition. The areas of disagreements range from issues regarding the pace of the transition, who should pay for the transition, which fuel sources constitute renewables, to even whether there should be a transition before the actual transition. As with most major global debates around economic issues, the battle lines are firmly drawn between the Global North and Global South.

Africa is currently home to some of the poorest people in the world and therefore the continent is eager to develop and pull its citizens out of poverty. One of the proven means of achieving this is by accessing energy services. The fact that there is a positive correlation between energy access and economic development is trite. Most countries that have found prosperity have done so on the back of the liberal use of their fossil fuel sources.<sup>2</sup> The

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<sup>1</sup> The Energy sector is the source of at least three-quarters of global GHG emissions. See for example the report by International Energy Agency (IEA), 'Net Zero By the Year 2050: A Roadmap for the Global Energy Sector' Found Online at: [https://iea.blob.core.windows.net/assets/deebef5d-0c34-4539-9d0c-10b13d840027/NetZeroby2050-ARoadmapfortheGlobalEnergySector\\_CORR.pdf](https://iea.blob.core.windows.net/assets/deebef5d-0c34-4539-9d0c-10b13d840027/NetZeroby2050-ARoadmapfortheGlobalEnergySector_CORR.pdf), Last accessed on December 5, 2023.

<sup>2</sup> See for instance World Bank Group 'Beyond Connections: Energy Access Redefined', written by *Mikul Bhatia and Nicolina Angelou*, (ESMAP Technical Report 008/15), Found online:

importance of energy to the development and wellbeing of people is self-evident, as low access to energy has negative implications on the quality of health, education, poverty reduction and sustainable development.<sup>3</sup> Access to energy drives industrialization, boosts productivity and economic growth, spurs human development, and is crucial to achieve most of the United Nations Sustainable Development Goals (“SDGs”).<sup>4</sup> The lack of reliable power poses a major constraint to both private citizens and businesses, resulting in annual economic losses estimated at \$26.2 billion, which is equivalent to 2% of GDP.<sup>5</sup>

In sub-Saharan Africa alone, 600 million people, or approximately 53 per cent of the region’s population, live without access to electricity.<sup>6</sup> This figure itself does not include the millions of people that are with only limited or unreliable electricity. Also, about 890 million people in sub-Saharan Africa cook with traditional fuels, with devastating consequences for mostly women.<sup>7</sup> The problem of energy access should therefore be viewed more broadly as one which cuts across the economic, social, cultural, and environmental divides of the society.<sup>8</sup> It is not therefore surprising that African countries are desperate for energy in whatever shape or form to pursue their development objectives. However, the pursuit of energy transition by African countries is also for self-preservation. Africa continues to overwhelmingly bear the burden of climate change with the most with the rapid increases in droughts and flooding leading to displacements of people, food shortages and even social unrests within the continent. However, one suspects that the pursuit of development is more important for the bulk of African countries, than meeting their commitments under the Paris Agreement. This is evident from the positions taken up by several African countries during the various climate negotiations, including those around the use of natural gas.

## Africa’s Position

Africa’s argument that it should be allowed to use gas as a transition fuel is anchored primarily on its developmental needs. In simple terms African countries see the pursuit of energy transition and the use of natural gas as complementary rather than being mutually exclusive. African countries propose to utilize natural gas as a bridge fuel in the short to medium term, whilst concurrently working to scale their use of renewable energy resources.

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[https://www.worldbank.org/content/dam/Worldbank/Topics/Energy%20and%20Extract/Beyond\\_Connections\\_Energy\\_Access\\_Redefined\\_Exec\\_ESMAP\\_2015.pdf](https://www.worldbank.org/content/dam/Worldbank/Topics/Energy%20and%20Extract/Beyond_Connections_Energy_Access_Redefined_Exec_ESMAP_2015.pdf) last accessed on August 10, 2023

<sup>3</sup> UNCTAD, *Commodities at a glance: Special issue on access to energy in sub-Saharan Africa*, No.17 found online at: <https://unctad.org/publication/commodities-glance-special-issue-access-energy-sub-saharan-africa> Last accessed on August 10,2023

<sup>4</sup> UNCTAD “Improving Energy Access Key to Meeting Development Goals in Africa’ Found online at: [https://unctad.org/news/improving-energy-access-key-meeting-development-goals-africa#:~:text=“Access%20to%20a%20reliable%20and,Development%20Goals%20\(SDGs\).”](https://unctad.org/news/improving-energy-access-key-meeting-development-goals-africa#:~:text=“Access%20to%20a%20reliable%20and,Development%20Goals%20(SDGs).”) (Last accessed on September 25, 2030.

