

The Low Carbon Energy Transition

*A window of opportunity for a new
phase of economic development in
Africa and Latin America?*

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ABOUT EPRINC

The Energy Policy Research Foundation, Inc. (EPRINC) was founded in 1944 and is a not-for profit, non-partisan organization that studies energy economics and government policy initiatives with special emphasis on oil, natural gas, and petroleum product markets. EPRINC is routinely called upon to testify before Congress as well to provide briefings for government officials and legislators. Its research and presentations are circulated widely without charge through posts on its website. EPRINC's popular Embassy Series convenes periodic meetings and discussions with the Washington diplomatic community, industry experts, and policy makers on topical issues in energy policy.

EPRINC has been a source of expertise for numerous government studies, and both its chairman and president have participated in major assessments undertaken by the National Petroleum Council. In recent years, EPRINC has undertaken long-term assessments of the economic and strategic implications of the North American petroleum renaissance, reviews of the role of renewable fuels in the transportation sector, and evaluations of the economic contribution of petroleum infrastructure to the national economy. Most recently, EPRINC has been engaged in an assessment of the future of U.S. LNG exports to Asia, technical challenges to the energy transition, and the growing importance of the North American petroleum production platform as an essential instrument of energy security.

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The world has been experiencing rapid and significant change - a pandemic, a deep recession and recovery, polarized elections, a growing inflationary environment, a very sad and problematic war, climate-related challenges, and rising food and energy prices. Africa and Latin America are part of this change. In these two regions with over 1.8 billion people, the evolving energy sector together with health, democracy, and the economy is at center stage. In recent years, the development and production of hydrocarbons has been affected by commodity price swings, underinvestment, and COVID, but Brazil, Guyana and some African countries have led the world in terms of new hydrocarbon discoveries and production growth. After decades of supplying energy and other products, primarily to the U.S. market, in the last decade several countries have had to re-direct these supplies to other markets such as China. They are redefining their relations with international markets. In both Africa and Latin America, intra-regional cooperation in energy has remained limited with few exceptions and largely a world with unfulfilled promises. The production of critical precious metals and critical minerals remains strong, while the development of renewable energy sources such as wind and solar has taken off in several countries and holds significant promise. Energy prices have been rising, demand has been increasing, and energy poverty is still a growing issue.

In the African and Latin American regions, climate change concerns and the energy transition have received a lot of negative and positive attention and is building significant support especially among the growing youth. But the energy transition is also causing recurring dislocations for both global and regional leaders, the industry, investors, and policymakers. The environment itself is also being affected, and ironically, the level of confidence for the net zero path is dropping as rising energy prices hit the region's economies. This is because the energy transition "movement" in the Western world is occurring in a very disorganized and uncoordinated manner, and that is where we see both a major problem unfolding and an opportunity for the leading economies and leaders. The world (in particular the growing populations of Latin America, Africa, and Asia) needs all the energy that it can take; and energy demand has been growing for at least a millennium, particularly since the industrial revolution. We have never stopped using any of the form of energy that has been invented and scaled up, with the exception of whale oil. Windmills or electric cars are not new. But the world now contains eight billion people (670 million in Latin America and 1.2 billion in Africa), heading to

nine billion people, and we need a lot of energy to provide for human development. Many countries, especially in these two regions, are growing, have young populations, and have not even achieved the minimum level of consumption required. The reasons for this are associated with the standards of living of many countries and improving standards of living in others.

The global oil, gas, coal, and mining sectors, which are important sectors for developing economies and provide 80 percent of the world's energy needs, are being penalized from all angles by Western countries and some financial institutions, while young generations are being led to believe that they don't need this energy source in the medium term. Should this continue, is likely to negatively affect African and Latin American countries that depend on hydrocarbons and need investment.

The markets have oscillated from high prices to low prices very rapidly several times in recent history, and we have had very serious events such as COVID, which disrupted economies, society, and supply chains. In addition, declining returns and rising debt loads have disappointed many investors, and capital markets have been less willing to support the petroleum sector and its companies. Some of the most indebted energy companies in the world are in Latin America.

Energy prices have risen rapidly post-COVID and that is both good and bad. The events that have led to a higher global price environment are very clear and do not revolve around the invasion of Ukraine. There have been several years, particularly since 2014, where investments across the entire petroleum sector have been declining and as a result the sector is suffering from structural underinvestment. An extreme focus by industry and capital markets on U.S. shale and geopolitical risks took away a lot of capital from conventional and offshore resources and even limited funding for low-risk reserves and low-risk infrastructure developments. This has led to excessive concentration and dependency on unconventional production for growth which has turned out not to be very profitable on a sustained basis and who's future is now questioned. The boom in U.S. shale oil and gas production made the United States less dependent on African and Latin American exports in the last few years. But is this about to change?