<sup>5</sup> International Energy Agency ‘Africa Energy Outlook 2022’ Found online at: <https://www.iea.org/reports/africa-energy-outlook-2022/key-findings> (last accessed on 25, September, 2023)

<sup>6</sup> Statistics differ slightly depending on the report. Some reports estimate that this figure is about 43%. See for example: IEA ‘Africa Energy Outlook’ Found online at: <https://www.iea.org/reports/africa-energy-outlook-2022/key-findings> ( last accessed on 20<sup>th</sup> of August 2023.

<sup>7</sup> Jan Corfee-Morlot *etal* ‘Achieving Clean Energy Access in Sub-Saharan Africa’ Found online at: <https://www.oecd.org/environment/cc/climate-futures/case-study-achieving-clean-energy-access-in-sub-saharan-africa.pdf> (Last accessed on September 25, 2023).

<sup>8</sup> Yacob Mulugetta *etal* ‘Energy Access for Sustainable Development’ *Environ. Res. Lett.* 14(2019)020201.

At the 41st Ordinary Session of the Executive Council, the African Union Executive Council adopted the African Common Position on Energy Access and Just Energy Transition. According to the press release issued afterwards, the continent will continue to deploy:

“all forms of its abundant energy resources including renewable and non-renewable energy to address energy demand. Natural gas, green and low carbon hydrogen and nuclear energy will therefore be expected to play crucial roles in expanding modern energy access in the short to medium term while enhancing the uptake of renewables in the long term for low carbon and climate-resilient trajectory.”<sup>9</sup>

This position is expressed more hilariously by an activist who says that Africa’s message to the rest of the world should be: “Drill, baby, drill...gas, baby gas” ...“You’ve got to be kidding if you think we’re going to leave a single drop of our hydrocarbons in the ground.”<sup>10</sup> Indeed, the energy transition for Africa places more emphasis on energy access than decarbonisation. At the very extreme, for Africa, energy transition simply means to transit from no energy to energy.

The argument from African countries over the use of natural gas can be broken into three legs. These are the technical argument, the economic argument and the moral or climate justice argument.

### *The Technical Argument*

The technical reason for the choice of natural gas as a fuel source is not farfetched. Natural gas is available in large quantities in several African countries. Africa’s natural gas reserves amount to more than 800 trillion cubic feet with almost half of its 55 countries known to have proven natural gas reserves.<sup>11</sup> The African countries with the largest reserves in varying degrees include Algeria, Egypt, Ghana, Senegal, Mozambique, and Nigeria. It is believed that natural gas can provide African countries with improved energy security with greater opportunity to meet the continent’s growing energy demands and catalyse industrialisation. While natural gas has similar uses to other more traditional fossil fuels such as coal and oil, it has some distinct advantages. It produces less emissions and pollutants since it is a cleaner and less expensive fuel than coal or oil. It is also a flexible energy source, as gas plants can be built on a modular basis and therefore are able to ramp up or down quickly, according to energy demands.<sup>12</sup>

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<sup>9</sup> African Union, found online at: [https://au.int/sites/default/files/pressreleases/42071-pr-PR-The\\_Executive\\_Council\\_Adopted\\_African\\_Common\\_Position\\_on\\_Energy\\_Access\\_and\\_Transition.pdf](https://au.int/sites/default/files/pressreleases/42071-pr-PR-The_Executive_Council_Adopted_African_Common_Position_on_Energy_Access_and_Transition.pdf) last accessed on December 4, 2023.

<sup>10</sup> by NJ Ayuk, executive chair of the African Energy Chamber, Daily Maverick “Climate Crisis: ‘Drill, baby, drill; gas, baby, gas’: African energy ministers solidify pro-fossil fuel position ahead of COP27” Found Online at: <https://www.dailymaverick.co.za/article/2022-10-23-drill-baby-drill-gas-baby-gas-african-energy-ministers-solidify-pro-fossil-fuel-position-ahead-of-cop27/> Last accessed on December 4, 2023

<sup>11</sup> <https://energycapitalpower.com/top-ten-african-countries-sitting-on-the-most-natural-gas/>

<sup>12</sup> Marsh ‘How Natural Gas Can Play a Role in Africa’s Energy Transition’ Found online at: <https://www.marsh.com/tn/en/industries/energy-and-power/insights/how-natural-gas-can-play-a-role-in-africas-energy-transition.html#:~:text=It%20is%20also%20a%20flexible,limited%20access%20to%20renewable%20energy.> Last accessed on December 5, 2023

In a continent where most of its electricity and other forms of energy are generated through dirtier sources of energy, an initial transition to natural gas might make some sense. For instance, in the region, wood-based biomass sources are predominately used for cooking,<sup>13</sup> and diesel-or petrol-powered generators are substitutes for grid electricity.<sup>14</sup> The temporary pivot to the much cleaner natural gas could lead to the reduction of GHG emissions. It is also important to point out that most of the associated gas that is extracted during the drilling of oil in some of the African oil producing countries are flared with negative consequences for the atmosphere. The sensible argument is for these associated gases to be captured and put into use in generating electricity or other industrial uses.<sup>15</sup> Natural gas can also be used as a backup for intermittent renewable energy sources like wind and solar, thereby helping to ensure a stable and reliable supply of electricity.

It appears that the argument against the use of natural gas is based on the comparison between gas and renewables. However, the fair comparison should be between gas and coal or even gas and diesel. Most African countries currently depend on dirtier energy sources for and therefore the logic is that the transition from coal to natural gas will portend some significant advantages to the atmosphere by improving air quality and reducing the emission of carbon dioxide. IEA posits that on an average, coal to gas switching reduces emissions by 50% when producing electricity and by 35% when producing heat.<sup>16</sup> The same applies from switching from charcoal biomass to LPG for cooking. Therefore, there might be some benefit in switching to gas as a bridge to much cleaner sources of energy.

### *The Economic Argument*

There are also economic arguments for the use of natural gas. The consistent argument has been that most of the developed countries developed on the back of cheap fossil fuel. According to Nigeria's former vice-president, Professor Yemi Osinbajo, "No one in the world has yet been able to industrialise using renewable energy."<sup>17</sup> The fact is that renewable

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<sup>13</sup> 81 percent of Sub-Saharan African households rely on wood and charcoal for cooking more than any other region in the world. See: "World Bank. 2011. Wood-Based Biomass Energy Development for Sub-Saharan Africa: Issues and Approaches. Energy Sector Management Assistance Program (ESMAP);. © World Bank, Washington, DC. <http://hdl.handle.net/10986/26149>.

<sup>14</sup> In Sub-Saharan Africa, one out of every five litres of diesel and petrol is burned in a back-up generator. It is estimated that 40–70 billion litres of fossil fuel are consumed by back-up generators annually. See: International Finance Corporation, 'The Dirty Footprint of the Broken Grid' Online at: <https://documents1.worldbank.org/curated/en/640791573016682618/pdf/Summary.pdf>

<sup>15</sup> The amount of gas currently flared each year about 140 billion cubic metres could power the whole of Sub-Saharan Africa. See: World Bank Found online at: <https://www.worldbank.org/en/programs/gasflaringreduction/gas-flaring-explained#:~:text=Flaring%20is%20a%20waste%20of,whole%20of%20sub%2DSaharan%20Africa>. Last accessed on December 2, 2023.

<sup>16</sup> IEA 'The Role of Gas in Today's Energy Transitions' Found online at <https://www.iea.org/reports/the-role-of-gas-in-todays-energy-transitions#:~:text=This%20analysis%20takes%20into%20account,by%2033%25%20when%20providing%20heat>. Last accessed on December 5, 2023.

<sup>17</sup> Financial Times 'Can Africa Grow Without Fossil Fuels?' Found online at <https://www.ft.com/content/1e8c12fe-4823-41a1-8069-b6150876427d> Last accessed on December 5, 2023

energy sources are no substitutes for the hydrocarbon energy intensity needed to make steel, run cement factories, power heavy duty trucks. Natural gas is seen as that necessary feedstock required for manufacturing and industrialisation. Africa needs to industrialize if it is to create the much-needed jobs for a rapidly growing population.<sup>18</sup>

The need to earn foreign exchange for development is most crucial for most natural gas rich African countries. For instance, Nigeria is one of the major producers of natural gas in the world and relies on the proceeds from its export to fund majority of its budget for social services like healthcare, infrastructure, education and including even its Energy Transition. If countries like these are required to stop producing gas, they potentially become bankrupt with devastating consequences for their citizens and likely leading to political unrests. The argument is that there is a need to give these countries sufficient time to transition into other sources of revenue. This argument is even more credible when viewed against the backdrop of Africa's high vulnerability to climate change and its low readiness for its impact. This along with other external economic shocks have largely negatively impacted the development trajectory of several of these African countries. Any further decline in their income sources would undoubtedly impose further economic losses with possible social disruptions.