A view that the transition to the energy sources of the future was well-established as well as ideas being promoted by the International Energy Agency (IEA), such as halting new investment in oil and gas exploration and a false belief that the world will not require additional supplies of

oil and gas in the medium term, are driving up energy prices and increasing energy poverty, which in turn threatens public support for the energy transition. A simple fact is that even in the best-case scenario of reaching net zero, over 1.5 trillion barrels of oil and gas will be needed until 2070. The focus should therefore not be on condemning or shutting down the hydrocarbon industry, which many African and Latin American economies depend on for economic growth and fiscal stability. In the short- and medium-term, energy prices will remain high, which will also harm income growth in the economies of energy-importing countries in the region and consumers.

On a positive note, we are riding a new technological revolution, and Africa and Latin America can be clear beneficiaries while some countries can possibly become regional and even global leaders. Over 60 percent of global lithium reserves are in Chile and Argentina, while the Congo holds significant cobalt reserves, although exploitation methods there are highly questionable today. We have a new opportunity to scale up new industries in renewables, leverage supply chains, expand infrastructure, and increase the production of strategic minerals and rare earth metals. However, this will have a high cost and will take time. African and Latin American countries can also lead the way by developing engineering structures that are needed for the energy transition in a sustainable way, developing key equipment domestically by benefiting from the latest technological developments for domestic use, and expanding exports to the growing markets of the U.S. and Europe. Some argue that the energy transition to renewables is unlikely to improve productivity as we experienced from the transition from coal to oil, but there are still clear benefits from these new energy technologies. We should also be conscious that scaling up renewables and mining of essential minerals will also have an impact on the environment even if done in the most sustainable way. In absolute terms nothing is net zero.

It also is worth noting that some of the countries that have made significant progress in renewables such as Germany, Spain, and Costa Rica are experiencing higher energy costs, and this is something that could also happen in Latin America as higher cost intermittent energy sources such as wind and solar and associated infrastructure are developed. Higher energy costs would make Africa's and Latin America's population poorer, the industry less competitive and represents a significant risk long term.

From an energy perspective, the relationship of African and Latin American exporting countries with large economies of China, Europe, and the U.S. would be best served by continuing to promote investment in a responsible and sustainable manner and continue to pursue long term alliances and cooperation. Many argue that we are experiencing an energy transition, but that's only one way of looking at the story. The other way is that to meet population growth, rising standards of living, manufacturing needs, and food production requirements, we need more energy sources, now including wind and solar at scale among others. It's unlikely that the African and Latin American regions will experience any decline in energy consumption in absolute terms (like Asia). Therefore, investments need to continue to meet domestic demand for energy and at the same time provide surplus to global markets. The opportunity to make reforms, reduce debt, and invest in new infrastructure should not be lost.

Global energy security is now at a critical point, and Africa and Latin America will likely be called up to play a new role in the North America and beyond. It is likely that Russia will continue to shift exports eastward as much as possible in a gradual manner. It is also very likely that with the withdrawals of western companies from the Russian energy space, reduced access to critical technologies and equipment, sanctions, and more complications, the traditional strength of the Russian energy platform could deteriorate in the future. Could this present an opportunity to African and Latin American countries?

There is a strong argument for African and Latin American governments to implement policies that help increase global energy security and strengthen energy cooperation with China, Europe and the USA. In this context, African and Latin American governments must promote energy diversification, expansion of supply, and repair of the supply chain. This is an essential step, and it must involve all forms of energy. Governments need to promote energy and related infrastructure investments, not inhibit investments or scare investors away. The global and domestic financial sector should reward risk-taking by entrepreneurs and corporations, promote investments along the entire supply chain on cleaner legacy fuels, and expand the focus beyond merely renewable fuels. Governments and relevant institutions should also have policies that support decarbonization of both supply and demand of all of energy sources and the production and supply of essential minerals and materials. Policies attempting to accelerate the transition to the fuels of the future must address much more than storing carbon emissions from a favored

sector or producing hydrogen. It's about technological development through research and development and targeted incentives. The fourth thing government can do is to promote efficiency more aggressively implement sound regulations and appropriate incentives. On everything we do, cooperation will pay large dividends and it should be encouraged. Many projects will require cross-border investment. Cooperative efforts in energy and infrastructure development are going to be essential, especially in a world in which globalization is under threat. And finally, the number one policy initiative is that energy should be available and affordable, because 5 billion people live on \$10 or less a day, and in Africa and Latin America over 50 percent of the population lives in poverty. The level of education is low compared to other regions, and there is a lot of energy poverty in every country in both regions.

Regional and international cooperation in areas that are critical to the environment and climate repair efforts are needed. We should focus on regional efforts to fund and cooperate in areas such as ocean and river clean up, protection of marine species, protection of the major rivers such as the Amazon, Orinoco, the Nile, and its tributaries, and rebuilding the regional biodiversity. All of this will take a long time as it is a generational strategy and requires more education, but it does represent a new opportunity for regional cooperation and global leadership made in Africa and Latin America.

As Clint Eastwood recently said, instead of leaving a better (and cleaner) planet for our children, we should leave better children for the planet.