### *Climate Justice Considerations*

For African countries, the debate over the use of natural gas as a transitional fuel is tied to climate justice. The basic argument is that historically, developed countries have tended to be responsible for most of the global GHG emissions. However, sub-Saharan Africa bears the resultant adverse consequences disproportionately. Africa must therefore in the spirit of common but differentiated responsibility be allowed to transition in the most equitable manner. Also, past emissions by the developed countries which has led the planet to where it is today must be taken into consideration in apportioning future responsibilities and liabilities. The planet is damaged due to the intense historical use of fossil fuels which Africa contributed very little of and therefore Africa should not be denied 'carbon space' to develop its economies.<sup>19</sup> There is of course the counter argument that allowing Africa carbon space would even be counterproductive for the continent. According to Professor Mark New, "Carbon space" is "not available; it is pie in the sky." any "carbon space" for Africa will "push emissions above the cap needed for 1.5 or 2°C of global warming, leading to extra warming, which will then hit African countries hardest, as these are the most vulnerable. It is a case of turkeys voting for Christmas."<sup>20</sup>

The climate justice argument is also linked to finance. The claim is that Africa is owed well over ten times as much as the global climate funding that has flowed into the continent in

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<sup>18</sup> It is estimated that in the year 2060 about 40% of the young people would be residing in Africa.

<sup>19</sup> World Economic Forum 'Can Higher Ambition in Developed Countries Create Carbon Space for Others?' Found Online at: <https://www.weforum.org/agenda/2023/02/can-higher-ambition-in-developed-countries-create-carbon-space-for-others/> Last accessed on December 5, 2023

<sup>20</sup> Professor Mark New is Pro-Vice Chancellor for Climate Change and Director of the African Climate and Development Initiative at the University of Cape Town Reported by Daily Maverick Newspapers' Found Online at : <https://www.dailymaverick.co.za/article/2022-10-23-drill-baby-drill-gas-baby-gas-african-energy-ministers-solidify-pro-fossil-fuel-position-ahead-of-cop27/> Last accessed on December 5, 2023

recent years.<sup>21</sup> Indeed, the much debated loss and damage fund at COP 27 and COP 28 is tied to the pursuit of climate justice.<sup>22</sup> It is argued that this demand by African countries for “reparations” should not be based on the benevolence of the developed countries but is justified on the grounds that it is a “carbon tax” owed by the developed countries to the least developed countries. These funds from the developed countries would then ostensibly be used for climate adaptation and mitigation and even funding of the transition to renewables.

The major clamour by African countries is that renewable energy cannot provide base load power and that no country in the world is proven to have developed relying solely on renewable energy. In the words of Nigeria’s former vice president, it is “*a naive belief in leapfrogging, the assumption that, like skipping landlines for mobile phones, Africa can ‘leap’ to new energy technologies*”.<sup>23</sup> Therefore, that Africa ought to be provided the opportunity to utilise natural gas to develop before there can be talk of any energy transition. This goes back to the question around a just energy transition and the need for past pollutions to be taken into consideration is making any demand on African countries. Africa believes strongly that it requires fossil fuel to develop. According to Mo Ibrahim, “You can measure any country by the amount of gas it has emitted. There is a strong correlation between that and development,”<sup>24</sup>

## The Pushback

There is considerable pushback, mostly from the Global North on the use of natural gas from transition. Firstly, there is pushback on the notion that natural gas projects are needed to provide energy security and affordability.<sup>25</sup> It is widely believed that if the subsidies that fossil fuels enjoy were to be removed that they would become significantly more expensive than renewable energy.<sup>26</sup> Furthermore, it is argued that renewables are the fastest, easiest and cheapest way to provide energy access to the over 600 million people who currently live without electricity in Africa. This is because one of the major reasons for energy poverty in Africa is the fact that power grids hardly reach rural areas, which suffer most from lack of access. Even locations that are connected to power grids also suffer from unreliable power supply due to grid collapses. Unlike conventional energy sources, renewables, especially solar which is abundant in Africa, do not necessarily require access to the super grid as they can be deployed in the form of mini grids or solar home systems for instance.

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<sup>21</sup> Oxfam International ‘G7 Owes Huge \$13Trillion Debt to Global South’ Found Online at: <https://www.oxfam.org/en/press-releases/g7-owes-huge-13-trillion-debt-global-south> Last accessed on December 5, 2023

<sup>22</sup> This Fund aims to provide financial assistance to countries that are most impacted and vulnerable to climate change. It was established at COP 27 and its operational modalities finally agreed to at COP 28

<sup>23</sup> Market Forces ‘The Hypocrisy of Rich Countries’ Climate Policies’ Found online at: <https://dmarketforces.com/the-hypocrisy-of-rich-countries-climate-policies/> Last accessed on December 4, 2023

<sup>24</sup> Financial Times ‘Can Africa Grow Without Fossil Fuels?’ Found online at: <https://www.ft.com/content/1e8c12fe-4823-41a1-8069-b6150876427d> Last accessed on December 4, 2023

<sup>25</sup> It is interesting that India and China both see a wider role for natural gas in the energy transition equation.

<sup>26</sup> IEA ‘Fossil Fuel Subsidies in Clean Energy Transitions: Time for a New Approach?’ See online at <https://www.iea.org/reports/fossil-fuel-subsidies-in-clean-energy-transitions-time-for-a-new-approach> Last accessed on December 5, 2023

There are other technical arguments against the use of gas as a transition fuel. The concern is based mostly around the emissions produced along the gas supply chain. The major concerns are about methane leakages that occur during the extraction of gas. Methane is a key driver of climate change and therefore its leakage somewhat negates whatever advantage natural gas could have had over other dirty energy sources like coal. The view is however that this is a mere process or technical problem that can be remedied with appropriate technologies and deference to best practices. The quickest solution might be for developed countries who already have these technologies to make them available for use in Africa.

Even though natural gas plants are easy to deploy and can be installed on a modular basis, they require expensive infrastructure such as gas pipelines to make them viable. These types of infrastructure have significant construction lead times and their financing costs are typically amortised over several years. This poses some significant problems. Most African countries have committed to meeting net zero targets within the next four decades and some developed countries for even a shorter timeframe. There appears to be very limited time available to complete the construction, commissioning, and amortisation of new gas plants before they become redundant. This poses a big risk that these gas assets are likely to be stranded.<sup>27</sup>

There is also the view that Africa's natural gas is not competitive enough. There are studies that show that African gas and oil fields are 15-20% more expensive to develop and up to 80% more carbon-intensive than other fields globally.<sup>28</sup> Therefore, new African gas projects face significant disadvantages from producers with intrinsically lower cost structures.<sup>29</sup> Even in a scenario where African countries are able to produce gas more competitively, the fact that it is the multinational corporations who dominate the energy market in Africa would mean that they would want to take advantage of high global prices for their products. This will create serious difficulties for accessing cheap domestic gas required for development, within the host countries. For these reasons, it is suggested that perhaps Africa would be wasting considerable resources in developing new natural gas projects. These funds could have gone into the development of renewable energy projects where Africa enjoys greater competitive advantage.<sup>30</sup>

It is important to note that a significant part of what is driving the debate on whether it is appropriate to use of natural gas as a transition fuel, is around the continued financing of natural gas projects by international financial institutions. These organisations are firmly under the control of the Global North and therefore countries within the Global South are

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<sup>27</sup> Carbon Tracker 'Unburnable Carbon: Ten Years On' Found Online at:

<https://carbontracker.org/reports/unburnable-carbon-ten-years-on/> Last accessed on December 5, 2023

<sup>28</sup> McKinsey and Company, 'The Future of African Oil and Gas: Positioning for the Energy Transition. Found Online at: <https://www.mckinsey.com/industries/oil-and-gas/our-insights/the-future-of-african-oil-and-gas-positioning-for-the-energy-transition> Last accessed on December 5, 2023

<sup>29</sup> <https://www.mckinsey.com/industries/oil-and-gas/our-insights/the-future-of-african-oil-and-gas-positioning-for-the-energy-transition>

<sup>30</sup> Climate Home News 'Gas is Casting a Long Shadow Over Green Development in Africa' Found Online at: <https://www.climatechangenews.com/2022/11/15/gas-is-casting-a-long-shadow-over-green-development-in-africa/#:~:text=A%20study%20by%20McKinsey%20shows,with%20intrinsically%20lower%20cost%20structures> . Last accessed on December 5, 2023.

compelled to put forward convincing arguments that could sway the developed countries. Otherwise, they would just go ahead and utilise their gas without recourse to anyone like China, India, and other gas rich emerging economies. Financing of large-scale infrastructure projects have always been difficult in Africa and the reason for this is that project finance structures on which they are predicated upon are not suitable for Africa. For instance, it is very difficult to construct gas infrastructure without securing offtake agreements from credible off takers. These off takers are most likely to be overseas in order to make the project bankable. It is therefore very possible that even where African countries were to win the battle for the continued exploitation of gas that it would end up being for the ultimate benefit of the developed countries who have much more matured gas markets. It may well be that there is a need for a significant restructuring of the local and international gas markets as well as international financing structures before African countries can benefit from their gas resources.

### **The Politics of Natural Gas as Transition fuel**

At Cop 27 in Egypt, Al Gore furiously declared in his opening speech that “Any new fossil fuel development is incompatible with 1.5 degrees goal of the Paris agreement”, urging for the defunding of all fossil fuel projects all over the world.<sup>31</sup> Al Gore’s view was not too different from majority of the countries from the Global North at the time. Leading up to Cop 26 in Glasgow, the European countries were through their speeches also emphatic in their dislike for the use of gas as a transition fuel.<sup>32</sup> They had followed this up with the campaign to cut off financing for gas projects across the world, including Africa.<sup>33</sup> These group of developed countries, which also control most of the global financial resources and financial institutions, also leaned on many of these institutions, including the World Bank, to reduce their funding for fossil fuel projects because of the large carbon footprint of such projects. Countries like Norway and Sweden called for a complete ban by 2024.<sup>34</sup> These actions had immediate economic impacts. For instance, Dangote the richest man in Africa, who had bet heavily on a large refinery apparently needed the government to “bail out” the refinery, by buying 20% equity in the project amid rumors of the project being cash strapped due to a lack of funding.<sup>35</sup> To respond to this, African countries have started advocating for the establishment of an African energy bank to help finance the

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<sup>31</sup> Whilst Al Gore was making this speech his own country of the United States was hitting the highest records for investments in oil and gas. The United States is the largest producer of natural gas in the world, representing nearly a quarter of global production. See for example: <https://investingnews.com/top-natural-gas-producers/> last accessed on December 4, 2023.

<sup>32</sup> See for example, the United Kingdom position statement on international public support for clean energy 2021. Found online at: <https://webarchive.nationalarchives.gov.uk/ukgwa/20230313124743/https://ukcop26.org/statement-on-international-public-support-for-the-clean-energy-transition/> last accessed on December 5, 2023.

<sup>33</sup> Devex ‘Nigerian Minister decries defunding of Gas Projects as Inequitable’ Found online at: <https://www.devex.com/news/nigerian-minister-decries-defunding-of-gas-projects-as-inequitable-100216>. Last assessed on December 4, 2023

<sup>34</sup> Reuters ‘European Officials Urge World Bank to Exclude Fossil Fuel Investments’ Found online at: <https://www.reuters.com/article/us-world-bank-climate-exclusive/exclusive-european-officials-urge-world-bank-to-exclude-fossil-fuel-investments-idUSKBN2AQ32P/> Last accessed on December 5, 2023.

<sup>35</sup> See People’s Gazette Newspaper, ‘Despite NNPC Bailout, Dangote Seeks More Loans to Salvage Refinery Project’ Found online at: <https://gazzetngr.com/despite-nnpc-bailout-dangote-seeks-more-loans-to-salvage-refinery-project/> Last accessed on December 5, 2023.

continent's oil and gas sector and fight the lack of liquidity in the sector.<sup>36</sup> However, this would never be enough to provide the kind of resources that are required to massively develop the natural gas sector in the continent. The lack of financing in the sector also took a toll on the economy of other fossil fuel dependent countries. For instance, against the backdrop of declining global investments in the oil and gas sector, it is projected that the economies of most of the member countries of Organisation of Petroleum Exporting Countries (OPEC) would be severely affected.<sup>37</sup> Ironically, during this same period of great turmoil caused by its financial institutions, Europe was basically swimming in Russian gas and the United States was ramping up the production of gas domestically.

However, there are signs that the narrative from some parts of the Global North, particularly Europe has started to turn. The primary reason being the continent's response to the Russia -Ukraine war and the consequential decision of most of the Europe to wean itself of Russian oil. First, in May 2022, the European Commission announced a 210-billion-euro plan to end the EU's dependence on Russian oil and gas over the next five years and speed its transition to green energy. While the plan calls for investments in traditional renewable energy and environmentally friendly retrofits, it also proposes spending 10 billion euros on a dozen gas and liquefied natural gas projects.<sup>38</sup> One month later, the EU Parliament voted to classify natural gas and nuclear power as sustainable investments, opening the window for investment in natural gas projects across the globe.<sup>39</sup> Since then, European countries have started scouring the world, including Africa in the search for alternative supplies of natural gas and even coal.<sup>40</sup>

For the Europe, the volte face is a show of pragmatism in the light of the changing geopolitical realities. By this move, Europe had basically prioritized energy security above the protection of the environment, when its energy security was threatened. Surely, the Global North must also now understand Africa's seeming obsession with natural gas? Well, this is not exactly the case, as there is still considerable pushback to the notion of natural gas as a transition fuel.<sup>41</sup> Incidentally, European countries have started to approach a few African countries to sell

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<sup>36</sup> Afexim Bank signed a Memorandum of Understanding with African Petroleum Producers Organization to set up an African Energy Transition Bank. See for example: <https://www.afeximbank.com/afeximbank-signs-memorandum-of-understanding-with-the-african-petroleum-producers-organization-to-establish-an-african-energy-transition-bank/> last accessed on December 5, 2023.

<sup>37</sup> See for Mercure J.F et al ' Reframing Incentives for Climate Action' *Nature Energy*, Vol.6, December 2021. Pg 1133

<sup>38</sup> Reuters ' EU Unveils 210b Euro Plan to Ditch Russian Fossil Fuel' Found Online at: <https://www.reuters.com/business/sustainable-business/eu-unveils-escape-route-russian-fossil-fuels-by-2027-2022-05-18/#:~:text=The%20Commission%20said%20some%20investments,access%20to%20non%2DRussian%20supply>. Last accessed on December 4, 2023.

<sup>39</sup> Reuters " EU Parliament Backs Labelling Gas and Nuclear Investments as Green" Found Online at: <https://www.reuters.com/business/sustainable-business/eu-parliament-vote-green-gas-nuclear-rules-2022-07-06/> Last accessed on December 4, 2023.

<sup>40</sup> Climate Home News ' Germany Plans to Keep Funding New Gas Projects Overseas Despite Pledge' Found online at <https://www.climatechangenews.com/2023/07/27/germany-plans-to-keep-funding-new-gas-projects-overseas-despite-pledge/> Last accessed on December 2, 2023

<sup>41</sup> This is mostly now coming from civil society groups.

gas to them.<sup>42</sup> For Africa, it was another evidence of the hypocrisy of the Global North which continues to prioritize its own interests over all else, whilst effectively asking an entire continent to remain poor, if it is what it takes to protect the environment.

### **Reconciling the Differences: Do we Really Need a Transition Fuel?**

In the final analysis the debate over the use of natural gas as a transition fuel validates the hypothesis that energy transition can only occur when technology and economics converge. At the moment, the claim that renewable energy technology is cheaper than fossil fuels is not justified as you can only compare substitutes. The fact remains that renewable energy sources are not yet substitutes for fossil fuels in energy intensive sectors. This analysis is important because if the real cost of renewable energy was less than that of fossil fuels, African countries would have long pivoted to it. However, the world cannot afford to wait for science to catch up with economics. The view from science is that the world has very limited time to complete the transition from fossil fuels to renewable energy sources to save the planet. Therefore, the common-sense view is that the world cannot accommodate a transition within the transition. Consequently, there appears to be little time to use of gas as a bridge to the main transition.<sup>43</sup> What is clear though is that there needs to be some form of intervention or concession for Africa. The possibilities around subsidies for green hydrogen or even carbon capture might be possible technical solutions.

It is also a fact that it would take time to build up sufficient renewable sources to take care of the energy needs of the world. The question then is whether within that intervening period, gas might represent a good bridge whilst ensuring that emissions do not go over the magical number of 1.5 degrees Celsius? In simple terms, what amount of carbon space does the world have left? There are no clear answers to these questions, yet the world must work collaboratively to find a solution to them. The conversation over the use of natural gas should not be a binary one on whether to use natural gas or renewables. It should be framed in the form of how to develop incremental power for Africa without compromising on climate goals. The strategy should be for the Global North to ensure that Africa has the incentive to keep improving its energy mix by making it cleaner. This can only be achieved through being a lot more transparent with its dealings and meeting its financial commitments to the continent.

The strategy of banking on revenues from the export of natural gas to Europe for economic development is not only risky but also suspect. In theory, the export revenues should be deployed towards providing much needed social services for citizens. This theory has of course not always held true. The resource curse problem that countries like Nigeria continue to suffer despite being one of the largest exporters of crude oil is evidence of this. Therefore, there is no guarantee that earning significant revenues from the export of natural gas will translate to economic growth. Another related point is that if the projections around net zero commitments were to hold, then demand for natural gas should also decline. This scenario means that future revenues from export of natural gas is rather uncertain. The best strategy

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<sup>42</sup> DW 'Europe Scrambles for African Gas' Found online at: <https://www.dw.com/en/africa-gas-europe-cop27/a-63719525#:~:text=Senegal%20and%20Mauritania%20are%20planning,energy%20infrastructure%2C%20including%20fossil%20gas>. Last accessed on December 5, 2023.

<sup>43</sup> See IEA Supra. Note 1

to manage this risk would be for these African countries to start diversifying their revenue portfolio. The transition provides a good opportunity to accomplish this.

Despite the abundance and unhindered availability of fossil fuel, including natural gas, for several decades, the continent is still unable to provide sufficient power for its inhabitants. Therefore, there are no guarantees that even if Africa was allowed to exploit its gas resources unhindered, that it would be able to solve its energy problems. The difficulty with the exploitation of natural gas is that it requires very sophisticated and expansive infrastructure. Most African countries do not have the resources to deploy these types of infrastructure and it is also extremely difficult to find international financing as already discussed above. Therefore, the problem of Africa's energy poverty would not be solved by merely resolving the issues around gas as a fuel source, the issues around finance and capacity also needs to be addressed.

## **Conclusion**

This topic for paper was chosen because it teases out the core themes of my broader research, which are around the risks and potential pitfalls confronting Africa due to the push towards energy transition. These themes centre around energy security, economic development, and a just and transparent energy transition. The arguments for or against the use of gas as a transition fuel is not driven solely by science but also by politics and economics. The position taken by both parties of the divide is usually to further their respective economic interests at every point in time. The fact that the Global North oscillates between supporting and disapproving the use of natural gas as a transition fuel, depending on its political and economic interests at different points in time supports this view. What is clear from all of this is that the solution to climate change lies in reconciling the divergent economic interests at play within the energy transition ecosystem.

The pragmatic thinking across Africa is that energy security should be prioritised above all else. The argument is that it is impractical for Africa to ignore any available source of energy in pursuit of energy transition. The flip side of course is that Africa currently bears more of the burden of climate change and so it is in the continent's overall best interest for the transition to happen sooner rather than later. However, it so happens that the very imminent risk of dying of energy poverty far outweighs the medium or long-term damage that is caused by climate change. Africa needs energy and it doesn't care where or how it is going to get it. On the flip side, if the Global North was to provide sufficient finance, capacity, and technology for the development of renewable energy, then Africa would most likely pursue the development of renewable energy sources instead of natural gas. The thinking is that access to finance will nudge Africa in whatever direction the Global North desires and not mere empty sermons. This brings to fore the need to ensure that the lengthy promises that have been made to fund energy transition in Africa needs to be redeemed.

Then there is the question of equitable transition. The overwhelming belief is that Africa has a long way to go before it reaches the pollution levels of the Global North and therefore there is no moral justification to request Africa to discountenance the use of any available resources, unless Europe, China and the United States also committed to drop their pollution levels to Africa's current levels. However, that currently appears very unlikely as the developed countries have continued to ramp up their use of gas.<sup>44</sup> There are indeed double standards at play and a complete lack of transparency

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<sup>44</sup> Reuters 'US Natural Gas Output and Demand to Hit Record Highs in 2023, EIA Says' Found online at <https://www.reuters.com/business/energy/us-natgas-output-demand-hit-record-highs-2023-eia-2023-10->

from the Global North. To ensure a credible and committed transition across board there needs to be more honesty and openness around the global energy transition.

The conversation around climate justice must also extend to the mining and use of the transition minerals. Whilst Africa provides over 40% of the minerals required to drive the world's energy transition, it is not able to use it to meet its development aspirations. The mining and utilisation of the minerals must be developed in a more equitable manner that ensures that the Africans benefit from them. The current situation where resources like hydrocarbons and other precious minerals are owned and developed mainly by multinationals and foreign entities, is not working for Africa. Already, it is reported that most of the mines and supply chains relating to transition minerals are already in the hands of China.<sup>45</sup> There should be a more equitable development and exploitation of these resources, ensuring that Africa is not excluded. The definition of a just transition must be expanded to also include the right to the equitable ownership and exploitation of transition minerals. If the opportunity inherent in the transition is properly exploited, Africa can take a share of the renewable energy manufacturing market.

In summary, energy transition portends a major risk for Africa, but also presents opportunities. The risk now is that Africa becomes consumed by the fight to develop using natural gas that it becomes counterproductive to the developmental aspirations of the continent. Whilst not necessarily abandoning its right to utilise gas as a transition fuel, Africa must not also lose sight of the immense opportunities provided by energy transition and should position itself to take advantage of these opportunities.

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[11/#:~:text=EIA%20projected%20dry%20gas%20production,to%2088.38%20bcfd%20in%202024](#). Last accessed on December 4, 2023

<sup>45</sup> Benchmark Mineral Intelligence estimates that China controls 58 percent of the global production of lithium compounds in 2022, 69 percent of nickel sulphate, 69 percent of synthetic graphite, 75 percent of cobalt, 95 percent of manganese and 100 percent of spherical graphite. China plays a similarly outsize role in the supply of materials used in solar panels and wind turbines. Most of this is made possible through its investment in Africa. See: <https://www.greencarcongress.com/2022/10/20221009-benchmark.html> Last accessed on December 5, 2023